

User Responses to Information Systems Change: The Place of Negative Capability

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Abstract

This study explores the place of the notion of negative capability in user responses to information systems change. Much has been written about information systems change, significantly less about negative capability, and there has been no research, at all, that links the two.

User responses to the implementation of new IT have been researched since the advent of computers in organizations. Most of the existing research, however, examines situations where use is optional. This study argues that IT use is now often mandatory in most forms of organization – whether public, private or charitable. This has significant implications not only for people working in organizations that implement new IT but also for the research of such events.

Negative capability has, over the past several years, started to appear in the management literature as a capacity that is uncovered when people hold an open mind during experiences of uncertainty and anxiety and resist the urge to grasp impatiently for any solution. This is sometimes contrasted with positive capabilities, which are based on a particular skill or knowledge base. Without the practice of negative capability, we observe people engaging in ‘dispersal’. This is the tendency under conditions of uncertainty to lose focus on the task and to disperse into intellectual, emotional and/or behavioural responses that do not serve the intended purpose.

This paper adds to the body of knowledge by expanding our understanding of the notion of negative capability in responses to mandatory use of new IT with field studies.

The research consists of two cases. The first case involves the experiences of paramedics when they convert from paper- to electronic-based reporting. The second case explores the implementation of an ERP system in a manufacturing organization.

This research contributes to the body of knowledge in three ways. It is the first time that negative capability has been considered in the context of information systems/information technology change. It is novel in that it considers the emergence of negative capability after the demonstration of dispersal behaviours and it identifies instances in which such dispersal behaviours may be beneficial. A significant outcome is the development of a new analytical framework for

researching and understanding negative capability during organizational change,
exploring the capacity to practice negative capability at three organizational levels:
organizational, relational and personal.

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CHAPTER ONE – INTRODUCTION TO THESIS

1.0 Introduction

This thesis explores user responses to the introduction of new information technology (IT). Among the issues relating to user responses to the introduction of new IT that have yet to be fully explored is that of how users respond to IT use that is mandatory. I have found that the notion of negative capability is a useful way of understanding the behavioural choice in user responses to mandatory use of IT. Negative capability can be understood as a capacity that allows people to function during emotionally-challenging and uncertain experiences (refer to Section 1.5 for a discussion of negative capability). While users display various responses to situations of uncertainty, there are often differing motives for the responses. In the context of mandatory use, a capacity that enables one to continue to work, regardless of one's motivation, is advantageous. Since many people must either work with new IT or be unable to perform all of their work tasks, having a capacity to practice negative capability is therefore relevant when working with new IT systems. Organizational awareness of the notion of negative capability and of steps that may be taken to support a user capacity to practice negative capability has the potential to improve change experiences for users.

During preliminary investigations of the topic of user responses to new IT, I found that there are numerous opinions and interpretations relating to optimal implementation strategies/techniques. At the same time, justification continues for further investigation of the experience. User responses to the introduction of new information technology continue to present implementation challenges (Beaudry and Pinsonneult, 2010; Rivard and Lapointe, 2012). With 2013 IT spending projected at almost £0.75 trillion (\$1.2 trillion US) for G7 countries and expected to show continued growth (EIU, 2012) (see Appendix 1), it is evident that improving our understanding of user responses to new implementations will remain a relevant issue for the foreseeable future.

In 1983, Markus (p. 430) stated that “better theories of resistance will lead to better implementation strategies and, hopefully, to better outcomes for the organizations in which the computer applications are installed”. Thirty years later, we continue to seek the key to better outcomes, be it through improved understanding of resistance or acceptance, or of a better understanding of the behaviours that represent a response somewhere along a continuum between extreme resistance and complete

and willing acceptance. While my thesis does not profess to propose a solution that will result in better outcomes for all installations, I do address some of the under-considered issues that emerge when a new information system is integrated into the organization. This contributes to an expansion of our understanding of the subject.

The primary aim of this thesis is to explore the notion of negative capability during IT change. In doing so, I make several contributions to the body of knowledge. This is the first study to consider the potential significance of negative capability in the context of information systems/information technology change. Additionally, the practice of negative capability can be conceived as arising from three inter-related capacities: organizational, relational and personal. Finally, I find that dispersal behaviours are sometimes precursors to the practice of negative capability.

1.1 The Purpose Statement

The purpose of this case research was to explore the notion of negative capability as practiced by the individual in the introduction of new technology into the organization.

1.2 Research Questions

There are four research questions that guide this study:

1. How can we identify negative capability in others?
2. Does the presence of negative capability affect a person's ability to work?
3. Are there particular features of negative capability that manifest during the introduction of new IT?
4. What are the implications of negative capability for work practice?

These questions were the outcome of a literature search and early fieldwork. The four research questions that appear above have been chosen for three reasons: they enable me to expand the current understanding of negative capability (questions 1, 2 and 4), they focus on IT change (question 3) and they limit the scope of the research to one that is manageable for one study. Although question three is the only one which refers specifically to the introduction of new IT, the introduction of new IT is the cornerstone of this research and additional understanding in the other questions arises from the increasing understanding of the capacity to practice negative capability that emerges during the exploration of user responses to the introduction of new IT.

1.3 My Experiences of Information Systems (IS) Change

I am a mature student. I've reached this point in my formal education after many years of intermittent part-time studies. During most of the years that I attended university, I worked in industry as a chemical lab analyst, clerk, secretary and coordinator. I left industry shortly after I began my MBA studies. My work experience, however, had extended across a number of departments and provided me with a broad understanding of that organization. I've found this understanding to be useful in my current research.

In the years that I was working in industry, I was a member of a trade union – United Auto Workers, later known as the Canadian Auto Workers, in a Technical, Office and Professional bargaining unit – with a number of years spent as a union representative and chairperson. My union experiences left me with a perception that the decisions are often imposed upon employees, by management, without consideration of the employees' opinions. As I began this research, I anticipated that this could be the case in the introduction of the new information systems that I would study. It had certainly been the case in the experiences that I had had with the introduction of new IT in my own work experience.

During the time I spent working in industry, there were three specific occasions when new ITs were introduced into my environment. The first time, in 1982, entering data into an Apple computer was incorporated into my duties. Two of my colleagues had some experience with computer programming and, therefore, some understanding of the hardware and software. At the same time, I had just become a union representative and questioned my ability to represent people who were having difficulties using technology that I did not understand. I felt insecure because there were now proficiencies that I did not possess. I responded by taking computer courses to remove those feelings.

While I was acquiring an understanding of computers, I worked with feelings of insecurity. The work was simple data entry and did not present overwhelming challenges for me. My insecurities arose from the gap between my knowledge and that of some of my coworkers, and from a lack of confidence. While I was experiencing feelings of insecurity, others of my coworkers who had an understanding of computers equal to mine felt no impact from the addition of the computer duties.

The second time that I was introduced to new IT, I was working in a department in which I was unhappy. I did not want to remain in that department. The change in the IT system meant the elimination of my work. At the same time, my union membership provided me with an opportunity to displace someone in a department and position that appealed to me. That time, I was happy about the change because I wanted to move to the other department and the new IT facilitated the move.

The third time, I had been working in the new department for six years and was content in my position. An information system was introduced that resulted in many people losing their employment throughout the organization. I had been providing support services and database management for a number of people. A network was installed and many people were being presented with their first computers. This time, I was worried that I would also face unemployment as my work was eroded. In reality, I was being assigned new duties, but was unable to overcome constant feelings of uncertainty. I found it increasingly difficult to work in that environment. It took a major toll on my health. In the end, it was necessary for me to resign from the organization.

Whilst I was experiencing my specific responses to the introduction of each new information system, others were having different reactions. Nevertheless, we were all expected to comply with the changes. For most of us, refusing to use the new IT was not an option. As I read the literature around the topic of the introduction of new IT, I observed that most of it provided for the possibility that the new technology might be rejected by the individuals within the organization. Personal experience was telling me that this was usually not an option. People might not like working with information technology, or a particular information technology, but it was becoming progressively difficult for them to outright reject it unless they were willing to leave their particular organizations. This thinking convinced me that obtaining a better understanding of user thinking and responses during this period of change was an important undertaking.

My response during my third experience with the introduction of new IT was sufficient to convince me that exploring negative capability within this context was an important endeavour. I sat at the far end of a continuum which progressed from responses that were minimal though notable to my extreme response. This suggested, to me, that there were many motivations for the responses experienced by users when new IT is introduced, and that it is as important to understand how

users are able to work through the change as it is to identify the causes of the responses. Understanding how users are able to practice negative capability during this change process is relevant in achieving this end.

Much of the literature relating to the introduction of new IT examines the phenomenon with the purpose of modeling it. Researchers look at acceptance, adaptation, resistance or a combination of at least two of those responses. They tend to classify acceptance and resistance as unique and separate manifestations. However, there is a lack of research exploring how users overcome resistance in order to either comply with or accept new IT in mandatory situations. Both my experiences with the loss of a feeling of competence and that of the loss of security during IT change suggests to me that a better understanding of how people are able to work through similar situations could help improve the outcome of new IT introductions.

1.5 A Brief Introduction to Negative Capability

The notion of negative capability was first introduced by the poet John Keats in a 1917 letter to his brothers. He described it as “when a man is capable of being in uncertainties, Mysteries, doubts, without any irritable reaching after fact & reason” (Keats, 1970, p. 43). Since that time, scholars have undertaken to clarify the concept and apply it to their own disciplines. In this section, I will briefly explain the notion of negative capability.

The phrase “negative capability” is used to describe a capacity in which one might ‘suspend’ a compulsion to respond or act in situations that are uncomfortable. The situations are uncomfortable because we do not have the positive capabilities – the skills or knowledge – to respond with certainty.

Shakespeare was identified by Keats as a man who “possessed” negative capability in his ability to present situations without making judgments and in being “capable of being in uncertainties, Mysteries, doubts, without any irritable reaching after fact & reason” (Keats, 1970, p. 43). Others may experience creativity that emerges from calmly attending to a situation, rather than grasping for solutions. In this research, I am most focused on the capacity to practice negative capability that manifests in situations in which people are able to perform and attend to their work while experiencing resistant, uncertain or uncomfortable feelings during IT change. These feelings may arise from the changes that they are experiencing in their work

environment, either in relationship to the IT change or other work circumstances, or from other coinciding circumstances in their lives. The practice of negative capability enables people to work through the uncertainty and uncomfortable feelings.

Negative capability is not something that 'exists' in and of itself. It is the practice of reflective inaction, as a response to an unfavourable interpretation of a situation, when we may be inclined towards reaction. It can be simpler to identify circumstances in which a person is not practicing negative capability. When a person is incapable of resisting the urge to react to an uncertain or uncomfortable situation, he/she will respond with one or more dispersal behaviours. These behaviours include dispersal into explanations, emotions or activity. When these behaviours are observed, we know that the person is not practicing negative capability.

It is in the analysis of individual narratives of the interpretation of events that we may be able to determine that a person has practiced negative capability. We may find examples of the practice of negative capability in the description of a person being unhappy or uncertain about a particular event, but complying in spite of those feelings, or in feeling uncomfortable while learning a new positive capability, but working through the uncertain or anxious feelings until the new skill is learned. It is in the individual's ability to work or remain attentive in the presence of these uncomfortable or resistant feelings that indicates that the person is practicing negative capability. In the first example, the person is uncertain or uncomfortable about a situation but is complying with it. Being able to function, while experiencing these emotions, indicates that the person is practicing negative capability. In the second example, the person feels uncertain and anxious while learning a new skill. As the person is acquiring the new skill, a positive capability, he/she practices negative capability in order to remain focused on the task while experiencing discomfort. Once the skill is learned, the individual no longer experiences uncertainty or anxiety relating to learning and, therefore, no longer practices negative capability to perform the task.

Some people are better able to accept uncertainty than are others. They find it easier to practice negative capability, rather than to resort to dispersal, in uncertain situations. However, there are circumstances that can impact an individual's capacity to practice negative capability in a particular situation. A coinciding experience in one's life, calling for the practice of negative capability, may diminish the capacity to practice negative capability in another situation. If one is exposed to uncertainty or anxiety in other areas of one's life, while being exposed to uncertainty or anxiety at

work, one's capacity to practice negative capability may be unable to contain both challenges and one may resort to dispersal in one or both situations. Consequently, one may have the capacity to practice negative capability during one change event and not have the capacity to practice negative capability in another, similar, change event in which other circumstances in one's life also call for the practice of negative capability.

People often interpret a shared event in different ways. For example, what may be interpreted as an opportunity by one person may be perceived as a threat by a second person. Likewise, one person may be able to function in difficult circumstances, while another cannot. Consequently, while two people may understand the mandatory implications of a change, one may embrace the changes while the other may experience a response as extreme as an emotional collapse. The first person is not experiencing anxiety or uncertainty and does not need to practice negative capability. If the second person practices negative capability, he/she may be able to contain feelings that interfere with his/her ability to work through, and with, the changes.

I will expand upon current understanding of the notion of negative capability in Chapter 2 of this thesis.

1.6 A Framework for Exploring User Responses and the Capacity to Practice Negative Capability During the Introduction of New IT

The analytical framework used in this thesis emerged from themes identified in the literature search and data. The progression of this thesis, from beginning to end, was iterative rather than linear. It was after conducting a search of the literature on user responses to IT change, analyzing the field data and reflecting upon the concepts that were emerging from it, that three analytical levels at which negative capability was relevant became apparent: personal, relational and organizational. The personal capacity to practice negative capability involves the practice of negative capability by the individual. A relational component of the practice of negative capability reflects the capacity of one person to act as a container for another person's anxieties or uncertainties in order to enable the second person to practice negative capability. In the relational practice, a personal capacity to practice negative capability, on the part of the person who acts as the container, contributes to the ability of the second person to practice negative capability. An organizational component of the practice

of negative capability, reflected in organizational policies and practices, is sometimes required to support a personal capacity to practice negative capability.

The framework consists of the three analytical levels: personal, relational and organizational. At each level, the boundaries of time, task and territory are explored as they impact on resistance, acceptance and adaptation to the introduction of new IT. It is in situations where boundaries are shifting, too rigid, too weak or absent that we may experience uncertainty and anxiety. These boundaries, although also emerging from the data as relevant during change events, were previously identified in the BART Framework that is used in Tavistock conferences (see Chapter 2 for a more in depth discussion of the BART framework). The boundaries are relevant at all three analytical levels. Likewise, the three user responses to the introduction of new IT that emerged from the literature review - resistance, acceptance and adaptation - may be relevant at each analytical level.

Figure 1 provides a tabular representation of the framework used to organize the research data. As an illustration of how the framework is used, consider an individual who may interpret a situation that occurs, during an IT change process, in a manner that prompts him/her to adopt a resistant attitude or behaviour. This situation may be related to a task that was assigned as a result of the IT change. For example, he was asked to perform a new task, perhaps entering data into a computer rather than on paper and, because he found this an efficient way of performing the task, did not want to change. He decided that he would continue to use the paper until he was forced to use the computer. This is an example of a resistant behaviour that arose at the personal level because of a change in task boundaries. Therefore, the analysis of this situation would be discussed under 'Personal' as the analytical level, 'Task' as the boundary and 'Resistance' as the response. In another narrative, a person may describe how the organizational decision to give everyone two months in order to learn how to use the new system was introduced, prior to requiring mandatory use of the new system. This enabled her to overcome very uncomfortable feelings about the new system. She was able to practice negative capability in order to work through those feelings prior to having to use the new system all the time. This is an example of how time boundaries were relaxed by the organization, enabling the individual to overcome uncomfortable feelings and accept the new system. Therefore, the analysis of this narrative would be discussed under 'Organizational' at the analytical level, 'Time' as the boundary and 'Acceptance' as the response.

Table 1 - Framework for Exploring Negative Capability in User Responses to the Introduction of New IT

Analytical Levels:

Personal	Relational	Organizational
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Boundaries:

Within each organizational level, boundaries (time, task, territory) influence a user's responses to the introduction of new IT:

Time	Task	Territory
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User Responses:

Within the context of each boundary, above, one or more user responses (resistance, acceptance, adaptation) are possible:

Resistance	Acceptance	Adaptation
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1.7 Negative Capability and the PhD Candidate

As I worked with the concept of negative capability during the implementation of new information technology, I also considered a personal capacity for negative capability, in my own life, in the periods of uncertainty that I was experiencing in my pursuit of a PhD. I observed that, sometimes, I was able to practice negative capability and, at other times, I could not do so. I realized that I would personally benefit from a better understanding of a capacity to practice negative capability. So, while I was identifying and making sense of instances of negative capability experienced by my research participants, I was also considering my capacity to practice negative capability as a PhD research student. As time has progressed, I have observed that an awareness of negative capability has both helped me as I work through feelings of uncertainty and contributed to the autoethnographic aspects of this thesis.

1.8 Overview of the Thesis

This thesis explores the notion of negative capability during change in the form of the introduction of new information technology into the organization. The research begins by following an idea based on personal observations and experiences, then proceeds through an investigation/review of the relevant literature, and through field research using the narrative inquiry method. As I have previously stated, I was unable to do this research without reflecting upon my own experiences and, therefore, autoethnographical elements are present throughout this thesis.

Although the literature relating to the introduction of new IT largely focuses on user acceptance or rejection, information technology has become so inherent in the functioning of organizations that rejection is seldom an option. Therefore, the individual may be required comply with the use of the IT without 'accepting' it. Consequently, a new approach to research concerning the issue is warranted and the importance of acquiring a better understanding of user responses has increased.

The literature review finds that existing theories explaining user responses to the introduction of new information technology into the organization, while providing explanations for some responses to the introduction of new IT, do not fully capture the experiences of users. This study therefore explores how users endure mandatory IT change. In doing so, both a better understanding of user responses to IT change and of the capacity to practice negative capability emerges.

1.9 MIS, IS and IT

This study is conducted within the business area of management information systems (MIS). The definitions of MIS, information systems (IS) and information technology (IT) are similar. Management information systems (MIS) are “information systems that help businesses achieve their goals and objectives” (Kroenke, 2011, p. 10). Information systems (IS) are “a group of components that interact to produce information” (Kroenke, 2011, p. 10). The components are hardware, software, data, procedures and people (Kroenke, 2011, p. 10). Information technology (IT) refers to hardware, software and data (Kroenke, 2011, p. 13). Within the context of this thesis, “IT” refers specifically to the hardware, software and data used within management information systems.

1.10 Structure of the Thesis

The thesis is organized into eight chapters:

Chapter one introduces the concept of negative capability and provides an overview of this research study, which explores negative capability in the introduction of new information technology.

Chapter two provides an overview of the literature relating to negative capability and begins to develop the analytical framework for this study.

Chapter three provides an overview of the literature relating to the introduction of new IT into an organization and integrates the literature into the framework for exploring the capacity to practice negative capability in a setting where a new IT system is implemented.

Chapter four provides a description of the research methodology and the rationale for choosing a narrative inquiry approach for this research.

Chapter five is a case study of the implementation of a patient data recording system into an emergency response organization in Ontario, Canada. It examines the experiences of paramedics both as new IT users and, in order to expand upon our understanding of the practice of negative capability, as practitioners of a stressful occupation.

Chapter six is a case study of an ERP implementation. It describes, from the perspective of the participants, their experiences throughout the process of the

introduction of an enterprise resource planning software package into a small and medium enterprise (SME) in Ontario, Canada.

Chapter seven provides an analysis of the two cases and discusses the evidence and implications of negative capability from these cases.

Chapter eight is the conclusion of the thesis. It describes key findings and contributions and notes limitations. Then, I describe my progression as a researcher and suggest areas for further investigation as well as recommendations that may be drawn from the findings of this study.

CHAPTER TWO - NEGATIVE CAPABILITY

2.0 Introduction

In this chapter I discuss current thinking about negative capability and begin to develop a framework for exploring the capacity to practice negative capability in the context of user responses to the introduction of new IT. Negative capability was first defined by the poet John Keats in 1817 (Keats, 1970). Since Keats' time, the notion has been expanded upon and interpreted to apply to a number of applications and disciplines. This discussion is grounded in Keats's definition of negative capability and the etymology of the term 'negative capability'.

As awareness of the notion of negative capability is integrated into the thinking of a particular discipline, new facets of the concept are illuminated. After having conducted a review of the literature and having performed a preliminary analysis of the interview data for this study, I determined that the notion of negative capability can be considered at three levels of the organization: personal, relational and organizational. This understanding of negative capability is not something that has been recognized in the existing literature and is one of the primary contributions of this research.

I begin this chapter by discussing the origins of the notion of negative capability. I then review the literature regarding negative capability as it relates to each of the three analytical levels (organizational, relational and personal.) These levels also form the foundation for the analytical framework that begins to be developed at the end of this chapter.

2.1 What is Negative Capability?

The introduction of the notion of negative capability arose from the thinking of John Keats and appears only once in his writing – in a letter to his brothers in 1817. This excerpt from the letter has been analyzed and extrapolated, by many, in order to reach our present understanding of negative capability.

...several things dovetailed in my mind, & at once it struck me, what quality went to form a Man of Achievement especially in Literature & which Shakespeare possessed so enormously – I mean Negative Capability, that is when a man is capable of being in uncertainties, Mysteries, doubts, without any irritable reaching after fact & reason – Coleridge, for instance, would let go by a fine isolated verisimilitude

caught from the Penetralium of mystery, from being incapable of remaining content with half-knowledge.

(Keats, 1970, p. 43)

The following discussion examines the notion of negative capability as it is understood and has been applied prior to this study. Over time, its interpretation builds from a capacity at a personal level into a construct that is also relevant at a relational and an organizational level. Also, as time has progressed, our understanding of the notion of negative capability has become further clarified.

2.1.1 In the Beginning – Interpreting Keats’s Thinking

Keats defined negative capability as being practiced when “a man is capable of being in uncertainties, Mysteries, doubts, without any irritable reaching after fact & reason” (Keats, 1970, p. 43). This discussion begins with Keats’s definition to determine exactly what it is that he was saying. At first glance, the term ‘negative capability’ seems contradictory. It would seem to suggest ‘lacking in ability’. However, if one thinks of ‘negative’ in terms of a negative pole of a magnet or in the meaning of negative electricity it is easier to begin to grasp its meaning in this context. It does not suggest ‘not capable’, but rather ‘capability in perceived negative states’.

The etymology of the words ‘negative’ and ‘capability’ provide further insight into the meaning that Keats intended for the phrase. The most relevant definition of the word ‘negative’ is “opposite to something regarded as positive” (Guralnik, 1970, p. 951). Its origin is in the Latin word *negativus* from *negatus*, the past participle of *negare* meaning “to deny”.

The term ‘capability’ requires equally careful scrutiny. An obsolete meaning of ‘capable’ is capacious – being able to contain or hold much; roomy; spacious (Guralnik, 1970) . The origin of capacious is the Latin *capax* from *capere*, meaning to take, hold, or contain (Guralnik, 1970) . In the context of Keats’s thinking, capability is the/an ability to contain. In applying these interpretations to ‘negative capability’, it appears to manifest in an individual who is psychologically able to ‘contain’ negative emotions in unfamiliar circumstances.

2.1.2 A Personal Capacity to Practice Negative Capability

A personal capacity to practice negative capability is that with which we are most familiar. It reflects the individual's ability to contain negative emotions or uncertainty that Keats described. This capacity has been explored longer in the discipline of literary studies than in other disciplines. Considering that the phrase and concept were introduced by a poet, this is to be expected.

Negative capability entered into limited awareness over 150 years ago. Masson (1860) described it as "a power of remaining, and, as it were, luxuriously lolling, in doubts, mysteries, and half-solutions, toying with them, and tossing them, in all their complexity, into forms of beauty, instead of piercing on narrowly and in pain after Truth absolute and inaccessible" (p. 10). As an early interpretation of negative capability, I found that his understanding of negative capability was not fully developed, but did recognize that the capacity to practice negative capability involves being with the unknowable rather than adopting the position of knowing that which one does not know. However, this definition is unable to entirely capture what Keats was suggesting. Practicing negative capability is often uncomfortable, while "irritable reaching after fact and reason" may be a more comfortable alternative. However, Masson did grasp the essence of a person coexisting with uncertainties, mysteries and doubts, aside from 'luxuriously lolling'.

Wigod proposed that Keats was referring to the world and problems of men, "of struggling humanity on a darkling plain" (1952, p. 383) when speaking of "uncertainties, mysteries, doubts". He believed that Keats would consider the thoughts of Man, "maintaining an open mind, a capacity for change, and an aversion to forming comfortable – but in reality unsatisfying - resolutions and philosophies" (Wigod, 1952, p. 384). In other words, one would be open to new possibilities rather than adopting familiar, but inappropriate, strategies. This interpretation is important in that it broadens the potential relevance of the notion of 'negative capability' beyond its application to literary pursuits to encompass any situation encountered by people.

Bate (1976) studied the life and works of Keats extensively. In interpreting negative capability, he suggested that Keats believed that use of the imagination was the only way of arriving at the truth. Imagination is "intuitive and immediate", it "looks inward, grasping by an effort of sympathy and intuition the hidden intention and reality of life" (Bate, 1976, p. 12). In the context of negative capability, the

employment of relaxed thought might be considered a better means of arriving at the truth than grasping for facts. Bate also suggested that, when Keats wrote of negative capability, he meant “In our life of uncertainties, where no one system or formula can explain everything...what is needed is an imaginative openness of mind and heightened receptivity to reality in its full and diverse concreteness” (Bate, 1963, p. 249).

Ou (2007, p. 4) described being negatively capable as being “open to the actual vastness and complexity of experience” that cannot be possessed “unless one can abandon the comfortable enclosure of doctrinaire knowledge, safely guarding the self’s identity, for a more truthful view of the world which is necessarily more disturbing or even agonizing for the self”. In other words, one can experience negative capability by letting go of what one knows (what one now understands) and opening one’s self to the discomfort of the unknown. She referred to the known as “safely guarding the self’s identity” (Ou, 2007, p.4), suggesting a cause for the disturbing feelings that are experienced when one practices negative capability. Elsewhere, the notion of negative capability was described as “entertaining a schism within one’s identity” (Holt, 2004, p. 326). Although the experience may not result in an identity crisis, as Ou and Holt seemed to suggest, it does require that a person be able to suspend currently-held understanding to venture into the unknown.

Negative capability was also considered in the context of literary criticism and the reading of literature (Boyers, 1977, Tsur, 1975). It was suggested that critics and readers often try to explain ambiguities in text, in an attempt to “dispel half-knowledge and give certainty” (Tsur, 1975, p. 777). Tsur (1975, p. 779) also suggested that those “who are able ‘to make up their minds about nothing,’ that is, who are capable of remaining in uncertainty, have sufficient leisure to perceive subtle and minimal cues, and so may appreciate complex or ambiguous *emergent meanings* [original emphasis]”. Additionally, Tsur (1975, p. 777) conceptualized negative capability as a position on one extreme of a scale, with factualism at the other extreme. He thus introduced the existence of a positive capability – the capability that is reflected in concrete situations or things that are known. It is the positive capabilities – those skills and abilities that are learned through education or experience - that people rely upon in familiar situations and are sometimes able to apply successfully in unfamiliar situations.

Within the context of drama, the notion of negative capability was interpreted as being able to describe situations without inflicting one's own opinions and judgments on the audience, but rather in striving to reflect truth (Muir, 1987). The dramatist who practices negative capability would not reach for facts where the story to be related did not warrant them, but would be satisfied in leaving questions unanswered. Shakespeare, of whom Keats spoke of as being a man of achievement, and possessing negative capability "so enormously" (Keats, 1970, p.43), was able to show different sides of situations without judgment. One watches his plays without knowing or being able to determine Shakespeare's own opinions of his characters. He presented his stories without offering a verdict on the behaviour of the characters.

The interpretations within the discipline of literary study provide further insight into how interpretations of Keats' thinking were being developed and into the myriad applications of the notion within one discipline, and demonstrates that the concept of negative capability can be applied outside that discipline. In all of the discussions in this discipline, negative capability was applied at a personal level, in that it was considered with regards to how an individual responds to, or represents, the unknown.

Within this discipline of philosophy, the notion of negative capability was associated with the Zen philosophy. Benton believed that Keats' epistemology was very like that of Zen (Benton, 1966). He suggested that Keats' man of negative capability had qualities that enabled him to "lose his self-identity, his 'imaginative identification' with and submission to things, and his power to achieve a unity with life" (Benton, 1966, p. 38). The Zen concept of *satori* is the outcome of passivity and receptivity, culminating in "sudden insight into the character of the real" (Benton, 1966, p. 37). *Satori* is reached without deliberate striving. There are antecedent stages to *satori*: quest, search, ripening and explosion. The "quest" stage is accompanied by a strong feeling of uneasiness. This resembles the capacity to practice negative capability when the mind is in a state of "uncertainties, mysteries and doubts". The explosive stage resembles Keats' 'chief intensity', when a man of negative capability effects a "fellowship with essence" (Benton, 1966, p. 38). Benton suggested that 'chief intensity' was equivalent to *satori*. In striving to improve upon one's capacity to practice negative capability, the Zen philosophy might be explored for insight into ways to develop the capacity.

A personal capacity to practice negative capability was also described within social work. It was portrayed as manifesting in “open-mindedness, attentiveness to diversity and the suspension of the ego” (Cornish, 2011, p. 136). It was also applied in the importance of openly observing what exists, during visits, rather than focusing on previously-determined factors. This focuses upon the importance of awareness, of not closing the mind with preconceived notions, but of being open to possibilities that might otherwise go unnoticed.

The importance of a personal capacity to practice negative capability has also emerged in organizational and management literature. Bennis (1989) presented negative capability as being an apt definition of a contemporary leader (Bennis, 1989) and proposed that a leader should allow him/herself to experience doubt (Bennis, 2001). He did not, however, expand upon the significance or meaning of negative capability, but rather suggested that the capacity was an important leadership quality. Negative capability in this context is focused on the individual's ability to exist in an uncertain business climate, rather than on his/her relationship with those he/she leads. At this point, it is worth noting that ‘negative capability’ is not an apt definition of a contemporary business leader, nor was it so in 1989. Business leaders would be well served by practicing negative capability, but the main focus of business education is to develop positive capabilities and that focus continues into leadership (Chia, 2005, pp. 1091-1092). More credibility, however, lies in the suggestion that entrepreneurs reflect an ability to practice negative capability in their tolerances for ambiguity (Kamien, 2008, p. 246). Additionally, Bennis's suggestion of 2001, that a leader should allow himself/herself to experience doubt, is more relevant and realistic.

While descriptions of a personal capacity to practice negative capability originated in dialogue about literature, they have expanded into other disciplines, demonstrating that the construct is one that is relevant in many situations of human experience.

2.1.3 – A Relational Component to the Practice of Negative Capability

In this section, I build upon the personal capacity to practice negative capability by examining a relational component. This reflects the capacity to practice negative capability that is supported by interpersonal interactions. It requires one person to act as a ‘container’, able to practice negative capability while interacting with someone who is unable to do so, or does so in a diminished manner. Through this interaction, the second person becomes enabled to practice negative capability.

Some important research and writing on this has been conducted in relation to psychoanalysis and in the study of the human response to anxiety.

Bion applied the notion of negative capability to the practice of psychoanalysis. While the work of a psychoanalyst may appear to be an example of a personal capacity to practice negative capability, in that it involves the ways in which the analyst experiences negative capability, this is not the case. Bion examined how an analyst experiences negative capability in the context of the relationship between the analyst and analysand. It is the relational context that allows change to be realized. Negative capability is reflected in the analyst's ability to patiently observe. Patience is a significant quality, which "should be retained without irritably reaching after fact and reason" (Bion, 1970, p. 125). In this context, negative capability is demonstrated when a therapist does not grasp for explanations to an analysand's problems, but patiently awaits the emergence of patterns. Elsewhere, it was described as a dynamic process of movement, undertaken by the therapist, between two different modes of inhabiting uncertainty - being 'with' uncertainty, and being 'in' uncertainty" (Voller, 2011, p. 345).

Bion's Grid (Table 2) may be used to further expand an understanding of the relational component of the practice of negative capability. Uncertainty may be understood to be represented in 'preconception' and containment during the movement toward 'conception' on the vertical axis. Preconception is a mental state of expectation. "[I]t is the basic mechanism of the process in which growth occurs" (Symington and Symington, 1996, p. 107). It is looking for an experience with which it can match and be complete, understanding meaning. Conception represents the mating of a preconception with a negative realization, also enlarging the preconception's capacity to become saturated (Bléandonu, 1994). Once the match has been made, conception has occurred. Within the grid, people move vertically from top to bottom as understanding increases. Containment may occur as the 'containing' analyst listens without judgment to the analysand's experience and then experiences conception after a period of incomprehension turns to saturation. Preconception, with the assistance of a 'container' may lead to conception, as the concept becomes clearer. This is different than what is understood as a personal capacity to practice negative capability. The analyst needs to be able to practice negative capability, while, although the analysand may be able to practice negative capability in a diminished capacity, in the analytical context the analysand's capacity is augmented through containment. The analyst does not transfer knowledge. This

contrasts with a mentor/protégé relationship where the positive capabilities of one individual are transferred to the other.

Table 2 - The Grid

	Definitory Hypotheses 1	ψ 2	Notation 3	Attention 4	Inquiry 5	Action 6	...n
A β -elements	A1	A2				A6	
B α -elements	B1	B2	B3	B4	B5	B6	...Bn
C Dream Thoughts Dreams, Myths	C1	C2	C3	C4	C5	C5	...Cn
D Pre-conception	D1	D2	D3	D4	D5	D6	...Dn
E Conception	E1	E2	E3	E4	E5	E6	...En
F Concept	F1	F2	F3	F4	F5	F6	...Fn
G Scientific Deductive System		G2					
H Algebraic Calculus							

(Bion, 1970, used with permission of Basic Books)

Bion explored the notion of negative capability from two perspectives – that of the therapist who is subtly directing the change and experiencing the need to patiently observe, and that of the patient who is experiencing the change. This conception has important parallels in an IS implementation process, in which managers are directing the change and need to observe how this unfolds and in which ways staff members are experiencing the change.

An elaboration of a relational component of the practice of negative capability is also present in literature in the field of psychology, where one’s capacity to practice negative capability was described as “the experience of being drawn into fully experiencing anxious feelings without attempting to flee”, with the support of a ‘compassionate other’ - the psychologist (Stuart, 1996, p. 122). In relating negative

capability to the experience of anxiety, Stuart (1996) described anxiety experiences that both preclude negative capability and indicate its presence. The conditions are subdivided into three movements, similar to the movements of a work of music (see Figure 1). Movements 1 and 2 make negative capability possible, while movement 3 demonstrates the practice of negative capability. Movement 1 is typified by increasing anxiety and a perceived threat to one's wellbeing. Familiar coping strategies are adopted, but they fail to alleviate the situation. These strategies include:

“escaping into past determinations which allows a retreat into old, familiar roles in which one may feel trapped, but through which one has some sense of self identity and safety, escaping into future implausible solutions allowing for a flight into possible action (gives an ideal to aim for and hope that a change might be forthcoming), maintaining an unrealistic self-image (*sic*), and maintaining unrealistic expectations.”

(Stuart, 1996, pp. 97-98)

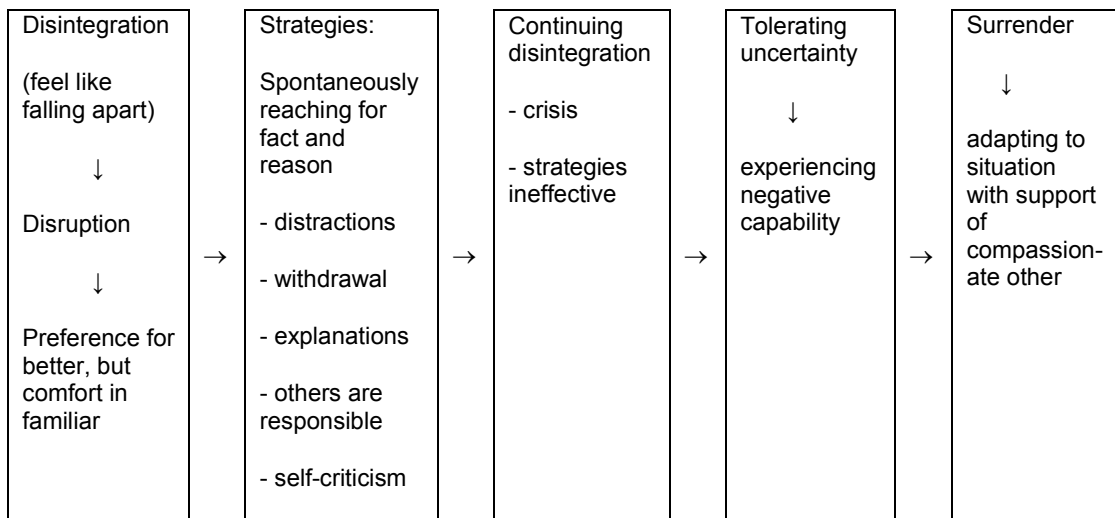
The above strategies reflect dispersal behaviours. The strategies allow people to:

“gain temporary distance both from the magnitude of one's painful feelings about oneself as well as from the implications of the provoking situation, remain out of touch with the present while not fully experiencing one's immediate feelings and by not acting in ways to actually respond to the present situation, retain a sense of hope which is based upon on unrealistic beliefs but which preserves the illusion of rationality and security and avoid direct confrontation of the ambiguities that become obvious in one's situation.”

(Stuart, 1996, pp 98-99)

At this point, one confronts the magnitude of the situation. Movement 3 begins when the struggle against the experience of anxiety and the passive struggle to change the situation ends. One adopts a present, rather than past or future, orientation. The individual begins to understand the situation in a different way, explores the emerging new knowledge with the aid of a 'compassionate other', and surrenders to the provoking situation. Out of this exploration, objective solutions emerge (Stuart, 1996).

Figure 1 - Steps Through Negative Capability



(Adapted from Stuart, 1996, used with permission of K. Stuart)

Stuart's work is noteworthy in that it described responses to anxiety that are not the practice of negative capability, but rather forms of dispersal that lay the foundation for the practice of negative capability through the support of a compassionate other. This was the only discussion that I was able to identify, in the literature, of the practice of negative capability after an avoidance strategy or dispersal behaviour. However, Stuart's work also relied upon the intervention of a compassionate other, a relational component. The current research identifies instances where the individual practices negative capability, after dispersal, without the presence a relational component. This is novel and is another important contribution that has emerged from this study. I will return to this aspect of the practice of negative capability, in my analysis of the research data, in later chapters.

In the context of applying the notion of negative capability to research concerning adaptation to information systems, the discipline of psychology provides us with both an understanding of how it may be applicable to managers, in the discussions of Bion concerning analysts, and how it may be applicable to those who use the technology, through the research of Stuart. Bion demonstrated that an observational, non-interventionist approach may be appropriate, while Stuart described the behavioural and emotional processes experienced in those who do, and do not, demonstrate a capacity to practice negative capability.

Writers in these disciplines, specifically in psychoanalysis and psychology, have expanded the understanding of a capacity to practice negative capability to recognize the contribution of a relational component. The relational component reflects a

capacity to practice negative capability with the support of another individual, one acting as a container or facilitator for the other. The next section discusses the literature that identifies an organizational component to the practice of negative capability.

2.1.4 An Organizational Component to the Practice of Negative Capability

As discussed in the consideration of a personal capacity to practice negative capability, there is an emerging literature relating to negative capability in the field of organization studies. In this sense, there is an implicit recognition of its relevance in an organizational context. I will review here in more detail the research of negative capability in an organizational context. More significantly, I wish to draw out the potential importance of conceiving of the practice of negative capability at the organizational level of analysis, and what this means. At the moment the literature does not provide a clear distinction and the general impression is of a personal capacity to practice negative capability in an organizational context. This research makes a contribution to the organizational literature by considering aspects of organizational practice, for example systems and processes for change management practice, which can provide support for a personal capacity to practice negative capability.

The practice of negative capability has been explored in the context of organizational leadership in relation to interpersonal interaction. French (2001, p. 483) defined it as “ the capacity to experience emotion, one’s own and others’, but also to “contain” it until it has “in-formed” us and hence reformed our understanding”. It was considered to be a 'gift', a character trait that some people possess in greater abundance than do others (French, 2001). It was also suggested that negative capability might be developed (French, 2000). It might be invoked as a means to deal with uncertain situations (the capacity to sustain *reflective inaction* [original emphasis]) (Simpson et al., 2002, p. 1210). The manager might be called upon to observe conditions rather than to act when faced with uncharted territory. Either a capacity to practice negative capability may emerge or positive capabilities might be experienced. Positive capabilities are characterized by skills and competencies (French, 2001) or “those attributes and abilities that allow the individual to promote *decisive action* [original emphasis] even in the face of uncertainty” (Simpson et al., 2002, p. 1210).

It was argued that a lack of a capacity to practice negative capability would result in 'dispersal behaviours'. These behaviours, adopted from Needleman (1982, p. 162), include dispersal as emotional reactions, explanations or physical action (Simpson et al, 2002, p. 1213). It is "a diversion of energy away from engagement with the task into these patterns of distraction" (Simpson et al, 2002, p. 1213). French (2001) suggested dispersal into activity (physical action) might be demonstrated by initiating alternative courses of action rather than dealing with the issue at hand; dispersal into explanations might be demonstrated by individuals explaining an organization's history to account for current conditions, while dispersal into emotion might be demonstrated by physical reactions to stress, such as back pain, or tears. It is argued that dispersal behaviours may be engaged as an alternative to experiencing and working with negative capability.

Within the context of change management, the notion of negative capability might be applied much like Bion's (1970) interpretation of the role of the psychoanalyst. In the environment of change, the manager might be seen as akin to the therapist, helping people to address change and overcome resistance (French, 2001). It was suggested that the manager's role is to recognize dispersal behaviours, and assist employees to adjust to change. The change manager role is identified as belonging to the person who is the manager. Therefore, it was suggested that the manager needs a capacity to practice negative capability in order to facilitate change. What is left unsaid is that the practice of negative capability is also important for those who are being managed.

Further development of the 'negative' in negative capability described the negative space in art (French et al., 2009). If one draws a portrait of a person, the negative space is that which surrounds the depiction of the person. So, the 'negative' of negative capability could be considered to be a space that complements that which is certain and illuminates it. Within the context of organizations, it is important to consider what is not visible and obvious, rather than just that which can be easily observed.

Chia and Holt (2009, p. 211) described the notion of negative capability as "containment and the capacity to endure". They described the ability to resist premature judgment and closure as possessing a *sunao* mind, *sunao* being "a Japanese word that is used to denote meekness, tractability or an open-hearted innocence and naivety: an untrapped mind that is free to adapt itself effectively to

changing circumstances”. This opens organizations to the possibility of grasping opportunities that are unplanned.

Currently, the organizational literature does not address organizational policies and practices that support the practice of negative capability. These policies and practices may either support the practice of negative capability at the relational and/or personal levels. This is a further contribution to knowledge that is elaborated upon in the analytical framework at the end of this chapter.

2.3 Summary Review of the Concept of Negative Capability in the Literature

Although there are similar interpretations of the meaning of negative capability, none of the literature, on its own, captures the full breadth of the potential significance of the notion of negative capability in relation to new IS implementation. Literary studies explore the practice of negative capability as a personal capacity; psychology and psychoanalysis add a relational component; and organizational studies indicate the potential for a developed understanding of an organizational component to support the practice of negative capability.

In Table 3, I classify the literature into one or more of the three levels that are identified in the practice of negative capability within the organization. It demonstrates that the notion of negative capability began as an idea that reflected a personal capacity, then expanded in psychotherapy to include a relational component in the interactions between doctor and patient, and finally incorporated an organizational component by way of its applications in management studies. Within literary studies, as in the Zen philosophy, the focus of negative capability was placed on how the individual interacts with his/her environment, in psychotherapy and psychology, the notion focuses on interactions between a therapist and a patient and in management studies, the focus of the practice of negative capability involves one or more of three organizational levels. The organizational culture or policies may support the practice of negative capability while, at the same time, interpersonal relationships may also support it. While an organizational component may be demonstrated in policies that support the practice of negative capability at the personal level and in relational interactions, it may also be evidenced in the practices of the organization’s leadership.

Stuart’s work (1996) demonstrated a progression involving behaviours, cognitions and emotions involved in the experience of negative capability. Others advised that “sustained reflective inaction” (Simpson et al., 2002, p. 1210) is required, suggesting

that there is a possibility that a capacity to practice negative capability could follow one of the dispersal behaviours described by French (2001) or described by Stuart (1996) as a precursor to experiencing negative capability in the presence of a compassionate other. Upon the introduction of something that is uncomfortable, the individual responds. Initially, the individual thinks about the situation. If the situation bears some sense of familiarity, the person may develop a familiar strategy to proceed. In this case, the strategy either will or will not be effective. If the strategy is effective, then the situation is resolved. If the situation is not at all familiar, or the familiar strategy fails, then a new strategy must be developed. Accompanying the sense of the unfamiliar will be feelings of uncertainty. If the individual does not feel competent to proceed, in the presence of this uncertainty, dispersal strategies may be adopted. In fact, dispersal behaviours may be the new strategy. Alternatively, the person may choose to experience the uncertainty and proceed to a possible solution. The individual moves from the comfort of the familiar into the realm of the unfamiliar. At this point in time, the person will experience uncomfortable feelings. To practice negative capability, it is necessary to suspend judgment and abide within the state of uncertainty. The individual may be assisted in practicing negative capability by a compassionate other, or may have organizational support. Both the compassionate other and the organization then contribute to the practice of negative capability by providing the necessary support for the individual.

Table 3 - The Three Levels Relating to the Practice of Negative Capability in the Literature

Source	Discipline	Definition	Level
Keats, 1970	Literary	Capable of being in mysteries, uncertainties and doubts without any irritable reaching after fact and reason	Personal
Masson, 1860	Literary	Power of remaining, luxuriously lolling, in doubts, mysteries and half-solutions, toying with them and tossing them in all their complexity into forms of beauty, instead of piercing on narrowly and in pain after Truth absolute and inaccessible	Personal
Wigod, 1952	Literary	Open mind, capacity for change and an aversion to forming comfortable, but unsatisfying, resolutions and philosophies	Personal
Bate, 1976	Literary	In our life of uncertainties, where no one system or formula can explain everything...what is needed is an imaginative openness of mind and heightened receptivity to reality in its full and diverse concreteness	Personal
Ou, 2007	Literary	Open to the actual vastness and complexity of experience that cannot be possessed unless one can abandon the comfortable enclosure of doctrinaire knowledge, safely guarding the self's identity, for a more truthful view of the world which is necessarily disturbing or even agonizing for the self	Personal
Holt, 2004	Literary	Entertaining a schism within one's identity	Personal
Tsur, 1975	Literary	Those who are capable of remaining in uncertainty, have sufficient leisure to perceive subtle and minimal cues, and so may appreciate complex or ambiguous emergent meanings	Personal
Muir, 1987	Drama	Being able to describe situations without inflicting one's own opinions and judgments on the audience, but rather to strive to reflect truth	Personal

Source	Discipline	Definition	Level
Benton, 1966	Philosophy	Man of negative capability has qualities that enable him to lose his self-identity, his imaginative identification with and submission to things, and his power to achieve a unity with life	Personal
Bion, 1970	Psychoanalysis	Analyst does not grasp for reasons to analysands' problems, but patiently awaits emergence of patterns	Personal Relational
Voller, 2011	Psychoanalysis	Dynamic process of movement, undertaken by the therapist, between two different modes of inhabiting uncertainty – being with uncertainty and being in uncertainty	Personal Relational
Stuart, 1996	Psychology	The experience of being drawn into fully experiencing anxious feelings without attempting to flee, facilitated by a compassionate other	Personal Relational
Cornish, 2011	Social Work	Open-mindedness, attentiveness to diversity and the suspension of the ego	Personal
French, 2001	Organizational Studies	The capacity to experience emotion, one's own and others', but also to "contain" it until it has "in-formed us and hence reformed our understanding" A possible role of manager in change – to help people through it	Personal Relational Organizational
Simpson, et al, 2002	Management	The capacity to sustain reflective inaction in leadership	Personal Organizational
Chia and Holt, 2009	Organizational Studies	Containment and the capacity to endure in organizational strategy	Personal Organizational

2.4 Expanding Upon a Framework for Researching Negative Capability

My understanding of the notion of negative capability has evolved over the course of several iterations of literature and field research and analysis, personal reflection and an expansion and revision of ideas. I began by noting that the notion of negative capability was being described in relation to organizational, relational and personal contexts. Within this limited framework, there were many examples of the practice of negative capability that lacked coherent organization. While I was trying to make sense of the data, I was also furthering my reading. In my research of the work of Bion, I also became aware of the Tavistock Institute of Human Relations. From the work of this institute, a primer had been developed that describes group relations conferences based on 'the Tavistock' method. Further structuring of the conferences is achieved through the use of their BART framework, also known as the BART System of Group and Organizational Analysis (Green and Molenkamp, 2005). Although the framework was designed for group relations studies, it is noted that it has applications for organizations (Green and Molenkamp, 2005). I originally began considering the boundaries aspect of BART when attempting to theorize the organizational component of concepts that were emerging from my data. The time boundaries had been relaxed, at CPT, in order for the paramedics to become comfortable with their new system. Once it was perceived that many people had become comfortable with the system, firm time boundaries were set for the mandatory use of the system. For those who had not taken advantage of the relaxed time boundaries, the firm time boundaries provided a containing environment in which people were encouraged to work through their problems with the new IT and to practice negative capability in order to do so.

It was after further consideration that I observed that containment provided by time, task and territory boundaries were also relevant at the relational and personal levels. Consequently, I adopted this portion of BART as a means of making sense of the concepts that were emerging from my data. I did not decide to use the framework and then apply the data to it, but rather recognized the parts of the framework that were relevant to what I found to be emerging from my data.

The concepts of authority, role and task (not referencing task boundaries), while relevant to studying organizations and groups, do not address the focus of this study. Consequently, they have not been incorporated into the study framework.

2.4.1 The Boundaries of the BART Framework

BART is the acronym for several key concepts that are explored during Tavistock conferences. The concepts are boundary, authority, role and task (Hayden and Molenkamp, 2002, p. 27). When disruption is experienced in any of these concepts, one might expect anxiety to be experienced. Consequently, the framework is useful in organizing a discussion around negative capability as a requirement for situations in which uncertainty and anxiety persist. The boundary portion of the BART framework is described below and is adopted as part of the analytical framework of this study.

Boundaries are both physical and psychological and exist for individuals, small or larger groups. Of particular interest in this research are the boundaries of task, time and territory, described by Green and Molenkamp (2005). Since failure to maintain boundaries may induce anxiety, they are a useful component of a framework to discuss the practice negative capability at the three levels of the organization.

Time Boundaries - Time boundaries are best understood as being deadlines that carry consequences if missed. (Green and Molenkamp, 2005) In the context of IT change, they become particularly relevant when the time required to learn new tasks puts pressure on one's ability to complete other tasks within the remaining time boundaries. Another challenge to time boundaries can arise as the demands of people needing help to learn the new tasks puts time pressure on the individual who is providing the assistance.

Task Boundaries - Task boundaries reflect "the way work is understood and the manner in which it is to be conducted" (Green and Molenkamp, 2005). During change, task boundaries also change. Tasks may become more complex or less challenging. They may also be replaced by new tasks. Each of these changes may result in uncertainty or anxiety for those who are experiencing the change.

Territory Boundaries - Territory boundaries are where work happens (Green and Molenkamp, 2005). They may represent the responsibilities of one job as they differ from another. People may experience work responsibilities shifting to or from others in the context of IT change. Likewise, the change may alter work locations.

The boundaries identified in the BART framework, along with the three analytical levels identified by the literature search, are used to structure the analysis of this research.

2.4.2 The Analytical Framework

This section describes the analytical framework developed and how it may be used to further explore the notion of negative capability within the context of user responses to the introduction of new IT. Boundaries represent a line of demarcation between what is acceptable and what is unacceptable. It is as a new boundary is approached or set that circumstances become more uncertain and/or anxiety-producing and one may need to either practice negative capability or experience dispersal. The following section describes how each boundary might apply to the practice of negative capability within the three analytical levels of the organization.

2.4.2.1 A Personal Capacity to Practice Negative Capability

2.4.2.1.1 Time Boundaries

At the individual level, time boundaries are the time restrictions placed upon the person to complete a task. They may be complicated by other demands, external responsibilities or situations that have not been previously experienced. The practice of negative capability is relevant when these boundaries cause anxiety or uncertainty.

2.4.2.1.2 Task Boundaries

The task boundaries represent the acceptable level of expertise or behaviour demonstrated in performance of an assigned task. Adjustment to new tasks during change causes uncertainty.

2.4.2.1.3 Territory Boundaries

Territory boundaries at the individual level represent the place where the individual is expected to perform his/her duties. These boundaries may be altered during IT change, causing an individual to feel anxiety and call upon a personal capacity to practice negative capability.

2.4.2.2 A Relational Component to the Practice of Negative Capability

2.4.2.2.1 Time Boundaries

Time boundaries are either set by the organization (when a task must be achieved), or by the individual within the relationship – how much time is to be spent helping others, when will this assistance take place? In order to support a relational

component for the practice of negative capability, sufficient time must be available to act as a container for another person.

2.4.2.2.2 Task Boundaries

The relational task boundaries are reflected by the individual's authority to act as a 'container'. If no organizational authorization has been given to assist others, there is organizational pressure to complete one's own tasks without interruption. In assisting others, there are additional pressures that are experienced in order to meet the 'other's' needs. This is true whether the task is in containing negative emotions or in doing so while instructing another in the performance of a work task.

2.4.2.2.3 Territory Boundaries

Within an organization, territory becomes relevant in a relational situation if the competent or containing person is identified as a possible resource and, due to proximity to others, acquires more people with needs to meet. There are also boundary issues if the resource person is not within the immediate area of the person in need, or if he/she is unavailable (out of territory). Additionally, there may be issues with assisting people within the physical work space allocated for the 'container'.

2.4.2.3 An Organizational Component of the Practice of Negative Capability

This is reflected in the organization's policies and decisions that support a personal capacity to practice negative capability.

2.4.2.3.1 Time Boundaries

Within the organization, time boundaries are either set by or enforced upon the management. They may be either strict or flexible. All variations have implications for the practice of negative capability. In the context of this study, a decision was made to implement a new information system. A significant time boundary would be the date set to begin use of the new system. Another time boundary relates to the meeting external requirements for the output of the organization within the context of the change event or following the change implementation.

2.4.2.3.2 Task Boundaries

At this level, task boundaries represent what is expected to be achieved by the new system or how the individual tasks are expected to be achieved. At the same time,

the organization needs to continue to produce output without interruption. What has the organization done to support people during the change in order to help them cope with uncertainty and complete tasks?

2.4.2.3.3 Territory Boundaries

Territory boundaries at the organizational level represent where the workplace is situated and its place amongst competitors and customers. It may also represent decisions to shift work tasks between individuals and changes in where specific tasks are performed. Does the organization address these uncertainties in a manner that supports the individual's practice of negative capability?

2.5 Conclusion

This chapter has examined negative capability and situated it within a framework made up of personal, relational and organizational levels relating to the practice of negative capability. It also introduces the boundary portion of the BART framework used in Tavistock conferences and integrates boundaries of that framework into this framework as containing structures. The framework presented at the end of this chapter can be expanded to explore the practice of negative capability in different contexts. An examination of the relevance of this framework to the data collected in this study shows that it is able to contain all of the interview excerpts that provide examples of the practice of negative capability, as well as those where the individual does not practice negative capability. In the next chapter, MIS literature relating to user responses to the introduction of new IT will be integrated into an expanded framework. It is expanded to incorporate the user responses of resistance, acceptance and adaptation.

CHAPTER THREE – USER RESPONSES TO NEW IT AT THREE LEVELS

3.0 Introducing New IT into the Organization

This chapter discusses the current body of knowledge, within the MIS literature, relating to user responses to the introduction of new information technology into the organization and theoretical approaches to understanding IT in an organizational context.

The first section of the chapter outlines the way that I theorize technology within the organization. From that grounding, I continue to work within the context of user responses to the introduction of new it.

When developing the analytical framework for this study, discussed at the end of Chapter 2, I recognized that further organization of the emerging concepts could be achieved by considering user responses of resistance, acceptance and adaptation within the context of the containing boundaries. Doing so allowed me to identify possible gaps in the literature and to determine the boundaries that have historically been perceived as being of most relevance in new IT implementations. Therefore, this chapter then continues by discussing the models at the organizational, relational or personal levels. At each level, they are classified as being pertinent to time, task or territory boundaries and resistance, acceptance or adaptation. I also discuss the implications of the notion of negative capability in the implementation challenges identified within each model. The chapter concludes with a discussion of the implications of the notion of negative capability in the context of user responses to the introduction of new information technology.

3.1 Theoretical Perspectives of IT within the Organizational Context

There are a number of ways of theorizing IT in an organizational context. Preece (2005, p.663) identified eight 'schools'. The eight perspectives that he identified are technological determinism, socio-technical systems approaches, radical/Marxist perspectives, political/processual approaches, socio-economic shaping of technology (or social shaping of technology) (SST), the social construction of technology (SCOT), actor-network theory (ANT) and technology as text and metaphor (TTM). He also stated that there is often a degree of overlap between perspectives.

Of the eight perspectives that Preece (2005) identified, I found that three are particularly relevant to this research. The three perspectives that have the most relevance to my own theorization of technology and organizations are SCOT, SST and ANT. As fairly recent perspectives of technology, the three are still evolving and the degrees to which they overlap continue to change; many aspects of their views of technology have been, or are, identical.

All are theories that fall under the umbrella of Science and Technology Studies (STS). “STS looks at how the things it studies are constructed” (Sismondo, 2008, p.13). They reject the perspective that technologies, and their studies, can be separated from the social and political processes (Pollock and Williams, 2009, p. 51). They dispute the concept of a technological determinism that suggests that “technological developments take place outside society, independently of social, economic, and political forces” (Wyatt, 2008, p. 168), that improvements or new products are the result of the “activities of inventors, engineers and designers following an internal, technical logic that has nothing to do with social relationships” and that technological change either causes or determines social change. (Wyatt, 2008, p. 168). Adherents to STS interpret, as do I, technological developments as occurring within the context of social forces and as being shaped by them. The following discussion considers the three theoretical perspectives that are most relevant to my perspective and why I believe that SCOT is most epistemologically compatible with my perspective of technology in organizations.

SCOT is most closely associated with the work of Trevor Pinch and Wiebe Bijker. Its original focus was in making a case against technological determinism. Consequently, it represents a shift away from the concept of the individual inventor, from technology determining what society becomes, and from “making distinctions among technical, social, economic, and political aspects of technological development” (Bijker et al, 1987, p. 3). SCOT suggests that the development of technology is multidirectional, rather than linear (Bijker et al, 1987). Technology and society are both human constructs (Bijker et al, 1987, p.3) and each contributes to the shaping of the other.

SCOT concentrates on the making, use and study of technology, rather than on what it is (Bijker, 1997, p. 63). The concept of symmetry provides equal importance to the final adopted technology as it does to those that were unsuccessful, and looks to the reasons why one form of a technology prevailed.

There are four elements which flow through the descriptive model of SCOT: relevant social groups, interpretive flexibility, closure and stabilization. Relevant social groups are those that have an interest in the particular technology and are essential to understanding the development of technology (Bijker, 1997, p. 45). These groups may be political, gender-based, economic, etc. Each is considered a group in that they interpret the artifact similarly to other group members and may interpret it differently to other social groups (Bijker, 1997, p.77). Technological developments are influenced by the artifact's meanings as perceived by relevant social groups (Bijker, 1997, p. 52). Interpretive flexibility reflects the possibly different, and sometimes conflicting, interpretations placed upon one artifact by different relevant social groups (Bijker, 1997, p.76). Closure represents the diminishing of interpretive flexibility and consensus amongst relevant social groups (Bijker, 1997, p. 86). Stabilization reflects the way an artifact is more narrowly interpreted within one relevant social group.

SCOT maintains that, in the end, it is not necessarily the 'best' technology that prevails, nor is technology developed in a linear fashion. It suggests that "one should never take the meaning of technical artifact or technological system as residing in the technology itself, but "must study how technologies are shaped and acquire their meanings in social situations" (Bijker, 1997, p. 6).

SST, in its identity as part of the sociology of technology, is "concerned with explaining how social processes, actions and structures relate to technology' and in this is also concerned with developing critiques of notions of *technological determinism*" (Mackay and Gillespie, 1992, p. 865). It encompasses social constructivist, systems, actor-network and neo-Marxist approaches (Mackay and Gillespie, 1992). In fact, it can be difficult to separate many facets of ANT and SCOT from this perspective. Indeed, a relatively recent collection of SST writings includes work that adopts both of those perspectives (MacKenzie & Waczman, 1999).

SST examines the content of technology and the particular processes involved in innovation. It explores a range of factors (organizational, political, economic and cultural) which pattern the design and implementation of technology (Williams and Edge, 1996). Williams and Edge (1996, p. 866) viewed SST as a project that unites researchers who advocate the opening of the 'black-box' of technology in order to analyze and expose the socio-economic patterns embedded in both the content of technologies and the processes of innovation.

SST studies show that technology does not develop according to an inner technical logic but is instead a social product, patterned by the conditions of its creation and use. There are 'choices' made throughout the development of technology. Often, technological development does not follow a single trajectory, but may branch off along different paths. Each path may have different implications for different social groups, as does SCOT.

While engaging with many of the same interpretations of technology as does SCOT, SST appears to place more emphasis on policy implications, social accountability and control as they relate to the shaping of technology.

ANT is most closely associated with the work of John Law, Michel Callon and Bruno Latour. The theory treats objects as part of networks and has very little to do with the study of social networks (Latour, 1997). Both human and non-human components of the network are given the same importance. The actor network cannot be reduced to either the actor alone, or to the network, but rather consists of animate and inanimate heterogeneous elements that have been linked together for a period of time. (Callon, 1987, p. 93). The network is not to be thought of as analogous to a computer network – “it may be local, it may have no compulsory paths, no strategically-positioned nodes” (Latour, 1997). ANT is a constructivist approach, but is migrating away from the social constructivist approach because ANT does not afford additional weight to the social actors within the network. When one removes the focus on the “things” involved, ANT contends that there are events that cannot be understood solely by considering the social construction of meaning (Matthewman, 2011, p.105).

Of the three theorizations of technology in organizations described above, SCOT is most compatible with my research perspective. I interpret SST, while often being compatible with SCOT and in many ways overlapping, to take too broad an approach to the understanding of technology in the organizational context and to focus on implications and drivers of technology that are beyond the scope of this research. ANT presents problems, for me, in the importance it places upon the non-human components of networks and in its migration away from social construction. SCOT, however, is compatible with the perspective that humans shape technology in the organization and must work with it. The SCOT perspective recognizes that there are differing perspectives and that closure and stabilization do not occur until issues are resolved for the various relevant social groups.

I would be remiss if I did not acknowledge perceived problems with SCOT. Khoo (2005) pointed out that stabilization and closure are less likely when technologies are evolving so rapidly. Adherents to ANT have suggested that the focus on the social aspects takes too much focus away from the technological aspects (Matthewman, 2011). These criticisms do not make SCOT less appealing to me. I agree that there is difficulty achieving closure in rapidly-evolving technology and discuss this issue later in this section. When studying information technology such as the software programs that are discussed in this thesis, it is informative to consider the various human interpretations of the technology, as they become aware of their systems. Looking at user responses during a period of instability is useful in 1) helping us to understand the different ways that people make sense of the same technology, and 2) helping us to understand how people interpret the technology and the circumstances surrounding it in such a way that they are able to work with it, even in situations where they are inclined towards resisting use of the technology. Consequently, in my research, closure is not as relevant as are user interpretations of the IT and its implications prior to closure. The second criticism, that of the social focus of SCOT, also is compatible with my work. Although I acknowledge that the type of IT and the potential disruptive nature of certain IT systems may initiate differing user responses in the introduction of new IT, the focus of this research is on user responses to the information technology that is introduced into the organization, rather than the evolving characteristics of a specific technology.

3.1.1 Theory of SCOT and User Responses to the Introduction of New IT

This section discusses how new IT systems come into being and how they are integrated into organizations from the perspective of the social construction of technology. In the following discussion, I draw heavily upon the biography of ERP systems provided by Pollock and Williams (2009) as the source for the history, and explanations, of the widespread adoption of the systems.

The introduction of the ERP system into an organization provides an illustration of how a technology has been socially constructed. Over the past few decades, organizations have moved their practices of managing data from hand- or typewritten reports to computer-based systems. However, this has not been done consistently throughout a particular organization, nor has one system traditionally been used to integrate various components of data management. The traditional, pre-ERP means of managing data were a socially constructed interpretation of how

data best flows through parts of the organization in order to meet their business needs. These systems had been supplemented with human-to-human interaction in order to provide integration where the systems were incompatible or did not exist. This method of conducting business is not without problems. In my own experience, people had to print copies of reports or data and hand them over to another person in order for the second person to input the data into another system. Or, disks of data were exchanged from one department to another. If a person suddenly left the organization, everyone scrambled to try to make sense of his/her work and where particular reports could be found. There were also issues of who had access to the data, and the amount of duplication of data that existed within one organization or within a single system within the organization. Such problems motivated the search for a new solution.

During the 1990s, ERP systems began to emerge as a potential solution to the problems that were being identified within the organization. These software systems could duplicate many of the tasks currently being performed by people, eliminate silos of information and streamline business practices. It is important to realize that they were also socially constructed.

However, the ERP system is a socially constructed integrated 'solution' that was originally built to meet a specific organization's needs. This 'solution' had then been modified to anticipate some of the potential differences between organizations (alternative social constructions) and was now being presented as a generic solution to answer to the needs of all similar organizations. In addition to answering the often obvious needs of the organization, they were also able to provide a more rapid means of obtaining more specific and detailed information, including reports that many managers had not even considered obtaining. This all occurred in conjunction with a purported replication of the current data needs of the organization, supplemented by improvements that reflected 'best practices'.

Contrary to the plug-and-play hype presented by ERP proponents, it is rarely easy to integrate an ERP into an organization. Some organizations have, over time, arrived at a form of closure based on modifying the ways in which they either run their operations or specify their data flow needs. When the system is introduced into another organization, the process of constructing the technology, within the new context, and of interpreting the meaning of one's work begins again. Since the needs of all of the relevant social groups are often not being met during this period of time, resistance may emerge. Until all relevant social groups are satisfied with

the outcome and closure occurs, within the organization, resistance and associated difficulties might be expected.

During the periods of adjustment between the introduction of a new IT and the point in time when closure is experienced at the particular organization, the practice of negative capability may emerge as a strategy for coping with the unsettled situation that exists as the working technology is being constructed (modified) or people are adapting to the technology in order to meet the needs of the specific organization.

3.2 User Responses to the Introduction of New IT – A Discussion of Categories

3.2.1 Resistance

Resistance is frequently the focus of studies relating to the implementation of new IT, in that it is considered to be a potential threat to a smooth and successful execution of any project. There are many interpretations of the causes and manifestations of resistance, and definitions concerning it incorporate different concepts. Lapointe and Rivard (2005) conducted a semantic decomposition of existing definitions and report that the definitions often contain five common features: resistance behaviours, object of resistance, perceived threats, initial conditions and a subject of the resistance. Markus (1983) suggested that resistance is neither good nor bad. Joshi (1991, p. 231) viewed resistance as an attempt “to minimize inputs and others’ outcomes, while attempting to increase others’ inputs”. Lauer and Rajogopalan (2003, p. 9) defined resistance as “action or intentional inaction that opposes or sidesteps the implementation of new information technology. It might manifest over time, from the program’s inception through its deployment and operation and its intensity may wax and wane. A resister may be an individual, a group, or an entire organization”.

It is apparent that the definition of resistance is influenced by the individual researcher’s focus. I define resistance to new IT as follows: resistance is either an oppositional response or negative emotion that arises during periods of uncertainty and/or periods in which sensemaking is challenged due to the introduction of new information technology into the organization. I contend that people who practice negative capability can experience uncomfortable emotions and feelings of uncertainty, and continue to function, rather than overtly resist the new IT. This does not mean that resistance is not being felt; the practice of negative capability can help a person comply with mandatory IT use in spite of resistant feelings.

Resistance is frequently recognized as being neither good nor bad (Lawrence, 1986, Markus, 1983). While resistance might be motivated by an unwillingness on the part of certain individuals to change the status quo (Kim and Kankanhalli, 2009 p. 567), it can also signal implementation mistakes with the IT being introduced (Leonard-Barton and Kraus, 1985). In some instances, it might motivate innovation (Kavanagh, 2004).

There is no simple, single reason that IT is met with resistance. For example, while it is generally accepted that people will demonstrate resistance when they believe they are losing control (Baronas and Louis, 1988) and welcome increased control over their work (Rafaeli, 1986), some research suggested that an increasing sense of control is not always welcomed (Burger, 1989). Since different people respond in different ways to the same situation, along a continuum from being resistant to being happy with the circumstances, the notion of negative capability provides a means of understanding how people are able, or sometimes not able, to function after a new IT implementation.

There are many ways of making sense of an IT change event. Interpretations of the meaning of the new IT, such as fear of technology (Benamati et al., 1997), technostress (Brillhart, 2004), loss of status, change in interpersonal relationships, economic insecurity, loss of power (Jiang et al., 2000, Keen, 1981, Markus, 1983), alienation (Abdul-Gader and Kozar, 1995), reduced job autonomy (Zuboff, 1982, Munkvold, 1999), differing styles between users and designers (Janson et al., 1993) and increased job complexity (Krovi, 1993) were identified in the literature.

Resistance may be observed in behaviours such as minimizing the implementer's access to necessary information (Keen, 1981), sabotage or passive resistance (Marakas and Hornik, 1996). It is also observable in the dispersal behaviours of emotion, explanation or activity that were discussed in the last chapter. It becomes more difficult to detect resistant tendencies when they are masked behind compliance with mandatory use of IT. This form of 'hidden' resistance has the potential to cause problems for both users and organizations. A possible way to detect 'hidden' resistance is to talk to people and become aware of concerns that are not visibly manifested.

Suggested methods for reducing resistance vary from involving users in the design (Hirschheim, 1985) or implementation processes (Baronas and Louis, 1988, Lin and Ashcraft, 1990) to providing 'attributional' training for employees (Martinko et al, 1996). This study will also provide suggestions for supporting a personal

capacity to practice negative capability in employees, as a means of coexisting with new IT, in the Discussion chapter.

3.2.2 Acceptance

Acceptance that arises from satisfaction with the new IT has been connected to personality traits (Rogers, 1983, p. 246), perceived usefulness of the technology and perceived ease of use (Davis, 1989), subjective norm (Venkatesh et al., 2003), and fit with tasks to be performed (Goodhue and Thompson, 1995).

Apparent acceptance of new IT may not reflect user satisfaction in the changed environment. It may actually indicate that people are practicing negative capability in challenging circumstances. This is particularly relevant when compliance is mandatory. While most existing acceptance models allow for rejection of the new implementation, compliance has been considered in some of the more recent literature (Venkatesh, 2000, Venkatesh et al., 2003) and the need for further research in this area has been identified (Lee, 2003). This study addresses the need, exploring how users are able to comply with the use of new IT in mandatory circumstances.

Compliance, however, is not necessarily acceptance. It can mask resistant attitudes toward a new technology. It is within the context of compliance that the capacity to practice negative capability becomes most useful. Practice of negative capability may provide the individual with the space in order to co-exist with the change and, eventually, accept it. I do not suggest that, by practicing negative capability, one will eventually accept undesired change, but that a person is afforded the time and space to find ways to address the issues that cause resistant feelings and possibly address them while, at the same time, fulfilling the terms of one's employment.

3.2.3 Adaption

Adaptation refers to changes in the technology or the organization that take place after the initial introduction of the new IT. This is motivated by a gap in planning for the new implementation that fails to account for all potential impacts, good or bad, that the technology might have on the organization. Adaptations might be desired either to make the technology perform as desired or to exploit benefits not anticipated in the pre-implementation period. "It is only through experience with a new technology that users discover its ramifications" (Tyre and Orlikowski, 1994, p.

99). SCOT also provides us with some understanding of the motivation for adaptation, on the part of the users. When relevant social groups, in this context the organizations' staff, are dissatisfied with the IT they will either adapt to the new IT or adapt the technology to meet their needs. Closure cannot be achieved unless all adaptation has been completed.

'Technological adaptation' refers to adjustments and changes following installation of a new technology in a given setting. In keeping with prior research, adaptations may address physical aspects of the technology, as well as users' procedures, assumptions, knowledge, or relationships. "These changes may stem from users' efforts alone, or from joint efforts between users and technology developers" (Tyre and Orlikowski, 1994, p. 99). Existing adaptation models demonstrate that adaptation is a process that moves towards the alignment of the technology with the organizational needs, and that adaptation is most likely to occur soon after the introduction of the new technology. Both circumstances are of relevance to my research. Adaptation often occurs in a period of uncertainty, and may involve either the experience of, or the transition toward the experience of, negative capability.

3.3 User Responses to New IT and the Notion of Negative Capability

In the above section I have discussed resistance, acceptance and adaptation as user responses to the introduction of new IT into the organization. As I proceed through this thesis, I will develop the notion of negative capability and its relationship to resistance, acceptance and adaptation. The notion of negative capability does not define any of those responses, nor is it an explanation for why people experience particular responses to new IT or change. The practice of negative capability enables people to function, even though they are experiencing resistant emotions. It enables them to comply with, rather than overtly resist change, in spite of a desire to resist the change. The practice of negative capability may also enable the individual to calmly accept change, without a desire to resist. This individual may also be inclined to resist, but is able to accept the change without feeling negative emotions, rather than simply comply with it.

When a person overtly or covertly resists a change, there is always a reason for the resistance, whether it is lack of training, fear of technology, aversion to change, fear of loss of power or political position, etc. The people who I interviewed all had reasons for why they were unhappy about particular aspects of the change, and their reasons were frequently different from their coworkers' reasons.

Likewise, dispersal behaviours are not examples of resistance, although they often accompany resistance. Dispersal is a behaviour that the individual adopts when unable to cope with the situation that they are facing.

Neither the notions of negative capability nor dispersal provides an alternative explanation for user responses to change. They provide a possible explanation of how some people are able to cope with a change, while others do not, and may offer insights into what may be done in order to make it easier for people to cope, particularly in circumstances where compliance is mandatory.

User responses to new IT are experienced in relationship to one or more of the three analytical levels: personal, relational or organizational. Within each level, acceptance, resistance and adaptation may be observed. In this section, acceptance, resistance and adaptation are discussed as they relate to time, task and territory boundaries and the capacity to practice negative capability.

As was the case with the discussions of negative capability within the last chapter, the MIS models may apply to more than one analytical level. Most of the models have a component that involves the personal level, as is to be expected in an examination of user responses. Where another level of impact is more relevant, the discussion of the model is presented in the discussion of that level. In order to connect the MIS user response research with negative capability, the following discussion will also examine the potential relevance of the notion of negative capability as it may be related to each model.

3.3.1 Personal Capacity

3.3.1.1 *Time*

3.3.1.1.1 Resistance

None of the models examined in this study specifically consider resistance in the context of time boundaries at the personal level. Individual resistance related to time boundaries may arise when the person is unable to complete tasks because of time limits, or finds that he/she has too much time in which to complete required tasks and fears his/her job security. A personal capacity to practice negative capability is helpful in both situations in that the resistance arises from either feelings of anxiety or uncertainty.

3.3.1.1.2 Acceptance

Diffusion of innovation theory is relevant to individual acceptance of new IT. Its goal is to explain why people accept new technology at different times. It relates personality traits to the speed with which an individual adopts a new technology (Rogers, 1983) and is not specific to IT.

The theory suggests that innovations are accepted by an individual based on his/her level of innovativeness. Individuals may be classified as innovators, early adopters, early majority, late majority or laggards. There are certain personality traits common to each group. Innovators tend to be venturesome and more comfortable with risk. Early adopters tend to be opinion leaders and are known to make judicious innovation decisions, and are therefore useful missionaries in the cause of innovation. The early majority are slightly ahead of the average. While willing to innovate, they are rarely leaders. The late majority are, on the other hand, slightly behind the average. They are cautious about innovation and tend to adopt new technology because of peer pressure. Finally, laggards are the last to adopt innovation. They are more traditional in their outlook and more likely to hold onto the past.

Based solely on the above ideal typical characteristics of individual acceptance of innovations (Rogers, 1983), it is very unlikely that everyone in an organization will welcome and accept a new IT at the same time. The theory demonstrates that unenforced time boundaries will result in different acceptance decisions for different people. When time boundaries are enforced, understanding the notion of negative capability may make sense of the way people work within uncomfortable time boundaries.

3.3.1.1.3 Adaptation

None of the models examined incorporate time boundaries in adaptation at the personal level. Time boundaries influence an individual's decision to modify the IS, or one's method of work, in a manner which will either extend or reduce the amount of time required to complete one's tasks. The modification will be made either to reduce the anxieties of having too little or too much work for the allotted time, or to make more efficient use of the IS. Or, if completion of existing tasks do not allow people time to make adaptations that they believe could improve the IT or their interaction with it, frustrations may arise. When anxieties or frustrations are experienced, a personal capacity to practice negative capability allows the individual to work through those emotions.

3.3.1.2 Task

3.3.1.2.1 Resistance

The equity-implementation (EI) model, is drawn from equity theory (Joshi, 1991). This model demonstrates that there is no fundamental resistance to every change – in fact, some changes are welcomed. Rather, changes are evaluated for equitable conditions by individuals, with unfavourable changes being resisted. There are three levels of analysis considered in the model. At the first level, the individual evaluates the expected impact of change on his/her inputs and outcomes to determine if there is a net gain or loss. At the second level, the individual compares the change in relative outcomes with those of the employer. At the third level, the comparison is made between the individual and other users. At all levels, if the individual perceives the outcomes to exceed inputs, resistance is not likely (Joshi, 1991).

Joshi also noted that individuals might evaluate different factors as being inputs or outcomes and that the same factor might be considered an input by some and outcome by others (Joshi, 1991). This observation highlights the difficulty in developing a generic strategy to avoid resistance, as the cause of the resistance might vary between individuals, with one person's motivation for resistance being another person's reason for embracing the new IT implementation. Based on this model, a personal capacity to practice negative capability is desirable in that it assists people who have differing reasons for resistance to work through their resistant feelings.

The passive resistance misuse model (PRM) (Marakas and Hornik, 1996) is based on passive-aggressive behaviour theory and action science's espoused theories *versus* theories in-use. While overtly giving the appearance of support for the implementation, certain individuals might covertly resist and possibly sabotage the implementation process. This resistance behaviour could range in scope from passive noncooperation to physical destruction.

The passive resistance misuse (PRM) model is based on three underlying theories. In passive-aggressive theory, it is noted that passive-aggressive behaviour is situational. As an antecedent, the individual believes that he/she was in a powerless situation. Passive-aggressive behaviour is manifested through procrastination, stubbornness, intentional inefficiency and forgetfulness (Fine et al., 1992) as a response to the feeling of powerlessness. In order to explain the

individual nature of passive-aggressive actions, a behavioural or cognitive-behavioural approach from psychology might be considered. The behavioural approach draws on operant conditioning and social learning theory. Cognitive behavioural theory suggests that an inhibited person will convince him- or herself that his/her anger is unwarranted and will be passively aggressive as an alternative. Espoused theories versus theories in-use might be summarized as what is said to be done *versus* what is actually done. While the individual demonstrates overt support, he/she might be procrastinating rather than completing assignments that are necessary to move the project ahead. PRM is not suggested to be a frequent implementation resistance factor, but one that should be considered (Marakas and Hornik, 1996).

This model demonstrates the problems with attempting to identify resistance, in that it may not always be obvious. I will, later in this thesis, apply it to problems that I experienced in attempting to identify the practice of negative capability in some individuals, in that they are not always willing to describe what they are truly feeling, but rather give what might be considered the 'correct' answer under duress. Not only does this present problems for implementers who are trying to address user acceptance issues, but it also presents a problem in conducting research.

User acceptance models, in general, do not look at long term acceptance of IT and, therefore, do not consider the possibility that resistance processes might also be present. Lauer and Rajagopalan (2003) integrated acceptance and resistance into a framework that considered both apparent acceptance that masks resistance, and outright resistance (Figure 1). It is noteworthy, however, that their model does not incorporate acceptance that is genuine. System Implementation reflects whether the system is initially considered as a success or failure. Resistance is divided into two types: active and passive. Crossing the two dimensions reflects four potential states that may indicate problems. The 'rebel' situation is present when the implementation appears to be accepted, but active resistance is present. The 'subversive' condition reflects passive resistance to an apparently accepted implementation. The 'mutiny' situation reflects active resistance that results in failure. Finally, the 'coup' quadrant represents passive resistance that undermines implementation and results in rejection of the system. These responses can be demonstrative of dispersal behaviours.

Figure 2 - Dynamics of the Acceptance/Resistance Relationship for Actually or Potentially Failed Systems

	FAILURE	MUTINY (2)	COUP (4)
ACCEPTANCE ORIENTED JUDGEMENT			
	SUCCESS	REBEL (1)	SUBVERSIVE (3)
		ACTIVE	PASSIVE
		RESISTANCE TYPE	

(Lauer and Rajagopalan, 2003, p. 31, used with permission of T. Lauer)

3.3.1.2.2 Acceptance

The theory of reasoned action (TRA) (Ajzen and Fishbein, 1980) is the underlying theory of the technology acceptance model (TAM) and its refinements. TRA suggests that people's intentions to behave in certain ways are usually predictors of behaviour. Intention is a function of two determinates: attitude toward the behaviour and subjective norm. Subjective norm is a result of social pressures to perform or not perform a certain behaviour (Ajzen and Fishbein, 1980).

TAM is the most widely applied theoretical model in the MIS field (Lee, 2003). It considers antecedents of technology acceptance. In place of attitude in TRA, it locates perceived usefulness and perceived ease of use, as the potential user views the technology, as good predictors of an individual's intention to use the technology (Davis, 1989). Subjective norm is not considered in TAM. The usefulness of the model diminishes when the choice of adoption is taken away from the individual, as it is based, as is TRA, on user volition. It is at the point where user volition is removed that the practice of negative capability may be helpful.

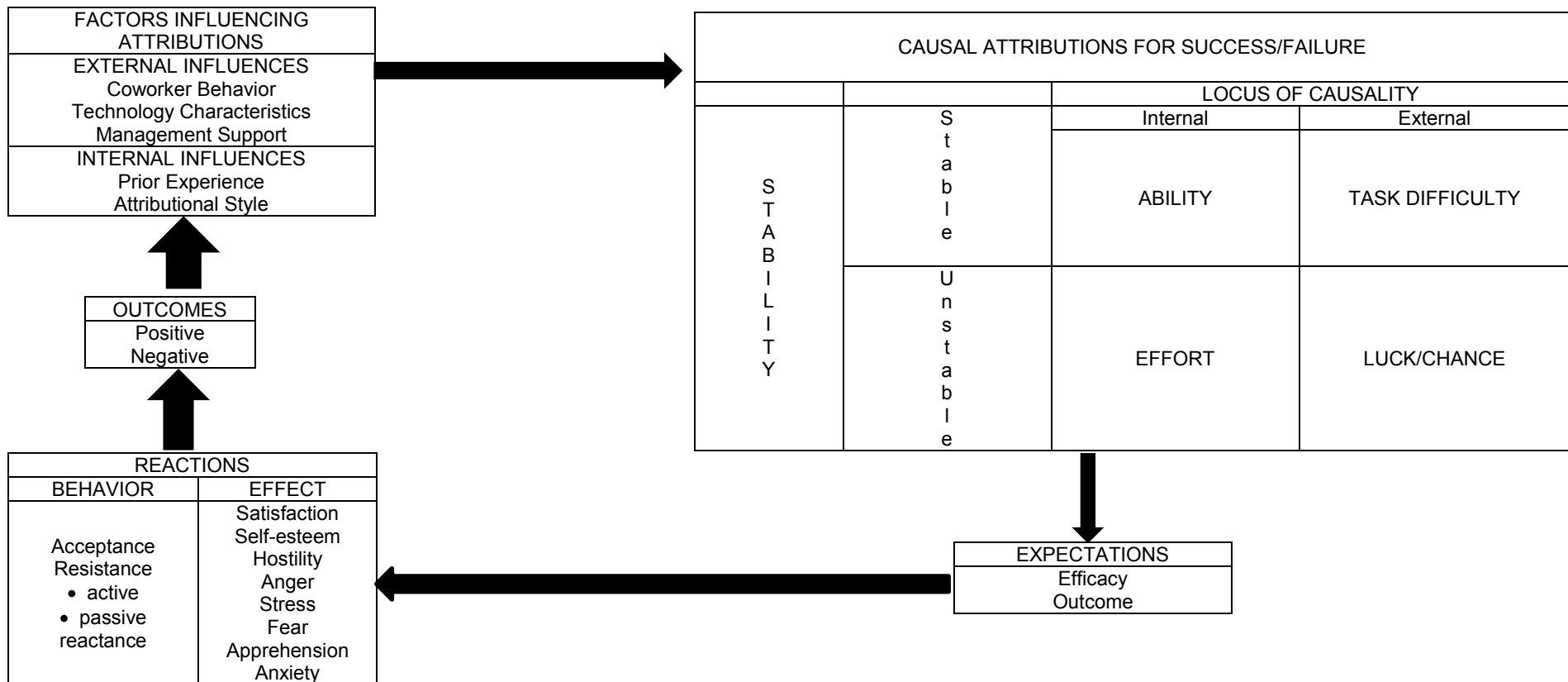
The technology-to-performance chain (TPC) model suggests that "for an information technology to have a positive impact on individual performance, the technology must be utilized, and the technology must be a good fit with the tasks it supports" (Goodhue and Thompson, 1995, p. 213). This model incorporates the concept of task-technology fit (the features and support of a technology that are congruent with

the task at hand) along with the focus on attitudes and beliefs that play a major role in the other models in this stream of research. It is suggested that an IS has a positive performance effect only if there is correspondence between function and user task requirements (Goodhue and Thompson, 1995). It also addresses mandatory use, and suggests that the task-technology fit becomes more important when utilization is mandatory. While task-technology fit is important, being able to practice negative capability may help bridge gaps when the fit is not optimal, particularly in situations where use is mandatory.

The attributional model of reactions to information technologies (Figure 2) suggests that an individual's beliefs about outcomes have an important impact on future behaviours (Martinko et al., 1996). Theoretically underpinning this model is attribution theory and the learned helplessness (LH) of social learning theory. LH refers to passive behaviour resulting from prior exposure to failure; negative outcomes from performing a task in the past might be used by the individual to support a belief that future similar outcomes will be negative. The attributional model of reactions to information technologies (AMRIT) suggests that introducing a new IT combined with internal and intrapersonal influences, and external environmental influences as well as prior success or failure at tasks involving IT, to evoke causal attributions. These attributions influence outcome expectations, influencing the individual's affective and behavioural responses to and use of IT. In turn, success or failure is experienced, becoming cues for future IT experiences (Martinko et al., 1996).

Martinko's model is not static, linear or completely rational, as the variables are dynamic and interactive. Additionally, it suggests that user attributions are formed before, during and after IT implementation episodes (Martinko et al., 1996). The model considers factors influencing attributions, causal attributions for success/failure, expectations, reactions and outcomes in a constant feedback loop. It should also be noted that each factor might interact throughout the process with each of the other factors. This model demonstrates the complex and multiple factors that contribute to an individual's responses to a new IT implementation. It is because there are so many reasons that the implementation may not be well-received by an individual that there is no simple way to address user issues. Rather, it is more important to understand how users are able to work through their issues. Therefore, furthering our understanding of how individuals are able to practice negative capability is relevant.

Figure 3 - An Attributional Model of Reactions to Information Technology (AMRIT)



(Martinko et al, 1996, p. 316, used with permission of Taylor & Francis)

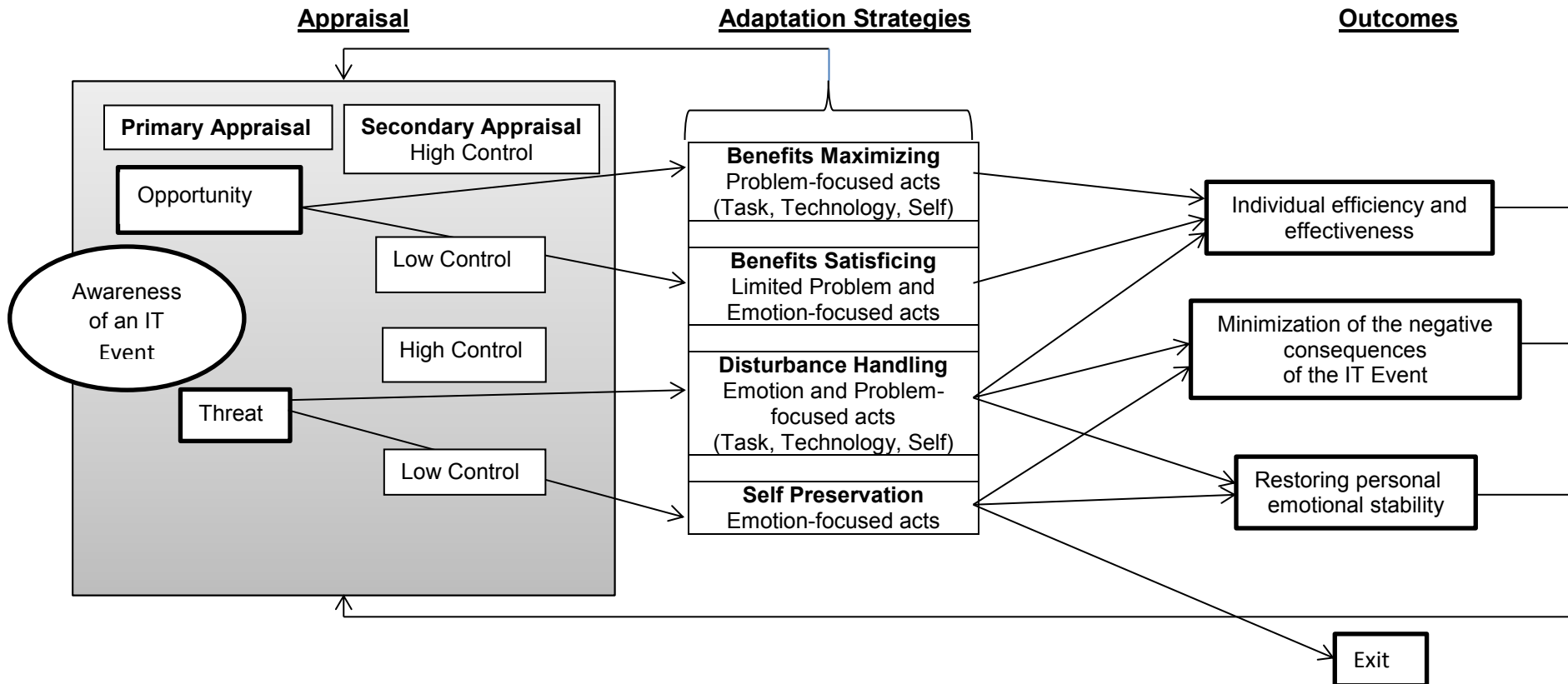
3.3.1.2.3 Adaptation

As discussed previously, SCOT suggests adaptation arises from either from relevant group, or individual, dissatisfaction with the technology in its current state. Closure cannot be achieved until relevant social groups are satisfied with the IT. Research into user responses to new IT tend to focus either on antecedents of adoption using a variance approach, or user adaptation using a process approach (Beaudry and Pinsonneault, 2005). In order to move toward integration of the research streams, the coping model of user adaptation (CMUA) was developed (Beaudry and Pinsonneault, 2005). CMUA (Figure 3) draws upon coping theory to explain user adaptation to change. When an individual becomes aware of new IT, he/she appraises the situation. Primarily, the user determines if an opportunity or threat exists. Then, he/she determines the level of control that the individual possesses. Depending on the appraisal of these factors, one of four strategies to adapt to the situation is developed: benefits maximizing, benefits satisficing, disturbance handling or self-preservation.

Figure 3, below, outlines the potential strategies and their outcomes. Outcomes reflecting a chosen strategy may then be predicted. If the event is perceived to be a threat by the user, resistance behaviours could be predicted. Although resistance is not explicitly outlined in the model, disturbance handling and self-preservation may reflect resistance strategies. Additionally, self-preservation may arise from calling upon one's personal capacity to practice negative capability.

The adaptation strategies may be impacted by either the practice of negative capability or by dispersal. In each instance, a personal capacity to practice negative capability may enable an individual to contain feelings of uncertainty, particularly when the sense of control is low. Likewise, dispersal behaviours may be displayed, most particularly when self-preservation is the strategy. In each of these strategies, dispersal may be the final outcome (e.g., exit), or the individual may become able to practice negative capability.

Figure 4 - The Coping Model of User Adaptation



To simplify the illustration, pure forms of appraisal, i.e., where an IT event is monolithically appraised as constituting either a threat or an opportunity are presented.

(Beaudry and Pinsonneault, 2005, p. 499, used with permission of MIS Quarterly)

As an extension of CMUA, Beaudry and Pinsonneault (2010) examined the direct and indirect effects of emotions in information technology use. In this exploratory study, they considered the emotions of anger, anxiety, excitement, and happiness in acceptance and adaptation. They found that anger was positively related to seeking social support, anxiety was negatively related to IT use, through psychological distancing, and positively related to seeking social support, excitement was positively related to IT use through adaptation and happiness was positively related to IT use, but not to task adaptation. Although Beaudry and Pinsonneault were surprised that happiness did not lead to task adaptation, it seems plausible that most people would not want to “fix what isn’t broken”.

Beaudry and Pinsonneault (2010, p. 694) stated that:

It is important to note that it is not the IT event or the IT artifact per se that triggers emotions but the unique psychological and evaluative assessment of the event/artifact by an individual. Thus, different people can have different sets of emotional responses to a given IT artifact or to a specific IT event. In addition, most events and artifacts have the potential of triggering an array of emotions in an individual, within a given group, and across groups.

These statements are of particular relevance to my research. I maintain that different individuals may have very different responses to the same new IT implementation and, often, for very different reasons. That is why I believe that understanding the practice of negative capability is useful when introducing new IT. Negative capability is a capacity that can be practiced in the context of many different emotions, both positive and negative. Therefore, a better understanding of negative capability, within the context of the introduction of new IT, can be useful for both implementers and users.

3.3.1.3 Territory

3.3.1.3.1 Resistance

Markus’s (1983) premise was that people resist an MIS because it is perceived to cause a shift in their positions of power within the organization. Three theoretical perspectives were examined as they related to resistance. It was suggested that resistance might arise from factors, internal to a person or group, inherent in the system or application being introduced or due to the interaction of people and technology. The interaction theory was further divided into political and sociotechnical variants. From this point of view, the political variant was employed to demonstrate that resistance might occur when persons or groups believe they are

losing power within the organization as a result of the introduction of a new IT (Markus, 1983). This discussion demonstrates that potential problems may arise, from new IT implementations, that are not related to user interaction with the IT itself but rather as a result of the implementation.

There may be responses to perceived power changes that may not result in overt resistance, such as anxiety and unhappiness. When an individual must function in circumstances that are unpalatable, it is helpful to be able to practice negative capability.

3.3.2 Relational Component

3.3.2.1 *Time*

No research was found that considered user responses to new IT in a manner that could locate it within the time boundary section of a relational component to the practice of negative capability. However, it is helpful if the relational component is fostered during new IT implementations. If people are not permitted time to seek assistance or support from others, or if those who are able to contain emotions do not have the time to do so, there may be an additional strain placed upon the implementation that might be avoided.

3.3.2.2 *Task*

3.3.2.2.1 Resistance

The resistance model that takes a multilevel, longitudinal approach to resistance (Lapointe and Rivard, 2005) was described in the organizational section. It is also relevant at the relational level, as resistance grows over time and individuals unite in resistance. At this point, having individuals who are able to contain emotion may defuse the situation and may prevent escalation of the problems.

3.3.2.2.2 Acceptance

Acceptance of new IT is important at the relational level, in that it is the first line of defense against the escalation of resistance that was described in the longitudinal model (Lapointe and Rivard, 2005). People who are able to practice negative capability in a relational context are also able to contain negative emotions in others, making acceptance more achievable.

3.3.2.2.3 Adaptation

There is no association with IT adaptation within the examined models at the relational level. This may be an important aspect of adaptation where there is need for support in deciding to adapt MIS use or in the actual adaptation, or in implementing the adaptation.

3.3.2.3 Territory

Within the context of territory and the relational capacity, there are no relevant models of user responses to new IT. However, this is an important consideration if the person who contains anxiety for others is not situated in close proximity to others or if the person who is capable of offering containment does not have the physical space in which to do so.

3.3.3 Organizational Component

3.3.3.1 Time

3.3.3.1.1 Resistance

One model that I examined took a multilevel, longitudinal approach to resistance (Lapointe and Rivard, 2005) and also discussed both the individual and relational levels. This model demonstrated that resistance was first experienced at the individual level. Over a period of time, if the causes of resistance were not addressed, individuals united together in their resistance. Additionally, the form that resistance took escalated over time, from apathy to an aggressive resistance that might reflect a failure in the implementation.

This study highlighted the importance of addressing resistance behaviours and causes at the earliest possibility. I placed the model here because it demonstrated the organizational impact of failing to address resistance in a timely manner. As will be discussed later in this thesis, organizational support for the practice of negative capability may help manage resistance.

3.3.3.1.2 Acceptance

None of the models addressed time boundaries in IT acceptance at the organizational level. This could be relevant in the ways in which the organization supports the practice of negative capability in order to promote acceptance of the

new IT. The case of CPT demonstrates the relevance of time boundaries in user acceptance of a new IT.

3.3.3.1.3 Adaptation

Tyre and Orlikowski (1994) considered the timing of modifications in the introduction of new technology. They demonstrated that user adaptation to new technology was not a continuous process and suggested that there were specific windows of opportunity in which to make changes after the introduction of new IT. Furthermore, if desired changes were not made early in the life of the new IT, problems might become embedded into organizational practice. They found that the “lack of an established routine, combined with the necessary (and necessarily temporary) suspension of normal performance demands, appeared to open the way for a period of experimentation, reflection, and modification” (Tyre and Orlikowski, 1994, p. 115). With the return to normal demands, however, willingness to experiment might diminish.

Their suggestion to suspend normal demands supports the revision of an organizational policy that could support the practice of negative capability and is discussed in the analysis of the cases.

3.3.3.2 Task

3.3.3.2.1 Resistance

Another study examines implementers’ responses to resistance. The implementers are defined as business managers, functional managers, or IT professionals (Rivard and Lapointe, 2012, p. 897). Responses are classified as inaction, acknowledgement, rectification and dissuasion (Table 4).

The responses that result in a reduction of resistance are congruent rectification, coercion with power and credibility (of either the source or the message), authoritative persuasion with credibility and supportive persuasion with credibility. All other responses result in an increase in resistance.

I’ve placed this model at the organizational level because it represents responses to user resistance from positions of authority. The responses that result in a reduction of resistance either call for or support the practice of negative capability.

Table 4 - Taxonomy of Implementers' Responses

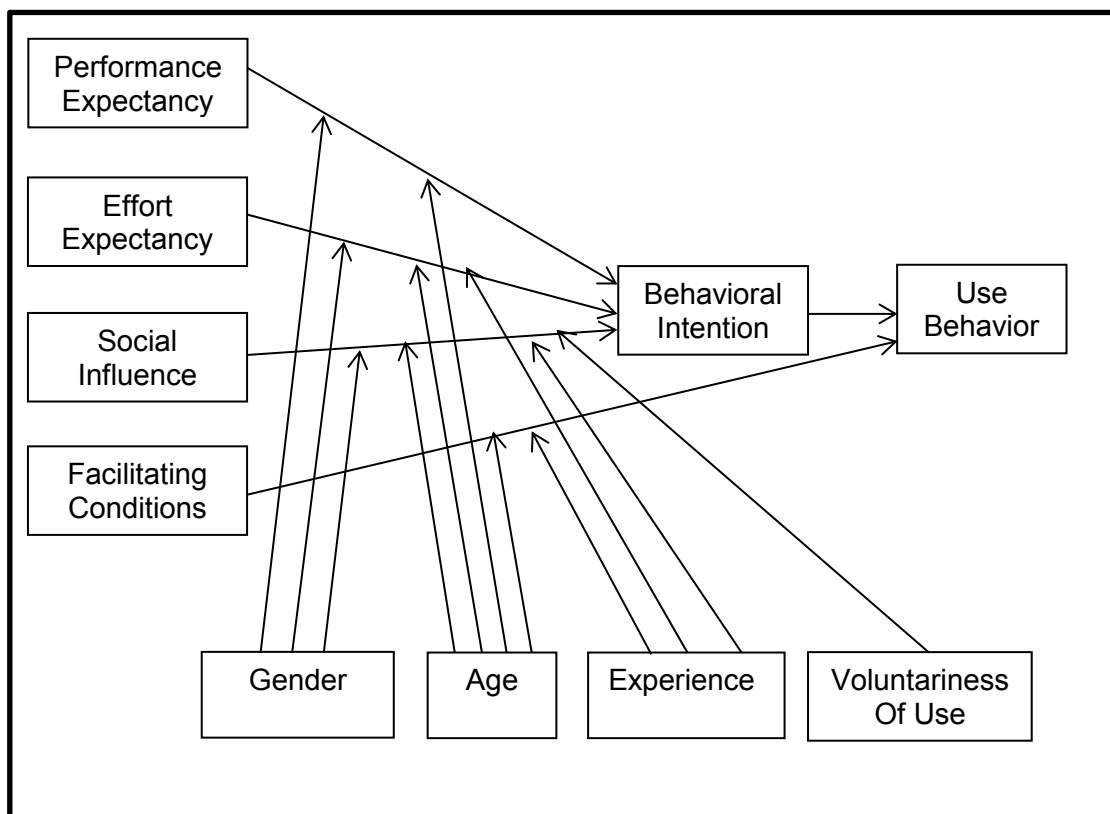
Response Category	N (%)	Response Category	N (%)	Examples
INACTION	52 (38.0%)	UNWARENESS	18 (13.1%)	Doing nothing
		DELIBERATE IGNORANCE	27 (19.7%)	Not caring, deciding to wait and see, adopting a laissez-faire approach
		IMPOTENCE	7 (5.1%)	Feeling unable to do anything
ACKNOWLEDGEMENT	5 (3.6%)			Discussing issues; administering a questionnaire; organizing round tables, a task force, or focus group
RECTIFICATION	49 (35.8%)	CONGRUENT	38 (27.7%)	Redesigning the system (when the object of resistance is system features), training (when the object of resistance is system features and users' skills are deficient, changing the work schedule or making concessions (when the object of resistance is system significance)
		NONCONGRUENT	11 (8.0%)	Fixing the system (when the object of resistance is system significance), providing explanations as to how to use the system or adding personnel (when the object of resistance is system features and when the system is flawed)
DISSUASION	31 (22.6%)	COERCION	6 (4.4%)	Forcing use of the system using coercive power or threatening users
		AUTHORITATIVE PERSUASION	8 (5.8%)	Reprimanding users or mandating use
		SUPPORTIVE PERSUASION	17 (12.4%)	Reassurance, top management support, explanations, benefit rationalization

(Rivard and Lapointe, 2012, p. 903, used with permission of MIS Quarterly)

3.3.3.2.2 Acceptance

Two refinements to the Technology Acceptance Model (TAM) are TAM2 and the Unified Theory of Acceptance and Use of Technology (UTAUT). TAM2 includes subjective norm as a predictor of intention. UTAUT incorporates the determinates of behavioural intention found in several models and tends to be a better predictor of behaviour than any of its predecessors (Venkatesh et al., 2003). Figure 4 presents the UTAUT.

Figure 5 - Unified Theory of Acceptance and Use of Technology



(Venkatesh et al, 2003, p. 447, used with permission of MIS Quarterly)

By including subjective norm into TAM2 and UTAUT, mandatory use of a given IT may be considered. Since use is mandated from an organizational level, this model is relevant within this subsection. Since subjective norm reflects social influence being exerted to use a given technology, required use by a superior in the work environment is, perhaps, an extreme of social influence in this setting. As has been previously stated, it is in mandatory use situations that the capacity to practice negative capability may be most relevant. With this refinement, the models become more applicable to an increasing number of present-day IT requirements.

3.3.3.2.3 Adaptation

Leonard-Barton (1988) saw the initial implementation of new technology as an extension of the invention process. During this progression, there was a dynamic process of mutual adaptation as misalignments were corrected. There were three types of misalignments discussed. In technical misalignments, the original technical specifications did not align with the target production process. In delivery system misalignments, the technology was not aligned with the user organization infrastructure. In value misalignments, the technology did not align with the job performance criteria. The adaptation process took place in cycles that brought the organization and technology into alignment.

Addressing misalignments are facilitated and fostered by organizational support for the practice of negative capability. We can also consider the social construction of technology in the addressing of misalignments. In the context of misalignments, the technology is not addressing the needs of the relevant social groups, be they the users, management of the organization or the recipients of the produced products. Consequently, changes are made in order to address the needs of the relevant social groups.

3.3.3.3 Territory

At the organizational level, none of the models address territory boundaries. However, they are relevant in the introduction of new IT when the workplace location does not readily support the change. Issues also arise when the implementation causes problems with competitors and customers.

3.4 Implications of Negative Capability in IT Implementations

In Table 5, each of the three levels of analysis that are relevant to the practice of negative capability is integrated with the models discussed in this chapter. The 'relevant level' is identified by the focus of the particular model. Therefore, most of the resistance models, as depictions of individual resistance, could be impacted by an individual's personal capacity to practice negative capability. This does not suggest that the relational and organizational components may not also impact resistance. However, they are less relevant to the main focus of these models.

Table 5 demonstrates that the notion of negative capability is a relevant topic for exploration relating to the introduction of new IT at personal, relational and

organizational levels. In fact, the current study will demonstrate that the personal, relational and organizational levels of contribution to the practice of negative capability are all represented during the introduction of new IT into the organization.

Table 5 - Synthesis of Negative Capability Capacities and MIS User Response Literature

Source	Model	Response	Relevant Level
Markus, 1983	Power and Politics	Resistance	Personal
Joshi, 1991	Equity-implementation	Resistance	Personal
Marakas and Hornik, 1996	Passive-aggressive misuse	Resistance	Personal
Lapointe and Rivard, 2005	Longitudinal Model	Resistance	Personal Relational
Lapointe and Rivard, 2012	Implementers' Responses	Responses to resistance	Personal Organizational
Rogers, 1983	Diffusion of Innovations	Acceptance	Personal
Davis, 1989	Technology Acceptance Model	Acceptance	Personal
Venkatesh et al , 2003	Unified Theory of Acceptance and Use of Technology	Acceptance	Personal
Goodhue and Thompson, 1995	Technology-to-performance chain	Acceptance	Personal
Leonard-Barton, 1988	Extending Invention Process	Adaptation	Personal Organizational
Tyre and Orlikowski, 1994	Windows of Opportunity	Adaptation	Personal Organizational
Martinko et al., 1996	Attributional Model of Reactions to Information Technologies	Acceptance Resistance	Personal
Lauer and Rajogopalan, 2003	Acceptance/Resistance Framework	Acceptance Resistance	Personal Relational
Beaudry and Pinsonneault, 2005	Coping Model of User Adaptation	Acceptance Adaptation Resistance	Personal
Beaudry and Pinsonneault, 2010	Direct and Indirect Effect of Emotions	Acceptance Adaptation Resistance	Personal Relational

3.5 Chapter Conclusion

In my examination of the literature, I found that although the notion of negative capability has been considered in a number of disciplines it has not yet been explored in the MIS field. Furthermore, my reading of literature concerning user responses to the introduction of new technology suggests to me that the practice of negative capability can be useful in understanding the various user responses to IT implementations. The analytical framework developed in Chapter 2 will incorporate resistance, acceptance and adaptation into the framework in order to analyze the field studies of Chapters 5 and 6.

The next chapter will discuss the methodology employed in this research.

CHAPTER FOUR - METHODOLOGY

4.0 Introduction

This chapter describes my approach to the study of user responses to the introduction of new IT into the organization. I believe that making sense of the way users experience a new IT implementation, through interpretive research, provides new insights into the event. Therefore, I have adopted an interpretive approach.

I begin this chapter by briefly discussing interpretive research and its relevance to this study. I continue by describing the narrative inquiry methodology and some supporting methods relevant to this research, along with difficulties that I have encountered in employing this research methodology.

The study is comprised of two cases. User responses to the introduction of new IT are explored at two different organizations that have recently undergone a new information system implementation. These cases primarily involve interviews with individuals from each organization. The approach that I have taken to each individual case is discussed in the research design section of this chapter. I then describe my methods for analyzing the data.

In any research project, there are process issues that must be addressed. Research challenges, informed consent and ethical treatment of participants are amongst those matters. Discussions of these issues complete this chapter.

4.1 Paradigms, Methodology and Methods

This section discusses the foundations for the research. It explains my decision to adopt the interpretive paradigm for this study and continues by describing the narrative inquiry methodology in field studies. I then discuss reflexivity.

4.1.1 Situating the Research Within the Interpretive Paradigm

From the beginning, I was convinced that this study should be conducted within the interpretive paradigm. Although a few MIS colleagues in Canada were of the opinion that doing so would 'hurt my chances' of being published, a search of methodology literature proved that this is no longer true. While there are studies that call for a positivist approach, there are others that demand an interpretive one. Fitzgerald and Howcroft (1998) recognized that research is seen as involving the competing dichotomies of positivism and interpretivism, with positivism being the predominant paradigm. They acknowledged, however, that both have strengths and weaknesses and that, if there were a 'better' approach, the debate would have ended long ago. In discussions of organizational research (Hassard and Kelemen, 2002), it has been recognized that it is unlikely that a specific paradigm will provide "all the answers". I believe the same may be said of the field of MIS research.

MIS is a relatively new discipline, appearing first within the early 1980s. As other disciplines have matured, philosophical approaches to research diversify. This has also proven to be true within the field of MIS (Mingers, 2001). Although my review of the MIS literature revealed that most research in MIS has been conducted from a positivist perspective (Galliers and Land, 1987; Hirschheim and Klein, 1989; Orlikowski and Baroudi, 1991; Goles and Hirschheim, 2000), the controversy has been declared to be basically over and many approaches are now considered acceptable (Klein and Myers, 1999). In fact, "[i]nterpretive research in information systems (IS) is now a well-established part of the field" (Walsham, 2006, p. 320).

The interpretive paradigm holds "the view that the social world has a very precarious ontological status, and that what passes as social reality does not exist in any concrete sense, but is the product of the subjective and inter-subjective experience of individuals", with the actor as participant rather than observer (Morgan, 1980, p. 608). This approach views the social world as an emergent social process created by the individuals concerned (Burrell and Morgan, 1979) and assumes that knowledge of reality is acquired only through social constructions (Klein and Myers, 1999). Since "[r]eality is socially constructed and the sociality of knowledge must analyze the

processes in which this occurs” (Berger and Luckman, 1966, p. 1), situating a study of how people, in the social situation of an organization, make sense of their realities during the introduction of a new IT is best understood by an interpretive approach.

Interpretive research normally uses small samples and is concerned with generating theories, providing rich subjective data (Collis and Hussey, 2003). A narrative inquiry methodology, which analyzes stories of individual experiences, is a form of interpretive research. By conducting an exploration of user responses to the introduction of new IT within the interpretive paradigm, using a narrative inquiry methodology, each individual is able to richly describe his/her unique way of interpreting the circumstances surrounding the particular IT implementations. From using this interpretive methodology in the exploration of new IT, previously undetected aspects of both negative capability and user responses to the implementations are revealed.

4.1.2 The Narrative Inquiry Method

In order to explore user responses to the introduction of new technology in the organization, it is appropriate to gather data from the perspective of the people involved in the experience. The methodology of narrative inquiry is well suited to this research. By collecting stories of experiences surrounding the introduction of new IT, one is able to delve deeply into the users' experiences, and collect detailed data.

The narrative approach is appropriate for this research for many reasons. The approach provides rich data that makes it possible to explore in depth the experience underlying an individual's behaviour. This is important when exploring the notion of negative capability because it is comprised of a complex pattern of behaviours, thoughts and emotions. The stories that told of experiences surrounding the introduction of new IT permitted me to identify aspects of the notion of negative capability that had not been previously recognised. The stories, in their richness, were able to provide a longitudinal account of the users' experiences, even though they may have only participated in a single interview. The practice of negative capability, with respect to the acceptance of, and resistance to, new information technology

implementation has not been studied using narrative analysis, thus adding to the body of knowledge. It has, however, been employed in research of the practice of negative capability in organizational studies (French, 2001), demonstrating its relevance as a methodology for this study.

Narrative inquiry is a reasonably new addition to the social science research repertoire, although sharing narratives has been a part of human communications for centuries (Clandinin and Rosiek, 2007). It is set in human stories of experience (Webster and Mertova, 2007; Chase, 2005). While frequently employed in education research (Clandinin and Connelly, 2000; Webster and Mertova, 2007), narrative inquiry has been previously used in organizational research (Czarniawska, 1997; Pentland, 1999) and information systems inquiries (Wagner et al, 2007; Webb and Mallon, 2007).

Narratives are a valuable tool for research, in that:

[n]arratives do not mirror, they refract the past. Imagination and strategic interests influence how storytellers choose to connect events and make them meaningful for others. Narratives are useful in research precisely because storytellers interpret the past rather than reproduce it as it was. The “truths” of narrative accounts are not in their faithful representations of a past world, but in the shifting connections they forge among past, present, and future.

(Riessman, 2003, p. 708)

Narrative is defined by Labov (1972, pp. 359-360) as “one method of recapitulating past experience by matching a verbal sequence of clauses to the sequence of events which (it is inferred) actually occurred”. Others have defined it as “a linear organization of events” (Cohan and Shires, 1988, pp. 52-53), or a perceived sequence of non-randomly connected events” (Toolan, 1988, p. 7). Specific to my research, the narratives of the two cases are stories of individual experiences that describe the person’s introduction to computer technology and a specific information technology. Clandinin and Connelly (1990, p. 2) identified narrative inquiry as “both phenomenon and method”, and stated that it both “names the structured quality of experience to be studied and it names the patterns of inquiry for its study”.

There is no standard approach to narrative and its analysis (Chase, 2005; Atkinson and Delamont, 2006). Chase (2005, p. 63-68) identified five approaches. Two of those approaches are relevant to this study: ‘identity

work' that people engage in as the construct selves within specific institutional, organizational, discursive and local cultural contexts and 'autoethnography', where researchers also look to themselves and their interactions with others, but also write, interpret and/or perform their own narratives about culturally significant experiences. In the two field studies, I explored how people made sense of, and worked with, the introduction of new IT within the contexts of work and life experiences.

My own narratives appear throughout this thesis. I participated in the interviews, entered workplaces and experienced some of the same things that the interviewees experienced. I heard the call for an ambulance come over a PA system or saw people rushing to get their work done before the daily cut-off time. Such experiences immerse the researcher into the organization, also bringing elements of ethnography into the study.

4.1.3 Autoethnography

In this subsection I address the specifics of the narrative inquiry method of autoethnography that is employed in the study. The narrative inquiry method used for the field cases is discussed in detail in the research design portion of this chapter (Section 4.2).

The narrative inquiry method identified by Chase (2005) as autoethnography, also considered to be a form of ethnographic research (Ellis and Bochner, 2000), was employed by me during this study. "Autoethnography concentrates on the study of personal and biographical documents which, intentionally or unintentionally, offer information about the structure, dynamics and function of the consciousness of the author, especially in relation to that cultural context" (Vickers, 2007, p. 224). Autoethnographers look outward and inward in their writing (Ellis and Bochner, 2000). It is known by many other terms, including autobiographical ethnography, auto-observation, lived experience, narrative ethnography, narratives of the self, personal ethnography, personal experience narratives (Patton, 2002). It is distinguished from a memoir in that it, among other things, contains citations and academic disciplinary vocabulary (Ellis and Bouchner, 2000).

As I became more familiar with the concept of negative capability and began thinking about how it manifested itself in others, I also began to think about how I was experiencing the capacity in my life, and how often I practiced negative capability as I progressed toward a PhD and in my interactions with the participants in my research studies. My growth and understanding as a researcher coincided with my investigations into the two cases; reflection and revision of my behaviours continued throughout my research experience. Therefore, what I was discovering about myself impacted the entire work.

4.1.4 Reflexivity

There are two manners in which reflexivity has been considered, by me, during this study. The first is in thinking about how I conduct the study. How is my presence in the interview process affecting the user responses? Are my interview questions working? Am I presenting myself properly? What am I learning from my reading and how does it inform and reform my thinking? These are but a few of the many questions that arise. The second manner is related to questions that arose in my mind during this research: How can I apply the practice of negative capability to my pursuit of a PhD? I have been constantly aware of how I practice, or don't practice, negative capability in my life and have attempted to adjust behaviours because of this awareness. This subsection discusses reflexivity as it relates to the overall research study and with respect to my own research experience.

"[T]he importance of *being* reflexive is acknowledged within social science research" (Mauthner and Doucet, 2003, p. 414). Consequently, it is now a common feature of qualitative research (Finlay, 2002). Finlay (2002, p. 213) identifies five variants of reflexivity "(i) introspection; (ii) intersubjective reflection; (iii) mutual collaboration; (iv) social critique; and (v) discursive deconstruction".

The variant that is relevant to this study is that of introspection. In this form of reflexivity, the researcher's own reflecting, intuiting and thinking are used as primary evidence (Moustakas, 1994). "In addition to examining one's own experience and personal meanings for their own sake, insights can emerge from personal introspection which then form(s) the basis of a more generalized understanding and interpretations. Reflections are assumed to

provide data regarding the social/emotional world of participants” (Finlay, 2002, p. 214).

Introspection is valuable if used for interpretations and insight (Finlay, 2002). Management scholars have usually emphasized how reflexivity “entails noticing, evaluating and being suspicious of the relationship between the researcher and the ‘objects’ of research” (Johnson and Duberley, 2003, p. 1).

Within the context of this thesis, introspection was employed in consideration of my role and progress as a researcher and as I interpreted data and related concepts to situations that I had experienced.

4.2 Research Design

For my field research, two cases were examined. The two cases involved County Patient Transport and Manufacturing Organization, and user responses to new IT that was introduced into each organization. County Patient Transport (CPT) is a first-responder service that has implemented an electronic ambulance call report (eACR) system. Manufacturing Organization (MO) is an SME (small and medium enterprise, with less than 500 workers) that has implemented an enterprise resource planning (ERP) system. Each case involves a substantial change in the way people perform their work.

Differing access restrictions and time frames for the implementations required that each of the new IT cases be approached using a different design. The first case (CPT) involved one set of interviews, conducted a year after a new IT implementation had taken place. In the midst of the change, I attended a train-the-trainer session to become familiar with the technology being implemented and the types of data that would be collected by the new technology, and also had phone and email exchanges with their project manager, prior to and during the period of time that I conducting the interviews, for scheduling purposes.

The second case (MO) design involved two sets of interviews, with supplementary interviews of some organizational members and email exchanges in the interim. The interviews took place between 2007 and 2012. They were conducted over the extended period of time because the

implementation of the new information technology took an extended period of time.

There were also similarities in the approaches. I conducted web searches on both organizations to get background information. In both of the cases I employed open-ended interview questions and used the same post-implementation interview schedule for each organization. The questions were designed to encourage individual stories of the experience of new IT introduction as understood by those involved in the events. The interview schedule is reproduced in Appendix 2. Participants were provided with the interview schedule prior to the interviews taking place, in order to allow for some reflection. Since some of the questions were somewhat intrusive, confidentiality was once again insured. A consent to participate in research form was presented to each individual (Appendix 3), providing further reassurances of confidentiality.

4.2.1 Interview Strategy

I entered this study with limited interview experience. I was able to achieve competency in the interview process through the application of lessons learned in the literature concerning long interviews (McCracken, 1988), narrative inquiry (Clandinin and Connelly, 2000; Clandinin and Rosiek, 2007; Chase, 2005; Atkinson and Delamont, 2006), and interviewing in general (Silverman, 2007).

“How we make sense in conversations necessarily relies on everyday conversational skills that cannot be reduced to reliable techniques” (Silverman, 2007, p. 4). There are strategies, however, that increase one’s ability to gather interview data of the quality that is necessary for meaningful analysis. ‘Active listening’, that relies on repeated a speaker’s responses back to him or her in order to show understanding, is not appropriate (McCracken, 1988). Rather, the interviewer must not direct the responses but allow the respondent to tell his or her own story in his or her own terms while exercising some control (McCracken, 1988, pp. 21-22). Personal credibility is important. The interviewer should adopt a “certain formality of dress, demeanour and speech” in order to assure participants that the interviewer is trustworthy and will maintain confidentiality, and asking

personal questions for reasons of professional curiosity rather than personal curiosity. In addition, “[t]he interview demands subjects who are happy to confess their innermost thoughts and emotions in the probe to the appropriate professional” (Silverman, 2007, p. 129). Proper dress and vocabulary support the illusion. At the same time informality should be maintained to reassure the participant that the interviewer is not cold, or indifferent to or unfamiliar with the challenges of the participants’ world (McCracken, 1998, p. 26). This informality might be achieved by a friendly demeanour and non-verbal cues of interest and respect during the interviews.

It is important to allow for empty space in interviews to allow the participant time to reflect and answer questions, rather than feeling the need to fill “dead air” (French, 2011). Since people are uncomfortable, in social situations, when nothing is being said, providing ‘dead air’ encourages them to elaborate on their stories and provide additional data.

Narrative interviews should be organized to allow for interpretation in narrative analysis. It is useful to begin questions with phrases such as “When did you first know...?” or “How did you start to...?” No information is ruled out ahead of time. Neutral probes, such as “How did that come about...?” or “What happened after that...?” may help to reveal the thinking underlying the connection of events or experiences. (Ayres, 2008).

Interviews may be conducted by face-to-face or group face-to-face verbal interchanges or by telephone surveys or questionnaires (Fontana and Fry, 2000).

There are general strategies that work for all types of narrative interviews. The interviews should be organized to allow for interpretation in narrative analysis. They may be either semi-structured or unstructured, depending on the research questions and goals and should be open-ended enough to permit full explanations and not every question needs to result in a story. Questions may arise from the participants’ stories and should build on previous questions.

I incorporated these strategies into my interview techniques. In order to build a relationship between the interviewer and participant, the interview agenda was presented to participants prior to the start of each interview, as

recommended by Burgess (1988), in the form of a copy of the interview schedule. Additionally, I shared information about myself during the interviews and began each question set by describing my motivation for conducting the interview, i.e., I'm working on a PhD, I've had different experiences with the introduction of new IT, I'm interested in how people feel during this time. I then continued by asking the participants to tell me about themselves. I attended the interviews dressed in business casual wear. While I wanted to achieve credibility with the interview participants, I also wanted them to feel comfortable with me. Depending upon the person who I was interviewing, I adjusted the level of discourse and either withheld or demonstrated personal knowledge.

At the outset, I was very nervous about conducting the interviews and concerned that I wouldn't ask the appropriate questions to collect the necessary data. The discussion in this subsection attests to the amount of attention that I placed upon ensuring that I 'got it right'. By the time I conducted the final interviews, however, not only was I 'book' educated in conducting interviews, I was very engaged in hearing the stories and entered each interview looking forward to hearing the various accounts of the events. I found that the interview process was one of my favourite parts of the entire PhD process. I believe that my genuine interest in what people were saying contributed most to being able to collect the rich accounts of their experiences and enabled me to expand the bodies of knowledge regarding both negative capability and user responses to the introduction of new IT.

4.2.2 Interview Design and Procedure

I began interviewing at MO in the fall of 2007. I conducted the employee interviews on a voluntary basis. Potential participants were identified, by the company vice president, as being those who would be using the ERP system. He introduced me to a number of the individuals and a timetable was distributed to permit those willing to be interviewed to volunteer. The organization's receptionist circulated the timetable and coordinated the interviews. It was important to me that people participate on a voluntary basis because I needed data that would faithfully represent individual responses to the change, rather than participate under duress because the

vice president had volunteered them. I provided consent forms to be signed by the employees who were willing to be interviewed. Initially, they were given the option of being interviewed on or off tape. One employee did not wish to be interviewed on tape and her responses were recorded manually. I conducted the interviews near the end of their work days in order to accommodate their duties.

Initially, I interviewed 15 people who worked in various capacities within the organization. At that time, I was interested in their opinions of the IT system that they were then using, their attitudes toward the organization and their fellow employees, and their thoughts about the upcoming change. Those interviews were approximately 15 minutes in length and did not result in stories. They did, however, provide me with insight into the attitudes of participants prior to the change, and gave me an awareness of their positive outlook toward the new IT. At that point, however, I recognized that I needed to improve my interviewing techniques in order to collect richer data and took the steps described in section 4.2.1.

In 2009, MO still had not gone live with the implementation. I returned and re-interviewed the vice president in order to determine the state of the project. At that time, the project had been deferred, reportedly due to economic challenges that were being experienced due to the recession. The interview questions used at that time were focused on the reasons for the delay and the future status of the project.

Finally, in late 2010, MO went live with the ERP system. In early 2011, I was assured that the system was stabilized and I returned in February of that year with the intention of completing the interviews. I spoke with three employees. Their narratives reflected that they were struggling with the implementation. They were unable to relate their experiences with any sense of perspective. I kept hearing about what would be happening to fix the problems, but little about how they were experiencing or had experienced the change. In addition, a number of the people who had originally participated in the interviews were unwilling to be interviewed at that time. They indicated that they were too busy attempting to get their work done while coping with the new system. Since I had stressed that the interviews were voluntary, I

decided that I would acquire more thoughtful and honest stories by postponing the remainder of the interviews until the people were again willing to participate.

The interview questions asked at that point in time related to experiences with the new IT, challenges and ways of addressing the challenge. While the questions that I used were producing good data, these interviews also provided me with new ideas for improving upon the interview questions to be used in the final interviews.

Following the 2011 interviews, I reworked the interview questions. By the fall of that year, I was satisfied that I would collect useful stories during the interviews. In order to develop the questions, it proved useful to use, as a framework, the five tensions described by Clandinin and Connelly (2000). For Clandinin and Connelly (2000), the tensions exist at the boundary between narrative inquiry and the 'grand narrative', "[t]he basis of the grand narrative" being "the careful study and accumulation of facts from which laws are determined" (Pinnegar and Daynes, 2007). The usefulness of the categories of tensions, for me, was that they also assisted in defining the composition of a narrative. So, each question was designed with the goal that the answers would contain the elements of temporality, people, action, certainty and context. Temporality involves locating things in time. People are considered in a process of change. Action is a narrative sign that needs to be interpreted in order to attach meaning to something. Certainty is not achieved – one does their best to place meaning on events. Context is ever-present, and necessary for making sense of people, events or things (Clandinin and Connelly, 2000, pp. 29-32). These concepts complement those in the boundary portion of the analytical framework and analysis of this study: time, task and territory can be related to temporality, action and context. People are both the sources and foci of the narratives, in their responses to the IT changes, while it can be responses, such as anxiety generated by the lack of certainty, that initiate a practice of negative capability.

The interview questions were designed to elicit stories of work, new IT and external life experiences. Additionally, there were questions that were

included to provide more detail about the people, such as a question about hobbies, helping me to learn more about the person behind the work persona.

The MO and CPT post-implementation interviews involved a face-to-face semi-structured format, with a single participant present during each interview. In order to give participants the opportunity to reflect upon the questions prior to meeting with them, I provided the participants with a copy of them prior to beginning the post-implementation interviews (see Appendix 2). Once each interview began, I adapted the order when changing it would improve the flow of a particular interview or when questions were answered before they had been asked. Additionally, I added additional questions, when warranted, to improve my understanding of the participants' answers or to extend a concept that had arisen from answers and had been unanticipated.

In late 2011, I was able to begin the interview process with CPT. As was the case with MO, interviewees were volunteers who would be using the new IT system. I interviewed 12 people over a space of several months, with the final interview completed in February of 2012. Initially, I found that the interviews took about two hours to complete because I had to ask many additional questions in order to fully understand their stories and their contexts. As the interviews progressed, the amount of time per interview decreased to between one hour and one and a half hours.

In early 2012, I contacted MO once again to request access for the final interviews. At that point, I was informed that they were busy trying to cope with year-end and pre-audit problems and that I would not be able to have access until later in February. Finally, in April of 2012, I completed the interviews by talking to nine of their employees. These interviews lasted between 45 minutes and one and a half hours. Although they were still experiencing problems with the change, the people were more receptive to being interviewed at this time.

In addition to the interviews, I collected data in the form of a PowerPoint presentation of the MO kickoff meeting, correspondence relating to the project schedule, published documents about the MO organization, personal observation at both of the work sites, including observation of people working

with the ERP system at MO, resulting in field notes and journal entries, and online searches concerning the organizations and the software programs that they were implementing. At MO, I was able to walk freely around the office and plant, carry on conversations with people as they worked, take field notes at the time, and later reflect upon my observations in journal entries. I was able to observe more at MO than at CPT. Because of legal restrictions, I was limited to observing the base stations where the interviews were conducted but unable to observe the paramedics on calls. The paramedics work out of the base stations, so I was able to observe their interactions and, to some extent, activities when they were not on a call. Additionally, I conducted email correspondence with people in both organizations throughout the study. The written material was useful in providing background information on the organizations and their implementations, and the emails were additionally helpful in keeping current with project progress throughout the process. Personal observation provided me with a better understanding of the cultures of each organization. The field notes and journal entries allowed me to collect early thoughts concerning the projects, and their progress, and documentation of personal observations.

There are advantages and disadvantages in each method of data collection. The advantages of interviews include the opportunity to prepare respondents for sensitive questions and explain complex ones, their usefulness for collecting in-depth information by probing, the opportunity for information to be supplemented (Kumar, 1999), their usefulness when participants cannot be observed directly, the opportunity for participants to provide historical information, and the level of control over the line of questioning that the researcher is afforded (Cresswell, 2003). The advantages of observations include that the researcher has first-hand experience with participants, the researcher can record information as it is revealed, unusual aspects can be noted during observation and they may be useful and exploring topics that are uncomfortable to participants (Cresswell, 2003). Advantages of using documents are that they enable a researcher to access material at a convenient time and in an unintrusive manner, they represent data that have been given attention in compiling, and they may save the researcher the time and expense of transcribing (Cresswell, 2003).

The disadvantages of interviews include that they can be time-consuming and expensive, the quality of the data depends upon the quality of the interaction, the quality of the data depends on the quality of the interviewer, the researcher may introduce his or her bias, the interviewer may be biased (Kumar, 1999), they provide indirect information reflecting the views of the interviewees, they take place outside a natural field setting, the researchers presence may bias responses, and people are not equally articulate and perceptive (Cresswell, 2003). The disadvantages of observation include the researcher potentially being seen as intrusive, the researcher observing information that cannot be reported, the researcher not have good attending and observing skills, and problems in building a rapport with certain participants. (Cresswell, 2003). The disadvantages of using documents include that the material may not be available for public access, it may be difficult to find the information, transcribing or optically scanning the material may be necessary for computer entry, many materials may be incomplete and the documents may not be authentic or accurate (Cresswell, 2003).

4.3 Analysis

There are some analytic practices that are common to all narrative analysis. All narrative analysis requires construction of texts for further analysis, involving selection and organization of documents, composition of field notes and/or choosing sections of interview transcripts for close inspection. As data, narratives require interpretation (Riessman, 2003). In order to interpret data, Riessman (2003) described four possible approaches: thematic analysis, structural analysis, interactional analysis and performative analysis.

Thematic analysis focuses on the content of the text, ““what” is said more than “how” it is said, the “told” rather than the “telling”” (Riessman, 2003). The narratives reveal conceptual groupings that are themed, along with case studies or vignettes for illustration. Thematic analysis may be used for theory building (Riessman, 2003). Structural analysis is interested in the way a story is told and places its focus on both the content and form, with language also being important. The components considered are the abstract, orientation, complicating action, evaluation, resolution and coda (Riessman, 2003). Interactional analysis considers dialogue between teller and listener.

It involves conversation between a storyteller and questioner. The focus of the analysis is on the storytelling as a process of co-construction between the teller and listener (Riessman, 2003). Performative analysis views storytelling as a performance and analysis may focus on oral narrative, settings, dialogue between characters or audience response (Riessman, 2003). Thematic analysis was employed in this research.

The original interviews at MO were recorded with an analogue recorder. This proved to be a challenge during transcription because the recordings were often difficult to interpret. Therefore, a digital recorder was added to the second set of interviews at MO. This proved to provide more reliable recordings and the final interviews were recorded using two digital recorders.

Originally, all interviews were transcribed by me. While I attempted to transcribe the interviews immediately following my meetings with the participants, many of the interviews were recorded during a short block of time. Consequently, they became backlogged. Nine of the final interviews were transcribed by a voice recognition transcription service. Since I had reached a saturation point with transcribing, I sought other alternatives. I found that www.nonotes.com, an online transcription service, was able to complete the work economically and rapidly, with guaranteed confidentiality. The service uses software to do the transcriptions on digitally-recorded audio. Once the transcriptions were returned to me, I proofed them against the original audio recordings. I found that, while there were mistakes, this method reduced the time required to complete the transcriptions and freed me to undertake other tasks. All of the transcriptions were completed within the two months following the final interview. In the end, I had over 90,000 words of raw data from interviews with MO and almost 150,000 words of data from the CPT interviews.

The data in this study was analyzed using thematic analysis. All data was analyzed using either NVivo 9 or 10. The reason that both versions were used was that the version changed over the course of the analysis. Methods of analysis did not differ across versions of the software. I used the software to organize the data. Since there was so much data to analyze, employing the software proved helpful.

NVivo is a qualitative analysis software program. Although there are a number of other text-analysis software packages available, e.g., Atlas.ti (Muhr, 2013) and HyperResearch (ResearchWare, Inc., 2013), NVivo (QRS International, 2013) was able to meet my analysis needs for this project.

The two cases were analyzed four times. The first stage of analysis involved exploring negative capability in life contexts. Using the CPT data, I began by creating nodes that grouped the data into categories reflecting IT-related work experiences, non-IT-related work experiences and external-to-work experience. I further refined the analysis by inserting subnodes into each of these three nodes. These subnodes summarized data relevant to each category, e.g., IT-related had subnodes for current and past IT experiences. Within each of the main nodes, I included a subnode for examples of negative capability. Within their non-IT work experience, I began to observe examples of dispersal that were followed by instances of negative capability. I also noted that negative capability was observable at three levels of the organization – the organizational, relational and personal levels. I also performed this analysis on the MO data.

The second analysis was undertaken to focus on negative capability-related data. I created nodes for personal, relational and organizational capacities. Within each node, I set subnodes for acceptance, resistance and adaptation examples. This analysis further clarified my understanding of negative capability.

A third analysis was performed on both cases. It involved using the conceptual framework, described in Chapter 2, as an analytic structure. The framework included resistance, acceptance and adaptation, within the level boundaries, for both.

After I had completed a final draft of the thesis, I returned to the original data and performed another analysis. At this time, with the bulk of the thesis having been written and my understanding of the notion of negative capability in the IT context further developed, I was able to interpret the data from a more knowledgeable perspective. I began by grouping the data into personal, relational and organizational themes. I then analysed this data in the contexts of time, task and territory. Finally, I analysed each of these data

in the contexts of resistance, acceptance and adaptation. I found that I was able to identify instances when a capacity to practice negative capability could be identified that I had not identified in my original analyses.

The user responses of resistance, acceptance and adaptation were identified in the data as follows: Resistance was identified in any excerpt in which the participant described anger, frustration, opposition or disagreement with either the work or aspects of the work that had been assigned to them. Compliance was also interpreted as a form of resistance if the individual was dissatisfied with the situation. Acceptance was identified in situations where participants had been willing to perform the tasks requested of them, and expressed positive opinions of the specific requirements. Adaptation was identified in situations where people made changes in the ways they performed their work in order to accommodate the job requirements or an aspect of their work was changed to meet new requirements.

After this last analysis, there were fewer 'blanks' in the framework that had emerged from this research for analysing the data, but there are still unpopulated sections. I do not view the 'blanks' as a weakness of the framework, or as a failure on my part to collect sufficient data. Within the context of the framework, I was able to identify examples within the personal, relational and organizational analytical levels for both cases. Furthermore, I found that the containing boundaries of time, task and territory were relevant at all three analytical levels. What I was unable to find was that resistance, acceptance or adaptation was always detectible. I view this more as an indication of differences between implementations than as a weakness in the analytical framework. It is conceivable, although admittedly unlikely, that a new IT could be implemented that needed no adaptation on the part of the organization, or people working with the IT, or that an IT could be received with widespread acceptance. This framework would also be relevant in those cases, but the analysis would reflect the absence of data in the 'adaptation' and/or 'resistance' sections.

As a final comment, though the primary focus of this research is to understand the involvement of negative capability in user responses to new IT, there is much yet to be understood about negative capability. While

analysing the data relating to the implementation of new IT, I found examples of negative capability that did not relate to the new IT implementations (particularly with CPT), but were useful in extending an understanding of negative capability. They have been included in the analysis when their presence has the potential to expand knowledge.

The results of the data analysis appear in Chapters 5 and 6.

4.4 Research Challenges

Over the course of this research, I have had to make adjustments and adapt in order to complete the project – I have practiced negative capability. I've learned to be wary of software and hardware, improve skills, take nothing at face value and not take myself so seriously.

Using NVivo software for my data analysis presented some challenges. I lost analyzed data twice, with no determinable cause for its disappearance. Having learned from my first data loss, I had a hard copy of the analysis available the second time. I needed to change computers during the analysis, requiring a transfer of the program to the new computer. At the same time, a newer version of NVivo became available. I installed it and was unable to access it with the license that I had acquired. After a few days, I was also able to resolve this issue.

Having never conducted interviews before beginning this study, there was a vast improvement in both skills and quality of questions from when I first conducted field research at MO in 2007 and when I conducted the final interviews. When I originally interviewed, I was very concerned that I not influence the participants, deviate from my chosen questions or inject myself into the interview relationship. I found that the interviews were very stilted and that they did not elicit stories. When I returned to conduct latter interviews, I had determined that I would learn more from the participants if I was willing to share something of myself and followed through on interesting answers rather than sticking to a script. I also learned that people are willing to share many emotionally-challenged experiences with an interviewer. Being non-judgemental and empathetic appeared to encourage the participants to feel comfortable to do so.

When I first approached each organization, I was encouraged by the support and welcome that I experienced. I was assured that I would find co-operation. However, my goals did not always mesh with those of the organizations participating in the study, nor with those of the potential participants. At MO, I was twice denied access because the organization was taxed by the challenges of functioning with the new system. When I did visit after the implementation, I found that I had to postpone the final interviews because there were many people who were unwilling to be interviewed at that time and those who were interviewed were too immersed in the change to have gained a perspective of the event. When I returned a year later, there were two people who had originally participated who claimed that they were still too busy with the change to be interviewed.

The work performed at CPT precluded my ability to interview people while on the job. I was not allowed to accompany them on ambulance calls. Few people were willing to be interviewed during off-work hours. I was only able to finish my interviews by meeting with people who were on light duty assignments and released from those assignments to be interviewed. From these experiences I learned that I need to be very clear, from the outset, about what I need from participating organizations and what they are willing to allow.

Another challenge that I faced was the unwillingness of some people to participate in the interviews due to the perceived invasive nature of some of the questions. I was concerned very early in my research that I might have difficulty collecting meaningful data because people would not be willing to share stories that would elicit examples of negative capability. Although I was able to collect sufficient data, I received feedback that there were people at CPT and MO who would not participate because they found the questions too intrusive. One individual, who did participate, entered the interview feeling very nervous about the nature of the questions and indicated that he might not answer all of them. Another participated in the interview, but the answers given suggested to me that she was not being open about her experiences. From these incidents I learned that I both need to plan for potential problems and use incentives for participation. If people are likely to be hesitant to participate, it would be wise to over-estimate the number of

participants that are needed. As an inducement for participation in these cases, I included draws for gift certificates for the participants.

Yet another issue involved challenges that were outside the control of the researcher. At MO, I was assured by the organization and their consultant that I would be able to have all the data collected by 2008. Economic challenges for the organization and the complexity of installing and ERP system changed their plans. During the intervening years, they never believed that the implementation would take as long as it ended up taking. Hindsight might suggest that I would have been wise to have found another organization to study, in terms of completing this project more quickly. However, their problems also presented me with some data that would not have emerged in a smoother implementation.

These events, taken alone, do not appear to be of much consequence. However, during a period of time when one's tolerance for uncertainty is challenged and one's schedule is disrupted, small events and issues can sometimes seem insurmountable. It is at such times that being able to practice negative capability is helpful.

4.5 Ethics, Validity and Generalisation

“It is self-evident that narrative researchers have an ethical duty to protect the privacy and dignity of those whose lives we study to contribute to knowledge in our scholarly fields.” (Josselson, 2007, p. 537) I entered the interviewing process aware that, if people were willing to share their stories with me, I had a duty to protect their privacy and ensure that they were aware of my purpose and intentions. With that truth in mind, I was careful to begin my interactions, with each interviewee, by presenting the consent form, verbally summarizing the sections that pertained to confidentiality and their rights to withdraw, and explained my purpose for gathering their stories. Once I had begun the interviews, however, their trust and honesty moved this concern to the forefront of my mind. Researchers have addressed the need to protect the privacy and confidentiality of respondents in qualitative research. In health care research, it was recommended that:

(p)seudonyms or initial should be used in transcripts and where possible, other identifying details should be altered. The failure to address these issues can lead to the identification of participants and may make it easier, through a process of elimination, to identify others. (Richards and Schwartz, 2002, p. 138).

I have taken a number of steps to protect their trust. Prior to anonymization of the data, I provided each participant with a copy of the interview transcripts with the option that he/she then opt out. None did so. I have changed the names of the organizations in order to disguise them from competitors and collaborators. Disguising individual stories is more challenging when the organizations are smaller and people are aware of others' situations. In the case of CPT, stories often relate to patients who have not given consent and therefore must be anonymized to protect their privacy. In order to protect the participants and their story subjects, I have undertaken to anonymize the data where I was convinced that it was necessary. "Anonymity refers to the common practice of releasing research data void of any specific, identifying information concerning the research participants or of any means for tracing such information" (Smythe & Murray, 2000, p. 314). A study of social researchers found that it is a common practice to change the characteristics of study participants in order to protect their identities (Wiles et al, 2008).

Anonymization, however, is not to be undertaken without awareness of its potential pitfalls. "It is noted in ethical guidelines and research methods literature that the practice of changing characteristics in order to disguise participants should not occur if this distorts the data" (Wiles et al, 2008, p. 426.0). Readers may not know that the changes have been made or what they involve. Consequently, it may be hard to judge the impact of the changes on data integrity (Wiles et al, 2008). Additionally, some participants may want to be identified (Berkhout, 2013).

I gave careful consideration to the means in which I anonymized the participants' stories. None of the study participants expressed the desire to be identified, so it was not necessary to address that concern with anonymization. I was, however, very concerned with data integrity. In some, but certainly not all, instances, I changed the gender of the storyteller. I changed names, subtly anonymized selected scenarios without distorting the particular stories and withheld some stories that could not be anonymized

and still honestly represent the original data. A few of the stories were particularly illustrative of negative capability but, even anonymized, were likely to be identifiable by others in or outside the organization. In those instances, I acquired permission from the participants to include the anonymized versions by emailing those versions to them. In each case, permission was granted.

Additionally, prior to the research, a description of the study and consent form was submitted to the UWE Ethics Committee and approved.

Finally, I turn to the questions of validity and generalizability. "In narrative-based research, validity is more concerned with the research being well grounded and supportable by the data that has been collected" (Webster and Mertova, 2007, p. 90). It does not produce generalizable results. The test is whether or not the account is believable (Webster and Mertova, 2007). Clandinin and Connelly (2000) suggested that good narratives have an explanatory, invitational quality, plausibility, adequacy and authenticity. A further test is the reception of the work within the academic community. I believe that this work meets those criteria.

4.6 Summary

This chapter has described the methodology used to conduct this research study and the challenges that it presented. The narrative inquiry methodology was instrumental in eliciting stories of user responses to new IT that provide the data that has enabled me to explore negative capability in these events.. In both cases, I am able to extend the body of knowledge concerning our understanding of negative capability in user responses to new IT.

The next two chapters describe the analysis of the two cases, beginning with the case of CPT.

CHAPTER FIVE – CASE 1 – COUNTY PATIENT TRANSPORT

5.0 Introduction

The first case involves the experiences encountered by paramedics in one county of Canada as a result of the introduction of a paperless ambulance call report (ACR) system into the organization in 2011. County Patient Transport (CPT) serves a population of approximately 400,000 people. Within the organization, there are over 270 paramedics who now use the paperless system to document treatment when picking up patients.

The story of the transition, from the perspective of the participants, illustrates that there are as many versions of an event as there are participants, demonstrating the need to make sense of how multiple users respond in different ways to a single IT change event. The practice of negative capability emerges, in this context, as a way of making sense of the various user responses.

My personal experiences with IT change suggested to me that people responded to new information technology in ways that could not always be explained by the user-friendliness of the software or hardware, or by the way the software fit with the task or tasks that were being performed. I had, after all, had different responses to new IT that were neither associated with the functionality of, nor my comfort with, the software. If one person responds differently in different personal circumstances (me), I anticipated that there would be a variety of responses, within the service, where there were many people interacting with the system. Since all of the paramedics use this system for exactly the same purpose in their jobs, differences appearing in the paramedics' receptiveness toward the new information technology and in their comfort with the system, before and after it went live, are more likely a reflection of individual sensemaking of the technology and of other circumstances that coincide with the introduction of the new IT.

I wrecked my back lifting a patient and I don't know when I'll be able to go back in the truck. My father's in the hospital – he had a heart attack on Friday, and I got a call from the school yesterday, my daughter fell

and dislocated her shoulder. So, I'm walking down the hall and Hannah asked me how things are going. I said "fine" and started crying.
(Carole - Paramedic)

The story above illustrates how people carry their external lives into their work, whether their work is stressful or not. External stressors can interfere with their ability to contain the stressors that they encounter at work. So, while the focus of this chapter is on the introduction of the new IS, I have also included stories that are not about the IT system but rather help us understand the notion of negative capability, as well as be aware of the other pressures that impact people who are in the midst of an IT change. I was very interested to hear stories of not only an introduction of new technology, but of lives – at home and at work. In accumulating these stories, I was attentive to narratives about change at work and outside of work, and IT change inside and outside of work. What emerges are stories of complex individuals coping with stressful employment and, often, stressful situations outside of work.

From the perspective of the organization, this implementation has been successful. The software is being used by all of the field paramedics. The people who participated in the study said, for the most part, that the implementation strategy was good and that they were basically satisfied with the system. However, they also told stories of issues and problems that illuminate both the capacity to practice negative capability and its place in IS change.

In the remainder of the chapter, I will provide an overview of the project, including a discussion of the paramedic profession, a background to the decision to adopt the new software, a description of the CPT selection process, the related story of the iMedic® implementation process and the place of the bargaining unit in the change process. This is followed by an analysis of the interview data that explores the place of negative capability in a multilevel experience, experiences and policies at the three organizational levels and as people experience dispersal prior to negative capability. I then provide some concluding thoughts about the chapter.

5.1 Overview

5.1.1 Paramedics

A paramedic is at the forefront of emergency health care services in times of accident or crisis. They provide cardio pulmonary resuscitation, defibrillation, cardiac monitoring, pulse oximetry, intermediate airway management, administration of life saving drugs, control of severe bleeding along with immobilization of spine, neck and bone injuries. This program will appeal to students who are able to work under extremely stressful situations. They must be critical thinkers, able to problem solve and multi-task. They must be strong and in good physical condition. They also need to be compassionate with a good attitude and a desire to serve the public. It's also important to be able to work well with others and be part of a team.

(St Clair College, 2012)

The above passage provides a description of the paramedic career and the type of person who might be interested in pursuing this career. There are several levels of training that are available to a person who chooses a paramedic career. Primary care paramedics hold the minimum requirements to practice as paramedics in Ontario. Beyond that, they may continue their educations to become either advanced care or flight paramedics.

This job attracts a certain type of personality person- a control, A-type personality, generally - over-intelligent and under-stimulated. So that makes implementing any change, not specific to this, but any type of change very, very difficult. Not implementing the change, but having it accepted.

We are a horrible group when it comes to change. Nobody likes it, right down to the smallest little tiny detail. If it's different, we don't like it. And I don't know if it's because in the job, it's always different, like every call's different, you don't know what you're going to, and so the things that you feel like you can control, you don't want to change.

(Rick – Paramedic)

Our service is made up of primarily, primarily type A personalities.

(Peter – Paramedic)

Just the sheer fact of being a type A person means they're not going to do it.

(Joan – Paramedic)

In the majority of my conversations, people identified themselves as “Type A control freaks”. The number of times I heard this led me to wonder if this

phrase is often repeated within the organization to self-describe paramedics and if it has any real meaning. Nevertheless, the 'control' that they are able to impose upon a call scene acts as a container for the dispersal behaviours of people involved in the crisis. The patients, and those who are with them, may disperse into activity or emotion during potentially frightening, anxiety-producing circumstances. Paramedics describe going into scenes in which circumstances are chaotic and disturbing to them as human beings. Once they are at the scene and need to care for the person, they are able to do so, sometimes making treatment decisions based on 'gut feelings'. However, once the patient has been delivered to the hospital, they often experience the emotional effects of the incident. The importance of maintaining control of a scene is stressed to them in school and becomes rapidly apparent on the job. People are, however, uncertain as to whether they selected the job because it is compatible with an inherent need to control or if they developed a need to control as a result of the job. Supporting the option that they exercise control as part of their job, some people indicated that once they arrive at home they no longer want to be in control, in fact they prefer not to be in control.

In their daily work, paramedics are sent on calls not knowing what may be waiting for them. They are given an address and a possible cause for the call.

There was a little baby, VSA. I get there, and walked right by the baby; I thought it was the placenta. Oh, my goodness. I went to open the curtains of the window, there were no curtains; it was just mud on the windows, it was so dark in there. So I finally came back to around to where the mother and the baby were and I picked up the baby like that and I looked at my partner and I'm stunned. I don't know what to do. This baby's dead in my arms. I don't know what to do. You could have counted to three, both of us are stunned. Frozen. She looks at me and says, ABCs. (snaps fingers) ABCs, oh, right. Airway, okay, put this in, go ahead, and away we went from there. But I think the, us being stunned when first got in there just, it froze us. It was like, I can't believe this is happening right here. So you kind of get distracted with that, then you get distracted with the scene itself, like why is it so dark in here and there are no lights on and what, is she on the couch, is she smoking, I don't understand what's going on right here, and then you finally come to what the problem is with the baby and all the other things kind of overwhelm you when you first go in. As soon as someone gives you the key word of the next step, it just, away you go.

With that particular call, we actually said the Lord's Prayer in the back of the truck. I think us saying the prayer, in the back of the truck and just,

you're knowing, I'm knowing while I'm doing it, at this point, that there's nothing else we can do.

(Jim – Paramedic)

In the above excerpt, Jim described attending a call that, because of the environment in which it placed the paramedics, interfered with their ability to process their surroundings. At this point, they were unable to either practice negative capability or employ their positive capabilities. Once they had processed the situation, the paramedics relied upon their positive capabilities and applied the ABCs (airway, breathing, circulation). Being unable to take steps, using positive capabilities, that might change the outcome, and being unable to contain their negative emotions, they dispersed into activity, or emotion, in saying the prayer, providing them with the space to experience negative capability. Once they had said the prayer, they were able to emotionally accept the situation.

The above was one of many related stories that reflected the emotionally-challenging calls that paramedics may encounter. Craig went to a call and found a young boy crying on the stairs. His single mother was upstairs, deceased as the result of cancer. The child had found her. Sue described waking with nightmares from another call that was particularly gruesome. In many such instances, the paramedics relied upon their partners to be the containers that allowed them to access a personal capacity to practice negative capability – they experienced a relational capacity for negative capability.

These stories evoke an emotional response in the reader that suggests the emotional strength that it takes to be a paramedic. It is not work that many of us could do on a daily basis. Nevertheless, these people arrive at work with basically the same purpose in mind – to stabilize and get sick or injured people to the hospital. There is more than one motivation for doing the job. Some people are ambitious and want to excel, others are content to do only what is necessary to remain employed, some believe the job is a calling and 'love' their job, others ended up as paramedics through a series of events that culminated in them selecting that as the best option. The workforce is also heterogeneous. People interviewed ranged in age from in their mid-

twenties to fifties. Some people were single, some had families; some were male, some were female. All of those interviewed, however, were working in a job that they considered stressful. However, they are able to walk into situations that are often uncertain and may be dangerous, work competently and leave with their patient under their care.

The stories of their experiences, both at work and away and, particularly, in the paramedics' interpretations of events during and following the introduction of the iMedic® system, provided me with rich narratives of the many different contexts in which people experience one IT change event.

5.1.2 Background

In the early part of 2010, a reorganization of CPT took place. Following this restructuring, the decision was made to migrate from handwritten ACRs to electronic ACRs. Prior to this implementation, all ambulance calls had been recorded on paper forms. A committee consisting of managers and paramedics (called Phase Ones to reflect their involvement at this stage of the project) was struck to investigate the available off-the-shelf software that supported electronic management of ACRs and select the one that they considered most appropriate for their purposes.

5.1.3 Selecting the Software

The first step in their selection involved defining the organization's software needs. The upper management of CPT is made up largely of people who were originally paramedics themselves. Consequently, they were sensitive to the benefits of acquiring software that would be most palatable to the paramedics in the field. Along with the management committee members' personal knowledge of the experience of being paramedics, the selection committee also included field paramedics who were able to give input regarding their opinions of potential choices.

With requirements identified, vendors were contacted to present their products. From the presentations, two products were selected for further consideration. These products were trialed by a few paramedics (Phase Ones) and one software package was chosen. Although there were disagreements about which software would work best, in the end, iMedic®

was selected because the software had an appearance most similar to their paper ACRs and also would meet the organization's needs. In addition, HP Toughbooks® were acquired to record data during calls.

5.1.4 The Change – Introducing Electronic ACRs into the Service

In 2011, when the electronic ACR system was introduced, the job that the paramedics had previously performed underwent a significant change. There were sometimes contradictory responses that people had to the same change in the same job. As the story of this implementation unfolded, there were indications that the change caused additional stress for some, while others embraced it. For many, their first introduction to the new system came when they attended a training session.

5.1.5 Training

The method that was adopted to introduce the electronic ACRs involved training selected paramedics who would then train the remainder of the paramedics. Four groups of people, who were known as the Phase Twos (because they became involved in the project at the training stage), were provided with an all-day training. This training was provided by a paramedic, from another service, who had experience with the software. One half of the training time was committed to the use of the electronic ACRs and the other half was committed to training people in linking their defibrillators to the computers in order to transfer data. Once the Phase Twos were trained, they were allotted a few weeks to work with the electronic system, and identify and resolve bugs before the remainder of the service was trained.

I attended the first training session scheduled for the Phase Twos. I witnessed a group of people engaged in learning. They repeatedly exclaimed when shown new features of the software. There appeared, to me, to be widespread enthusiasm being expressed about the change. Based on the reaction of that group, I might have expected that I would later interview people who thought that the implementation was not as challenging as was being predicted. However, I was informed a few days later, by the project manager, that the next day's class did have a number of complaints from the students and that I had attended a more receptive class.

While we sat comfortably in the training room at the ambulance base, there were also other problems, some unrelated to the software, appearing on the horizon. During the training, the project manager had to deal with problems related to the transfer of the software - the WIFI wasn't transmitting into the training room and recent updates to the program and database weren't loaded onto all of the computers. The computers that were loaded with the most recent update of the software, and were to be used by the paramedics, were Panasonic Toughbooks®. They are eight pound computers with a depth of about three inches, designed to withstand most calamities. They were chosen because their construction would reduce or eliminate accidental or purposeful damage. However, they did seem to have a small keyboard, a complaint that I was to hear repeatedly once I began interviewing paramedics. Additionally, I suspected that people would find it difficult to work with them in places that did not have a table convenient, due to their bulk.

Training of the users began in late March of 2011. Everyone was trained prior to the official adoption date, with at least a month provided to practice, on the job, in order to become comfortable with the new software.

5.1.6 Bargaining Unit Involvement

One of the ways in which CPT differs from MO, in the next case, is that CPT paramedics are members of a bargaining unit, while there is no bargaining unit at MO. The presence of the bargaining unit raised the possibility that there could be formal resistance, from the unit, to the change. This was not the case. The bargaining unit, as an organization, did not attempt to intervene in the change. Nor have there been issues raised by the union since the eACR implementation. There are possible reasons that this has been the experience. Firstly, at CPT, bargaining unit members were involved in the decision-making process from the beginning, as well as being tasked to be trainers. Since bargaining unit members were so heavily involved throughout the process, having a voice for paramedic concerns, there was less likelihood that potential labour relations problems would be unidentified prior to the change taking place. Secondly, the inclusion of bargaining unit members in the change project, including a union representative, and their

widespread acceptance as part of the change team, by other paramedics and management, suggests that a management-labour relationship at CPT has developed that supports cooperation. During my time interviewing CPT paramedics, their main collective issue was with the shortage of hospital beds, resulting in the Code Sevens, described later, that were contributing to heavier workloads. This issue had mobilized the paramedics. Responsibility for the problem was not being assigned to their management team, but rather the government health care cuts. Their perspectives of the cause of the Code Sevens (not their management) also indicated to me that there was a good labour/management relationship at CPT.

5.2 Analysis

In this section of the chapter, I have applied the analytical framework described in chapters 2 and 3 to organize the stories collected in the interviews. As I found in my review of the MIS literature, levels and boundaries are not always discrete within a story. In section 5.2.1, I present one illustrative story that spans levels and boundaries and the concept of negative capability can be used to give insights into the behaviours of those involved.

At CPT, over two hundred people use the software to accomplish the same goal. Nevertheless, there have been many different responses to the software, ranging from enthusiastic acceptance to overwhelming opposition. In spite of the differing opinions toward the software, it has been adopted and is currently used by all field paramedics. This analysis explores a capacity to practice negative capability that has an impact on the participants' experiences during this change, is detectable from their stories, and helps make sense of how people with differing responses work through challenges and uncertainties to perform their tasks.

People described circumstances that indicated that they practiced negative capability in their work, whether in their use of the new information system or in their experiences during ambulance calls, and in their non-work lives. It is possible to interpret the impact of the policies of the organization as supporting a capacity to practice negative capability in particular ways. In the interactions of new IT trainers with trainees and in the decisions made in emergency situations we may also become aware of people practicing

negative capability. As paramedics, uncertainty is commonly experienced in their non-IT work. Strategies that they use to reduce uncertainty and anxiety are talking to others who also attended the scene, exercising control with their positive capabilities, employing instinctive behaviours (likely supported by positive capabilities), and re-centering. It is in identifying such instances as those experienced in re-centering, in being present in the moment, that we are able to become aware of a capacity to practice negative capability.

When I first completed the interviews, I was uncertain of the quantity of examples in the data that would reflect negative capability. The preliminary examination of the interview transcripts had reassured me that there were examples of a capacity to practice negative capability in the stories of the paramedics that I had interviewed. However, negative capability is a somewhat elusive notion – hidden, present only in absence. This presents a degree of challenge for the researcher. Once I began analyzing the data, however, I found that the data was indeed providing insights into negative capability. As I dug deeper into the data, I found many examples that demonstrated the capacity. This section provides an analysis of some of the many instances of the practice of negative capability revealed by the paramedics and, by shining a new light on the ways users are able to work with new IT, enhances our understanding of both the capacity and of user responses to a new IT implementation.

5.2.1 A Multilevel Story

The following story, as told by Mary, is an example of the capacity to practice negative capability and various dispersal behaviours at multiple levels, and illustrates how the presence or absence of negative capability at one level can impact its presence or absence at other levels. Mary was a Phase One instructor for the new IT. This story occurred during the training phase of the new IT introduction. It demonstrates that there was opposition to the change and, also, a number of examples of the practice of negative capability and dispersal.

I taught some of the medics who are the most resistant to change. There were a couple of times when I thought, they're never going to get it because they don't want to get it. And it was at that point that I

thought “I’m done with this. I don’t want to deal with this anymore.” What they were saying was that they liked the way things were done now, and didn’t want to learn to change. I was having a problem dealing with that attitude.

In a couple of instances, I didn’t handle it very well. I snapped at a couple of people. I said “hey, you know what? Do it, don’t do it. I don’t care. You’re going to be doing it in six months. So, if you want to get suspended and you don’t want to do it, don’t do it. I don’t care what you do.” My frustration level at that point was probably beyond anything I’ve ever experienced in my life.

Then I gave them a ten minute break and I went outside of the building and I sat on the bench and I just took deep breaths and relaxed. After 5 - 10 minutes, I could come back and I pick up where I left off and I was fine again. And I was perfectly willing to give him help if he wanted to learn. If he’s not interested in learning, that’s fine. I’m not going to stress myself out about it anymore.

Once we came back, it was better. I’ve responded to him and snapped back at him, he has stopped doing what he was doing, in one case he shut right up, and he has been more receptive to the changes. He seems to be one of those people who require somebody to put him in his place before he’s willing to do anything else.

The attitude improved and the comfort level for them improved also because it was like okay, I know you’re here to help me now, as opposed to here to impose something on me. Now you know how I feel, and now you’re saying, okay, let me help you figure this out. I think that that made a difference.

(Mary – Paramedic)

This story illustrates all three organizational levels of a capacity to practice negative capability. It also demonstrates dispersal, followed by the practice of negative capability, in the personal and relational capacities for negative capability. First of all, Mary started out teaching the organizationally-mandated course. She was performing a task for the organization that was unwelcomed by some of the students, resulting in resistance.

The magnitude of resistance, demonstrated by one particular individual, might cause one to question the organizational decision to present the new material using their peers. Part of what may be interpreted as an organizational component that supports the practice of negative capability is reflected in policies and decisions that facilitate its employees being able to

practice negative capability. In the hostile responses that Mary first experienced, it appeared that the organization had not facilitated the ability for individuals to practice negative capability. As Mary was, in the end, able to successfully facilitate learning, even for those who were very resistant to the exercise, this illustration presents an instance where the organizationally-mandated training strategy supported a capacity to practice negative capability – the chosen delivery of training had supported the trainee's ability to practice the capacity.

Mary acted as a container for the group, attempting to contain the resistant student's dispersal. At the same time, however, the student dispersed into emotions, reflected in his anger toward the new IT, and into explanation, displayed by his contention that the old system was adequate for his needs. These behaviours are examples of resistance. His response to a situation that was out of his control indicated that he was unable to practice negative capability at this time, reflected in his inability to calmly work with the new IT system. While continuing to demonstrate disruptive dispersal behaviours, he was also undermining the group's capacity to practice negative capability. This continued for a while, with Mary experiencing a personal capacity for negative capability as she continued to instruct under the assault of the student's resistance and continued to act as a container at the relational level. Finally, Mary was no longer able to contain the negative emotions of the student. At that point in time, she had become unable to practice negative capability at the personal level in order to work through the attack by the student and continue teaching. She then dispersed into emotion, responding harshly to the difficult student. As she described it, she had reached a very high level of frustration. She then dispersed into activity, calling for a break in the class and leaving the room to escape and regroup. When Mary thought "I don't want to deal with this anymore", she was beginning to disperse into action (desire to flee). When she snapped at people, she had dispersed into emotion. A relational capacity to practice negative capability was no longer evident.

Mary's dispersal, at this point in time, illustrates that the person or persons who accept the role of container at the relational level may have a limited space in which they can contain other individuals' dispersal before they also

demonstrate dispersal behaviours. Using 'time', she called a 10 minute break. Employing 'territory', she went outside the building – away from the incident. Then, she began to once again practice negative capability. Once outside, Mary took deep breaths (a common theme amongst paramedics in stressful situations) and tried to relax. In doing this, she once again became able to practice negative capability.

After a period of time, when she was once again able to practice negative capability at a personal level, Mary was also able to work with the difficult student. Mary was now ready to practice negative capability in a relational context, in her role as trainer, and to act as a container for the negative emotions of other paramedics. Once the student's negative emotions had been exorcized through the relational support to practice negative capability, a space was created for him to think, allowing him to acquire new positive capabilities. It is noteworthy that Mary was both willing to teach him, if he wished to be taught, or ignore him if he didn't. She was no longer dispersing into emotion.

Interestingly, once Mary returned to the class, the student had also experienced a change. The break had also allowed him to practice negative capability. He was now ready and willing to learn. What had happened? He had needed a container for his negative feelings toward the new system. Mary was given that role to play. At the point in time when Mary had exploded into a dispersal of emotions and activity, the student had instigated a reaction that had both equaled his negative feelings and had transferred them to Mary. He had been relieved of those emotions and was through his dispersal. Then, he could practice negative capability in order to learn, in spite of reservations about the new IT. Over the course of the time that Mary had tolerated, and then not tolerated, his dispersal behaviours, the student had been provided with the "space" to practice negative capability at a personal level.

5.2.2 A Personal Capacity to Practice Negative Capability

This section explores a capacity for negative capability that is practiced by the individual, along with dispersal behaviours that demonstrate that negative capability is not being practiced. The capacity to practice negative capability

is not the result of positive capabilities such as previously-acquired skills, but rather is reflected in one's ability to function when positive capabilities fail to provide practical strategies. In my research, I found that the paramedics related stories of a personal capacity to practice negative capability in all areas of their lives. The following analysis is subdivided into time, task and territory boundaries. Each of the boundaries is further analyzed according to instances demonstrating resistance, acceptance and adaptation.

5.2.2.1 Time

As we experience our lives, time constraints are constructed and imposed upon us. The following stories illustrate how time boundaries impact user responses to IT, and how users may experience dispersal as well as a capacity to practice negative capability. The first excerpt is a multi-faceted story of time constraints on a personal level. It also demonstrates the practice of negative capability and dispersal.

The computer shuts off right in the middle of when I'm typing on it, and it takes 10 minutes to get it to come back up and I only have 10 minutes to get it done and then I've got another call. So now I'm behind and that's very frustrating.

End of shift. But you see they're being, they're trying to work these problems out, but it's difficult because, I think this is in every respect, in every company, where there is a block between the management and the people using the machine. It's hard to convey, I have 10, 20 minutes to do this and I've got another call and I work 12 hours and I've got an hour's worth of overtime and I'm behind two forms, like two documents, and I know that the computer moved them to the computer in the base, so I don't need the laptop, but it's been 13 hours and I'm ready to go home.

But you can't go home. You must stay and finish those in the base. Okay, so I go into the base, oh, there's someone on the computer. Perfect [tapping on desk]. Oh, my babysitter's making lots of money now. So then you get, absolutely you get frustrated. So I'll have to do it the next day, so now I'm frustrated. This still hasn't happened, but frustrated. I'm leaving. Punch out.

Next day...I read my county mail. Oh! I've got three emails about those two ACRs that I never finished. It's only been 12 hours. How did this happen? They're already on me. So I start the day getting frustrated, looking for a computer.

But they're trying to work those things out. And it's going to, it's going to take time and we have to, and I know, I have to realize, that this a

medical document and once I go to the computer and I do this, it gets forwarded to the hospital and if a physician needs any information from me, he's going to be looking up that. If I go home and I don't send it and he wants to know the whatever, whatever, with the call, he's not going to find it because I didn't send it.

So you do kind of realize that, but then again, it's been 13 hours and I'm two behind and I don't have a computer. [taps desk] Hum.

(Peter – Paramedic)

This story illustrates both the frustration of being unable to complete the work within time boundaries and dispersal behaviours. In this story, the problem escalated as more time boundaries were faced and the work could not be completed. The problem was compounded by hardware shortages. SCOT theory places this situation as reflective of a technology that has not achieved closure. The relevant social group (users) are unable to work efficiently with the system in its existing state.

When this individual first faced difficulties, it was because the computer shut down while completing a call report. Then, another call came in and that report had to be postponed. If there are too many calls to allow breaks in which to complete work, the reports cannot be completed until the end of the shift. However, at shift end, they had to turn over the laptop to the next shift's paramedics. At this point, the only option was to go to the base station and use a desktop there to complete the reports. If it was being used, they either had to wait to access it (the option that is expected of them) or leave the reports to be completed the next day. The paramedic left work frustrated. The next day, the paramedic arrived at work, only to find that the management was looking for these reports. Now, more frustration was experienced.

This story demonstrated an experience of a personal capacity to practice negative capability in that the individual continued to work, through these feelings of frustration, during the first day and again when the second day arrived. However, it displayed examples of dispersal as well. There was a sense of emotional upheaval that is felt when reading this story. The paramedic dispersed into activity (fleeing) when leaving the work undone, at the end of the day, rather than staying to complete it. The paramedic also dispersed into explanations, attempting to explain a situation that was

causing frustration by accounting for and excusing the needs of the organization.

5.2.2.1.1 Resistance

In situations of resistance, the concept of negative capability can provide insights into aspects of some episodes where resistance changes to acceptance – that is, after dispersal behaviours have been either exhausted or observed. Such is this example in Joan's story:

I can specifically hear my partner and I saying, we're going to throw this computer out the window. I remember at one point I couldn't for the life of me figure out how to download it into the defib - downloading that into the computer. I was having a lot of problems figuring it out. But once somebody had shown us afterwards it was like, oh, okay that's how you do it. But there was something where I'm trying to figure out what it was again, something about the times. The times didn't match up, it wouldn't let me close it, and it was almost like one of those things where it was almost my last time in that last box that something was past it, and it wouldn't let me close it. But I couldn't figure out where it was.

And someone else fixed it for me, but it took a while to figure it out, and we're all stumped. And I couldn't put it away, I couldn't put it down because I was on overtime and I said I have to finish this and enter it. And send it off. But somebody actually figured it out. I was feeling frustrated at the time because that's the time that I want to go home.

You know, we were a good hour, just trying to figure it out. And I'd already been on overtime for over an hour, so you're talking two and a half hours past our shift plus an hour drive home, and it's like you're tired, you've had a long day, you want to go home, see your husband, make sure the kids are okay, go to bed, turn around and come back the next day. So, something like that, I guess would kind of make you a little angry or stressed out or ticked off. Because you think, well if we didn't have these darn computers that weren't acting up we'd just be on paper and we'd be out of here.

We had a supervisor who actually figured it out with us. There were a few of us, there must have been six of us standing around trying to figure it out. So, but it was a problem with the time in one of the procedures that happened to be registering on the previous day. Once we figured it out it was done, it was out of my head.

(Joan – Paramedic)

In Joan's story, time entered into the narrative in two ways in order to cause frustration. First of all, it was past the end of their shift and she wanted to go home. This tension caused frustration. Furthermore, it was an issue with entering times on the system that had provoked the problem. The way the system functions causes problems to arise if a paramedic is attendant at a call that begins on one calendar date and ends on the next date (before and after midnight). In these instances, they find it challenging to make the system accept the entered times and allow the ACR to be closed.

The frustration experienced in this story is an example of dispersal into emotion. As the paramedic experienced this dispersal behaviour, she was resistant to working with the program. As time passed, and they were unable to solve the problem, more people entered into the challenge, bringing a relational component to the practice of negative capability into the narrative. People were supporting each other and, consequently, the frustrations were resolved. Once the problem was solved, with the help of others, "it was out of" her head.

The feelings of frustration demonstrated an instance of dispersal and resistance that was initiated by a glitch in the software and a work-life conflict. Working through the problem, in spite of feeling frustrated, illustrated that Joan still experienced uncertainties but was able to function. In this instance, she was practicing negative capability. This illustrates that the practice of negative capability does not necessarily eliminate resistance – Joan was still frustrated and wanted to go home. A personal capacity to practice negative capability enabled Joan to accept the feelings of frustration and continue to work.

At the personal level, time boundaries also became the motivation to stop resisting the use of the iMedic® system and to start using it. After they were trained on the iMedic® system, the paramedics were given a phase-in period of time to become accustomed to the system. Shane did not want to use the system and held out until the September 1st go-live date.

They made it so that it was not mandatory. They basically started out with trials, where they had a few people who were using the iMedic®. And then, they were encouraged to show everybody else these neat

little books. And, you know, they were encouraged to show us all the neat things they can do and whatever else it had. I did not care. I did not care whatsoever. Everybody's all fascinated. I did not want to do them. And then, what they did was give everybody the books and they said, "We encourage you guys to do two ACRs a day".

I didn't do any until we had to. I didn't do any until September 1st. I did not, I mean I poked around on it a little bit, I never actually did one. And they never said anything. So I didn't say a word, I just kept on doing my paper. I was totally happy doing my paper.

Well it's, it's just easier to write it down. It makes more sense. I mean, if they had said, here's a computer to do your ACRs on, this is going to make your life a whole lot better, as in, the whole top part's going to be done, you know what I mean, all the little petty stuff's going to be done, or we condensed it and it's one page now. If they had given us any incentive as opposed to, you have to do this whole ACR on the computer, like on a keyboard that small...and it's going to take you twice as long, that's ridiculous. Why on earth would I want to do that?

It makes no sense whatsoever. I can't, I was totally happy to do my papers.

It had absolutely nothing to do with any fear of computers. It's just, there's no point: it made no sense. Why, if I didn't have to, why would I spend twice as long?

(Shane – Paramedic)

Shane's story plainly demonstrates resistance to the new IT. He was very clear that he had no desire to work with the iMedic® system. If time boundaries had not been constructed, he would not have changed over to the electronic system. Additionally, his resistance was also grounded in the amount of time required to complete the electronic ACRs. Paper ACRs could be completed more rapidly. Finally, it was the time boundary that ended the use of paper and overcame his overt resistance. So, while time boundaries initiate the ended the overt resistance, time considerations were also a reason for the resistance.

On September 1st, the time boundary for discontinuing the use of the paper ACRs, Shane began using the iMedic® system. He continued to resent the presence of the electronic system, but functioned with it. He was practicing negative capability in order to do his work, with the iMedic® system, while still feeling negative emotions regarding the system. It was the time boundary of

September 1st that changed Shane's behaviour from overt resistance to the practice of negative capability in order to perform his work. He continued to feel resistance toward the iMedic® system but, with a personal capacity to practice negative capability, he was able to perform his work.

Carole expressed frustration and doubts relating to the shortage of time available to complete their electronic ACRs.

There is a time when I thought this just isn't going to work. I can't do this. When I'm in one of those moods and I'm frustrated and we're swamped. We're doing call, after call, after call and I'd rather just grab a piece of paper and write it out and get it over and done with. Especially if my partner's not done her call from previously and then I've got to start a new one, now we both want the computer, and I just feel like throwing it and being like, you take the computer, I'll do paperwork, I don't even care. It's frustrating, I feel like I want to throw the computer on the ground and run over it. Yes, that would be great, but that doesn't happen.

Well I just go, there's nothing I can do about it. I mean, if I had the choice, I would do paper, to be honest.

The computers are good. I mean there's, like they're not bad, I don't mind using it. But, it's just very difficult when you have to share a computer between you and your partner, not only that but you and another crew that comes in. Now, if there was like maybe a computer per partner, it would go a lot easier because then I could just do my paperwork when I wanted, you know, finish it then and there, but it feels like there's a time limit whereas when you have paper, you can do it whenever you want.

(Carole – Paramedic)

In Carole's story, the paramedic was faced with insufficient time to complete tasks and was experiencing resistant thoughts. She would rather not be using this computer system – at times fantasizing about destroying the equipment. Part of the time restrictions arose from the need to share the equipment with her partner, who was also facing time boundaries. However, she recognized that she has no choice but to continue with the situation as it was at that time. She dispersed into explanation after admitting that she had to continue, talking about how the computers were "good". This effort to reconcile herself to using the computer, even though it was frustrating, continued with a less aggressive recap of her opinion of the computers. It

was in this moderating self-talk that she was able to work along with her negative feelings toward the iMedic® system. That enabled her to practice negative capability in order to continue working.

5.2.2.1.2 Acceptance

There can be a fine line between what is considered working through resistance and acceptance when one is experiencing frustrations or uncertainties. The distinction lies in the mental assessment of the situation. While a resistant person constructs a negative perspective of the situation, an accepting person experiences a positive perspective. One such example of acceptance is related in the following story told by Jerry.

Jerry was responsible for managing the iMedic® project. I asked her if she ever felt like the project would fail.

No. No. I never had that feeling. I knew it was going to be difficult and it was, there were going to be times where the hill was very steep, but I never felt like it wasn't going to work.

I think it was due to what we had done. We spent a good two or three years working on this before we implemented it; it wasn't like we decided let's do this and six months later we did it, and I think that's why we knew this was going to work, because I was fairly confident in that the way that we were launching it was a good way to do it.

(Jerry – Project Manager)

In this response, Jerry illustrated that flexible time boundaries provided her with the confidence to believe that the project would succeed. She recognized that it was going to be a difficult task, but did not anticipate failure at any time. By having taken the time to plan the implementation, she was able to function with confidence during a period of personal uncertainty – to practice negative capability. This excerpt was an example of acceptance because, although Jerry experienced challenges during the implementation, she did not demonstrate any dispersal or resistant behaviours, but rather accepted the situation as it unfolded.

The following story of time boundaries leading to acceptance is related by

Shane, the paramedic who was completely resistant to the iMedic® system.

There was a time when I felt like I wasn't going to be able to do the computer part of the job. I was going to go and ask for more training on it at one point, but it all worked out. It was because I didn't practice at all. I mean, it was totally my fault and that's actually why I didn't ask for more help. Because, I just thought, you know what, I did this to myself; I knew it was coming. So, you get used to them. It's just, it's always in the, it's always in the back of my mind, like I said, it wasn't broken, what are you trying to fix, and why am I spending more time doing this? That being said, they are easier to navigate through and it just didn't make sense, when they did this, why didn't you make it shorter, easier, more... If you were going to revamp this, why wouldn't you have actually addressed the concerns of the medics? About, you know, why is this on there, why is that on there, why can't we, you know what I mean?

(Shane – Paramedic)

This story illustrated acceptance of the time boundaries accompanied by resistance toward the eACR system. Shane accepted that he had to honour the time boundaries and do the work, even though he was uncertain if he had the positive capabilities to use the eACR system when the deadline approached. Initially, Shane considered getting help to learn the system. Then, he accepted responsibility for being untrained and practiced negative capability in order to learn the work, in spite of his uncertainties related to his ability to do so. Even as he related this story of his post-implementation experience, Shane continued to relate reservations about using the iMedic® system. Because he was bounded by time constraints to work with the system, he was complying with its presence and functions in spite of his continuing resistance toward the system itself. He was also practicing negative capability in order to do so.

5.2.2.1.3 Adaptation

The way the iMedic® system is structured to collect and accept specific data and the type of standardized reporting required for the job makes adaptation less likely with respect to the system. I found one example in the data that demonstrated a personal capacity to practice negative capability in the context of time and adaptation. The adaptation, in this story, reflects a condition in which the system has yet to reach closure. It related to another

instance when the issue of entering times becomes problematic if the date changed during the ambulance call.

You do a call before midnight and now the computer is after midnight, the times get all mixed up and the dates, and then you have to rearrange this and fix that, so it just, it all depends on like the call, the timing, like all that stuff. It's trying to put one event ahead of an earlier event. And then, you have to redo all the times, fix it, it's a pain in the butt; that's one of the big glitches.

You just hope you get your call and you finish your paperwork before it hits midnight, and if it doesn't then, you have to try to figure it out, because the computer will automatically input when you type out your paperwork, it'll put that date, but the time that you put in, and then you'll get like a hazard saying a million different things, times not right, times not right, times not right and it's because you have to go in and manually change it.

(Sue – Paramedic)

The adaptation lies in taking the alternative steps that were required to address the issue. In this instance, time was the impetus for the need to adapt the means of performing the task. Also in this instance, the paramedic had acknowledged that there was a problem and was finding a way to work around it. It was in the ability to adapt to the situation and work through the problem, while feeling frustrated, that we are able to identify an instance of the practice of negative capability.

5.2.2.2 Task

Issues with task boundaries arise when people are unable or unwilling to do the work that is assigned to them. In this section, I explore resistance, acceptance and adaptation as they relate to task boundaries at a personal level.

5.2.2.2.1 Resistance

In French's (2000) description of negative capability, people disperse into activity, emotion or explanations when they do not have the capacity to practice negative capability. In the introduction of a new information system, these behaviours might be evidenced by resistance or complaining and never successfully adopting the new IT. However, in this case study, the people had no alternative but to adopt the new technology and perform their tasks,

so the dispersal behaviours could not be an end point. Instead, dispersal behaviours may provide a space that supports a personal capacity to practice negative capability. This observation will be further discussed below.

After training all of the paramedics to use the software, they were allowed time to practice with it prior to its launch. At that point in time, mixed responses were described. Some people indicated that they found learning very easy and others had problems with it. Some were so opposed to any change in the way they'd been doing things for many years that they weren't receptive to learning.

Shane, who was introduced in the last section, didn't want any part of the new system and didn't use it until he had no choice. From the time it was introduced, he dispersed into emotions, refusing to have any part in the trial and feeling angry about the change.

There are instances when motives for resistance and dispersal are less evident. Hannah became a paramedic because she had felt it was time for a career change and left a management position in retail in order to train for the profession. She reported that she was often at odds with management and suspected that they looked upon her with disfavor. She considered refusing to work in the ambulance until the laptop was physically secured, citing the situation as a safety issue. However, she related that her motivation was dissatisfaction with her shift schedule, rather than with safety issues related to the computer hardware. This is an example of dispersal. Hannah contemplated the action of work refusal. While she was doing so, she had dispersed into emotion.

Since early September of 2011, when everyone was mandated to use the electronic ACRs for all calls, problems have continued to crop up. There have been issues with lack of access to the Internet, both for allowing the helpdesk to correct the remaining software problems and for transferring ACRs. The need to record data on a computer takes attention away from patients while histories are being recorded. The keyboards are often reported as being too small, causing many people to make entry errors. The electronic ACRs take at least as much time to complete as did the paper ones. When there is an accident call with multiple people involved, some of

whom do not want to be transported to hospital, it is necessary to complete forms for all of the people on the call prior to leaving the scene. This arises because they need to get the signatures from people who refuse treatment and cannot record one signature before all data is entered for all the people at the scene, one ACR per person. This delays transport of those who will be requiring further medical attention. There are people who still think that they were better off with the paper ACRs. There are also problems for the external actors who no longer have the same access to ACRs that they once enjoyed. For instance, the coroners had received a paper copy of the ACRs because they were of use to them, even though it was not mandated that they receive them. However, there is no longer a mechanism built into the system to easily provide them with the document; in fact, the coroners are not permitted to access the ACRs online.

Many of these examples describe weaknesses in positive capabilities, or facilitators of positive capabilities. However, all of these issues can cause people to adopt a negative perspective of the technology. With this negative perspective, a personal capacity to practice negative capability often enables people to continue to work with the system. However, any frustrations caused by impediments to exercising positive capabilities may impede an individual's ability to practice negative capability in that, as stressors increase, the tendency to disperse becomes more pronounced.

Another challenge presents itself in resistance to the change. Even in the Phase Two level paramedics, there were people who did not want any part of the implementation of a paperless system. Phase Twos were the people who were trained first on the eACR system and then trained the remainder of the paramedics. They were chosen based on one of several possible, and sometimes conflicting, criteria: being good with computers, uncomfortable with computers, good with paper ACRs or simply volunteering to be a Phase Two. Consequently, there were people who became Phase Twos who were not enthusiastic about the change. The thinking was that, once they overcame their resistance and were embracing the change, other people who were resistant would see them functioning with the electronic ACR system and would therefore also be encouraged to accept the change.

Some of the people who we had brought in to be the Phase Twos were not great at using computers, but are now some of our strongest people using this new format. A couple of them are still like, "I'll do it but you can't make me like it". But they're actually quite good at doing it, they just don't like it.

(Jerry – Project Manager)

This example demonstrates people who were practicing negative capability while experiencing resistant feelings toward the system. They were working with the system, and doing a good job but, at the same time, did not like using the eACR system. Introducing the system, early in the process, to people who were resistant to it, in this case because of technophobia, provided the potential for early insights into what could be some of the future roadblocks. It also held the potential of diluting the level of resistance that would be faced once everyone began to use the software by providing role models. In fact, one of the Phase Twos, who was not computer literate, reported that she was able to encourage other resisters to learn to use iMedic®, based on her progress with the system. The decision to include resisters as Phase Twos also illustrated facilitation of a relational support for negative capability where people who originally did not like the new system were able to encourage others to use it by being able to identify with their anxieties.

By the point in time in which people were trained, they were already beginning to demonstrate very different opinions of the process that had culminated in the adoption of the iMedic® software and the Toughbooks®. People who were involved with the selection committee seemed to be more prepared to accept the software than people who were not on that committee. However, even at the Phase Two level, people seemed to be less informed about the selection process.

I think there should have been maybe three programs given to ten people, so thirty people trialing, ten for each program and then they could figure out what works the best for this service. What happened was that they picked one program and they went with it. There might have been other programs that suited us better, other programs with less problems, other programs with better associations with our laptops and better associations with our defibrillators to cause fewer problems with the technology.

(Carole – Paramedic)

Carole was a Phase Two. She wasn't convinced that the software is the best available and believed that more than one software should have been considered prior to purchasing this one. She was unaware that there had been a selection made, after trials by paramedics, at the first phase of the project. It is apparent that the steps in the selection process had not been communicated to people who were not on the Phase One committee. Would Carole have been less critical of the software had she known that a few different software packages had been considered and IMedic® was chosen because its screens most closely resembled their paper ACRs and because it was the most user-friendly of the options considered?

This illustrates that problems can arise at the personal level based on policies and strategies adopted at the organizational level. Partially because of limited communications, some people did not feel an ownership of the decision process and felt resentment based on misunderstandings. We observe the emergence of multiple relevant social groups, each with a different understanding of the history of the adoption and with different responses rooted in their unshared understandings.

Once all of the Phase Twos had been trained, a few weeks passed to allow them to become very comfortable with the software and to beta test it. During this time, other problems began to be observed. There were many bugs that needed to be resolved. The keyboard was too small. People would make frequent typing errors or would accidentally erase what they had typed, solely attributable to the small keyboard. The electronic ACRs could not be uploaded to the base hospital (the receiver for the ACRs) unless the user was at a hospital or at a base, otherwise they couldn't access an acceptable WIFI. If they were sent out immediately after completion of a call for another call, they might not have time to complete the ACR form. There was only one computer per ambulance so only one person could work on an ACR at a time. At shift change, the outgoing crew might be trying to complete their ACRs while the incoming crew was waiting for the computer in order to start their shift. Again, problems that fell into the category of positive capabilities caused people to feel anxiety and resentment, initiating a need for them to practice negative capability.

Once the Phase Ones had been allotted time to become comfortable with the software and work out bugs, it was introduced to the instructors. At that time, Mary had her own interpretation of the purpose of changing from a paper-based system.

This program has nothing to do with medics. There's nothing for the medics in this program, in any program. In any electronic ACR program, it has nothing to do with me. As a field medic it has nothing to do with me. It has to do with people up here [in administration] and data mining and being able to pull information.

(Mary – Paramedic)

Experiences with the eACR system have lent support to her interpretation. The iMedic® system has slowed people down, complicating portions of their work and causing feelings of frustration. At the same time, it hasn't provided anything that makes their jobs easier or more effective. It has, however, provided the administration with better tools to analyze data.

In spite of less than perfect functionality or universal acceptance by those who were trained at that time, the iMedic® system implementation moved forward. Following the training of instructors, the remainder of the paramedics was trained.

Sometimes tasks imposed outside the organizational boundaries impact on an individual's ability to function and be able to practice negative capability. The paramedics' abilities to perform their work have been complicated by their legislated responsibilities and a shortage of hospital beds in the area.

The problem began with a reduction, by about one half, of the number of hospitals and clinics within the county. Although there were steps taken to reduce patient time in hospital, there are frequently more patients needing hospital beds than there are beds allotted for patients. Once all of the hospital beds are filled, patients who come into an emergency room and cannot be released are kept in beds in the emergency room. Then, once those beds are filled, no one else can be seen in the emergency department. When this situation occurs, and respondents reported that it does occur regularly, the emergency room will not accept patients from the paramedics. Since paramedics are required to remain with their patients until transferred to hospital care, they have to remove themselves from service until the

patient can be released to the hospital (known as a code seven). Those who are in ambulances that are still in service have an increased work load, unless they too are forced to go out of service for a code seven. This situation increases stress for those remaining on the road. I was told stories of ambulances waiting between two municipalities in case one of them has an emergency or of only one ambulance, rather than 10 or 12, being in service for the entire population of about 400,000 people. These circumstances result in an additional stressor being placed upon people. When speaking of the population served, or often underserved, one paramedic said: "People [in the general public] have no idea. They have no idea."

Both call load and 'code sevens' appear to place paramedics in constant states of stress. The problems and stressors relating to high call load and code sevens have been dealt with, by the paramedics, by dispersal behaviours. Some dispersed into explanations by talking about the problems and increasing public awareness in the media. The people who described the problem to me were also practicing negative capability – they reported that it causes them much stress, but they were still performing their work.

How does the pace and stress of the job impact the adoption of new technology? Normally, one would suspect that it would create challenges, in that this additional stressor is more than they wished to confront. In some instances, this premise has been supported. People described the difficulty of learning new work when they have other responsibilities that had to take first priority.

I think it's a little harder because it's so fast-paced. If you're in an office setting it would definitely be much easier. So I think that's the hard part about trying to implement something in a business that's so, so busy.

If we're working and we're on duty using something, we don't refuse calls, we can't say, no I'm learning this computer system right now, send somebody else on the call. It's we need you there... you've got to go, okay. Pick me up and go.

(Rick – Paramedic)

The paramedics who have remained on the job have learned how to cope with constant stress. While, when questioned, they could list the ways that

that the job could be made less stressful, they often indicated that they love the job. Being able to cope with the day in, day out stress and still want to go to work suggests that these are people who are able to face challenges. Indeed, the people here never described situations where they did not think that they would be able to master the electronic ACR software. Even when they were unhappy about the software, they “did what they had to do”. Their complaints were more regularly related to lack of time, fear of a negative impact on patient care, software bugs and having been satisfied with the paper ACR. It is possible that, even though they might not like something, they can work effectively with it because they have become used to coping with uncertainty.

5.2.2.2.2 Acceptance

Shane’s experience was discussed in the “Time” section, above. Having failed to learn the tasks associated with the eACR system, he was faced with two options when its use became mandatory: either request more time to learn to use the system, or start working with the new system. He decided to work with the system:

It was totally my fault and that’s actually why I didn’t ask for more help. Because I thought, I did this to myself, I knew it was coming.
(Shane – Paramedic)

Although Shane had accepted his responsibility to perform the task at that time, he was still resistant to the introduction of computers. He grew up enjoying computers as a tool with which to play video games. He didn’t fear computers but was not enamored of them either. He becomes easily impatient and frustrated when computers do not deliver data immediately. He was totally opposed to the iMedic® system and did nothing more than navigate a bit through the forms prior to September 1st. His position was: if it isn’t broke, why fix it? The paper ACRs had worked fine for many years and they didn’t need to be changed to an electronic version. He saw absolutely no benefit and a lot of detractions in the iMedic® system.

When the system was first introduced, Shane resisted and demonstrated dispersal into emotion and explanations. When the system went live, however, he practiced negative capability. As soon as he had no choice, he

did the work. He didn't like it, and still doesn't like it, but he performed the work because he wanted to keep his job. It is in his proper performance of his work, in spite of his opposition to the IT, that the practice of negative capability is evident.

Rick, at the other end of the spectrum, wasn't the least bit concerned about the switch. He'd been using the computer to generate ACRs for months. Rick, however, had been a Phase One, on the committee to select the electronic ACR software. He'd had full knowledge of the process and rationale for purchasing the iMedic® software rather than the others available. He found very few problems with the software and didn't believe many others did either. When he had been stationed in one of the hospitals on one shift to help people with problems with the system, he hadn't had people coming in for assistance – his impression was that everyone had things under control. “By the time they did that, people were like, what are you guys doing here?”

I noted that the sooner the individual was involved in the implementation, the more likely they were to assert that things had been done properly and that things were running smoothly. They appeared to have fewer criticisms of the implementation process. This could be because they had a vested interest in the success of the rollout or because they had a better view of the “big picture” of what the system was meant to do. As noted earlier, one of the instructors, who had not been part of the selection committee, did not know that more than one software had been considered and was critical because she thought that considering more than one software might have produced a better choice. Since it is impractical to have everyone involved in the selection, more organization-wide transparency concerning the software, from the beginning of the selection period, may have resulted in less dissatisfaction and fewer perceived errors in implementation.

There were times when an individual practiced negative capability without experiencing dispersal behaviours, supporting French's (2000) research. These instances were often observed when the individuals held positive opinions about the challenge that they were facing. For example, Mary said, “I've always been one of those people who, if I find something interesting, I

don't have a problem doing anything associated with it". Others who did not describe dispersal behaviours, in response to the IMedic® introduction, considered the electronic system to be preferable to the paper system and so were motivated to learn to use it. In instances where people did not have negative responses to boundaries, they were able to practice negative capability in order to learn new positive capabilities.

A personal capacity to practice negative capability was reflected differently in stories of non-IT-related work. Unlike the circumstances surrounding the new IT implementation, where some people were opposed to the change, all of these people are paramedics because they have chosen that career. Resistance to the work itself was not an issue. Consequently, their stories reflect negative capability when their motivations, as paramedics, are often similar within the group. I asked Joan how she decided on a course of treatment when she didn't know, for certain, the best direction to take:

You just have a feeling about it. You can't explain it. I wish I could tell you even where it comes from, but you just kind of know.

(Joan – Paramedic)

While this could be reflective of positive capabilities that reside in the subconscious of the paramedic, it also demonstrates a creative openness in the midst of uncertainty that suggests that the individual may be practicing negative capability.

Mary thrives on change, so she embraces the uncertainty of the work. For others, it can take time to acquire enough confidence in one's positive capabilities that one becomes able to comfortably function in the uncertainties of the job. Craig described the day that he realized that he wasn't panicking when facing an injury scene – it had taken experience to reach that point.

There comes a time when you become calm when you're on calls. I can remember the day that I felt comfortable. I can remember that day.

(Craig – Paramedic)

From their work experiences that reflect a personal capacity to practice negative capability, I was able to add more to my understanding. If a person embraces feelings of uncertainty, as was described by one participant who

likes extreme sports, he/she is more likely comfortable in “mysteries, uncertainties and doubts”. There are also indications that some people are more likely to practice negative capability once they have acquired more positive capabilities relating to their tasks.

Craig also described an incident when one of the supervisors who had been a paramedic was the first to arrive at an accident scene and felt panicked, having been out of the field for a number of years, and considered driving around the block to await the ambulance.

We zip down there, the lights are flying and stuff and we get there and I'm like: what are we here for? My partner says that she doesn't know. So I do this (takes a deep breath), let's go. And so we get out and my supervisor's there. I won't mention any names, and he's like, oh my gosh, I'm so glad you're here, I got the call, I didn't know what it was, I almost circled the block before because I would have been the first one, and he, all his anxieties seemed like they were a brand new medic's anxieties.

(Craig – Paramedic)

Craig and his partner had positive capabilities that enabled them to do the work. They felt anxiety as they approached an incident, took deep breaths, and moved forward. Their positive capabilities enabled them to practice negative capability in an uncertain situation. The supervisor, on the other hand, had reverted from having the positive capabilities to work as a paramedic without feeling panicked and dispersing into emotion, and very nearly into the activity of fleeing the scene, illustrating that he no longer had the confidence in his positive capabilities that would enable him to readily practice negative capability in this uncertain situation.

I was also interested to learn if people might experience a personal capacity for negative capability outside of work in the same way that they experienced it at work. While the paramedics were quite vocal about experiences relating to the implementation of the iMedic® system, and to their non-IT work experiences, they did not seem as inclined to talk about their lives outside of work. People experienced instances when answers to problems came to them in a flash of insight, or when they were falling to sleep. Often, however, these instances reflected upon a previous patient call. Sometimes, they described taking a direction to handle an unfamiliar situation that, in hindsight, was both creative and an excellent path. It appears that traits that

appear to support the practice of negative capability carry throughout a person's experience. For example, Mary, who likes change in her work, also likes it outside of work.

From my analysis of paramedics as they perform tasks, I found nothing that would suggest that the practice of negative capability is relevant in one part of a person's life and not another. I did observe, however, that incidents reflecting a personal capacity to practice negative capability were described most often in reference to their first responder work, where they are very experienced and highly trained. This demonstrates that the certainty that is reflected in their confidence in their paramedic abilities allows them to work through the uncertainties of their work - to practice negative capability. Additionally, the organizational policies surrounding the new IT implementation supported a relational capacity to practice negative capability and also reduced the ambiguity and anxiety that could negatively impact development of a personal capacity to practice negative capability in this situation. It is also possible that the organization attracts people who are more readily able to practice negative capability and is, at the organizational level, better able to develop strategies, for the IT change, that would also support a personal capacity to practice negative capability. What I did observe in the stories was that the people who were most comfortable with the experience, who most readily demonstrated a personal capacity to practice negative capability in relationship to the change, were those who were either happy with change, or those who had a positive attitude toward the new system or toward learning.

5.2.2.2.3 Adaptation

Personal experience led me to suspect that the level of stress outside the workplace would have an impact on the receptiveness of the paramedics to change. I sought stories that would relate experiences of change in situations of stress. What I received was a collection of stories that often made me marvel at the ability of people to function in and cope with their lives.

Their stories were often no different than those that could be related by the members of any workforce. One person experienced the collapse of a

marriage, another fought cancer, and another was entering into a long-term mortgage. What is striking to me was that when each of these people described their experiences, they indicated that few, if any, people at work were aware of their situations. There are a number of potential reasons that this is the case. It is possible that paramedics, because they interact with people on “one of the worst days of their lives”, may be less inclined to share their own difficulties with others; it may be that people, when they are in a workplace that is exposed to constantly changing scenarios, may be less inclined to share personal problems with co-workers, thereby adding one more stressor to an already long list. However, because people, in the course of their lives, experience serious emotional challenges outside of work and continue to work, there are additional impediments to change on the job that may be difficult to identify, particularly if they do not share the difficulties with co-workers. The experience of any additional stressors, in and out of the job, seen and unseen, has an impact on how people function through change. Nevertheless, they were able to adapt to changes. It is in this ability to function through stressors and change and to adapt to new situations that I was able to identify the practice of negative capability.

Interviewees described ways in which they adapted their use of iMedic®. In the first example, a mouse was introduced to the hardware, by some of the medics, in order to overcome the difficulties they experienced with the touchpad.

You know, I noticed medics, I don't know if they all do, I noticed right at the start, some people would buy the mice, the mouse that you put in so they have their own because they didn't like this. I'm used to using a computer with that pad, so it's funny. I use my computer and my hand's always there and to me it looks odd when people are plugging in a mouse because, I want my hands on the keyboard.

(Joan – Paramedic)

In the above example, people experienced discomfort with the hardware provided. This might have resulted in one of three responses: accepting the situation as it was, complaining about the problem, or doing something to remedy the situation, in this case adapting the hardware to suit their needs. In the above example, the people had chosen the third option. In order to improve their experience, they purchased a mouse to circumvent the

touchpad that is found on the computer. In the following excerpt, the third option had not been employed.

So there are ways to make it faster and to get around things, but it was tough in the beginning, trying to get people to use it and originally the management was saying, well we want you to practice, and (sigh) unfortunately it's so busy here that, in the beginning it was hard to get people to practice because they'd say they didn't have time. I don't have time to do a real ACR on a piece of paper and then go make a pretend ACR and do it on the computer. I just don't have that time.

(Joan – Paramedic)

The above example indicates that there are ways to adapt the use of the software. It appears that, according to Joan, time constraints during the training period stood in the way of adapting the use of the software (task) to meet individual preferences and complete the suggested task. Even though there are, reportedly, ways of performing the task that would be less time-consuming, Joan has been able to adapt her use of the software. For her, time constraints were preventing her capacity to adapt the task. It is unclear if she was dispersing into explanation and the time constraints were not preventing her from adapting, or if she was legitimately too busy to make changes. The above excerpt, however, demonstrated that there are ways to adapt the use of the iMedic® program. It also demonstrates that closure may not be experienced without sufficient time to experiment and adapt IT to meet everyone's needs or wants.

5.2.2.3 Territory

The work territory that is relevant to the paramedics includes their base stations, their ambulances, the call scene, their computers and communication devices.

5.2.2.3.1 Resistance

The territory that one occupies is also occupied by others who may have a different view of how the territory should be utilized. Like many workplaces, interpersonal disagreements arise. Most of the participants describe themselves, and the typical paramedic, as a "Type A control freak".

Rick described being yelled at when, as a new employee, he had not folded a blanket the way his trainer liked to see it done. He thought that was nonsense at the time. Now, however, he noticed that he became aggravated when he got into an ambulance and it hadn't been left the way he likes it to be left, or a two-way zipper wasn't zipped so that the ends met at a specific point.

Jerry described the service as a "functional dysfunctional family" comprised of people who might be fighting amongst each other but tended to pull together when one of them has had a particularly bad experience.

During the time in which people were getting to know the software, additional challenges emerged. There were still bugs in the software. When a paramedic had problems, they were required to call a help desk hotline to get help. This could be a challenge if they did not have access to a phone.

Or, because there was one computer per truck, there was the frustration of sitting idly by while there is work to do, because one's partner was using the single computer to complete his/her portion of the work.

You only have one computer, so one of you is sitting there, twiddling your thumbs while the other one's using it. Then they ended up giving you another computer, but then there's the whole, well the computer in the truck is stationary, you have to turn, it causes a kink your neck to sit like this to type on it, so, it's annoying - and then they got us the smallest computers possible...

(Jim - Paramedic)

Jim was describing a common occurrence in which the territory that must be inhabited to complete their work – being in front of their computer – was not available to them. This caused frustration and dissatisfaction. An onboard computer was discounted as being ergonomically flawed. An individual demonstrated that he/she was able to practice negative capability when he/she continued to work while experiencing frustration and dissatisfaction with the lack of computer access.

Frequently, paramedics were required to have Internet access in order to allow a technician access to their computer to resolve problems. However, they were only able to access the Internet either inside the hospitals or at their base station. Compounding this territorial issue was the situation of

being in the middle of getting a problem resolved when they were called away to attend another emergency (moving to a non-access territory). The problem ended up being unresolved.

So, we're to call the 1-800 number. Call them, and oh, okay, let me check, oh your computer wasn't set up. I'm thinking, well why am I getting this if it's not set up properly? Okay, no problem, we'll dial in. So, I'm working in a truck. Okay, I just need access; let me download. So he does, and a call comes in. Well, I've got to go now. I have to take my computer, I'm at this base - I have to leave because I've been called to go somewhere else. Oh, okay, well when you get to somewhere else, just call me. No problem. Call them again, and you know, it's not a simple call, it's press 5, press 4, your call's important to us, please stay on hold, get all this, and then do it again, same thing - oh, I have to go. Eventually, I think we just left it at our downtown base and I said I'm leaving it here and I'll go and I'll do, you do what you've got to do to the thing to work and I'll do it.

(Rick – Paramedic)

This excerpt demonstrates territorial restrictions that were complicated by overriding task requirements and time constraints. At the outset, Rick attempted to resolve a problem that was related to the software by contacting a technical support advisor. In order to do this, he needed to be located in one of several specific locations. Where there more locations available at which he could resolve the problem, this story may have ended in an early resolution of the problem. However, he found himself summoned to another call. This meant that the resolution of the software problem had to be set aside – he was no longer in a territory where he could continue contact with technical support. There was not enough time between tasks in which to address the issue at an accessible location. While Rick's story demonstrated his frustration arising from the territory restrictions placed on the use of the system, this is not restricted to the use of the iMedic®. The following example described the frustration that arose from being unable to access other software remotely.

The email system you can check from home. So, you could do that at any time, whereas this, you're restricted to when you're here. And the same thing with our time manager, where you uh book your time off, for the part-time employees especially, you can't check that from home. So you're forced to come in to work to check when your time off is, or when you've been given a shift. So you're driving in, say you live you know, whatever, you could live five minutes from a base, or you could live 1/2 an hour from a base. So they now have to drive in because there aren't

people to call and say, hey, can you check my schedule for me. There just, there isn't that capability any more. So, it's very frustrating that way. And apparently, the uh licensing to get everybody to do it would cost tens of thousands of dollars to get the licensing for everybody to have it at home. That's what they say. I don't know.

(Sue – Paramedic)

In this story, Sue was compelled to go into work in order to determine if and when she was expected to be at work. There were files and programs on the organization's server that were also only assessable at specific locations, including their work schedule. This also resulted in an employee experiencing feelings of frustration. While she offered explanations for the cause of the problem, i.e., licensing restrictions, she expressed uncertainty in the validity of the excuse.

Another issue arose from an inability to upload ACRs once they were completed. Again, secure access to the Internet was required, as the computers were not equipped with mobile access. Once the team was called out on another call, any ACRs that had not been transferred were inaccessible by the hospital. Sometimes, this could mean that they were inaccessible until the end of the shift or until the next day.

The stories that the paramedics shared described the frustrations and motivators for resistance that they experienced because the territory was not compatible with the task to be performed. In the first example, the territory was the computer itself; in the second example, the territorial restrictions involved the access points for transferring data and connecting to a network, and the third example described another IT system that employed restricted access points. To become aware of a personal capacity to practice negative capability in these instances, we need to look for what wasn't happening in these frustrating circumstances. Rick and Jim were complaining about their situations and the computers but were still using them, although Rick did eventually turn the computer in to be repaired in the excerpt above. Sue didn't like the inconvenience of the system, but accepted it. They were working with conditions that caused a certain degree of frustration and in which they might have preferred not to work, being that the situations were often suboptimal, but they were still functioning within those contexts. In

doing so, they were practicing negative capability in order to overcome their feelings of frustration and resistance.

5.2.2.3.2 Acceptance

This example looks at finding acceptance in a situation that arose from moving safely from one territory to another. Craig related a story about driving on the road at 120 km/hr. (the legal limit for the ambulance to travel) with lights and siren running, and being passed by cars. This was frustrating Craig, who wanted to be able to get to the emergency as quickly as possible.

So you look at it like this, so when you get to the person's house, I set, I use the cruise control now, 120 set and go. That's what I do. Because that's what our policy is. I get to the house, I'm a little frustrated, it's taking us a little while to get here, I'll look at my partner and say hey, we both got here alive and close the door. I'm frustrated and she knows I'm frustrated but I'm going to try to put a positive note in because, we're not walking into this house in a bad mood.

(Craig – Paramedic)

The paramedic's job requires him/her to move from territory to territory. This means that they spend a lot of their time in travel, rather than performing paramedic tasks. Craig felt the frustration of being unable to move more quickly in transit, particularly when surrounding traffic was moving more rapidly. As a consequence, he reported that he arrived at the scene feeling frustrated. At this point, he determined to accept those feelings and move on. He was practicing negative capability.

It can be challenging to identify the difference between an example of resistance and one of acceptance in some instances. In this particular example, Craig had learned to accept the parameters that had been set for arriving at a call scene, by setting the ambulance cruise control at 20 km above the maximum permitted speed limit and travelling at that speed. While he experienced feelings of frustration, he was able to work (or drive) through them, and let go of them when he arrived at the scene.

5.2.2.3.3 Adaptation

There were no examples of adaptation impacted by territory boundaries at the personal level as it related to the introduction of the new IT in the data. There

was an example of adaptation that involved non-IT work. Joan described an incident that occurred, when she worked in a new city, which demonstrated an ability to adapt in order to address territorial issues in a creative manner.

And it's stressful if, you know, you've got somebody in the back and he's doing CPR on someone and I've got to rush them to the hospital. I don't know where the heck I'm going. That's stressful. It does not feel good. So, I mean, you find ways of dealing with it, like I'd grab a firefighter. Say, you're coming with me - to get me there. You have to use your resources. You have to think quickly.

(Joan – Paramedic)

Joan's ability to think in a stressful situation (not knowing how to get a seriously ill person to the hospital when she had no sense of direction in the new city) and arrive at a creative means of being able to accomplish the task demonstrated both her ability to adapt and to practice negative capability. The concept of negative capability is discernable in Joan's experience in that a creative solution to her problem emerged in the midst of a very stressful situation.

5.2.3 A Relational Component to the Practice of Negative Capability

This section contains examples of a relational component in the practice of negative capability. The relational component is present in the ability of one individual to provide a container for another individual's negative emotions. If one thinks of the relational component to the practice of negative capability as a capacity to contain negative emotions, the container is another person who helps the individual 'contain' his/her negative emotions and access his/her own negative capability, as was described by Bion (1970) in his discussions of analysis. Within this relationship, negative capability is present as a space opens in which the container is able to contain the contained's negative emotions and the contained is then able to acquire new understanding. As one person struggles with feelings of uncertainty, another is able to help the first person deal with the emotions and move forward. In the paramedic experience, the container is often the person's partner, a supervisor, or sometimes a counselor. Consequently, the container is already in place and part of their work culture. The stories that follow demonstrate people serving as containers for another's negative emotions.

In this study, I also observed that the paramedics tasked with teaching the electronic ACR system to their counterparts sometimes adopted the container role and sometimes management did so, other times it was their partners who provided containment. In doing so, the contained is able to practice negative capability.

In this section, I consider the boundaries of time, task and territory and their relationship to resistance, acceptance and adaptation at the relational level.

5.2.3.1 Time

At the relational level, time boundaries may impact one's availability, or the opportunity to initiate a relational interaction.

5.2.3.1.1 Resistance

I found the following story of time boundaries impacting resistance at the relational level.

What I found was the big issue when you're trying to teach some of these people, give them faith that this computer system is going to work perfectly for us while, at the same time, we were still going through a trial basis for this program. So, you're trying to show them something and for some reason it wouldn't work. So, it's kind of hard to gain confidence amongst the employees when you're saying that this is such a great program, let me show you how it works, and then two minutes later it doesn't work, so we're on the phone with our help line, trying to work through the system. So, I found that, at least in every class I taught, there was some type of problem that went wrong that we had to contact the helpline or we had to troubleshoot. We were privy to these problems and we knew that these problems existed, so I think realistically, although everyone needed to be trained, I think that everyone was trained a little bit too soon. That's just my personal thing; it's just like anything in life, right? You're setting someone up to fail if you're teaching them how to do something and then it doesn't work in the end.

(Mary – Paramedic)

What Mary described was a relational situation where the potential for resistance arose because the timing was wrong for the training. As I related earlier in this chapter, my own experience with the eACR training allowed me to observe some difficulties with the software and hardware that were related to ongoing issues at the time that the trainers were trained. At the time, I recall feeling that they did not have everything under control and wondered if that

day's training would be terminated early. Mary experienced complications in her role as a trainer. She taught while she experienced feelings of uncertainty in the ability of the software and hardware to adequately perform at that point in time. In spite of her own opposition to the timing, she performed as a trainer. In the interview, she reported that the training went well. In conducting a training session in circumstances that called the functionality of the new IT into question, there was potential for resistance. People may have become frustrated in these circumstances, particularly if they were unconvinced about the wisdom of the implementation when they began the training. This may, in turn, have caused the relationship with the trainer to deteriorate. In this story, these potentially negative outcomes would have been less likely if the training had been postponed in order to resolve hardware and software issues. However, in being able to effectively train and support the trainees, and contain the trainees' uncertainties related to the system, Mary provided relational support in order to help others practice negative capability.

5.2.3.1.2 Acceptance

This story illustrates that time constraints at the relational level can have an impact on outcomes. The event related to a situation where a relational component to the practice of negative capability was needed in order to accept a traumatic situation.

I had a call with a child who was VSA [vital signs absent], dead. We had no idea that she was VSA on our way to the call. When we were going to the call, when we got to the call, we didn't have any idea. We basically walked up to the house and she was there and we worked her and we took her to the hospital. We worked on her and, you know, I never thought the pediatric VSA would bother me. Turns out I was wrong. So I went home after the shift, at the end of the shift, because it was right at the end of the day. That night, they made an appointment for my partner and me to talk to the psychologist at 1:00 in the afternoon, so I went home and tried to sleep and that didn't go so good. Then I spoke with a psychologist and then, you know, six hours after the fact is not going to do anything. Sorry, but it just isn't.

(Rick – Paramedic)

Although Rick had never expected to have a bad reaction to the death of a child, he very nearly quit his job over his reaction to that experience. His experience illustrates that there are sometimes critical times in which relational support to practice negative capability is important and less optimal

times when the relationship will not provide the space that is needed to access this form of negative capability. On that day, a relational container, in the form of a psychologist, was available hours too late to adequately reduce the experience of serious difficulties in coping with the bad call. Rick experienced dispersal into emotions, because the support was unavailable at the right time. It very nearly ended his career.

As Rick continued to tell his story, he described the torment that he was feeling.

Your brain starts to spin and spin and spin and spin and spin and I didn't know what to do with myself and that's where this is kind of coming in. Your brain just spins and spins and there are no answers and you're not getting anywhere, you're just on this cycle and I picked up my cellphone and I was in the process of dialing the office here and telling my bosses I was never coming back. I had fully decided that I was not coming back. For no, without any kind of rational outlet, for those emotions, I didn't have any outlet. That's what I decided to do. Because, it seemed like a good idea to me at the time.

And I was about to dial the phone, I had full intentions of calling in and another paramedic called me. And, you know, it was a 30 second conversation, hey I heard about your call today, if you need to talk to anybody, I've had a couple of calls like that, I know what you're going through, give me a shout, no problem, any time, okay. So I hung up the phone. I never did call.

(Rick – Paramedic)

In the events following the traumatic call, Rick had one experience in which the time constraints did not support a relational component to the practice of negative capability – the professional therapist was not available when needed. On the other hand, a relational approach from another paramedic was able to reduce his anxiety to the point that he no longer planned to quit. This was facilitated by the practice of negative capability in which the other paramedic is able to successfully act as a container for Rick's emotions.

5.2.3.1.3 Adaptation

I found no instance of time boundaries impacting adaptation at the relational level as it pertained to the implementation of the new IT. There is an example, however, where adaptation is noticed in the interactions between paramedics, particularly in difficult circumstances.

Everybody knows what everybody does it so stressful and they kind of need to be there to pick each other up. I mean, we're like the most functional dysfunctional family you ever saw because, oh, my God, the fighting and everything else that goes on is, it's hilarious, it does go on. And yet, when everybody needs to be together, they are. It is kind of funny, and I think that's why everybody gets along so well, I mean, they work...it's long shifts - it's 12 hours shifts on the road, overtime a lot of the time, so you're with that one person in that truck for all those hours and then you're sharing that same experience with the other people in the base, so I think it kind of forces a certain kind of camaraderie. I guess when something really bad goes, happens, that everybody would know what it feels like, so they want to band together too.

(Jerry – Project Manager)

What Jerry described is typical of many workplaces. People don't always get along. What is not necessarily typical of many workplaces is the ability to set aside differences and be supportive when someone has had a particularly bad experience at work. They rapidly adapt their behaviours to band together. They take the time to help each other through the trauma. In doing so, the relational support enables the practice of negative capability.

5.2.3.2 Task

Relational stories involving task boundaries reflect one individual helping another to be able to perform a task that overwhelms the second individual, while also helping the individual feel more capable in performing the task. I turn now to examples relating to resistance, acceptance and adaptation.

5.2.3.2.1 Resistance

The trainers were the liaison between management and the paramedics in introducing the hardware and software. Consequently, they were the recipients of a lot of the negative feedback concerning the change, as was the case in Mary's story that appears at the beginning of this analysis. She became the container for the negative emotions of a co-worker who was resistant to the change.

It's the repetitive constant. I don't mind sitting with somebody to remediate them when they need help. I don't mind doing that at all. I'll sit there and help people all day if they want, but it's the ones who want to argue with you, "You never showed me that". I'm not going to argue, because as soon as I say, "well, actually I did," they respond with "no

you didn't, and I'm going to prove it". So, I just say, "well, okay". Well let's look at it, because what's the point?

(Jerry – Project Manager)

Jerry, the project manager, had been approached many times by paramedics who were dissatisfied with the system and needed help to use it. Although the resistance in this example is not elevated to the level of refusing to perform the task, it is evident in the negativity that was expressed by the paramedics when they first approached Jerry. The people she described in this excerpt entered this relationship as challengers, yet wanted to learn how to perform one or more of the iMedic® tasks. Jerry contained the paramedics' anger by listening to their complaints and refusing to be drawn into, or contributing to, escalating tensions. She was acting as a container for their resistant emotions. Once she had heard their complaints, while she remained calm, the paramedic was more receptive to being shown the task, much like was the case in Mary's experience, as a trainer, earlier in this chapter. By behaving in a manner that contributed to a reduction in negative emotions, Jerry provided the space for negative emotions to be contained and provided relational support for the practice of negative capability.

5.2.3.2.2 Acceptance

Rick encouraged people to use himself as an example. Although he went into this project with little computer background, as a Phase One he had learned to use the system and was comfortable with it. He tried to convert the anxieties of other new users to encouragement, with himself as the role model. As such, he acted as the container for their anxieties, enabling others to feel more confident about using the new system.

There were also steps taken by the trainers that enabled learning. Mary called a break in her teaching when things became too heated – once the break was over, people were more receptive to learning. Rick stressed that he wasn't tech-savvy, but that he was able to successfully use the software. Mary described another implementation that she had been involved in as an instructor. She developed a booklet with step-by-step screen shots that showed people how to use the software. Each of these examples showed people anticipating stressors in others and taking actions to serve as containers for the others' negative emotions.

Beyond the implementation of the iMedic® system, there were procedures or traditions in place that assisted in the containment of emotions. Paramedics have access to a therapist to help them deal with difficulties, normally as the result of a difficult call. It is conceivable that a paramedic who was overwhelmed by a change in the work routine, initiated by the iMedic® introduction, could seek this support. At other times, other paramedics were able to provide the emotional support required, often the person's partner. One paramedic described his experiences with coming to terms with a bad call, along with his partner.

There's absolutely some stress and the best person to talk to is the person next to you because they dealt with it the same time as you and you can bounce things off each other. And, by the time you have end of shift, I have alleviated all that stress, all the things I was concerned about on that call, I've got them off my chest. And it happens throughout the day without you even knowing it. You replay decisions and you continue with your day.

(Jim – Paramedic)

This illustrates the importance of containment of emotion in the ongoing functioning of the paramedic. While the call was underway, there was seldom time to think about steps that were taken on behalf of the patient. Consequently, once the call was completed, paramedics began to second-guess their actions. Having another person, or people, willing to rehash the call allowed the paramedic to examine their actions and emotions and move forward.

Outside of work, people relied upon their family, close friends or significant others as containers for their emotions. Or, they may themselves have been the container for their children's fears and anxieties. In one instance, an individual described how her work partner acted as a container for her as she was experiencing difficulties at home.

It may be noted that the stories of a relational component to the practice of negative capability in this section are largely reflective of their non-IT work. These stories reflected the way that people helped each other in circumstances that called for relational support in order to practice negative capability. Containment of emotion during the change experience may have appeared to be of less importance than the experiences described in the non-

IT work experiences, largely because of the very stressful nature of their work. However, it was important. During the change process, the emotions appeared to be of anger or frustration, while their first responder work sometimes results in uncertainty, anxiety and depression. In the stories that were related of how paramedics dealt with problems relating to the new IT, they expressed the same methods (partner or co-worker assistance) that were used in non-IT situations. Outside of work, their containers seem to be the people we would expect them to be – family and friends. There was nothing to suggest that they were unique, as containers, to first responders. In all aspects of their lives, the paramedics rely on others to help them deal with difficult emotions and continue working. The evidence that so many of the paramedics recognized the need to support each other in difficult circumstances, including the new IT challenges, suggests that this may be part of their work culture.

It was never anything personal. There were people who were struggling with it, but it was never aimed personally at me, I never got any “oh, you’re the one that brought this in and I hate you”. .I never got any of that, but I got Jerr, I just cannot do this. I’d say okay, let’s relax for a minute and then let’s take a look at what’s giving you a hard time. So, they got upset with the software, but nobody ever expressed anger at me or, at least, I never took it that way.

(Jerry – Project Manager)

Above is one example from the data that illustrated a relational facilitation of the practice of negative capability that arose during the introduction of this new IT. In the above example, Jerry was describing an instance when she acted as a container for the uncertainty and anxiety of a paramedic. As in the previous section, people were approaching her because they were experiencing problems in using the eACR system. In this story, she was aware of the frustrations of the paramedics, but did not feel that she was being held responsible for their negative emotions. She was able to act as a container for those emotions, thus allowing them to calm and be receptive to learning.

5.2.3.2.3 Adaptation

When I’m not sure of how to handle a situation, I talk to different people about it. There is one instance that comes to mind, where I didn’t like the way I was being treated by someone and didn’t know what to do

about it. I talked to a few people. I got myself informed and realized that there were steps that I could take to stop it from happening. It was very difficult and I initially felt nervous about dealing with the problem, but I'm very happy that I did.

(Jim – Paramedic)

When I run into a problem with my home computer, I set it aside for a few days. Well, I eventually have to go back to it. I'll try something else or call somebody, "okay, it's broken; it's going to go in the garbage unless you tell me how to fix it. Or, you know, my friend has to come over and okay, let's fix this. But, you know, let's go there or it's an Internet problem or something I find it to be a hassle at times.

(Hannah – Paramedic)

There were several excerpts much like the two above. In these stories, people were uncertain of how to approach a problem. They were effectively paralyzed. In the first story, Jim wasn't happy with the situation, but had no idea how to change from his usual strategies. In the second story, Hannah had become so frustrated with her computer that she threatened to discard it. In both instances, a new way of dealing with the situation was required. Both Hannah and Jim reached out to others to help contain their negative emotions and to help them find a new way of looking at their problem. Through reaching out to others in order to adapt to a situation for which they did not have an answer, they sought relational support in order to practice negative capability.

As I stated in the previous paragraph, the above are two of several similar stories. When these people find themselves uncertain as to how to proceed with something, their normal first step in finding a new way to approach the problem is to reach out to someone else, either inside or outside of work, in order to find a reasonable solution.

5.2.3.3 Territory

At the relational level, the territory for the paramedic is the call location, the equipment used, the ambulance, the hospital and their work stations.

5.2.3.3.1 Resistance

This gentleman has been like a hermit for about 25 years; he doesn't even want to leave his house. You know you're going to have to explain that difference. You know he wants to stay home and smoke his pipe. So, you're going to have to change your approach on how

you're going to explain. But still, regardless, if he doesn't want to go, it's got to be saved on that computer because that's the only thing I have saying that he didn't want to go.

(Sue – Paramedic)

This example described a person who refused to leave his home to go to the hospital. The paramedic was tasked with attempting to encourage him to change territories from the comfortable and familiar to one that may be frightening for him. In the example that follows below, in the section on “acceptance”, Sue was able to convince the individuals to accompany her. In the narrative above, she was unable to do so. Her only recourse at that point was to obtain documentation that the individual chose not to accompany her. In this example, she was unable to act as a container for his anxieties and the relational support was insufficient for the gentleman to practice negative capability.

5.2.3.3.2 Acceptance

We're going to investigate this: “Mam, who brought your groceries today?” “Well, so and so brought the groceries.” “Okay, who cuts the lawn?” “Okay. Do you go to church??” And, you just start asking questions and then it's “When was the last time you've seen the doctor?” “Um, it's been ten years.” Are you going outside?” And my tone of voice has changed, my amount of concern has changed, I'm trying to be genuine, I'm trying to be sincere, they can pick up on that, and they trust you. “I'm not going to hurt you, I'm here to help” and with positive reinforcement and informing them of what you're trying to do, who could be reluctant? Right? I think my big one, or how I'm feeling is I'm going to treat you like I treat my family. Like if you're elderly, I'm treating you like I treat my grandma. You're foolish if you want to stay home. You're foolish. You're just, I've had it where there's like four of them in a little circle playing bridge and one's having chest pain and like “you're just acting tough in front of your friends.” And then she puts her head down. I'm like, “Oh, and maybe a little embarrassed. Let's go to the hospital.” “Okay, we should go.” And away we go. No problem.

(Sue – Paramedic)

This narrative illustrated a situation where the paramedic wanted to move a person from one territory to another. The person did not want to go. In some cases, it may be a person who does not leave their home, in other instances it may involve a person who feels embarrassed to go to the hospital. Sue described the way that she talks to these people in order to alleviate their fears and encourage them to go with her. She helps them to feel more confident about leaving their location, without causing them distress. In doing

so, she provides the space for the patient to access a personal capacity for negative capability. Consequently, she is providing the relational component to the practice of negative capability.

5.2.3.3 Adaptation

I found no examples in the data of adaptation in the context of territorial boundaries at the relational level. In the context of CPT, I am unable to speculate on circumstances in which adaptation may be relevant to territory boundaries at the relational level.

5.2.4 An Organizational Component to the Practice of Negative Capability

Throughout this section, I identify examples of an organizational component to the practice of negative capability. This component supports the practice of negative capability at the personal and relational levels. In the examples where CPT, as an organization, supported the capacity to practice negative capability, they did not do so by making decisions to support the practice. Rather, they had taken steps that, unbeknownst to them, did support a personal capacity and relational component in the practice of negative capability. An organizational component to support the practice of negative capability was identifiable in policies and strategies that supported a relational component or personal capacity to practice negative capability. At CPT, relaxed time boundaries followed by firm task boundaries, during the iMedic® learning period, were examples of decisions that were made at the organizational level which supported the practice of negative capability.

5.2.4.1 Time

As referenced in the paragraph above, time boundaries were relaxed in order to allow people to become familiar with the iMedic® system prior to setting a firm date for mandatory use of the system. This is one example of how organizational decisions may set conditions that support the practice of negative capability. Stories that illustrate how time entered into user responses of resistance, acceptance and adaptation follow. They provide examples of how users were supported, or not supported, by an organizational component to the practice of negative capability.

5.2.4.1.1 Resistance

Resistance relating to time boundaries and arising from organizational decisions are described in a story of non-IT related work.

It used to be like a mom and pop place. You could call up the boss and go, hey, can I get tomorrow off? But it's too big now, the company is too big to be able to do that and you know what, there's good in the way it was but there's also good in how it is now.

(Carole – Paramedic)

Organizational restructuring presented problems for some of the paramedics. Prior to early 2010, ambulance service in the county was in the hands of several different companies. At that time, all of the services amalgamated into one service. The amalgamation resulted in a larger service with an increase in bureaucracy. Rather than be able to request time off by calling up a supervisor at the last minute, they now had to submit a request. As Carole related the evolution of this transition to me, she described how paramedics have very little supervision and the nature of the job requires that they be in control of difficult situations. Once they have become used to things being the way they like them, they are not receptive to change that does not benefit them. Consequently, losing a long-standing perquisite that, at the same time, reduced their perception of personal control was met with resistance. The amalgamation also resulted in changes in assignments. People who had always worked out of one ambulance base were being rotated through different bases, further upsetting the sense of autonomy of some paramedics and compounding their dissatisfaction.

This story illustrated the type of resistance that may arise when time boundaries are changed, resulting in a lessening of the control that people experience. Suddenly, they had new boundaries placed upon them for requesting personal time and many did not like it. Although they were aware that the change would take place, some did not have a sufficient period of time in which to transition from one policy to the other. Those people were unable to practice negative capability during this transition. Instead, they experienced a rapid change and dispersed into emotions of unhappiness. When dispersal behaviours or overt resistance do not solve the problem of a mandatory change, an individual may practice negative capability in order to

evolve from dispersal to compliance with the change. At this point in time, the unhappy paramedics were practicing negative capability in that they had learned to work within the boundaries of the change. In instances where it might be anticipated that people would experience negative emotions as a result of a change, the organization could take steps to reduce levels of anxiety by loosening time constraints in order to allow the individuals the space to practice negative capability and avoid dispersal behaviours. In this instance, the organization might have announced that personal time requests would need to be submitted X number of days prior to the desired day off, beginning on a particular date. That may have provided sufficient space to accept the change prior to its implementation.

The following excerpt explores the time constraints that may be attributed to the work performed by the paramedics of CPT.

I think it's a little harder because it's so fast-paced. If you're in an office setting it would definitely be much easier. So, I think that's the hard part about trying to implement something in a business that's so, so busy. I think that's a one hard thing about it, but eventually everybody catches on. It takes a little bit longer, I think, than if you were in an office and you had some time to sit and do it and focus on it and spend an hour each day learning it, or relearning it. Then, I think that would be easier. But now, it's here, let's throw it at you, and it's going to take you three times as long to learn how to do it because you're only given five minutes a day to do it.

(Joan – Paramedic)

This narrative illustrated the problems that arose in trying to learn something new, during a regular shift, at CPT. The practice and learning did occur, but the time available to become familiar with the new IT was spread over a greater span of days. This may have caused frustration, on the part of the paramedic. Indeed, Joan described the frustration that she experienced during the time prior to the go-live date. At an organizational level, providing dedicated time to allow people to focus on the new IT may reduce feelings of frustration. CPT, instead, extended the time period for people to become familiar with the eACR system before going live. This is further discussed in the next section.

5.2.4.1.2 Acceptance

Acceptance of new IT relating to negative capability was illustrated in the ways that the organization was able to enable learning. This was observed within the accounts of study participants relating to the amount of time involved during the introduction of the new information system. There were a number of decisions and steps taken by the management of the organization that made it easier for people to learn.

Well, I wouldn't say warned us, but they told us quite ahead of time that this is the way we were going to go. So I think they gave us a good heads up on what was coming. It wasn't just like okay guys, we have training now. We're doing this computer course, you guys are scheduled on this date and we're all just going. You know, like they pretty much took baby steps before we got into the program. So, I think that was good on their part.

(Peter – Paramedic)

CPT gave everyone advanced notice of the electronic ACR system, providing them with an opportunity to voice their concerns and also allow them time to accept the concept of approaching change. They spent a great deal of time selecting the software that they thought would be best received, with the assistance of field paramedics. These steps supported a personal capacity to practice negative capability. This was important because the need to learn something new creates, in many people, feelings of uncertainty. Any actions that can be taken to reduce the feelings of uncertainty, by opening a space for a person to make his/her way through those feelings, supports the individual's capacity to practice negative capability. Since many steps were taken to reduce anxious feelings and assist in successful learning by extending time boundaries, the space to practice negative capability was created. As a consequence, CPT was recognized, by the software provider, as having had the smoothest and fastest transition to this software to date.

After training the paramedics to use the electronic ACR system, a period of up to several months was allotted to permit people to become familiar with the software and hardware. In doing so, the organization also provided the space to allow people to feel comfortable with the system. So, although many people were uncomfortable with the electronic ACR system, when first introduced to it, the period of familiarization permitted them to move slowly

from discomfort to comfort with the system by supporting a personal capacity to practice of negative capability.

We didn't decide in June that the cutoff date was going to be September 1st; it was probably done in mid-July or so. We saw how things were going and decided we could do that.
(Jerry – Project Manager)

Jerry was the project manager for the switchover. She described the transition from paper to electronic forms. In waiting to see “how things were going”, the organization allowed space for people to come to terms with, and become familiar with, the new technology. By announcing that there would be an end date for familiarization, the paramedics were put under ‘gentle’ pressure to come to terms with the change. The organization had made a conscious decision to provide a slow introduction to the iMedic® system, which supported a personal capacity to practice negative capability. It demonstrated a willingness to relax time boundaries for the implementation until there was sufficient evidence that acceptance of the system had reached an acceptable (to the organization) level. At that time, the rigid boundary of September 1st was set. Relaxation of time boundaries demonstrated an aspect of an organizational component that supports the practice of negative capability. Rather than mandate cutoff dates at an early stage, the decision to cut off the introductory period was taken based on the level of comfort, with the electronic ACR system, being displayed by the paramedics – a decision that was made after time has passed. This demonstrated an organizational level practice that promoted the ability of people to work with uncertainty and contain emotions. While the people practiced negative capability, the willingness, at the organizational level, to allow them the time to do so resulted in a much smoother transition than might otherwise have been experienced.

5.2.4.1.3 Adaptation

As long as you were trained, you were basically asked to do one call report per shift via computer. And then, uh, you know, after a month had passed they'd say do two, do three, do as many as you can and then, after everybody was trained there was that one month's grace period that they said well, now that everybody is trained we're going to give you one month to refresh on your skills and then after that time, we're going to make everything 100% electronic. No more paper. It

was a good timeline, everything was slowly introduced but during the six months' time that everyone was trialing it there were a lot of issues and there were a lot of problems to work through.

(Mary – Paramedic)

This stories illustrated the ways the organization adjusted the timing of the iMedic® launch to allow everyone to become comfortable with the eACR system. Mary talked about how the timing for helping people to adapt to the new system was achieved. It was not a cold-turkey startup, but rather a gradual phasing out of the paper system and phasing in of the new system. In both instances, these were examples of organizational practices that support a personal capacity to practice negative capability. Rather than having to face an overwhelming uncertainty on a specific, immediate date, the paramedics were given time to gradually adapt to the change.

5.2.4.2 Task Boundaries

As decisions, at the organizational level, based on time boundaries can have an impact on personal and relational experiences of negative capability, so too can policies and strategies that impact tasks. Stories relating to organizational practices follow.

5.2.4.2.1 Resistance

They have, in my opinion, made lots of changes, and I think for the most part it's been good. And people won't say that. People are like, "it's a corporation now and it's nonsense and this and that", but "like you know what, it is a corporation and we're a profession and we should act like professionals". It shouldn't be a heyday with no rules; there are rules and you should know what they are and you should know that if you don't go by the rules, this is what's going to happen to you.

And I think that it is structure and people should like structure. You know exactly what's going to happen if you do this.

(Peter – Paramedic)

This example demonstrated dissent arising from rapid change on the part of the organization. Since the organization had amalgamated services, people had been unhappy with a loss of autonomy. Along with a perceived loss of autonomy, tasks had been reassigned. Some people, who had always worked in one area of the county, had been reassigned to a city base. This impacted their tasks in that paramedics reported that their 'typical' work

day was very different in the city to what it was in a rural area. At the same time that many have been reassigned, more control had been implemented in relation to how the work is performed. As discussed earlier, people might find it easier to accept the change if it was approached more gradually, as was the case with the eACRs. Instead, some people were dispersing into explanations of why they disliked the circumstances.

The following excerpt looks at resistance to the eACR change.

I know there are people out there still who are not happy with this change. And there are some people that have had to say I know you don't like it and I know you don't want to, but you do have to. If I can help make it easier for you, I will do whatever it takes, but I can't make you want to do it, you just have to do it. They don't want anything to do with it.

(Jerry – Project Manager)

In this excerpt, there is an acknowledgement that there were people who did not want to perform the task of working with the eACR system. They were resistant to it. Jerry, as the representative of the organization, understood that they may have felt that way, but was emphatic that they had to use the electronic system, like it or not. She continued to offer support to people who were having difficulties. At the organizational level, there was a firm task boundary that had been set. This had been effective in minimizing overt resistance, but may not have succeeded in changing feelings of resistance into those of acceptance. There were two ways that the above excerpt demonstrated the organization's support of the practice of negative capability at the personal level. The first way was in setting a firm task boundary that might require that they practice negative capability in order to perform a task while experiencing resistant feelings. The second way was demonstrated in the support that was offered from the organizational level to help people become more comfortable with the system. The next excerpt explored the use of electronic monitoring of paramedics.

We have monitors in the back of the truck, the camera that sits backwards and looks at you there, so with the computer, getting information from the chest and the heart and the respirations and blood pressures and sats and all that stuff, they can actually watch to see what you're injecting, how you're injecting how you're conversing with the person, like it's so...when that patient says you touched them inappropriately, we can say no. Well I'm telling you right now that I'm

never going to touch anyone inappropriately so I'm going to put a big piece of tape over that. But it's just a lot of people are afraid of that. And then everyone will come to a point where it's like, I can't worry about it all the time. I can't worry about this - the technology getting me in trouble. Because if I do that, it's going to hinder my job, I'm going to be stressed out, and I'm not going to be productive. So, it's a sign of the times; can you imagine what our kids are going to be like?

(Craig – Paramedic)

Policies involving electronic means of monitoring employees originated at the organizational level. Craig was the only paramedic who expressed dissatisfaction with the monitoring that occurred in the course of their work. CPT has GPS systems in the ambulances, there is the capability to monitor travel speeds, they have cameras in the back of trucks that will allow them to review treatment and behaviours, and cameras and security systems at the ambulance bases. Some of the motivations for these systems were the potential for litigation if a patient claimed that he/she had been mistreated, a means to reduce potential criminal activity related to equipment and medications in their possession, on the part of the general public, and as a means to collect data. Craig also expressed concerns that the electronic ACR system was yet another way for management to keep track of everything that the paramedics were doing. Mary viewed the system as a means for the administration to compile data relating to the service, but not as a means of monitoring. Otherwise, there were no comments made during the interviews relating to the eACRs as a monitoring device, nor to other means that are currently in place to potentially monitor paramedics. Consequently, it appears that most of the people who were interviewed do not interpret the electronic monitoring devices and, particularly, the eACR system as a cause for concern. Craig minimized his reaction to the monitoring, or potential for monitoring, saying that he couldn't worry about the technology, even though his comments suggested that their potential uses did cause him concern.

I have included this narrative as an example of task resistance because of the concerns that Craig expressed. As technology improves, it also increases the ways that people may be monitored, whether that is the intended purpose of a particular technology or not. Some people are comfortable with surveillance technologies, others are not. These people

form two relevant social groups – one that accepts surveillance and one that does not do so. Consequently, the particular surveillance technology has not reached closure within the particular organization. In the above excerpt, At CPT, it appears that closure may be approaching. It seems, based on the comments of the people who spoke with me, that labelling the technology as a means of monitoring their work is not the norm. .

5.2.4.2.2 Acceptance

From the outset, CPT involved the paramedics in the eACR selection and training process.

One thing I would really stress to do the same is have their paramedic involvement. The end users have to be involved in everything from the selection of the product to the delivery and the maintenance of it. They have to be involved because if they aren't, if they can't make it work, then it's not going to work. If they don't like it and they won't use it, it's not going to work. If we hadn't done that, this wouldn't have flown. The guy at the top might be the one that says okay, we need to make a change, we need to start going electronic, but he really needs to listen to the people underneath him as to how to get that done, and our chief was excellent about that. He knew this was a direction he wanted to take. He left it up to us to figure out a way to make it happen.

(Mary – Paramedic)

In the above remarks, Mary was talking about steps that were taken in the adoption of the iMedic® system. She recommended that the same procedure be followed in the future because she believed that it contributed to positive results that were reported about the implementation. These steps, originating at the organizational level, supported the eventual outcome of the system implementation. The Phase One paramedics were, as future users, in a position to identify issues with potential systems that might have caused problems. Additionally, as decision-makers in the process, they have described a sense of ownership in the project. By initiating these steps at the organizational level, there was support for a personal capacity to practice negative capability, in that the opportunity was provided for some of the potential triggers for resistance to be addressed in advance of widespread introduction.

Once you've trained a group of people, they have to start using it the next day, cause this place is notorious for getting your training, you do your training, eight months later, now it's in practice. Good luck. I told

them from the get-go, if you try and do that with a computer program you're in trouble. It isn't going to work. And, they were very good about it. As soon as you were trained, if your truck didn't have a computer, you were handed a computer. There you go; we want you to try to do one form a day. Okay? For the first couple of weeks, one form a day on this thing, submit it and then we'll go from there.

(Peter – Paramedic)

After training, it was immediately suggested that paramedics complete one electronic ARC per shift. At intervals during the time between the end of training and the implementation date, the number of suggested electronic report completions was increased. Adoption varied amongst the individuals. While some people immediately began using the computer for all ACR reporting, some tried to follow the recommended adoption schedule, and others clung to the paper system as long as it was permitted. In the end, there was 100% compliance, and most people thought that the means of introduction was good. Although paramedics were encouraged to try the system, there was no penalty for not using it prior to September 1st. Even in an instance where a paramedic did not use the computer until mandated, the employee accepted responsibility and learned to use the system when that became the only alternative. Upon completion of the training, everyone understood the nature of the tasks related to the IMedic® system and that they would, at a future date, be a mandatory part of their work.

Some people still ran away screaming in fear. Some of the people who we brought in to be the Phase Ones, who were not great at using computers, are now some of our strongest people using this new format. A couple of them still say, "I'll do it, but you can't make me like it". But they're actually quite good at doing it, they just don't like it. And, just being able to show people, look, even if you don't know how to put an attachment on your email, you can still learn how to use this. So, I think it took some of the fear out. There are still some people who don't want anything to do with it, but they're doing it because they know they have to. But at least we were able to show them: you can learn this, because some of them were convinced that they'd never get it. There's no way, it's too big a change. Oh yes you can, because he thought the same thing, and he's doing it, and he's even helping you with it, so you can do it.

(Jerry – Project Manager)

In addition, the organization included people who were resistant on their training team to act as role models for the remainder of the service. Jerry described how they were able to present resistant paramedics with an

example of a resistor who was performing the tasks in the above excerpt. Jerry acknowledged continued dissatisfaction, on the part of some paramedics, with the system, but also indicated that they were doing their work with the eACR system, while others had been inspired by former non-users who were able to use the system. Another decision that was taken, in the train-the-trainer session, was to use a paramedic from another region to lead the training – someone who already understood how this task meshed with the other tasks of the job. Once all of the people had been trained to use the iMedic® system, there was no pressure for people to begin using the software and hardware for a few months' time. This demonstrated an understanding of the importance of task boundaries in that peoples' anxieties about the new task were respected and steps to minimize them were taken. This strategy allowed people to familiarize themselves with the system at their own pace – giving them space to 'be' with the discomfort of learning the new IT in their own time. They arranged for trainers to be available for extra assistance and had a 24/7 help line available to everyone. Their trainers were their peers.

As of September 1st, the task boundary became rigid, with only the electronic method being acceptable. In that the steps taken in the above examples in the practice of negative capability by giving them space to work through their uncertain feelings and find their own ways to adapt to the change, the organization demonstrated, at that level, how it supported a personal capacity for negative capability in the ways that it addressed task boundaries.

5.2.4.2.3 Adaptation

A lot of the challenge was in getting people to understand that this electronic format is so literal compared to paper. On paper you can write anything you want in a box and you can tick off any box you want and if you make a mistake, it's not a big deal. The electronic form is extraordinarily literal, you know, so if you say you picked up two patients, it's going to be looking for two patient names, and it's going to be looking for all the information on those two patients. So, you'd better make sure that you have two forms.

Whereas on the other one, you could say well, there were two patients here, but we only transported one of them, so don't worry about the other one, this is very literal. If you only transported one that's fine, where'd the other one go? It wants to know everything. If you tick off a

little box by accident that you shouldn't have, it's going to be looking for information related to what's ticked off in that box.

We had to make sure that we stressed that in the training, because we learned in the initial training courses with the Phase Ones that it could be a problem.

The understanding at that time was that this wasn't the final version, and the Phase Ones were helping us build the training course. We showed them how to use the system and asked for input on what worked and didn't work. So, from their training class and their experience using the software, we were able to develop the final training program.

(Jerry – Project Manager)

The excerpt above described the means in which the organization adapted the training to answer issues that might arise in performing the task. In this particular instance, the issue arose from needing to enter the data with a different level of attention than had been required with paper forms. Whereas the paper forms allowed for flexibility, the iMedic® system did not. By piloting the training with a group of paramedics, the organization was able to identify a concern and address it by adapting the training for the remainder of the paramedics.

The above story related more than one aspect of adaptation during a change event. While demonstrating task adaptation at the organizational level, the task being the training itself, it also described adaptation at the personal level. People were required to change the way they transferred data from the manner in which had previously been accomplished. It was not simply a matter of changing the receiver of the data (from paper to computer), but also required a change in the organization of the data from that which was previously required. So, in adopting a strategy at the organizational level that adapted the training to address weaknesses in the training approach, the practice of negative capability was supported in that the paramedics received more relevant training, supporting stronger positive capabilities. In turn, acquiring stronger positive capabilities supports the practice of negative capability.

5.2.4.3 Territory Boundaries

As discussed in previous sections, territory is represented by the computers, call scenes, hospitals and base stations. The following sections relate to organizational influences relating to territory.

5.2.4.3.1 Resistance

When specifically considering the IMedic® system, the territory was the call scene or a location where the paramedics were waiting between calls to complete the forms, and a hospital or the ambulance base location to transfer the data. A further territory was the computer itself.

My partner would be trying to finish one and we only have the one iMedic® per car, right, so there's two people with one iMedic®. So he's doing his and I'm thinking "Hurry up and get it done". As soon as she finishes, I take the computer try to finish before the next call because you put on or always want to play hurry up or because you know something, you know you're going to get another call very shortly. It's inevitable, right?

(Sue – Paramedic)

As soon as I had the training, I used the computer as long as it was available to me. And what I mean by that is, you and I are partners, we go on a call, let's say to a car accident, everybody's fine, nobody wants to go to the hospital, so we sign them off. It's called no service. So that's my call. We jump back in the ambulance. The second we clear that call, they're giving us another emergency call to go on. So now we're on the next call. And I'm one form behind. Let's say my partner does the next call, the patient care, he has a computer ACR to do and I have one to do. So now you're stuck because we have one computer. You're always going to be a form behind.

(Joan – Paramedic)

There were numerous examples related to me that suggested that territory boundaries contributed to feelings of frustration on the part of the paramedics. Each team of two paramedics had one computer to use during their shift and to be passed to another team on the next shift. This created problems in that a paramedic may be waiting to complete work while his/her partner was using the computer. Additionally, all work had to be completed by the end of the shift, or paramedics had to remain to complete it. There were instances when the paramedics on the following shift had to wait for a computer to begin their work. The data could only be transferred from a hospital or from a base station because of connection restrictions. The

shortage of locations to transfer completed forms resulted in delays in transferring data to hospitals and sometimes caused delays in completing shifts, when several teams needed to transfer data at the same time. The paramedics continued to express frustrations with these territorial restrictions.

These territory boundaries make it impossible to complete all aspects of the job in all of the places in which they might be done. Furthermore, multiple people competed for the same territory (computers). These conditions prompted anxiety and uncertainty. As the situation stood, there was no positive solution in the form of more hardware or WIFI access. This example illustrated how a lack in positive support may interfere with an individual's ability to practice negative capability in other concurrent situations. The emotional energy that was consumed in order to cope with hardware problems that had not been solved, because of financial restrictions, filled space that could have been used to practice negative capability.

Territory issues also related to ability to access information online. The following story illustrates how communication breakdowns can lead to problems.

And the communication in our company at times can be pretty poor. We have to log into our computer to see our schedule and they've changed passwords at bases but never told people, so I can't get in to check my own schedule because I can't even get on to the computer system, onto their serve. I end up being told of the change by somebody else. Oh, it's password, *****. Okay, well it's easy to remember, but I think, could somebody not have told me that? Because, literally, the company still hasn't told me. There has been no communication of it. It would be a simple mass email, just so you know we've changed the entrance onto the servers, the password is now *****. So in situations like that, typically, I think somebody should be complaining about it because there's probably still somebody out there who hasn't got the word-of-mouth that just thinks, oh, this computer doesn't work, I can never get on at this one.

(Joan – Paramedic)

In this story, by failing to communicate the new password to everyone, the online territory had been effectively closed to some of the people. By doing so, people experienced uncertainty and may have demonstrated dispersal behaviours. The person who related the story has acquired the current password. The frustration that was evident in this story, even after the issue was resolved, illustrated how seemingly minor lapses in communications can

sow seeds of resistance when territory boundaries are involved. This person experienced frustration and working through it, experiencing a personal capacity for negative capability, but the expending of energy resulting from what developed into a territory issue could have been avoided by better organizational communications.

5.2.4.3.2 Acceptance

When they implemented it, they took a day and placed people who had been on the committee in the emergency rooms for anyone that came in with eACR issues, problems or questions with it, such as problems with downloading the information from the monitor to your tablet. We were supposed to help them. I was there for a 12 hour day.

(Mary – Paramedic)

The excerpt above illustrated how the organization used an alternative territory to facilitate learning. Once the paramedics had been given ample time to familiarize themselves with the eACR system, Phase Ones were stationed in the hospitals for a shift in order to be available to answer questions and help demonstrate solutions to problems. By switching the territory to a location outside their base (where they are frequently stationed when they don't have a call) to a place where they did not linger on a regular basis, the organization signaled that the person was available for a specific reason – that being to assist others on the eACR system. Additionally, it placed people in one of two locations where they most frequently experienced problems with the system, the other location being the base station. By supporting learning, in this case by adjusting territory boundaries, people were able to extend their positive capabilities, thereby supporting one's personal capacity to practice negative capability.

5.2.4.3.3 Adaptation

I found no examples of territory boundaries impacting adaptation at the organizational level at this time. If the organization were to find alternative ways to address the issues with access to computers, such as making additional computers available to high volume call areas, or providing a voice activated reporting system that would increase the speed of call reporting, territorial adaptation would be demonstrated.

5.2.5 Through Dispersal to the Practice of Negative Capability

French (2000) described the dispersal behaviours of emotion, activity or explanation. He stated that a person either demonstrates negative capability in a situation or displays dispersal behaviours. However, as I analyzed the data, I became aware that people were demonstrating dispersal behaviours and, then, practicing negative capability. There were a number of examples that demonstrated that the dispersal behaviours were providing a 'space' for individuals to then practice negative capability. This feature of negative capability has not yet been identified in the literature. I now believe that negative capability is practiced by all of us, sometimes to greater or lesser degrees, depending upon the circumstances and other concurrent experiences. However, we may not always be able to practice it until after we have experienced dispersal. This section demonstrates some instances of people practicing negative capability after demonstrating dispersal behaviours.

How do people generally go from dispersal to the practice of negative capability? The stories collected in this case described people seeking information: asking questions, looking on the Internet, or calling a friend or a help desk. Or, they shared their frustrations or anxieties with another person who helped them work through the problem. In other cases, it seems that they rationalized a cognitive dissonance –“I don't like this, but I like my job and I need to do this to keep my job. Oh, I see how this is going to make things better.” Time may pass, weakening strong negative emotions. Or the person prayed. Another described doing meditation and yoga.

The movement from dispersal to negative capability was illustrated in the following story:

Originally, I thought I would never get the hang of this. Then, I was worried because I was off for a little while. When I came back to work I thought, oh, this is going to be like starting over. But, it's almost like being away from it cleared it up. I went and did that paper work or that electronic form and the electronic way was easier and faster, and I thought, "Oh, I think this is going to be okay".

(Joan – Paramedic)

In this excerpt, Joan began by dispersing into emotion, feeling nervous about the new IT and lacking confidence. Then, she found herself on vacation. Being away from work increased her feelings of uncertainty pertaining to her ability to perform the new work. However, it also provided a space to regroup and process the problematic emotions. Once she returned to work, she found that she was able to practice negative capability. She was observing that she no longer felt uncertain about the new system. In fact, she was finding that she now preferred the electronic system.

Since paramedic work involves working through uncertainty on a regular basis, it is not surprising that they often experienced dispersal prior to practicing negative capability on the job. Hannah provided an example relating to difficult calls.

I find the most stressful part is after the call. I can go do the call, it doesn't matter what the call is, even it's a VSA [vital signs absent], or it's just some terrible call. I can do that. It's afterwards when you have to, when after you did that and you just kind of think, alright, I'm going to take myself back down a few notches. Once the adrenalin is gone, then, that's when you want it to kick down a couple of notches, think about what just happened, process it and move on.

(Hannah – Paramedic)

In this example, the paramedic was able to go through the motions of the call without experiencing the emotions. It was the positive capabilities of her training that sustained her. She had dispersed into activity. It was once the call was completed that she became able to process the experience, experience the emotions, and continue on to the next call. There were times when this was all done internally – the paramedics dispersed during the call, emotionally detaching from the situation and allowing positive capabilities to guide them, and then found the space to practice negative capability following the call. There were times when this was done with the assistance of another paramedic or a counsellor providing a relational capacity to provide the paramedic with a container that enabled him/her to practice negative capability. The above example also illustrates another contribution to knowledge: this is an example of a circumstance when experiencing dispersal is preferable to experiencing negative capability. In emotionally extreme circumstances, it is better to “run on auto pilot” and then be able to process the event once the situation has stabilized.

Another paramedic described working a bad accident scene, with one of the injured known to her, and leaving with no real memory of the incident. It took four retellings with a therapist for her to realize that she had done a good job at the scene and to recall the experience. As with the previous example, it appeared that positive capabilities allowed people to function in extreme circumstances. In these circumstances, however, the people also had experience and confidence in their skills (positive capabilities). Their skills alone may not indicate, to them, the steps that need to be taken. They may also act on a 'gut instinct' that may reflect negative capability, they may be dispersing into activity and taking educated guesses or they may possess positive capabilities that are automatic in these circumstances and that they are unaware that they possess. In these extreme situations, it appears that they usually will process the emotions at a later time – they feel the emotions that were not experienced at the time of the crisis. As they process an incident, they practice negative capability.

5.3 Conclusions

Over the course of time that I spent with people at CPT, I observed and learned many things. I had originally expected to find that everyone would embrace the new IT because they were used to change. I felt that they would be comfortable with change because every ambulance call that they attended was different and the job frequently required that they function in uncertainty. Consequently, I suspected that familiarity with uncertain experiences demonstrated that they were the types of people who weren't averse to change. In that supposition, I was incorrect. I thought that the service had a well-thought-out plan for selecting their software and training the paramedics, and that it would minimize resistance. What I learned was that the service is a large group of individuals who saw the change through differing lenses. Each person had a unique perspective of the iMedic® program and was responding to it based on his or her own perspective.

It is also important to recognize that dispersal is not the end of the road when considering negative capability. Instead, it may be a means for an individual to acquire the space to practice negative capability. The fact that the practice of negative capability often follows dispersal behaviours has been illustrated

in a number of the stories in this chapter and is a contribution to the body of knowledge. Knowing that negative capability can be preceded by dispersal behaviours opens up more possible ways for an organization to support the practice of negative capability in change events. Providing the time (space) for people to work through dispersal behaviours and support the practice of negative capability may prove to be an important step in reducing either resistance or the problematic situations that often arise in conjunction with it. By allowing people to work through dispersal prior to a new IT implementation going live, it may be possible to eliminate many of the problems that often accompany a new IT implementation before the organization begins to rely on the new system.

Also, multiple forces may be influencing an individual's personal capacity to practice negative capability. While the experience of negative capability may be undermined by other circumstances within the individual's life, it may also be undermined by dispersal behaviours in others or by events at the organizational or relational levels.

Furthermore, it should be noted that the three components of negative capability described in this chapter should not be considered to be independently important, nor should they be considered to always occur independently. Particularly in the case of a relational component for the practice of negative capability, there is evidence that it may not be required without the presence of dispersal on the part of an individual. Likewise, without an organizational capacity to practice negative capability, there may be more stress placed on the individual, resulting in the need for more reliance on relational support or the personal capacity to practice negative capability. Even with support of an organizational and relational component to practice negative capability, it may still be difficult to practice, by some, at the personal level. The ideal situation exists with support from the organizational and relational levels in order to practice negative capability within the organization during an IT change.

It was also noteworthy that, in the many different stories that I heard about the same implementation, one that was meant to be used by each person in the same way, there were so many different interpretations of the same

events. It may therefore be difficult to place people into a specific relative social group. Alternatively, social groups may be fluid, depending upon the issue. While some people believed that the paper ACR was awkward and made them look less professional, others thought that the paper recording system was the most effective and sensible. While some people were concerned with the impact of the change on patient care, others were more interested in how the change impacted their work day. When the person's perspective results in negative emotions, regardless of the reason or emotion, being able to access a personal capacity for negative capability helps them to perform their tasks.

CHAPTER SIX – CASE 2 – MANUFACTURING ORGANIZATION

6.0 Introduction

The second case tells the story of the introduction of an enterprise resource planning (ERP) system at an Ontario materials handling manufacturer. The organization employs approximately 75 people in various capacities. It was their intention to implement the system in 2007, but they were still grappling with the changes in 2012 and into 2013.

Although the organization originally planned to go live with the installation in 2007, they were faced with challenges along the way, resulting in the bulk of the installation going live at the end of 2010. Their story is one that reflects the challenges that may complicate or complement a change. It takes place over several years, beginning with enthusiasm and ending with a lot of disillusionment. As this story ends, their story is still unfinished. There remain portions of the system that have not been implemented, and there is not 100 percent adoption of their ERP system by employees who should currently be using it.

This case differs from CPT in several ways. The organization has never had a union presence. Also, rather than offer a service, as does CPT, MO manufactures a form of vehicle. Additionally, most people at MO perform unique tasks in relation to their fellow employees. The average age of the workforce at MO is middle- to late middle-aged. Finally, while CPT introduced a relatively straight-forward system, MO has introduced an ERP system.

An ERP change is one of a much greater magnitude than that introduced by CPT. MO has experienced many challenges in adapting the software to their organization and their organization to the software. The system users have experienced many frustrations and uncertainties. The concept of the practice of negative capability emerges from the stories of this change.

In 2007, people at MO reported that they were on the cusp of implementation. Since they did not have an in-house IT department, they

had hired consulting firms for both hardware and software needs who reported that they had the project in hand. The Engineering manager, who had limited experience with IT change, was the primary liaison with the consulting firms. Everyone who would be using the new system had attended an introductory presentation, offered by the software consulting firm, about the software and the impending change. People looked forward to its arrival. They viewed their current system as old, overtaxed and in need of replacement, and there were silos of information that they believed needed to be integrated. People reported that they believed the management assertion that the implementation would not jeopardize their jobs, and that they generally felt no threat from its approach.

As time progressed, I heard stories that showed that early optimistic perceptions and enthusiasm are forgotten in the midst of a difficult change. This has not been a smooth conversion. In following their story of the implementation of their ERP system, I gained a number of insights into the challenges in implementing a massive generic software solution. It was in the ways that the people responded to the challenges that I was able to consider the concept of negative capability, and dispersal, in the introduction of the ERP system at MO.

As I had done with the stories of paramedics, I collected stories of lives at work and outside work. While, once again, each person has a different story to tell, they are linked together by their employer. Unlike the paramedics, their work has generally not been reported as being stressful. So, while CPT participants told many stories of non-IT related work stress that illustrated the practice of negative capability and of dispersal, this was not the case with MO. Their work-related stress and stories were predominately concerns with their ERP implementation. Generally, the people still hope for a successful outcome and are working to achieve it.

In the remainder of the chapter, I will provide an overview of the project, including a description of the employees of MO, a background to the decision to adopt the new software, a short discussion of the challenges of ERP system implementations, a description of the MO software and hardware selection process, the experience of implementing the change and a

discussion of their training. This is followed by an analysis of the interview data that explores the data and the notion of negative capability through experiences and policies at the three organizational levels. I then provide some concluding thoughts about the case.

6.1 Overview

6.1.1 MO Employees

MO was originally a family-owned operation, founded in the 1950s, but now operates under the umbrella of a multinational corporation. Nevertheless, it remains under the direction of its original management. The organization employs approximately 75 employees with most people having unique work responsibilities.

We were just talking about it: if you hear anybody complain, it is like you have got to be kidding me, this is a great place to work, it really is, I mean, I have worked in some terrible places and these are wonderful people, wonderful – I can't say enough, I would never look for another job.

(Janet – Office Staff)

The above excerpt is one of many examples that was related to me that reflect the prevalent opinion, on the part of the employees, of the company. The employees described a comfortable work environment. Many told me either that it was the best place they had ever worked or that they had no desire to leave. With few exceptions, people reported that they liked working at MO.

Although it is not a large organization, people perform all of the functions that one would expect in a larger manufacturing site. The Engineering department deals with design and documentation issues and has been the main driver of the IT project. The office consists of Sales, Purchasing and Accounting and was amongst the first to be introduced to the new system. The Parts department and Production department make up the remainder of the workforce.

When walking into the office area of the location, one notices that some people have offices and others are working behind low-sided cubicles. All of the office doors are open. The receptionist, also in a cubicle, gives a cheerful

greeting. All of the desks in the main area are covered with paper. Over to the left, the president's door is open. Turning the corner and walking toward the offices, one notices that two of the office desks are covered with papers too. This is a busy office.

There are two ways to get to the Engineering department: across a gravel yard or through the plant. Going through the plant, one notices the clean cement floors and the odd person moving around or working on a portion of a vehicle under construction. All of them cast curious looks at the strange female in their midst. One can make a turn to go to the Parts department or continue through the plant to reach the stairs that leads to the Engineering department and conference room. Once up the industrial stairs, one notices a small lunch area and busy men working at several desks that face the stairs. Off to the left, there are two more offices. Over a PA system, the receptionist calls for someone to pick up the phone. To the right, the conference room and founder's office sit empty.

Within this environment, the employees carry out their tasks five days per week. Until the ERP system was introduced, they had been making use of an IBM system that was in need of retirement. When I visited the plant in 2007, the interviewees reported frequent system crashes and everyone expressed eager anticipation for the arrival of the new system. There were silos of information; the need for better integration was recognized. Some of the people were still working exclusively with paper and were looking forward to becoming more organized.

6.1.2 Background

In 2007, MO was facing challenges with their legacy IT system. The system they were using was 25 years old and could no longer meet their needs. Along with frequent malfunctions, it could not be used for all of the tasks that newer systems could handle. It was time for a change.

The decision to select the particular ERP system was made at the corporate level. The corporation had been using older software from this manufacturer and saw this as a pilot of the newer version. At MO, it was simply understood

that it would be an improvement over their existing IT system and would, hopefully, help them to provide better customer service.

6.1.3 The ERP Challenge

While it is beyond the scope of this research to consider all of the implications of adopting and implementing an ERP system, it is worthwhile to describe the magnitude of the change and the challenges that have been experienced elsewhere in order to help understand the circumstances in which the users at MO have been working as they adapt to the ERP system.

ERP systems are “packages of computer applications that support many, even most, of a company’s...information needs” (Davenport, 2000, p. 2). Since they began to appear in organizations about two decades ago, much has been written about their impact on organizations. A current EBSCO Host Business Source Complete (2014) search for “enterprise resource planning” returned over 8,000 peer-reviewed articles written on the subject.

As I discussed in Chapter 3, various ERP systems are social constructions of technology that are intended to be used in similar organizations. However, each organization has socially constructed its perception of its IT needs, as well as constructing the way in which their organization is structured and operated. It is difficult to imagine that a generic system could meet all of the needs of a number of ‘similar’ organizations. That, in fact, has been the experience in ERP implementation situations. According to a recent survey of 192 companies that are implementing or have implemented an ERP system, 72 percent had exceeded the expected time for implementation and 66 percent of companies reported that they had received less than 50 percent of the measurable benefits that they had anticipated (Panorama Consulting, 2014).

ERP systems entered into businesses in the 1990s as, amongst other issues, an answer to the projected Y2K difficulties that were feared during that decade (Klaus et al, 2000). At that time, other considerations that were also at the forefront of the decision to adopt, including cycle time reduction, faster information transactions, better financial management, preparation for e-commerce and explication of tacit business knowledge (Davenport, 2000).

Other factors that motivated the adoption of ERP systems included the elimination the silos of information that exist when each department runs a separate system and the potential gains and reduction of additional maintenance costs of legacy systems (Davenport, 1998). Since that time, there have been many challenges identified with implementing the systems and they have, in many cases, failed to deliver on earlier promises. (Panorama Consulting, 2014). MO has joined the ranks of many other organizations that have converted to an ERP system and found out that it was far more complex than they had anticipated and that they had not yet experienced the anticipated benefits of the system.

Pollock and Williams (2009) further described some of the challenges of ERP systems. The ERP systems were originally built to meet the needs of specific organizations. These 'solutions' were subsequently modified with the intention of marketing them to similar organizations in a generic incarnation. They promised to provide answers to the often obvious needs of the organization while also providing additional features for decision-making. If the organizations didn't operate in a manner that coincided with the software, they were told that the software incorporated 'best practices'.

Pollock and Williams (2009) are not alone in identifying issues with ERP systems. Insecurity can be heightened by the combination of the introduction of the new system and the changes to processes that it requires (Markus et al, 2000), there may be a discrepancy between user and management interpretations of the value of the ERP system (Lim et al, 2004), their imbedded management philosophies may not coincide with those of the organization implementing the system (Boonstra and Govers,2009) and individual and organizational cultural issues may interfere with implementation (Rothenberger and Srite, 2009). Additionally, poor communications between departments can impede full use of the system (Martin and Huq, 2007) and lack of user acceptance can lead to the systems not being fully utilized (Nah et al, 2004)

The practice of negative capability is pertinent during the time prior to closure – when adaptation is occurring in order to meet the needs of relevant social

groups and when resistance is experienced as people interact with a system that causes uncertainty and/or anxiety.

Based on the experiences of other organizations that have adopted ERP systems, it appears that the people of MO were unrealistic in their optimistic assessment of the challenge that they were facing. I now return to their stories.

6.1.4 Selecting the Software and Hardware

Unlike CPT, where the software was chosen by a consensus of a group within the organization, the software selection decision was mandated by their parent corporation. MO was left to choose the consultants who would pave the way for the implementation. The hardware consultant chosen was a local firm while the software consultant selected was situated in a city several hours from MO. The software firm selection was based on price and promises of levels of support that have not been fulfilled.

There has been no resident IT expert or department at MO. Consequently, they have generally had to depend on external advice for problems. This has proven to cause issues, particularly when the hardware and software firms blame problems as being the results of the other's responsibilities.

6.1.5 The Change – Introducing the ERP into MO

Throughout the time that I was studying the ERP implementation at MO, the organization was not working at full capacity. In the fall of 2007, they were experiencing a slowdown in orders that was being attributed to an economic recession. At that time, they were framing the situation as a positive condition. Since MO was not as busy, I was told that it was the perfect time to change computer systems. The slowdown would permit them to work through the challenges that the new system presented without the pressure of a busy schedule. The organization was not concerned about its future viability, in spite of their current economic challenges, and management expected that the economic situation would reverse itself in good time.

Two years later, the economic situation had worsened. Since the organization had to answer to a parent corporation, they were required to

make adjustments to comply with head office directives. These adjustments involved cutbacks. The plant had reduced operations to four days per week and a few people had been laid off. In addition, the ERP project had been shelved.

In the time leading up to the introduction of the new system, and in the midst of the change, people were not worried about job security. They had been told that the implementation would not impact their employment and all interviewees believed that to be the case. They repeated the assertion that this implementation was being undertaken to better serve the organization's customers. People reported that they felt secure. In my mind, I contrasted this with my personal experiences with IT change. In my experiences, large IT changes resulted in the elimination of positions and were preceded by widespread feelings of uncertainty and anxiety.

By 2012, things were beginning to turn around. The plant was getting more orders and much of the ERP system had gone live. However, some of the factors that make MO an attractive workplace appeared to be slowing down its widespread adoption: people did not feel pressured to do work that they didn't want to do or didn't see the need to do. This meant that there were problems with people accepting and employing the new IT, even when it was functional in their area. In some positions, such as accounting, it is essential that people use the ERP system at this point in time. In some other areas, however, people have been able to work around the system and, rather, refer to the legacy system for their data needs. Consequently, there has not yet been 100% acceptance of the ERP system.

6.1.6 Training

What they did was they had training in this room and there were 10-12 people in there. She went over it but really she didn't -- I was creating a packing slip and she did not... she was using things that we don't even use. She was showing us how to do things that we don't even use on the program. You know, so it was kind of like... and then -- and we didn't really realize how bad it was until we got in to using it and then went, "Well, she didn't tell us anything at all."

(Rae - Office Staff)

There has been virtually no training provided for people at MO on the ERP system. In 2007, they were all introduced to the change with PowerPoint

presentation of the proposed project. The presentation described the consulting firm, project management, teams and responses to change. It also contained two slides (of 46) that showed screen shots of an ERP system. Beyond that, there has been minimal direction given to employees. Representatives of the consulting firm have attended the site on numerous occasions. However, there are frequent changes in personnel, with new representatives providing advice which often conflicts with that of their previous counterparts. The MO staff has massive manuals available for reference but limited assistance from the software consulting firm. Additionally, there are tutorials imbedded in the system that are not being accessed – perhaps due to time constraints or lack of will. At this time, the people at MO have either been working through their problems, with the assistance of co-workers, or avoiding use of the new system.

6.2 Analysis

The analysis of this case shows a very different experience of a new IT implementation than does that of CPT. While CPT experienced a relatively smooth implementation, MO continues to experience problems. Although CPT also implemented an off-the-shelf software package, it has been more easily incorporated into the paramedics' work. MO, on the other hand, has been attempting to adapt to a very complex software program that does not appear to be easily integrating into the organization. During this extended implementation time, policies initiated at the organizational level have supported the practice of negative capability. At the same time, people within this organization have worked together to help each other, supporting a relational component of the practice of negative capability.

6.2.1 A Personal Capacity to Practice Negative Capability

In this section, a personal capacity to practice negative capability is detected when people experience anxiety and uncertainty, related to the use of the ERP system, but are able to perform their necessary work tasks.

6.2.1.1 Time

At a personal level, time constraints may result in feelings of stress and pressure, or may encourage people to find more efficient ways of performing a particular task.

6.2.1.1.1 Resistance

There are periods of time, at MO, that are more work-intensive as deadlines approach.

That's the hard part; if you're down helping another department when you know your work's piling up, it's hard to concentrate on doing someone else's job when you know yours is sitting there waiting. For instance, if you go down, get called down there at 1:30 and you're there till quarter to four, the majority of my work gets put on my desk when the plant guys leave at 3:15, so then I know, I only have from 4 to 5 to input everything that I would have had all afternoon. So, yes it is kind of disruptive.

(Martha – Office Staff)

In the above excerpt, Martha had been temporarily reassigned, as part of her daily duties, to help other office staff. She expressed her dissatisfaction with the additional strain that this placed upon her when she returned to complete her own assignments. In this story, Martha was experiencing resistant feelings relating to the additional work. She talked about the difficulty of concentrating on her extra work, while she was faced with time boundaries for completing her regularly-assigned work. This illustrated an example of a person practicing negative capability while she performed the extra work while feeling the pressure of another deadline. It also illustrated a situation in which she was close to being unable to practice negative capability, in that she was finding it difficult to concentrate.

One of the ongoing frustrations for some MO employees arose from the challenges associated with completing time-sensitive work while faced with system crashes and errors.

One time, when I was in the middle of preparing a quote, the system kept having errors and locking up. I couldn't figure out why it wouldn't go on. I called people and couldn't get hold of anybody. My thinking was that I had been messing around with this for thirty minutes and I can't get it to work. My God, we can't have this all the time, you know

it's not going to work so, I don't know if it's the programming thing or what, I had that one quote yesterday, the day before yesterday, when it just kind of locked up like for forty-five minutes and am going back for okay, just trying to figure it out on my own, so I can learn it. Couldn't get it.

So something happened somewhere in the system and so that part of it, I could see everybody getting more frustrated with more of the errors and locking up and that hiccup in the road trying to get done. We've got to finish, just close this, I have got to finish the quote, the guy is calling me you know, that is probably the most frustrating part.

(Bruce – Sales)

This excerpt demonstrated Bruce's antipathy toward the system, even though he was motivated to use it ("just trying to figure it out on my own, so I can learn it"). Bruce expressed frustration and anxiety relating to trying to produce work that was time-sensitive in a situation where the ERP system was not functioning properly. He also described a perception that other people were experiencing similar frustrations as they too experienced similar problems.

Through all the different things since it happened? I would probably say we had a little bit of a gap from when we first were going to do this and then we didn't do it for a couple of years and then we did start to do it. In my experience, or probably from what I have heard because obviously I don't know all the departments but probably I would say the biggest thing about this going forward was everybody is the change, you know the new system is not going to work, you know, everybody was negative about it.

(Wayne – Production)

The above excerpt related a story that was very different to the ones that I heard when I first visited MO in 2007. At that time, people were anticipating the arrival of the ERP system. However, the system implementation was delayed. Over the intervening years, as Wayne described the situation, people had revised their opinions of the system. They had become more negative in their assessments of the ERP system. It may be that the amount of time taken to implement the system diminished their enthusiasm.

6.2.1.1.2 Acceptance

Yes, it's something that am like, oh my God this is going to be a challenge in the new system right now am just going to...I just did the old way but I told myself am trying that May was my deadline, You know, May 1st or whatever the first day of the month was April 30th or whatever it was going to be, I am going to try and do everything on the

ERP system. So, this is it, this is my last week. Yes, this is the self-imposed, am going to do what they want me to do, yes, so, I think this week, today is Wednesday, I think today and tomorrow I am going to try and get some information to the other department to get into the system that is not there, just stuff that is used on a daily basis to say let's get this entered in, it'll make our lives a lot easier. Yes. It's really... you just got to start using it to find out what needs to be changed, you know that's the big thing.

(Bruce – Sales)

MO had not set time boundaries for using the new IT. They had, however, been becoming more vocal in their suggestions to start using the ERP system. As a consequence, what was described in this story was a person who had set time boundaries for himself. This presents an interesting situation with respect to boundary-setting. As long as there were no containing boundaries, the individual did not *have* to do the work on the new system. However, the time had come when he no longer felt comfortable in avoiding doing so. In this instance, he had set his own boundaries. After a period of dispersal into activity (fleeing from the new system to the comfort of the old one), he was practicing negative capability in order to work through uncertainty and use the new system. He was able to overcome the uncertainty of the new system because his internal discomfort in not using that system was exceeding the emotional toll of the uncertainty of doing so. Consequently, he was now able to practice negative capability in order to acquire a new positive capability.

You know, it's funny; answers sometimes come to me in my sleep. I've actually struggled with something, like computer-related, trying to figure it out, and I'll be sleeping, and it seemed like when I first started in this new system, it was weird, we were all joking that we were doing our work in our sleep. That's what it felt like. I would wake up and it was like, oh my goodness, I'm at work so many hours and I'm thinking about it when I'm sleeping. I actually, I forget what it was, I couldn't figure out and something did come to me when I was sleeping. Like, try it this way, or try it that way, and it's kind of weird.

(Nancy – Office Staff)

This story, related by Nancy, described an instance when an individual let go of an uncertainty and allowed time to pass. Although she talked about taking the work home with her, she had suspended thought as she slept. Then, during her sleep, the answer to the problem emerged. She had practiced negative capability.

6.2.1.1.3 Adaptation

From the time that MO decided to adopt an ERP system, the organization has been going through a process of adaptation. Among the adaptations, they have had to change the way in which they structure some of their part numbers, how people interact with computers (some have been introduced to the technology, at work, as a result of this change), and adapt the system in cases where the business could or would not adapt to it. Their IT system is far from experiencing closure. All of the employees are dissatisfied, suggesting that there may be one relevant social group, relating to this technology, at this time. There is often uncertainty and frustration in the process of adapting to changes, or in making changes. In order to work through the uncertainty and frustration, people often need to practice negative capability. The following stories illustrated ways in which users experienced adaptation in the context of time boundaries.

I did the two quotes yesterday, and you get quicker, you pick up on things and, even if you have to type in the information you get a little quicker., You know, the only things that really frustrate is like the error messages and different things that keep popping up once in a while. Not all the time, I hear it more on the production side and that holds you up a little bit but it's not the end of the world. It does quicker and easier, I've found. Probably, I will never get as fast as with the excel program that we had, because that was click, click, click. And it was all there. It was really idiot proof. Once all the data is in, this one will probably be you almost as good, but at least the data will be there and you don't have to get the calculator out.

(Bruce – Sales)

Bruce described two ways in which adaptation was taking place in this excerpt. Firstly, he was learning to do his work on a new system, and in a different way to those in which he had been accustomed. Secondly, he referred to problems with the system that currently existed. This represented ways in which the system was, or needed to be adapted to make it most useful. At the time of this story, there were still legacy data that had not been transferred to the ERP database. He described the adaptation as one that was becoming faster as time passed and interpreted the new system as having potential.

I have had a lot of change in my life, so I can roll with it, you do what you got to do, you cross the bridges that's my attitude because I have

had lots of changes. It's something I've learned over time. That's part of growing and living, you know, you have no choice but to go with it.
(Janet – Office Staff)

Janet described adapting to change as a process that was learned over time. Following various life experiences, and accepting their outcomes, she interpreted her ability to accept change as part of growth. This excerpt raises the question of whether adaptation to change is something that comes with maturity. It also suggests that negative capability may be more readily practiced as people learn to accept situations rather than resist them.

6.2.1.2 Task

Personal task boundaries are those which determine who performs a particular job and how the work is to be performed. During an IT change, there is the potential for these boundaries to be shifted in ways that are unpalatable to the person performing the work.

6.2.1.2.1 Resistance

One of the greatest frustrations that I faced during this series of interviews was trying to talk to some of the people who were most resistant to the change. There were people who did not feel comfortable being interviewed and would not participate unless they feel coerced. This truth was particularly frustrating when I was told about an individual whose work would be so drastically changed that she was avoiding it and complaining about the pending implementation. I expected this to be the best story of the case. However, the story remains untold because the person would not participate in the interviews. She still works at MO and is doing the work, so she has been able to practice negative capability and work through resistant feelings, but her story is mute. I could speculate on her feelings, as did some of the other people who I interviewed, but that would reflect my sensemaking and not her's.

Others were more forthcoming in their feelings toward the ERP system. In many instances, there was a certain amount of resistance because the system has not yet been fully populated with legacy data.

I'm only using it to look up some stuff once in a while and just recently started doing most of the work in there, or trying to do so. We are still entering data in and trying to get that part built up, but for the most part I would say it's about 85%, 90% of the way for the coding side of it. I think within the next week, maybe even at the end of this week, we'll be doing 100%. All of them will be done on there. Right now I am probably 50:50. Yes, when there's stuff that is not entered in there, I'm not going to deal with it right now, we'll get it done the old way, and then we will get the information.

(Richard – Office Staff)

This was an example of dispersal into explanation. The tasks were not being performed on the ERP system. At the same time, this person indicated that he'd do the work on the system if it could be done. The vague series of percentages that he described led me to believe that it was dispersal. Furthermore, there had been questions raised in other interviews as to who should be transferring legacy data. As long as someone else could be blamed for his failure to use the new system, he could continue to demonstrate dispersal behaviours. These dispersal behaviours are further evidence that the technology has not, at MO, achieved closure.

There were other examples of resistance that were rooted in poor training and communication. These will be discussed primarily at the organizational level. The following example arises from issues that had yet to be resolved with the ERP system.

One of the things that I don't like about the system is this. The guys enter a part, and even if it's not in there, they can still enter that part number and enter information. Now, when it comes to me creating the packing slip, it's sitting out there, it's in a box, it's ready to go, the shippers are waiting for paperwork, but that's not a valid part number and the system allows the guys put it in there. This means that now I have to go back, get the correct part number put in, go back, open the order, change the part number to the correct part number, go back into the packing slip, yaddi-yaddi-yadda, it's 3:00, people are waiting -- that is frustrating.

(Rae – Office Staff)

In the above excerpt, Rae was experiencing difficulties because the system had not been configured to reject erroneous part numbers. Consequently, people were able to enter old numbers (that had been used with the legacy system) and go about their work. However, when the work arrived at Rae's desk, it needed to be corrected, causing additional work and frustration for

her. Although she performed the necessary work, it was clear in her story that Rae was not happy about it.

Yes, that's kind of what I would do. Yes, and I went through as long as I could, and then you know maybe the next time if it happens, I can close it and I won't have that problem and do what we did, but hopefully it doesn't happen again. I mean I was on the fence of saying okay, am just going to delete this quote and do it the old way. You know, I was kind of getting to that and then I said no, let me just try and figure it out a little bit longer and I wasn't going to go much longer, I would go on an hour because I was like I have too many things to do I can't screw around with this and, so Reg had me close it and then it actually worked after that and I didn't lose all the work that I had already done. That was the other thing I was worried about. I am like, if I close it now, will I lose all that? You know, and I didn't, so that was good. So I learned a little bit.

(Bruce – Sales)

In this story, Bruce described a level of frustration with the ERP system that seriously tempted him to revert to using the “old” method of doing the work. His level of resistance had reached a point where he was prepared to disperse into the activity of performing the task in another, currently unapproved, manner. In this instance, he changed directions and reached out for help from another employee. Having done so, he was able to complete the task using the ERP system and felt good about what he had learned. His personal task resistance led him to engage in the relational component of the practice of negative capability, in that he called upon another employee to contain his anxiety and help to solve his problem.

6.2.1.2.2 Acceptance

In late 2010, the ERP system was live at MO. As soon as it became part of their work responsibilities, people were aware that there were problems. Primarily, they weren't sufficiently trained to integrate the system into their individual jobs. I was intrigued by the way people dealt with the system when they were faced with uncertainty and were nervous about its proper use.

There were a few days where I just wanted to pull my hair out - I was very, very stressed, which is unusual for me. I know everything is going to work out; you just kind of grit your teeth and work through it. But there were several days that I just felt nothing was going right and we were never going to get through this and I was very stressed. It was hard at times, and now I'm back to the point now I know we're

going to work through this, it's not life or death, it's just work. Three months from now when you come back to do your follow up I'm very confident that everything's going to be worked through.

(Anna – Supervisor)

This excerpt from an interview with Anna exemplified the contribution of an optimistic perspective in an individual's capacity to practice negative capability. Anna had some responsibility in transferring the legacy data to the ERP system. She acknowledged that she was stressed by the situation. Yet, at the same time, she adopted an optimistic outlook toward the challenges: "I know everything is going to work out". This optimistic outlook accompanied the ability to work through the problems – she experienced a personal capacity to practice negative capability. Then, she was able to find perspective in the situation: "it's not life or death, it's just work". After finding perspective, she approached the situation with more confidence.

I think internally I just pray a bit for some kind of answer and a heading in which way to go. That's about all you can do. If I can't get answer, just guide me somehow.

(Nancy – Office Staff)

Nancy described how she prays in order to get through situations of uncertainty and anxiety. I was surprised when, toward the end of the interviews, Nancy replied with this answer. She was the only person in all of my interviews who suggested that prayer was a way of dealing with uncertainty. In praying, she opened a space for answers to the problems to emerge. Praying was Nancy's method of practicing negative capability. In having said this, I am not making judgment on whether or not prayer works; I am saying practicing negative capability is compatible with praying and awaiting an answer.

I've got to walk away for a few minutes and come back. I get frustrated but no. No, because then I get, to me that's a challenge. Okay? Why can't we I do this? I've got to find the why. Sometimes I step away from there, but it's more of a challenge to me to find out why. You know I want to know why it's not doing. I get frustrated, I couldn't get that why that it didn't – it's not supposed to act that way - but I always like to know why.

(Wayne – Production)

Wayne described experiencing dispersal, followed by a renewed ability to work with the problem. He walked away (dispersal into activity), and then felt

compelled to return to the problem. When he returned to the problem, he was able to accept the challenge and work through it. Wayne then practiced negative capability.

These people described instances where they were able to practice negative capability. One person prayed and let God take over the problems. Another suggested that it became easier to work through challenges as she got older. Yet another walked away (dispersed into activity) and then returned with a renewed capacity to practice negative capability.

With respect to the implementation and adoption of the ERP system, the individuals who had either a strong understanding of computer systems (stronger positive capabilities), enjoyed working or liked to learn new things were those who were most able to practice negative capability. Nancy took computer science courses prior to coming to work at MO. Although her computer education was no longer current, she had a good understanding of how systems work. Consequently, she was less afraid to work with the new system. Her positive capabilities with respect to computer systems did not provide her with the ability to immediately use the new system without challenges. They did, however, provide her with the confidence to coexist with the uncertainties.

Janet liked to keep busy. She was not happy unless she had work to do. So, while other people were struggling with the new system and looking to others for help, she was reading the accompanying manual and figuring out solutions to the problems. She still experienced uncertainty but she was able to contain it because of her positive outlook toward work.

Bill enjoyed learning new things. Although he had had vast experience with computer systems, he had not worked with this ERP system prior to this implementation. His response to challenges was "If I don't know how to do it, I'll keep at it until I figure it out". This attitude permitted him to work through uncertainty without experiencing dispersal behaviours.

For each of these individuals, their attitudes toward challenges had a positive impact on their capacities to practice negative capability.

6.2.1.2.3 Adaptation

No, am getting comfortable with it. I think it's going to be good, once we kind of really get going on it... yes, just a lot of maintenance work, you know, clean up stuff. What's happened on the sales..., on our side of it, from what I could see over the last couple of weeks of doing more and more quotes on it?

What happened was all the information from the old system was just brought over and everyone just basically took this sales code and typed in exactly what the description was in that system and put in the new system which it just doesn't work. All that needed to be done but just to get stuff in, they just did it and so now we kind of just got the whole thing backwards a little bit and do a little maintenance you know, cleaning up, so this information doesn't really need to be there, you know we are wasting, you know now a quote is, four pages long when it only needed to be two pages long, because we have all this excess information that doesn't mean anything, it did in the old system but it doesn't have any connection, it's just that the people that were all entering it in at the time, they were just taking it over, and you know it's not anyone's fault to just hey let's get this in and then we will, so I think once we get that all cleaned up, I'm confident that we will be able to build it around what we want to do. Definitely different for sure...yes.

(Bruce – Sales)

In the above interview excerpt, Bruce described the need for further adaptation of the ERP system in order for it to meet the needs of the Sales department. He stated that the data that was stored with the legacy system was not necessarily relevant with the ERP system. This can be an issue for the Sales department, who use the output to interact with customers. Therefore, any weaknesses in the system may impact people outside the organization. This left Bruce dispersing into explanation in order to account for the issue. Having done so, he expressed confidence in the future functionality of the system. By overcoming his dissatisfaction with the system as he awaited necessary adaptations, he was accessing a personal capacity for negative capability.

When we went live I was nervous. But the point was, I was one of the last ones that they had doing the job because a lot of the problems had to do with the Engineering side. So, one of the engineers was actually doing my job and I was put back in Parts to help someone else. So I was like months and months before I was gradually introduced into my job, like one step at a time, once they figured out how to get it to work. Once I returned to my job, it was no problem.

I've adapted to the system well, I like it a lot better and it was kind of discouraging because it seemed like everybody else was working on it but me. On my job I was helping other people adapt to theirs, but once

I got started I can honestly say I would never want to go back to the old system.

(Erica – Office Staff)

Erica was one of the last people, to date, to be assigned tasks on the ERP system. She reported that she had adapted well to the work and preferred it to the old system. In this example of a good adaptation outcome, there were two features that were not common to all of the people who were introduced to the system. The first was that the problems with the system, as it related to her job, were addressed before she was expected to use it. The second was that she had been removed from her job and was happy to return to what she considered her work. In this example, it was unnecessary for Erica to practice negative capability because she was able to perform the work by employing existing positive capabilities.

And the difference I find now is, even in parts, we did a lot of data input as far as typing. Now mine is mainly the mouse. That took a lot of getting used to because there's not that much typing involved. Everything is click here, click there. It sounds easier, but after years of typing, that was kind of different.

(Martha – Office Staff)

Martha described an example of adaptation that involved performing work in a manner different to the way it had been traditionally performed. She was not entirely happy about it. She also reported that she was experiencing wrist pain since the change has occurred. This story illustrated that, while some adaptations may seem minor, they may have unforeseen consequences. In this story, Martha's work required less skill and may have caused her injury.

6.2.1.3 Territory

At MO, territory is represented by the individual work stations and computers. For the Sales and Purchasing departments, territory may also extend to customers and vendors.

6.2.1.3.1 Resistance

And when it shuts down on me, it will just stop working. It doesn't give an error, I -- now, I'm to the point where it's like, okay, and I just Ctrl + Alt + Delete. Go in to my task manager; shut it down, because I know... I just wait it out, "Anybody in yet? You know, call the other people: you get in yet?" "No." "Oh, did anybody call Reg?" You know, because it's

not worth blowing a gasket over, you know. So it's kind of like whatever. But it's frustrating, but you know, I would never like leave the job, I would have never think to leave the job because it was irritating me, never. I never meant to quit -- well like -- just you felt like that's it, when I'm done, I'm walking outta here. No, I mean guess it depends on what kind of mood I'm in to begin with, you know, whether or not -- "Oh, yeah. It's done. Whatever."

(Rae – Office Staff)

In the story above, Rae described a level of frustration that, in the moment, made her feel like quitting, although she made a point of indicating that she would never respond in that manner. This frustration was being experienced because the system locked up during work and she had no alternative but to shut down her computer. She also indicated that the mood that she was experiencing at the time that the issues arose contributed to her level of frustration. This statement supports my position that the practice of negative capability may be affected by other factors concurrent to the one that appears to be causing the frustration. In the above story, she indicated that her ability to accept a challenge (and practice negative capability) was dependent upon her mood at the time.

6.2.1.3.2 Acceptance

You know where it hits me, in a strange, I don't why, but it just is, a lot of times, in the morning when I'm taking a shower, it will hit me. That's it! You know, that's how you do it. And you're not really concentrating, I know, and all of a sudden, why didn't I think of that? You know? That kind of thing.

(Bill – Supervisor)

This example, as told by Bill, was similar to one related earlier in which a person awakened with the answer to a problem. In Bill's case, he was in a different location and territory, the shower, and not thinking of the problem. The solution emerged. This story described how, when one accepts the uncertainty, and does not grasp for answers, the answer that is sought may come. The person practices negative capability.

6.2.1.3.3 Adaptation

That is one thing I think through my time here what you can see is, some people definitely adapt and are more than willing to learn, others

have a fear, they put themselves in a non-computer world and really don't seem to have an interest to leave it.

(Reg – Project Manager)

Reg described what he perceived as a challenge in individual adaptation to computers. He viewed some people as preferring to avoid computers and others as being more ready to adapt. In this instance, adaptation, or lack thereof, was attributed to one's perception of computers. While it may be a factor in the willingness to adapt one's work practices, other factors such as status, ease of use and a personality that is generally resistant to change may also impede willingness to adapt.

6.2.2 A Relational Component to the Practice of Negative Capability

The people of MO continued to offer each other relational support during the conversion to the ERP system. Over the course of one and a half years, they had been trying to work with a complex system that they did not understand. They had not been provided with training. They frequently experienced complications that they did not know how to address. They became frustrated. In these instances, most of the people called upon a co-worker for assistance. There were two people in the Engineering department who were considered to be experts and were most frequently contacted. When they were unavailable, however, people worked with each other to solve the problems. In their stories of their frustrations, it was clear that their relationships with their fellow employees had not only provided the employees with solutions to their problems but had also provided them with containers for their frustrations with the system.

6.2.2.1 Time

Time boundaries may impact people at a relational level in their willingness to either seek support or give support. Likewise, they may interfere with the ability to adapt to circumstances or to adapt the software to better meet their needs.

6.2.2.1.1 Resistance

I'm the person that a lot of people go to for help. Depending on the day I'm having, that can be good or bad.

(Wayne – Production)

At MO, the problems that people experienced with the ERP system had placed demands on those people who were more comfortable with the system. The people worked well together, and were willing to help each other. The problems with providing relational support for the practice of negative capability arose when the containing individuals were busy with their own tasks and didn't have time to help others.

6.2.2.1.2 Acceptance

I found no examples of relational acceptance with respect to time boundaries. While I was told of instances where relational support was given, and there were stories where the support provided helped people to meet time boundaries, none of the stories indicated that time boundaries were a factor in the support.

6.2.2.1.3 Adaptation

I was unable to identify any examples of adaptation at the relational level with respect to time boundaries. It may be that time is not a factor in this implementation that needs to be addressed, that no time boundaries have been placed or that people do not feel motivated to make adaptive changes.

6.2.2.2 Task

The implementation of the ERP system has been very problematic from its inception. It was often the relational component that supported the practice of negative capability within this organization that helped people to proceed and make progress with this implementation.

6.2.2.2.1 Resistance

When I read this first time I thought, I don't know if I can really recall some specifics, I guess from my involvement by default, you know taking on a bigger role in the implementation side of it, there has been a few times when I do not see other people taking ownership, wanting to

make it work and all that does is create aggravation on my end, when things don't work properly, yeah I thought that's it, I am going to sit back and say I have done my part the bill of materials are done, engineering is signed off, you guys don't want to take it and roll with it, then so be it, that's not my personality, I bang my head against the wall, be frustrated but now take a deep breath, come back the next day and get right back into it, rechallenged to try to make it function.

(Reg – Project Leader)

As project leader, Reg was expressing his frustration with the other employees. Aside from Bill, he was the expert on site, and was frequently called upon to help address problems with the system. He found that, rather than learning how to address problems with their portions of the system, people repeatedly called upon him with the same issues. He was tempted to refuse to help. He then practiced negative capability in order to act as a container to support the other staff.

Well it seems like it's been really slow to get the consultants to come back and help us. They're the ones who made it go live and they showed us an overview but we had to figure out how to use it and when you did have questions, often you weren't involved in the -- like they would come from meeting just the regular users weren't talking to him. It was the managers. You know what I mean?

(Martha – Office Staff)

In this excerpt, Martha was expressing her frustration in not having access to the external software consultants. In this instance, a relational component of the practice of negative capability was not possible because the relationship was not initiated. The employee was left feeling frustrated.

6.2.2.2.2 Acceptance

There were many stories of people helping each other with this ERP system, containing their negative emotions and finding solutions to problems.

Janet helped me because she was reading up on the ERP system the most; so we kind of worked together. Like I said, we've been pretty good, for you know I might get an error message that I haven't had, and I may say, I'm going to call Rae, she probably works in the screen, and she will be able to walk me through it. Everybody has been very helpful with each other. At this company, they never pressure you. We all know it's got to get done, and everybody always works as a team, so you never feel that pressure from the company. You know Phil and Tom (upper management) are just like the rest of us they are right in there working. You know, you never feel like anybody is breathing down your neck, and

yet the stuff gets done because everybody is happy here, I think, for the most part.

(Richard – Office Staff)

Janet and Rae were co-workers of the storyteller. He felt very comfortable calling on them for support when he experienced uncertainty with the ERP system operation. The story also demonstrated that organizational support for a relational component to the practice of negative capability is advantageous. The next story was from a supportive member of management.

What I try to do when they do that is try to walk them through how they can do it and sometimes it sticks and sometimes it doesn't. They're just not comfortable going in to look and are poking around and I try to set up a, well because you always do a test version, and then go in and play.

(Bill – Management)

Bill is a consultant who was hired to work in Engineering. He was on-site once a week and worked from home the rest of the time. Although it was not his primary responsibility to work with the ERP system, he enjoyed it and had taken it upon himself to help with problems. His confidence and friendliness provided a containing environment that has helped calm people and provided the space for them to practice negative capability.

There has been a lot of frustration with it, but you know that's part of it being new, we got to work all the bugs and figure it out, but everybody works well here together, you know if one of us discovers something we walk everybody else through it, but it has been tedious.

(Erica – Office Staff)

This quotation, from Erica, acknowledged the relational component to the practice of negative capability that was often experienced at MO. People felt frustration and looked to others to contain that frustration and assist them in solving the problems. There was generally someone who was able to act as the container and help them to solve the problem while providing them with the space to practice negative capability.

6.2.2.2.3 Adaptation

I would like to see us having a portal where dealers can sign in and get their own information, which we don't have that yet but a lot of the manufactures have that access so, that they can just log in on their own

from the dealership and get the information they need as far as okay what's the price on specific parts so we have that, we are going to have that, It's just not here yet, you know we can build it that way, you know maybe in a couple of years. But it does take a lot of time. And I would say the new system is faster than the old way.

(Bruce – Sales)

In this excerpt, Bruce was looking forward to an adaptation that would enable Sales to better serve their customers. While this was not an example of a current adaptation, it illustrated how the possibility of a beneficial future adaptation could have a positive impact on users going through implementation challenges.

Sales people have relational challenges that most other departments do not face. When the physical appearance of an output form changes, it may either be confusing to customers, or may not appear appealing to them. This can require the individuals in the Sales department to spend time either explaining the changes to potential customers or in lobbying for adaptations to the output forms.

6.2.2.3 Territory

6.2.2.3.1 Resistance

I did not identify any examples of resistance within territory boundaries at the relational level. Since MO has a single location, this is not surprising. Furthermore, the implementation of the ERP system has meant that people no longer have to run forms up and down stairs, from department to department, in order to complete their tasks. From the perspective of territorial boundaries, it has made things easier.

6.2.2.3.2 Acceptance

It's been a lot better since Bill came on board - the consultant that wasn't from the software firm. He continues to figure out how to help everyone. He comes about once a week or once every couple of weeks. Depends on his schedule I guess. It's really helpful to have him. You can always e-mail him and he gets back to you pretty fast as a rule.

(Rita – Office Staff)

Rita described how Bill has been available to assist people from outside the plant site. In this instance, he was able to be a container for their uncertainty

and help them to practice negative capability. In doing so, a relational component that supported the practice of negative capability was present. This demonstrated that the relational support does not require the individuals to be in close proximity in order to be relevant.

6.2.2.3.3 Adaptation

I have previously referred to Bill, the engineer who had been very helpful in solving ERP problems for the other MO employees. He was on site one day per week. The remainder of the time, he worked from his home, about two hours from the site. He ran a version of the software on his home computer and solved problems by testing out solutions at that location. In doing so, he both adapted the software from an external location and adapted his method of helping other employees. This, in turn, helped reduce the anxiety or uncertainty experienced by those employees.

6.2.3 An Organizational Component to the Practice of Negative Capability

Yah, we had a seminar a month or two ago and one company was spending a year and a half at the implementation process, you know in reality, we did it in three months. So, as comparison, you can understand why you trip and fall, but there is so many aspects and so many different departments and areas and it goes right back to what we said with people that don't want to be challenged, they don't want a whole lot to do with computers, either they are scared or, however they feel about it, so you don't have the initiative and the go getters that am going to say yeah let's make this work, they just sit back and say, tell me what to do and I will do it, that's the first failure of getting a system implemented properly is getting through to those people.

(Reg – Project Leader)

Many of the challenges that have been faced by MO during the implementation of the ERP system were the result of decisions made at the organizational level. They did not set time boundaries. There was no training provided. They did not have an in-house MIS expert present to oversee the project. Instead, they dispersed into explanations about every setback during the process. The quote above is a very good example of that. While this manager suggests that they implemented the system in three months, it has taken over five years and still is not complete. Although the people have had little support in learning to use the new system, they are

being blamed, by him, for post-implementation problems. In this section of the chapter, I will explore the ways that MO did not set policies and practices that would support a personal capacity to practice negative capability, and how these decisions had an impact on the implementation process.

6.2.3.1 Time Boundaries

6.2.3.1.1 Resistance

I think we were maybe more informed at the very back in '07, like it was like okay here is where we are kind of going and all, and it kind of died, and then all of a sudden, oh, we're doing it, happening and then boom! It was just go time, you know and then it just got like okay, then I think that may have been more of the shock you know when it was just kind of rushed in, not, I should say rushed in but just I think that in '07 they were on the right path and then they kind of went away and then it was just like rush time, you know, that is probably a good synopsis whatever of the whole, of how it went down.

In June 2007 we started in to and then we got hung up...what happened was right from the beginning they would send people in and then somebody gets sick or somebody would leave from the consulting company so you had this high turn over, which doesn't help a project at all. You know, somebody just starts understanding your company and you kind of understand where they are coming from and then they are gone and then in some of the set up one of the regional consultants got tied up engineering and said you've got to change all your part numbers and the way you do your bills of material. We said oh we don't know if we're going to do that and at the end of the day we end up keeping our part numbers, we didn't have to and that consultant is gone from that firm, so that kind of dragged it out and well. Then the recession came and head office said you got to cut overhead and stuff and so the project got parked for like 2008, 2009. I think it was about the middle of 2010 when Bill came back to the company in an engineering capacity because we had a bunch of new product development. Then the president said, we've got this computer implementation, and he said oh yes I've done several of these so this is good, you're on it. So then we got back in to what we finally went live with in November of 2010.

(Tom – Senior Management)

There was a lack of firm time boundaries with respect to the implementation of the new IT that contributed to the length of time that MO took in implementing the ERP system. The original target date for the implementation was in late 2007, yet the system was not completely operational by 2012. During the time period between the initial target date and that in which the system became operational, lack of time, lack of money, turnover amongst the software consultants and shortage of employees were

given as explanations for the delay. These explanations could be attributed, at least partially, to dispersal behaviours that were employed because of the relaxed time boundaries for the implementation.

While the organization did run into problems related to the economy, consultant turnover, etc. the absence of firm time boundaries permitted the organization to coast along, setting a low priority for the project when there were other, more immediate problems to confront. While the lack of time boundaries might be considered a benefit in that they enable people to come to practice negative capability, they can also provide opportunities for dispersal behaviours. This case demonstrates that setting well thought out time boundaries may be beneficial to completing projects and can encourage people to practice negative capability in order to overcome uncertainty or anxiety.

There are training programs for this particular one. For each section, there are probably sixty or seventy different training programs that we've got on our server and anybody can look at. In every area. From accounting to engineering to sales to all of them. I pointed out to people. I've said, you know, if you've got a problem, it's in there. Take a look at, I think nobody uses it.

(Bill – Management)

Throughout the interviews, the main complaint about the ERP system implementation has been a lack of training. The lack of formal training can be attributed to an organizational decision. However, Bill, who provided much of the internal support for system problems, had made people aware of the availability of training programs that reside on the server. No one was using them. From conversations with employees, it appeared that people did not have sufficient time in order to use the training modules, and instead relied upon Bill and Reg for answers. Providing time, perhaps in the form of overtime, might help address this problem.

6.2.3.1.2 Acceptance

The following excerpts illustrate how people came to accept the presence and need to use the ERP system once they became aware of, or threatened with, time boundaries.

If there is any excuse, it was just you know a lack of driven force from the start, so people didn't take the time and what needed to be involved in order to get it, and we played with it a little bit and then we'd leave it and then play with it a little bit and then we'd leave it. From a management point of view we said that we are going live, we've got three months to do it, so the engineering staff was probably working 65 hours a week just trying to get the bill of materials set up and structured and what we thought was the right way to do things, then we hit the go live date.

(Reg – Project Leader)

Time boundaries are deadlines that carry consequences if missed (Green and Molenkamp, 2005). In order for people to be able to find the space to allow them to access a personal capacity for negative capability, it is important to adjust time boundaries to allow for learning. MO was very slow in setting time boundaries. Consequently, there were employees who had not adopted the ERP software system and did not seem inclined to do so 15 months after the go-live date. Once the organization did set time boundaries, however, they went live within three months.

Oh, yes, they have been patient. Oh yes, I think from my point of view everybody has been patient. I know a manager puts a bug in my ear: you can start doing more work on that thing,

(Bruce – Sales)

At the time of the final interviews, some members of management were starting to suggest that they would need to enforce time boundaries. As a consequence of these rumblings, a few people were setting their own time boundaries for adopting the system. Bruce was one such individual. He was willing to use the new system, but found it easier to work with the old one. So, although the organization was providing the space for people to practice negative capability, by setting no time boundaries, the employees had no motivation to do so. Once the time boundaries were beginning to form, those who were able to perform their work on the ERP system, but had chosen not to do so, were beginning to practice negative capability and work through the challenges of the change. This story illustrated that, while there are good reasons to relax time boundaries during new IT implementations, time boundaries need to be set in order to force some people to practice negative capability.

It is clear that, while there are advantages to relaxing time boundaries in order to allow people the space to practice negative capability, this cannot be an open-ended situation. Some people will disperse into activity (in this case, by continuing to perform their tasks as they had previously done rather than face the uncertainty of the unknown) and never practice negative capability. By setting time boundaries, those people are eventually pushed to do so.

6.2.3.1.3 Adaptation

I found no examples of adaptation that were related to time boundaries at the organizational level. I would expect that time boundaries will influence adaptation at a later date. Once people become comfortable with the ERP system, they will begin to look at ways to reduce the time that it takes to do the work. One planned adaptation that had yet to be implemented will have an impact on both the time that it takes to perform a task and in more accurately recording the time that it takes to build a vehicle. It is scheduled for the Production department. Rather than keeping track of time spent on a particular vehicle by paper and pen, a swipe card will be used when a person begins working on a vehicle and when he/she stops to perform a different task.

6.2.3.2 Task Boundaries

While time boundaries were left unstructured, some task boundaries were in place. People were aware of what needed to be done to complete their work tasks and consistently did what was necessary to ensure that the organization functioned. However, this did not necessarily mean that they were doing the tasks in the manner that the organization would choose to have them completed. While some were working with the new system, others were not. Those who were not working with the system, but should have been, were demonstrating dispersal behaviours in performing an activity that was not now assigned to them. Contributing to the dispersal behaviours was reportedly a lack of commitment on the part of the project leader with respect to what needed to be done (he had other responsibilities that often required immediate attention) and a lack of enthusiasm for the project on the part of other management personnel.

Again, lack of organizational direction to enforce the use of the new system resulted in the inconsistencies in task performance. Along with this lack of enforcement, the people reported that they were not provided with sufficient training to know how to use the new system. In fact, they were only officially provided with an overview of the system, a large book that they could use as a reference and access to tutorials that they did not have time, or the inclination, to view. This led to frustration and challenged the employees. As time progressed and people continued to face challenges with the new system, related to lack of training, the frustration continued. People were working with the system, were frustrated, and were managing to function, so they were practicing negative capability in order to perform their work tasks, frequently with relational support that is present within the organization. The following task subsections tell their stories.

6.2.3.2.1 Resistance

Resistance to the ERP system that related to task boundaries arose from several decisions adopted by MO. The first decision related to training.

We probably could have had a little bit more training, or maybe a little bit more in depth, or maybe time spent on the specific section for us. That probably would have helped. Because I know there is still going to be some staff members on our side that are sort of self-taught as far as the ERP goes. I think the training that the company provided was more generic, just showing us little things on how it works, but the reality is that everything they showed us we don't use. So I think more on their side, understanding what we do and what we are going to use in the ERP system, I think that probably would have helped and then they could have said okay, lets show them the stuff that they are actually going to use right away rather than just saying okay, here's their guide line on the generic training that they show every company. That probably would have been beneficial for all departments.

(Nancy – Office Staff)

In many instances, people were not performing their tasks on the ERP system because they were not provided with any training. The above story was illustrative of stories that I heard from a number of employees. There was dispersal behaviour being observed (fleeing to the old system) because the people didn't have sufficient positive capabilities relating to the ERP system to overcome the related uncertainty about the unknown aspects of the system. It is similar to the first time one swims in the deep end of a pool.

One is nervous. If the individual has some training in swimming, he/she is able to access a personal capacity for negative capability and overcome the fear of drowning in order to swim to the side of the pool. If, however, he/she has never taken any swimming lessons, the positive capabilities aren't present in order to practice negative capability. Likewise, lack of ERP system training had left people without the positive capabilities to feel confident to work through their problems.

And now what we've got to do, quite frankly, is one of the areas that we're pretty much lax in is the discipline of, okay you go around the system, today there's no real consequence to that and there needs to be. That probably is the biggest problem that we have right now. You can't give them a choice. I mean, it's got to be, there's got to be consequences if you don't do it. And right now, people don't feel that, and I think they need to.

(Martin – Supervisor)

This comment recognized that part of the reason that the ERP system was not being used was that there were no consequences for not using it. This meant that people were able to avoid the tasks and had no need to practice negative capability.

6.2.3.2.2 Acceptance

I think of all the places I've worked, this would rate probably the highest of any place that I've worked in terms of that. Cooperation, actually, amongst the employees is probably as high as any place I've worked. People are generally company-supportive and company-oriented. And, even in spite of the fact they're working around it, I think there's no question about the direction everybody is pretty much online. Everybody is trying to do good for the company.

(Bill – Management)

One of the reasons that the ERP implementation has not proven to be more problematic is the loyalty that people feel toward the organization. Although people may avoid the ERP system, they are committed to the organization and will do what needs to be done in order to support it. Their feelings toward the organization foster the capacity to practice negative capability. In contrast, my own experience of organizational distrust resulted in an inability to practice negative capability in the face of IT change.

They have been keeping tabs on your work, you did 90% the old way and you know you did like 10% using the other. You know, so there a

lot of bugs in the air over the last month or so, but nothing. Yes. There's not a lot of pressure. They have been very patient. Yes.

(Bruce – Sales)

Gentle pressure had also proven to encourage task acceptance. While people had not been forced to use the ERP system, the pressure was encouraging them to try to do so. It was having some success. At the same time, the limited amount of pressure was opening space in order for people to practice negative capability while struggling to acquire new skills.

6.2.3.2.3 Adaptation

Where people don't understand why this is different than it used to be and the original program we did an awful lot of customization and reports and stuff, this time I really tried to avoid that, I tried to keep it, that basically what's in the program, try to get the people to adapt to it rather than the program to them.

(Bill – Management)

The above excerpt highlighted what was perhaps the greatest challenge in implementing an ERP system. The legacy IT at MO was adapted to suit the needs of the users. Until it became incapable of providing the required functions, that particular technology had achieved closure – it worked in a manner that satisfied all relevant social groups. With the advent of the ERP system, the IT was not adapted to accommodate the people; the people and organization had to adapt to accommodate the system. This may mean that tasks are vastly different to what they have been accustomed and that people will need to accept the modified tasks in order to achieve closure. While they are adapting, the practice of negative capability is helpful.

6.2.3.3. Territory Boundaries

In the MO organization, these boundaries were changed with the addition of the new computer network to people's workspace. For some people, it was the first time that a computer was being used in the performance of their tasks. At the same time, the territory had remained the same with respect to the previous computer system. This system resided and was accessed by separate computer terminals. These computers were still in place and operational, permitting the dispersal away from employing the new IT system. Their presence, almost a year and a half after the implementation of the new

ERP system was an organizational decision which was not facilitating the conversion.

6.2.3.3.1 Resistance

And so people were a lot more familiar with the old system, so they tried to use the old system, in fact it's still up and running.

(Bill – Management)

Everybody gets that this isn't unusual, because it's been that way other places too, they get so departmentalized that they are concerned about their portion of it and not the overall picture.

(Bill - Management)

The above two statements illustrated problems that arose with undefined territorial boundaries. In the MO case, these boundaries were blurred because they had yet to shut down their old MIS. Consequently, some people were using it, rather than shifting their work territory to the ERP system. The second statement recognized that people were aware and comfortable with their own territory and did not appreciate the fact that they must occupy specific portions of a larger territory (as part of the integration). This also resulted in resistance.

In both excerpts, the blurring of territorial boundaries that was permitted at the organizational level allowed people to work in ways that were not necessarily beneficial to the organization. Consequently, they were able to function in a comfortable, to them, environment, and did not need to practice negative capability. At the same time, by failing to enforce appropriate territory boundaries, the organization was not supporting the practice of negative capability.

What was happening is people that didn't need to be on it all day will be staying signed in so they don't have to sign back in. So I was saying. Like I only go in if I have to look at something or approve something so I just go in to do it come out because I don't sit there staring at the screen all day. I have other things to do.

(Tom – Senior Management)

In the above excerpt, Tom was describing a problem that had arisen with seat licenses. When they adopted the software, MO arranged for the necessary number of licenses. Since different people needed access to the

system at different times of the day, it was unnecessary to purchase a license for each user. At the time of this story, people were resistant to requests to sign off the ERP system when they didn't need it. They were afraid that they would be unable to sign back in when they once again needed access. Consequently, people were either unable to access the system when they needed it, because all the allotted accesses were in use, or the system crashed. In order to address this resistance, MO was considering the purchase of more licenses. This is an example of dispersal – in order to avoid the anxiety of dealing with the issue, management was considering the investment of substantially more money for extra licenses rather than confront people who were refusing to sign off the system.

6.2.3.3.2 Acceptance

Not to mention the running around. You know, because all the orders are checked by so many people before it's actually an order. So it goes downstairs first and it's checked by the Sales department and then the woman down there logs it and she checks it and then it comes up here and then I have to check that what they want on it will work and then it has to go to an engineer to be checked. This way, I've been told, it just comes up on your computer and no more running up and down the stairs.

(Erica – Office staff)

One of the benefits to the organization that had been realized by the introduction of the ERP system was the reduction in physical effort that needed to be expended in order to process an order. Once an order was entered, it was available to all of the people who had to approve it. This both saved effort and time. In doing so, it reduced irritation and opened people up to being better able to address other issues that were causing frustration and anxiety.

6.2.13.3 Adaptation

That's one of the main reasons it's going, is for sales history. Unfortunately, people are using it for a lot more than that. They shouldn't be. In fact, we just had a meeting this morning on it. One of the things we are talking about doing is shutting it off, except for maybe one or two terminals and the people that really need the sales history can access it.

(Bill – Management)

MO has been slow to address the issue of people using the legacy system when they could be using the ERP system. This became more of an issue as

time progressed and the information on the legacy system became more outdated. However, there were sales data on the legacy system that were impractical to transfer to the ERP system, so it still needed to be operational. At this time of the interview, Bill indicated that they were approaching the point where they were going to terminate access to most of the legacy access points. This would force people to access the ERP system. By doing so, MO would set a policy that supported people practicing negative capability – using the uncertain, new system, rather than dispersing into the activity of avoiding its use by accessing the legacy system.

6.3 Conclusion

As of March, 2013 MO was still struggling with the ERP system. There were people who were not using it and they had yet to finish the installation. They had also hired a new consulting firm.

The corporate culture of MO was such that individuals felt safe and secure. However, the culture presented problems when there were changes required that were unpopular. This case demonstrates that, although individuals may need space in order to practice negative capability, allowing too much space may, in some cases, result in a continuation of dispersal behaviours and no need for the individual to practice negative capability. Likewise, the case illustrates problems that may arise when inadequate, or no, training is provided. Rather than being able to perform their work tasks, almost one and a half years after the system went live, a number of people were still frustrated and regularly needed to practice negative capability in order to be able to function on their jobs. The cooperation that was demonstrated by many of the employees has assisted in working with the frustration. The organization supported this relational cooperation by encouraging people to support each other.

Unlike CPT, people at MO were assigned different jobs. In similarity to CPT, they had a number of differing responses to the new IT. Some were able to work through problems without difficulty and help others, some faced challenges and needed support, and others had not adapted to the new system. I had entered this research project with the contention that IT use is no longer a choice; as it is most often mandatory. Yet, circumstances at this

organization suggest that opportunities still exist to avoid compliance with new IT.

The next chapter discusses the implications of the two case chapters.

CHAPTER SEVEN – DISCUSSION

7.0 Introduction

Throughout this thesis, the practice of negative capability at the personal level, and the relational and organizational components that support the practice of negative capability, have been discussed. It has been shown that the notion of negative capability may be relevant at all three analytical levels. In addition, the two organizations that were studied had different experiences in their IT implementations. Consequently, the stories told by the people of each organization provided different perspectives of the notion of negative capability. These differences were noted in the context of time, task and territory boundaries at each analytical level.

In this chapter, I will discuss each individual case and compare the practice of negative capability between cases with respect to the analytical levels and containing boundaries. I will then discuss the study research questions in the context of this this project.

This is an interpretive study. As such, I do not draw conclusions from this research. I do illustrate how the notions of negative capability and dispersal have been observed in these cases. It may be that similar observations will be made in other experiences of IT change.

7.1 The Notion of Negative Capability and the Individual Cases

7.1.1 County Patient Transport (CPT)

As an organization, CPT appeared to have unknowingly taken many of the steps necessary to improve the paramedics' ability to practice negative capability. They provided training that allowed most people to begin working with the new IT almost immediately. They provided space for people to become comfortable with the hardware and software over a period of a few months. They set a firm compliance date once the majority of the bugs were removed from the system and people had acquired a reasonable understanding of how to use the new IT.

The combination of attempting to ease people through the learning process, while setting firm time boundaries for total compliance, provided CPT with a reasonably smooth change experience. People were able to find the space to minimize the tendency to demonstrate dispersal behaviours and to practice negative capability if they were still uncertain or anxious about the change.

The paramedics self-identified as being change-averse and controlling. This perception complicated the introduction of new technology, or any change, into their workspace. The manner in which potential resistance was addressed was to inform the people that they had no choice but to perform their work, with the use of iMedic®, after a specific date. These firm time boundaries, following a period of grace, forced the people to adapt to the change but allowed them time to accept it. This strategy was a successful one in this implementation.

Taking steps to minimize problems and insisting that there be 100% compliance after a specific date did not eliminate problems. Territory boundaries were the most frequently-reported issues, in the context of issues with the use and access of the hardware. These problems were identified from the beginning of the project. This suggests that further steps might have been taken to avoid those issues. Paramedics complained frequently of problems with the hardware, both in its operation and in its accessibility. Frustrations were expressed in the small size of the keyboard contributing to input errors. People were often awaiting access to a tablet in order to input their data or to start their shift. There were issues with being able to access the database host. This could be done only when they were either on a call at a hospital or at an ambulance base. Due to the call load, they were unable to remain in one of those locations and therefore often needed to upload patient data at the end of a shift. This conflicted with the next shift that was waiting for turnover of the tablet in order to begin their shift. These problems could have been addressed by increasing the number of laptops available to paramedics and providing them with more options to access to the Internet.

These were correctible irritations that compounded frustrations. They can cause further problems because frustrations contribute to the possibility for dispersal behaviours, when people deplete their personal capacity to practice

negative capability. Consequently, the change process could have been achieved more smoothly had these aggravations been eliminated. Not only did these frustrations have implications for the smooth functioning of the electronic ACR system, but they also had implications for the entire job function. The paramedic career is a stressful one. Therefore, by reducing frustrations arising from the implementation of a new IT, the paramedics could be better able to contain the other non-IT stressors that are beyond their control or their management's control.

I also noted that people expressed a stronger affinity to the new system if they were brought into the process at an earlier date, even though some of them did not have a strong technical background. They all seemed to have a very clear understanding of how the system worked, and how it could be adapted for individual users. Might a self-confidence that came from being chosen to participate in the selection of the system and training of co-workers have opened the space to become more comfortable with it? Could people be less inclined to be open to experiencing negative capability if they did not feel a sense of ownership in the project?

As time has progressed, there are people who remain unhappy with the electronic ACR system. Nevertheless, they work with it daily. In this part of their employment, they have successfully learned to access a personal capacity for negative capability. Ideally, people would never need to practice negative capability. Everything would appear clear and straightforward and they would feel comfortable with it. This is not part of the human experience. Instead, we are faced with "mysteries, uncertainties and doubts" on a constant basis.

The organization that, like CPT, takes steps to support a personal capacity to practice negative capability may experience smoother change transitions. French (2001) described the concept of being not perfect but "good enough" (p. 485). While the conditions necessary to support the practice of negative capability within an organization may be adequate during times of constancy, during change they may no longer be "good enough", resulting in dispersal behaviours. Conversely if, like CPT, they are "good enough", the dispersal behaviours are minimized.

7.1.2 Manufacturing Organization (MO)

The MO case provided examples of the practice of negative capability in personal, relational and organizational contexts, along with instances where the practice of negative capability could not be detected. Individually, people were demonstrating the ability to work through challenges and through frustrations and come to an understanding of how to coexist with the new ERP system. Unfortunately, they had not reached the point where they were comfortable and able to function effectively with the system. Relationally, they were dependent upon each other to work through the uncertainties of how to work with a system that was a complete mystery to most of them and for emotional support. At the same time, the organization was not setting policies that supported adjustment at the personal level.

MO has been involved in a very complex, disruptive IT installation. It has taken far longer than they had originally anticipated. Part of the reason for the delay had been a lack of project leadership. This might be attributable to the lack of an IT expert within the organization. Then, there have been delays attributed to economic challenges. Also, during the period of time that the system was put on hold, steps were being taken to reconfigure their product classification system. Finally, once the system was taken live, instances of non-compliance were noted. The interesting aspect of the non-compliance at MO was that it was being tolerated. Considering the complexity of the installation and the lack of formal training that had been undertaken, the organization may have been supporting the practice of negative capability in its willingness to allow people the time necessary to become comfortable with the software. Another alternative, however, is that this was evidence of dispersal behaviour similar to that described by French (2001) when difficult meeting agenda items are postponed to a later date. The management of MO was finding it uncomfortable to take steps to end the personal level dispersal behaviours and, by doing so, was not supporting the practice of negative capability.

As has been previously described, MO is a workplace where people felt secure and content. Most people liked to work there. Upper management had been content to let people do their work. I repeatedly heard about how

the upper management was 'good' and fair. In conjunction with supporting a personal capacity to practice negative capability, it does appear that MO provided a space for people to do their work and find their own ways without pressure.

Since this was too big a project to be undertaken within the organization and with the limited IT skills of its existing workforce, it was delegated to two external consulting firms – one for the hardware and one for the software. This action demonstrated that the management of the organization was willing to go outside their establishment to accomplish the task. It also may have demonstrated a capacity to practice negative capability on the part of management personnel in that the management did not grasp at solutions to a problem that could not be solved by their employees, but rather went to external sources to find answers through a firm that represented itself as being able to do the work. This demonstrated a willingness to stand aside and allow the answers to emerge from elsewhere.

Although the consulting firms ultimately provided the assistance needed to complete the project, the consultants, particularly those representing the software firm, were also a source of difficulties. There was a regular turnover of individuals, representing the firm, at MO. The incumbent consultant often made suggestions that contradicted his/her predecessor. Their offices were situated a few hours travel from MO, making emergency visits difficult. They did not have the expertise with the software that they had initially suggested, resulting in longer time periods for correcting problems. When problems arose that could have been attributed to either the hardware or the software, each firm placed the blame upon the other firm. All of these factors were sources of frustration for the staff of MO.

By the spring of 2012, the project had not been adopted by all of the employees who were able to make use of the ERP system in their jobs. Some had adopted the new system immediately; others were working with the legacy system. It was well known that the new system was not being used universally. There were discussions at management meetings of the need to address the problem. There was some pressure to move toward the new system and discussions of shutting down the legacy system; however,

there were no consequences for non-compliance. There were indications that some of the people who were resisting the new system were starting to move toward it.

From the perspective of exploring negative capability, the following two observations are noteworthy: the organization continuously provided a space for employees to deal with anxiety and, when problems arose at the organizational level, a space existed to find a solution to the problem. This space may not be an indication of thoughtful management, but rather could be a manifestation of weak management. The overwhelming organizational provision of space that was afforded in this implementation may not be advantageous for the optimal functioning of the implementation or the organization itself. One and a half years after the system went live, it was still not utilized by all of the employees who were expected to utilize it.

Other parts of the system that had not been taken live were anticipated to be rejected by several people within the organization. While some of the people were adopting the ERP system with relative ease, and some were comfortable with it after some resistance, others remained uncomfortable with it or were still resisting it. Those whose jobs had not been integrated into the new system had announced that they would not use the new system in the way it was intended.

In the context of SCOT, relevant social groups were not satisfied with the IT, resulting in resistance and the need to further adapt either the software or the way it was utilized. In these circumstances, the practice of negative capability could be useful to enable people to cope with, and improve, the situation. As described in earlier chapters, this technology is not likely to achieve closure, within an organization, without disruption. ERP systems, as a technology, may never truly achieve closure.

In 2007, prior to the introduction of the new IT, there was a sense of anticipation on the part of the employees. They thought that it might be stressful during the time that it was being implemented, but that it would be a vast improvement over the old system. In 2012, people seemed to have forgotten how much they disliked the old system. If the results of the change on the part of people who looked forward to the system were so dramatic,

what would be the outcome for people are not looking forward to the change? More resistance might be expected and greater difficulties in getting the implementation completed might be experienced. Is there a point in time when the space provided to practice negative capability becomes counter-productive? While the organization provided space, that space did not appear to be able to contain the emotions of the employees. There was significant frustration amongst the ranks. The space available had such wide boundaries that there was a reduced incentive to practice negative capability.

7.2 Comparison of the Practice of Negative Capability Between Cases

7.2.1 A Personal Capacity to Practice Negative Capability

7.2.1.1 Time

With respect to a personal capacity to practice negative capability, time boundaries either supported the practice of negative capability or contributed to dispersal behaviours. The outcome was influenced by constraints that were generally set at a higher level.

People at CPT were, in most instances, able to become very comfortable with the eACR system prior to the official implementation date. When learning to use the system, relaxed time constraints enabled them to practice negative capability and work with uncertainty and anxiety while acquiring the necessary positive capabilities to use the system. One individual did not attempt to acquire the positive capabilities during the phase-in time. Since relaxed time boundaries had been in place, he felt he had no alternative but to acquire the positive capabilities, without overtly demonstrating dispersal behaviours, once firm time boundaries were enforced. In order to acquire the necessary skills, while still being unhappy with the situation, he practiced negative capability. For all of the paramedics, the phased introduction made the change manageable by supporting the practice of negative capability.

In this case, management was able to identify the optimum time to set rigid time constraints. There were 270 people doing the same job. Once a reasonable number were able to perform the work, setting time constraints was necessary for the remainder to access a personal capacity for negative

capability (what Rogers (1983) would refer to as laggards). In circumstances where people were performing different tasks, other factors, e.g., difficulty of task or integration of software with task requirements, might complicate such a decision.

At MO, there were no firm time boundaries set, by the organization, for many people. Since the ERP system was a mystery, many of the people who could circumvent it did so. They displayed dispersal behaviours by avoiding use of the ERP system. This was not a universal response – some people were working with the new system, in spite of the lack of boundaries. This demonstrated that non-existent time boundaries do not prevent some people from practicing negative capability and working through anxious feelings. These people appear to be more readily able to practice negative capability.

As management began to gently increase pressure for people to use the ERP system, some began practicing negative capability and working through uncertainty to learn the new system. This outcome is comparable to the experiences of CPT when relaxed time boundaries were in place.

7.2.1.2 Task

The primary impediment to completing tasks is engaging in dispersal behaviours. A person may disperse into emotion, activity or explanations. Both cases described examples of dispersal behaviours. In situations where there were no task boundaries, dispersal behaviours could be considered problematic.

However, when people had no alternative but to perform tasks with a new information technology, dispersal behaviours may have opened a space in which they could practice negative capability. This was illustrated in the example of the paramedic who dispersed into emotion and explanations until he was forced to use the new system. At that time, he begrudgingly used the eACR system. The CPT case also illustrated that people were more willing to accept the tasks when they are involved in the decision-making process. Even though they may have been uncomfortable with the tasks, they felt like they had some control over unfolding events.

As was demonstrated in the 'Time' subsection, external forces may also have had implications for the practice of negative capability while attempting to perform tasks. At CPT, external political decisions, such as those taken with respect to available hospital beds, often resulted in time shortages that made completion of the IT tasks more difficult. These pressures increased the paramedics' needs to practice negative capability in order to work. At MO, interactions with external stakeholders were impacted by the change, particularly in Sales and Purchasing. Since the stakeholders also had to accommodate the change, there was a greater tendency for personnel in those departments to resist it by dispersing into explanations and actions (performing old practices).

Based on stories told in this study, people appeared to be able to practice negative capability, without dispersal, when they held positive opinions about their tasks. At CPT, one example was the paramedic's belief that the eACR system would make them appear more professional. This did not make acquisition of the positive capabilities less challenging, but it made the individual more willing to work on acquiring them while feeling anxious. Also, having survived previous challenging experiences relating to computers, people seem to be more willing to struggle through learning a new system. Unlike learned helplessness, described in Chapter 3 (Martinko et al., 1996), learned optimism appeared to emerge. This was evidenced in two individual instances at MO where people met the challenges of the new system, while still feeling frustrated with it. These people practiced negative capability while learning the system and did not display any dispersal behaviours.

As might be predicted, level of training to do a particular task, or particular tasks, impacted the tendency to exhibit dispersal behaviours. At CPT, the training was thorough and support was available throughout the extended training period. At MO, training was virtually non-existent. Consequently, task boundaries at CPT were clear and dispersal behaviours were less frequently described.

In both cases, the issue of the ability of management to monitor work using the existing technology was identified. At CPT, a long list of methods that were currently in place was described. These methods included cameras,

GPS units, speed recorders and the iMedic® system. At MO, it was suggested that production personnel would be unwilling to use swipe cards to record the time spent on various production activities. The stated purpose for the cards was to be able to more accurately record the time taken to build a particular machine. No one at MO who currently used the ERP system described how the ERP system enabled management to track the work that they perform, when and how long they perform it, and if they are using it in ways that are unauthorized. Likewise, only one person at CPT raised the issue of the potential for monitoring of their work activities. Although concerns have been raised in the literature about the impact of monitoring and surveillance upon employees (Ball, 2010), neither organization appeared to face problems with employee attitudes towards monitoring at this time, nor did the employees appear to feel threatened by its potential. It may or may not become an issue for MO when the remainder of the ERP systems goes live.

Finally, hardware and software malfunctions at both locations appeared to be frequent causes of frustration. They also either delayed completion of tasks or distracted (initiated dispersal behaviours). When a particular problem was faced by the individual, the frustration may have been reduced by practicing negative capability.

7.2.1.3 Territory

Territory boundaries that had implications for the personal capacity to practice negative capability may be self-imposed, related to software or hardware availability or related to the work location.

Self-imposed boundaries were evident at CPT in descriptions of control needs. Many people had developed very specific ways of doing their work and preferred their wishes to be followed. With the arrival of the computer systems, they had to adjust. They did not have control of the physical computer throughout their work shift. There were times when they would choose to use it, but were prevented in doing so by their partners' need to use the hardware. They may have practiced negative capability in order to function with the accompanying uncomfortable feelings. There did not

appear to be any examples of self-imposed territory boundaries in the MO case.

CPT also experienced territorial issues in the functionality of their system. Internet access was only available at specific secure locations. MO, on the other hand, did not have that constraint. Bill was able to access the ERP system from his home. The implications of not being able to access the system are frustration and potential distraction that may lead to dispersal behaviours.

7.2.2 A Relational Component to the Practice of Negative Capability

The relational component that supports the practice of negative capability is something that, like friendship or a doctor-patient relationship, involves more than one person. In the cases explored in this study, the results of this capacity were containment of emotions and support for improving positive capabilities (thus reducing uncertainty and anxiety).

7.2.2.1 *Time*

Time constraints either supported or impeded the relational component in the practice of negative capability. Within the context of IT change, it may have been that the containing person had other demands on his/her time and was unable to offer support, as was suggested in the MO case. Or, the containing person may not have been present (working) during the time when containment was needed, as was encountered at CPT.

Conversely, when the time constraints were such that they made the containing individual available, they may have supported the practice of negative capability.

7.2.2.2 *Task*

In the context of the relational component, the containing individual helped contain resistance, anxiety and uncertainty. At CPT, the new IT trainers were called upon to be the containers in many instances. There were instances where containment was demonstrated in accepting 'venting' behaviours, transferring confidence, and devising novel ways to transfer knowledge.

When trainers were unavailable, as was the case with MO, expert others who had stronger computer backgrounds were frequently called upon to act as containers for uncertainty and frustrations.

At both CPT and MO, the relational component in the practice of negative capability was often reflective of a reciprocal relationship, with each person acting as container or contained, depending upon the circumstances. In the introduction of new IT, the problems that arose were sometimes supported by one person and sometimes supported by another, in a reciprocal manner.

The relational component in the practice of negative capability also functioned outside the organization, with friends or family members acting as containers when people are unable to compartmentalize their work and took their frustrations away from the workplace.

7.2.2.3 Territory

The territory involved in the relational component for the practice of negative capability may be local or long distance. At MO, Bill was able to support people from a distance.

There are times when distance is an impediment. Face-to-face interaction is always preferable. We are then able to take cues from body language. However, having remote access to the 'other' in the relationship is preferable to being unable to practice negative capability with the assistance of another.

7.2.3 An Organizational Component to the Practice of Negative Capability

7.2.3.1 Time

The CPT case demonstrated that frustration and resistance arose when the organization set new time boundaries. There were indications that this was the case when the organization restructured. When boundaries were set without time for adjustment, people may have displayed dispersal behaviours. Flexibility in setting time boundaries, however, provided space for people to practice negative capability. CPT set flexible time boundaries for people to become familiar with the iMedic® system.

MO, on the other hand, did not set time boundaries for using their ERP system. As a result, there were many examples noted that indicated dispersal behaviours. The upper management shelved the implementation for an extended period of time, citing varying reasons for that decision. Over a year post-implementation, there were people who were still not attempting to use the system. Since some of those people were beginning to use the software, the lack of time boundaries may not be as important as other factors, such as loyalty to management, in the use of new IT.

7.2.3.2 Task

At CPT, the eACR training was followed by suggestions that they complete a portion of their reports electronically each day. Over time, that number increased. Although it was optional, it eased people into the new tasks. When it became mandatory for people do complete reports electronically, there was 100% compliance, without dispersal behaviours. People did, however, continue to practice negative capability in order to perform these tasks – a number of them remained unhappy about the change. MO, on the other hand, had been disorganized in its assignment of tasks related to the ERP system. Many people did not fully understand how to perform their work on the system and some were performing their work tasks without using the system. Unless the organization defined clear task boundaries, it was possible that this would continue.

In spite of the lack of clear task boundaries at MO, the company continued to function. This may be attributed to the commitment, on the part of employees, toward the organization and its management. Additionally, the desire on the part of the employees to retain their employment may have motivated the employees to find a way to work through the challenges of the IT change.

7.2.3.3 Territory Boundaries

Territory boundaries were vastly different between the two cases. Since CPT was government regulated, some boundaries were beyond even the organization's control. Needing secure methods to transfer information online was one such example. This particular boundary caused frustration

and anxiety in that it complicated completion of the work. MO, which was mainly situated at one site, did not have those restrictions. Consequently, one of the employees was able to work from another country and provide relational support for the practice of negative capability within the organization.

Hardware also impinged on territory boundaries. CPT has not supplied enough hardware (tablets) for efficient work performance. This also resulted in frustration and anxiety. Consequently, the practice of negative capability may have enabled people to work while experiencing these feelings. MO has had hardware operating for both the legacy and ERP systems. This has allowed people to continue to access a system that is becoming increasingly obsolete. At the same time, it did not motivate them to practice negative capability while learning to use the new system.

7.3 The Research Questions

Having compiled and compared observations from the two cases, I turn my attention to my original research questions:

1. How can we identify the practice of negative capability in others?

When an anxiety-inducing or unfamiliar situation occurs, most people will experience feelings of unease. Some of the people will react to the situation by becoming sick, complaining, resisting, or displaying other negative responses. Others, while also experiencing uncertainty and anxiety, are able to work along with these feelings. They are accepting of circumstances that they cannot control and allow time to pass in order for things to unfold. These are people who are practicing negative capability. Although much has been written that discusses and describes negative capability, it is difficult to detect the practice of negative capability in another person unless the person describes thought processes in the context of anxiety or uncertainty.

2. Does the capacity to practice negative capability affect a person's ability to work?

The practice of negative capability appears to assist a person in working through uncertain or anxiety-producing situations. At CPT, Shane was able

to practice negative capability to work with the iMedic® system, even though he still had strong negative emotions concerning its presence. At MO, many people were still struggling with the ERP system, but are continuing to work with it and contain their anxious feelings.

3. Are there particular features of negative capability that manifest during a change process in IT?

There are two features of negative capability that had not been identified prior to this study that have manifested during the change process in IT. One feature was the situation in which negative capability was practiced following a period of dispersal. I believe this feature was observed because people were not provided with the option of rejecting the new IT. This is a feature that would be more difficult to detect in situations where dispersal is a terminal option to an anxiety-producing situation. The second feature was the emergence of three analytical levels that impact the practice of negative capability – the organizational, relational, and the personal levels.

In any learning, development and change process, negative capability manifests in several ways. The individual may or may not accept the changes. If there is resistance, he/she may disperse into emotion, explanation or activity. If these behaviours do not produce the desired outcome, he/she may practice negative capability, complying with the change while experiencing negative emotions toward it. Or, the person may be able to immediately accept the change, while experiencing the negative emotions, without having to demonstrate dispersal behaviours.

The individual's capacity to practice negative capability is supported by certain practices and policies within the organization that may also promote a relational support for the practice of negative capability. The relational component is supported by reinforcing an environment in which people are encouraged to support, rather than compete, with each other, and by nurturing this environment across levels of the organization. This is demonstrated in both cases. The organizational component is promoted by allowing some flexibility in time, task and territory boundaries prior to setting clearly definable boundaries.

4. What are the implications of negative capability for work practice?

This study demonstrated that an individual's capacity to practice negative capability may be reinforced by steps taken at the organizational level. By setting boundaries, an organization may set a structure that encourages the individual to practice negative capability. The only alternative, in the face of firm boundaries, is to disperse into activity by removing oneself from the situation. There are indications, from the experiences of CPT, that managers patiently waiting to see how things unfold, prior to setting firm boundaries, and then wisely setting the boundaries, may be a useful strategy.

Without proper training to perform the tasks, as was demonstrated by the lack of prior training in the MO case, the rationale for setting time boundaries is questionable. After extending the amount of time to acquire the positive capabilities that are needed for the change, in the absence prior training, the setting of time boundaries may be warranted. With proper training, as in the case of CPT, time boundaries may be useful in encouraging people to practice negative capability. CPT did not set and adhere to stringent time boundaries. The organization trained the people on the new IS, provided them with the necessary equipment to attempt to use the programs, and suggested that they use it each day. Having done so, they were able to observe the progress of their workforce. When they were able to observe that a number of people appeared comfortable with the new IT, they then set a firm date for 100% compliance. The space provided also encouraged people to practice negative capability during the "trial" period, while setting time boundaries to enforce compliance.

As an organization, CPT did provide a period of time to experiment with the new program that did open the opportunity for people to practice negative capability. However, the people who tended to take advantage of the opportunity were the people who least needed the time (Rogers' (1983) innovators, early adopters and early majority). Once firm time constraints were imposed, the late majority and laggards needed to practice negative capability and familiarize themselves with the system prior to the mandatory compliance date. Those who were opposed to the new implementation avoided it until the day they were mandated to use it. Indeed, some of them

attempted to avoid it beyond that date by ‘losing’ eACRs in cyberspace – an unsuccessful tactic.

The cases studied here support a strategy of allowing a reasonable time allotment for people to familiarize themselves with the new IT prior to having to use it exclusively. The challenge lies in determining what may be reasonable and that may depend on the individual organization.

Nevertheless, this appears to allow time to accept the upcoming change. However, delaying compliance dates until most people are compliant may discourage the practice of negative capability in that it may support dispersal that can only be extinguished by a firm date for compliance. Since the individual cannot successfully employ dispersal behaviours after that date, they may need to practice negative capability in order to comply.

In addition to allowing the time to become comfortable with the necessary tasks, prior to setting time boundaries, sufficient training to understand the tasks is also necessary prior to setting task boundaries. Again, CPT did so, while MO did not. As a consequence, the paramedics of CPT were able to function comfortably with the new technology while many of those at MO were still experiencing “uncertainties, mysteries and doubts”.

These examples suggest that preparation, in the form of providing the users with the best support for positive capabilities surrounding the change, along with some flexibility in time boundaries, supports user adoption of new IT.

When we think in terms of containment, we can visualize a point in time when the “container” is full. Practices that remove anxieties and train us to clear our minds, such as yoga, meditation, Zen philosophy or running, may help us practice negative capability.

7.4 Conclusions

I began this study with the goal of furthering the understanding of user responses to the introduction of new IT. I have found that the notion of negative capability helps do so. It illuminates features of IT change, discussed above, in a manner that has not been previously considered.

The next chapter is the conclusion of this thesis. In it, I restate the contributions to the body of knowledge made by this study, discuss its limitations, explore my development as a researcher and make suggestions for future research.

CHAPTER EIGHT – CONCLUSIONS

8.0 Introduction

I conducted this research to explore the notion of negative capability as practiced by the individual in the context of the introduction of new technology into the organization. I suspected that understanding how the practice of negative capability could help a person move toward accepting change would provide new insights into how desired change may be promoted. In this chapter, I reflect upon the contribution to knowledge that is made through this research, the limitations of the research, the value of the research, suggestions for further research, my progression as a researcher and end with some concluding thoughts.

8.1 Contributions to the Body of Knowledge

This research contributes to the body of knowledge in three ways.

1. *This study is the first to consider the potential significance of negative capability in the context of information systems/information technology change.*

This research is a significant addition to the literature in that it provides evidence of how individual behaviour in the context of new IT may be favourably moderated by the practice of negative capability. Negative capability has not, to date, been examined in conjunction with the introduction of new information systems into the organization. While negative capability is increasingly becoming recognized within the management literature as a practice that can have a positive impact, it has not been studied in the context of information systems/information technology change.

User responses to IT change have been studied since computers were first introduced into organizations and user difficulties continue to be observed with new IT introductions. As MIS become more multifaceted, the complexities of user responses are likely to continue to be an issue during IT implementations. And, as use of IT becomes increasingly mandatory, helping users through a change process becomes more important. This research showed many different interpretations and responses to a single

change event. By viewing user responses in the contexts of the practice of negative capability and dispersal, we are made aware of some of the many reasons why people do not readily accept the presence of new IT, and that there may be strategies that can be adopted to support the practice of negative capability.

2. *The practice of negative capability can be conceived as arising from three inter-related capacities: organizational, relational and personal.*

The framing of the notion of negative capability in personal, relational and organizational contexts has not previously been identified or explored in the literature. Currently, management literature has considered a personal capacity to practice negative capability and a relational component in separate contexts (French, 2001; Simpson, et al, 2002; Chia and Holt, 2009). Within the context of leadership, it is considered as a personal capacity. Within the context of change, it is often considered from a relational perspective. None of the literature, however, has described the practice of negative capability, during organizational change, using a framework that contains the organizational, relational and personal levels.

Working with an awareness of the practice of negative capability at all three levels provides a holistic approach to organizational change, rather than a focus on one aspect of the event. The organization can adopt policies that support both the relational component and personal practice of negative capability. Steps can be taken to ensure that there are individuals in place, prior to the initiation of the change, who are able to act as containers at the relational level. Dispersal behaviours can be anticipated at the personal level and allowances can be made to accommodate them, while supporting the individual capacity to practice negative capability. Considering all levels as relevant to the practice of negative capability addresses the interrelatedness of the practices, often occurring at different levels simultaneously, that impact the outcome of the change.

3. *Dispersal behaviours are sometimes precursors to the practice of negative capability.*

Nothing currently exists in the literature that acknowledges dispersal as a possible precursor to the practice of negative capability. At present, the literature uses the notion of negative capability to describe a capacity for coping with uncertainty and anxiety, demonstrated to varying degrees by different people. There are discussions of how negative capability manifests in the presence of a compassionate other, and of how people demonstrate dispersal behaviours of emotion, activity or explanation rather than access a capacity for negative capability (Stuart, 1996; French, 2000, Simpson et al., 2002). There are suggestions for improving one's capacity to practice negative capability (French, 2000). Management literature, however, does not describe situations in which negative capability is practiced after experiencing a period of dispersal behaviours. Extant research has not considered a capacity to practice negative capability relating to user responses to change over a period of time, specifically during a mandatory change process, and previous researchers have not identified this aspect of negative capability.

Dispersal behaviours often have the appearance of overt resistance, rather than that of a coping strategy. It is useful to consider dispersal behaviours as a possible precursor to practicing negative capability in the context of IT change, rather than taking aggressive measures to stop the behaviours. By doing so, what appears to be overt resistance may instead be interpreted as a necessary means, for some individuals, to engage with the capacity to practice negative capability in order to either comply with or accept the change. Extending time boundaries to allow people the space to experience dispersal behaviours at the beginning of an IT change, followed by firm time boundaries for mandatory compliance, may minimize the manifestations of overt resistance when the new IT system goes live.

There are instances when dispersal can be advantageous. In situations of emotional upheaval, people may be better able to cope with the situation if they experience dispersal behaviours and then process the experience after a period of time has passed.

8.2 Limitations of the Research

This study explored negative capability as it was observed through the stories of people at a manufacturing organization and a patient transfer service. In both the MO and CPT cases, the people were experiencing the introduction of new IT into their work lives, but the new IT was very different in each case. CPT introduced software and hardware to manage their ambulance call reports and MO introduced an ERP system. Since this study considered the learning and change processes, the conclusions may not be applicable in other situations.

Both organizations were situated in Ontario, Canada. Cultural differences may make the relevance of the observations different in other organizations and geographies. The research design was two cases that studied new IT in different contexts. Although the study has added to the body of knowledge, the nature of the design does not permit generalizable conclusions.

8.3 The Value of the Research

This research considers the ways in which individuals make sense of a particular change, and illustrates that there are many interpretations to the events surrounding the introduction of new IT. In exploring the practice of negative capability in the context of IT change, this research introduces new insights into an issue that continues to be a challenge during new IT implementations, that of resistance. Consequently, it draws attention to the value of considering ways of supporting individuals to accomplish difficult changes, rather than searching for specific resistance triggers. The complexities of the responses to change that were described by the participants in this study demonstrate that it is futile to try to address every cause of resistance. In its stead, this research provides practitioners with a new way of understanding the behavioural choices that accompany feelings of resistance and identifies ways in which organizations might provide users with tools to work through resistant feelings and behaviours, in order to both comply with and accept difficult changes.

8.4 Suggestions for Further Research

This research has highlighted the potential importance of the notion of negative capability in understanding the process of IT change in organizations. There are research possibilities existing in both further exploring the concept of negative capability in the field of MIS and in furthering the understanding of negative capability in other situations.

It would be useful to conduct research in other IT change situations in order to determine if negative capability is similarly experienced in other organizations. It would also be useful to study the practice of negative capability in non-IT change processes. In addition, studies focusing on the practice of negative capability in software adoption decisions as well as from the perspectives of IT professionals would be insightful.

The issue of the ability of management to monitor employees was raised by one of the interview participants. None of the other respondents raised the issue. Their lack of comment on the issue is, in itself, is worthy of further research. Do people 'accept' monitoring, which could be indicative of the 'reflective inaction' of the practice of negative capability, or do they comply with the situation out of a fear of reprisal, which might suggest the practice of negative capability under duress? A study to investigate the place of negative capability in monitoring could be both relevant and useful.

In this study, the presence or absence of a union did not appear to have an influence upon the change process. Further research could be done to investigate if a union presence may have an influence on organizational policies that support the practice of negative capability.

The case of MO demonstrated the changing perspectives of the employees over the course of the ERP implementation. The time required, by MO, to implement the ERP system extended beyond the length of this study. Either continuing to follow the progress of MO outside of this research or conducting a longitudinal study of the practice of negative capability in IT change at another location may provide more insights into the notion of negative capability in the context of IT change.

This study has identified dispersal as a potential precursor to negative capability. There were indications in this study that there may be both positive and negative ramifications in dispersal behaviours. Further research should be done to expand our understanding of the contribution of dispersal to the practice of negative capability.

Finally, the study found that there are ways to support a capacity for negative capability. In this research, relaxed time boundaries, followed by firm deadlines encouraged the practice of negative capability, as did the encouragement of relational support. Further research to identify other support mechanisms would be useful.

8.5 My Progression as a Researcher

I began this research with enthusiasm and optimism. Having done research as part of my MBA degree, I believed that I understood the commitment of time and effort that the PhD would entail. I now understand that doing research at this level entails much more effort and commitment than I had imagined.

Several months ago, I needed to set aside this work for a period of time in order to attend to other issues. At the time, I thought it would be simple to reengage with the research when I returned to it. I actually found that it was a struggle to return to the work with the same level of attention with which I had left it. From this experience I have learned that, for me, it is better to complete a project before moving on to something else.

Over the course of this research, I have developed interviewing skills, developed my writing skills and learned that the best way to solve a problem is to let time pass, within limits. I've also learned that, as a researcher, I need to approach work from an open perspective. I have faced the biggest challenges because I thought I knew something, and was later proven wrong. I now try to be open to all ideas and suggestions.

I have learned that there is no substitute for careful work practices. In using NVivo software for my data analysis, I experienced challenges. I lost analyzed data twice, for no reason that I could identify – the second time I

had a hard copy of the analysis. My hard drive crashed and I lost several months of work – I began to back up my work more frequently. There is nothing to be gained in repeating work because of technical malfunctions.

Because this research has taken a number of years to complete, I have had the opportunity to revisit work that I had thought was insightful and well-developed at the time that I wrote it. A year or two later, however, I could see that I had moved far beyond that point. During the intervening time, I had collected new data, read further regarding concepts that were emerging from my research and spent time thinking about what I was finding. As new ideas emerged, older ideas often appeared to be underdeveloped. I was also learning new skills that were necessary to complete the research – I was developing new positive capabilities.

When I began to understand the practice of negative capability, I thought that I had the answer to overcoming the challenges that I was facing. As I finish this thesis, I still find it challenging to practice negative capability. As time has progressed, I still employ dispersal tactics.

During these experiences, I have repeated a cycle of dispersal, negative capability, new insights, elation and the belief that I now understand negative capability and can practice it at will, and then a return to dispersal when the next challenge is presented. Being able to practice negative capability is helpful in containing the uncertainty that accompanies the research process. During the times when we are conducting research, we are never sure if we will acquire worthwhile insights or if our work will be accepted. In a culture that promotes productivity, it can be very challenging to do work without being certain that it will be relevant. The practice of negative capability can sustain us during these times of doubt and uncertainty. Consequently, I continue to work toward developing my capacity to practice negative capability.

Over the past several years, I have become convinced that the pursuit of a PhD requires an individual to engage with a personal capacity to practice negative capability. This may be supported by supervisors, friends and family. Conversely, external demands on one's time may make dispersal a more attractive option. With each addition of an ingredient that reduces

uncertainty and anxiety and supports the containment of emotions, such as relational support, increasing positive capabilities and meditative practices, I have observed an improved ability to practice negative capability and make progress with my research.

8.6 Concluding Remarks

When I first learned of the capacity to practice negative capability, I suspected that it was a little-understood but important concept in understanding resistance and acceptance of IT change. The work done to produce the study that is before you has served to increase my conviction that this is the case. It is my contention that much can be understood of the varying responses to new IT, on the part of individuals, by considering the capacity to practice negative capability. Furthermore, by taking steps to support an individual's ability to practice negative capability during the IT change process, or any change process, smoother transitions may be experienced in the future.

Because negative capability needed to be studied further in order to understand it in the context of IT change, this thesis reflects new knowledge concerning both negative capability and the concept within IT change events. By drawing from IT change experiences, I believe that significant additions to the body of knowledge have been made. In having done so, it is my hope that it will both assist people in understanding user responses to new IT and inspire other researchers to consider both the notion of negative capability and its relevance to IT change.

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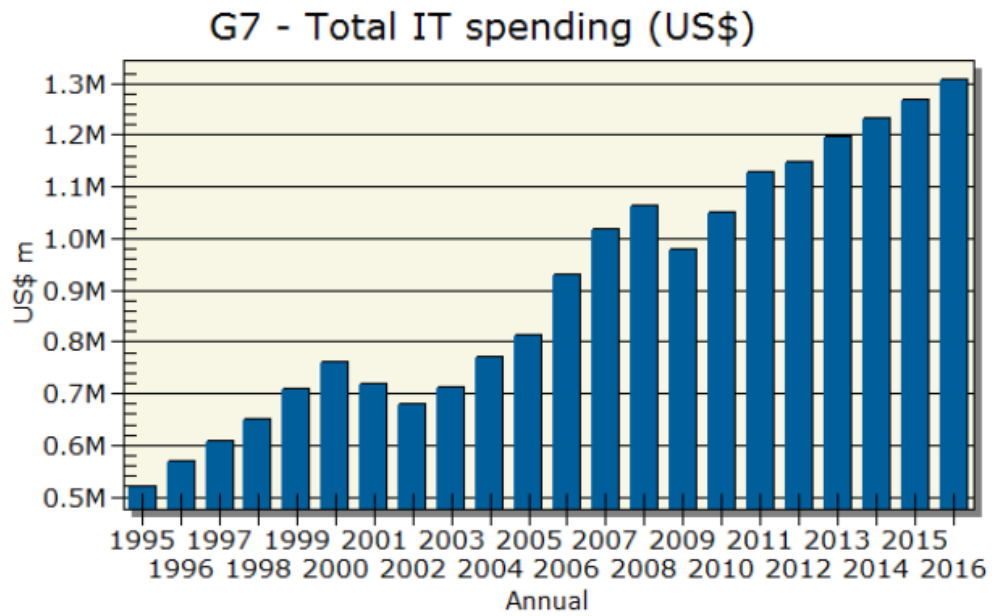
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APPENDICES

Appendix 1 – G7 Total IT Spending



- EIU Data Services, G7 Country Data and Market Indicators, 2012, used with permission of The Economist Newspaper Limited

Appendix 2 – Post-Implementation Interview Schedule

1. Tell me about yourself (family, hobbies, interests, etc.)
2. Tell me about your time at MO/CPT.
3. I'd like to talk about your first experience with computers. Could you tell me about it?
4. How did the experience make you feel? Why do you think you felt that way?
5. Have you ever been present for a new IT implementation before this one?
6. Could you tell me all about what you experienced at that time?
7. Could you tell me about this implementation from the beginning? (this time)
8. Did this one feel any different that last time (if applicable)? If so, how? If so, why do you think this time was different?
9. Tell me about concerns that you had as the implementation was progressing.
10. Think about a time when you didn't think you could go on with it. What did you feel at that time? What did you do?
11. What do you think should be done differently if this was ever done again? Why?
12. Do you think there is anything about this workplace that made the change easier or harder? Could you describe what you mean?
13. How do you generally feel about change in your life? Could you tell me about a time where there was a big change?
14. Do you find that you feel differently at different times? Could you give me example(s)?
15. When you face challenges that you don't know how to overcome, what do you usually do? Could you describe an example?
16. Have you ever had a solution to a problem come to you when you weren't thinking about it? Could you tell me about an instance of that happening?

Appendix 3 – Consent to Participate Form



CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: **User Responses to the Introduction of New Information Technology**

You are asked to participate in a research study conducted by Judith Decou, PhD Research Student, at the Bristol Business School, at the University of the West of England. This research study is a component of her PhD thesis.

If you have any questions or concerns about the research, please feel to contact:

Judith Decou, jdecou@uwindsor.ca

Dr. Peter Simpson, Director of Studies, Peter.Simpson@uwe.ac.uk

A. PURPOSE OF THE STUDY

This study is being conducted to gain understanding into how individual users respond to the introduction of a new information technology into their workplace.

B. PROCEDURES

If you volunteer to participate in this study, you will be asked to talk to the interviewer about the impact of the new information system and your feelings about it.

The total time required for the interview will be approximately one hour.

C. POTENTIAL RISKS AND DISCOMFORTS

There is no risk (e.g., physical, psychological, emotional, financial, social) to you in completing this survey.

D. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

It is anticipated that the results of this study will add to the current body of knowledge relating to the field of management information systems. The results of the findings of the study will be made available at the completion of the research upon request to the researcher to j-decou@uwe.ac.uk

E. PAYMENT FOR PARTICIPATION

A draw will be held for participants once the research is completed.

F. CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. Interview respondents will be allowed access to review, clarify or remove any of the material provided during the interview. Any audio recorded material will be confidential, and the reviewing of material will be for professional use only.

G. PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to participate in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. You may also request that any audio recording be stopped or discontinued. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

H. FEEDBACK OF THE RESULTS OF THIS STUDY TO THE SUBJECTS

The findings of the study may be acquired from the investigator upon completion of the research project.

I. SUBSEQUENT USE OF DATA

The data/information obtained during the interview will be used to add to the body of knowledge about user responses to the introduction of new information technology and will/may be used in this and potential future research studies. If approved (see section K below), quotations from the interview may also be used in the theses and potential journal articles or trade publications.

J. RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty.

K. SIGNATURE OF RESEARCH SUBJECT/LEGAL REPRESENTATIVE

I understand the information provided for the study **User Responses to the Introduction of New Information Technology** as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form. Also,

I agree to allow my comments to be quoted in the proposed thesis.

I agree to allowing my comments to be quoted in potential academic or trade journal publications.

I consent to the audio taping of the interview, but maintain the right to subsequently decline and erase the tapes in the future.

Name

Organization

Signature

Date

Signature of Interviewer

Above are the terms under which I will conduct research.

Signature
Judith Decou

Date