

Boston College
The Carroll School of Management
Department of Organization Studies

**COMPETING THEORIES OF MEDIA CHOICE: MOVING
BEYOND THE CONTROVERSY TO UNDERSTAND HOW AND
WHEN THEY INTERACT**

A Dissertation

by

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Submitted in partial fulfillment of the requirements for the degree of
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DISSERTATION ABSTRACT

Competing Theories of Media Choice: Moving Beyond the Controversy to Understand How and When They Interact

by Sharon P. McKechnie

Advisor: Judith R. Gordon

Communication media choice research has passed through three distinct stages in the past 30 years. In the 1970s and 1980s social presence and media richness were the dominant theories. In concert with a rapid expansion of communication technologies available in the 1990s social influence theory rose to prominence. In recent years there has been a general acceptance that some aspects of each of these approaches must be included to explain communication media choice. However, there have been no studies that show which aspects of these theories interact or how they interact. Synthesizing key aspects of all three approaches, this dissertation develops a theoretical model that illustrates how characteristics from all of the central theories of media choice both directly and interactively drive an individual's communication media choice.

A two-stage qualitative and quantitative methodology identified and tested the effects of a core set of message and recipient characteristics on media choice. The results show that media richness and social presence factors, including volume, equivocality, time sensitivity, and negative affect of the information to be communicated, have strong, direct effects on individual choice. However, moderating effects from social influence characteristics rooted in the senders' knowledge of the recipient's media preferences and experiential effects from having worked with the recipient demonstrate the complex interactions that drive individual communication media choice.

The findings from this study contribute to the current literature in multiple ways. First, the identification key task factors that have very strong direct effects on media choice illuminates why there have been so many mixed findings in the research to date. Inclusion of any one of these factors in a research study could easily mask the effects of another, weaker factor. Second, the methodology herein supports the identification of not only how media richness, social presence, social influence, and contingent factors interact, but also which specific media senders are most likely to choose in particular circumstances. Furthermore, it is shown that regardless of the number of media available, senders effectively limit their choice to face-to-face, telephone, and email communication.

DEDICATION

For Patrick

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CHAPTER ONE

INTRODUCTION

Communication is central to our everyday lives, both at home and at work. We communicate with our friends, family, peers, subordinates and superiors. In some situations we know the recipient of our message well, while in others we interact with relative or total strangers. Communication events take many different forms, including face-to-face conversations, telephone calls, emails, teleconferences, and web-based chats. Communication events can have a wide range of goals, such as a simple transfer of information, a request for the recipient to complete a task, or even the development of a clearer understanding of a project with a group of co-workers.

For interactions between individuals or groups of individuals to be successful, the aim of the communication and the result must be aligned. When viewed through the lens of communication research, any communicative act involves the development of a link between two or more individuals, with the outcome not necessarily always resulting in a shared meaning (Cooren, 2000). When the interactions are appropriately framed and the transmission media support the appropriate understanding on both sides, an act can "...establish a type of contract between two actors" (Cooren, 2000, p. 192). However, in today's world of multiple potential communication media, the choice of which media to use to achieve the sender's desired goal can be complex. Further, the actual process of making the choice of communication media for a particular communication can be unconscious (Cooren, 2000). Thus, discovering the factors that drive media choice requires first identifying which factors render this process salient rather than tacit in the choice process and then illustrating how these factors drive the process.

The steady increase in the number of communication media available over the last thirty

years has multiplied the choices available to senders. Growth in the development and use of computer mediated communication and the internet has created totally new social situations and communication behaviors (Kock, 2004). Specifically, in the last decade email has become a central communication tool (Minsky & Marin, 1999; Tassabehji & Vakola, 2005). During the same period there has been significant growth in the availability and use of many new wireless communication technologies (Schmandt, Marmasse, Marti, Sawhney, & Wheeler, 2000). These changes have significantly impacted communication both at work and at home, but research into communication media choice has not kept up with the technological advances.

Although we can now communicate with almost anyone at any time through multiple media, we still lack a clear understanding of the decision processes that drive individual communication media choice. For example, when a manager must contact her colleagues to notify them of some modifications to a document they will be presenting that afternoon, what combinations of factors related to the message, the recipient, and the situation drive her final choice? Do certain factors play a more central role in the choice decision, or do all of the factors contribute equally, but interact in different ways? Existing research has not provided clear answers to such questions. This chapter will trace the development of the literature of communication media choice, highlighting those aspects of individual choice that we still do not understand, and thus illustrating how this dissertation will fill some of those gaps.

Evolution of Research about Communication Media Choice

The dominant theory of communication media choice throughout the 1980s and early 1990s was media richness theory (Webster & Trevino, 1995). Media richness theory (Daft & Lengel, 1986) posits that media choice is based on the perceived fit of message content and the specific characteristics of the medium. Messages can be defined as more or less equivocal, a

term that can best be understood as a message that has complex and conflicting interpretations (Weick, 1979). Media that support the transmission of such a message have characteristics that allow the sender to transmit multiple verbal and non-verbal cues along with the basic content, and are described as rich media. Those media that have characteristics that do not support these cues, or even block such cues, are described as lean.

Another technologically deterministic theory (Kock, 2004) that has had a strong influence on research about computer-mediated communication (Sallnas, Rasmus-Grohn, & Sjostrom, 2000) is social presence theory (Short, Williams, & Christie, 1976). As with media richness theory, the basis of this approach is that the sender needs to make a rational choice to fit the medium to the message, but in this case the choice is based on selecting a medium that provides the appropriate amount of social presence or personal involvement with the basic content of the message. Media are rated on a continuum of ability to transmit social presence. Face-to-face communication is the medium that is richest in terms of media richness theory and also supports the greatest sense of self in terms of social presence.

In the 1990s the focus in media choice research moved from the technology to the social determinants of media choice. The central theory for this approach was social influence theory (Fulk, Schmitz, & Steinfield, 1990; Fulk, Steinfield, Schmitz, & Power, 1987). In parallel with the growth and availability of cheaper and faster computer mediated technology, empirical findings for these emerging technologies could not be easily explained by the then dominant media richness theory (Kock, 2004). Social influence theory described media choice and use in terms of socio-behavioral effects, specifically that a sender will base his or her media choice on his or her immediate workgroup or organizational norms, rather than on a fit between the specifics of the message and the characteristics of the media. During this period research about

communication media choice split into two camps, those following rational choice theories, such as media richness and social presence theory, and those taking a more socially constructed view. The result was studies focusing on “highlighting the distinctions between the two views as proponents of one or the other approach claim superiority” (Webster & Trevino, 1995; p. 1545).

The third stage of research about communication media choice emerged in the late 1990s. It involved the synthesis of two or more approaches with the aim either of improving empirical findings rooted in a single approach or attempting to show that theories from the two approaches are complementary. In both cases researchers generally included the message equivocality and media determinants as described in media richness theory but augmented those basic propositions by including in their analyses some additional concepts drawn from social influence theory, social presence theory, and/or media symbolism (Burke & Chidambaram, 1999; Huang, 2002; King & Xia, 1997; Lengel, Daft, & Trevino, 1987; Pratt, Fuller, & Northcraft, 2000; Timmerman, 2003; Wiesenfeld, Raghuram, & Garud, 1999). These researchers have found that media choice is more clearly explained by the inclusion of some social factors in addition to aspects of fit between each particular medium and the task to be completed. For example, in her study of managers’ choice of email communication, Markus (1994) found that media choice could only be clearly understood by considering the social processes that surrounded media choice rather than focusing on task/media fit propositions alone.

The application of social presence theory and media richness theory together to understand media use has been generally supported in the literature, as shown by Straub and Karahanna (1998) who found that studies including both social presence and media richness explanations of media choice were supported almost twice as often as those focusing on media richness theory alone. However, some authors have noted that combining the concepts

associated with media richness and social presence theories require a reinterpretation of rich and lean as not inherent in the technology (as posited by media richness theory) but as an artifact of the use of the medium in interaction with the context (Lee, 1994; Ngwenyama & Lee, 1997).

Thus, research has shown that rational choice and social factors together can be used to understand media choice, but how and when factors from these approaches are complementary has not been demonstrated. The most recent focus in the field of communication media choice is the inclusion of specific experiential factors, either rooted in the sender's experience with the medium or the recipient, to the basic premise of media richness theory to explain why supposedly lean media will be chosen for equivocal communications.

The central theory for this new approach is channel expansion theory (Carlson & Zmud, 1999), which demonstrates how a sender with experience using a specific, lean medium will choose it to transmit equivocal information. For example, in their study of instant messaging Isaacs, Walendowski, Whittaker, Schiano & Kamm (2002) found that less experienced users typically chose that technology to transmit short messages or simply to ensure a colleague was available before contacting them by telephone or meeting face-to-face. In contrast, more experienced users would choose instant messaging for complex communications and developed a type of shorthand for complicated conversations. These results show that some senders build on their experiences in choosing and using specific media, enabling them to choose a given medium in a wider range of situations, while others learn only the most basic uses.

How Are Rational, Social, and Experiential Factors Complementary?

The preceding examination of the communication media choice literature over the last thirty years illustrates the development of a set of central theories, moves to test these theories against each other, and finally combines findings to explain the mixed support for the individual

theories. However, even when combining aspects from one or two theories, there is still an emphasis on one or two aspects of media richness theory and social influence theory. For example, in one of the first and still one of the most influential studies testing the complementary aspects of rational and social theories, Webster and Treviño (1995) conclude that rational and social factors should be included in a comprehensive model of media choice; however, they note that their findings should be used as a basis for developing “future media choice research ...includ[ing] multiple influence factors and multiple media choices” (p. 1564). More recent research has confirmed the need to include both task-related factors and social effects when explaining communication media choice (Straub & Karahanna, 1998; Treviño, Webster, & Stein, 2000). However, there is still no clear picture of how, when, and why rational choice effects based in the characteristics of the message, social effects based in the sender and recipient, and experiential factors related to the specific situation interact in the individual communication media choice decision process.

Therefore, the aim of this study is to develop and test an inductive model that specifies which factors have the greatest effects in the individual decision-making process and how those factors interact. As the study is not designed to test one particular theory of media choice nor to compare or contrast the effects of two theories, there is no a priori selection of a central set of factors affecting communication media choice. Instead, the two-stage qualitative and quantitative methodology supports the inclusion of all of the possible decision factors that have been noted in the literature and then empirically identifies which factors are central to the sender’s decision process. By identifying which factors make the senders actually consider their media choice, that is, the factors that make the decision process salient and explicit, this study moves away from a “them or us” approach to identifying the determinants of individual media

choice, and thus identifies and tests a robust conceptualization of the decision process placing media choice within "...a more complex net of causal relationships" (Fulk & Boyd, 1991).

The causal relationships that are central to this study are based in the individual level of analysis, with rational, social, and situational factors operationalized in the form of task and recipient characteristics. Understanding how these specific factors directly and indirectly drive communication media choice will answer the general research questions: 1) Which message factors cause a sender to more carefully consider his or her communication media choice, and how do they affect this choice? 2) Which recipient characteristics cause the sender to more carefully consider his or her communication media choice, and how do they affect this choice? 3) How do these message and recipient characteristics interact to cause a sender to more carefully consider his or her communication media choice, and how do they affect this choice? Answering these questions will not only broaden current knowledge of when and why individuals choose certain communication technologies, but will also enable organizations to ensure that they provide the most suitable communication tools for their members by providing a general framework on which to base communication media choice.

Overview of the Dissertation

Chapter Two presents a detailed review of the literature on communication media choice, identifying a wide set of possible drivers of communication media choice. These findings form the basis of a set of propositions for the effects of each of these factors. Chapter Three details the methodologies used in this project. Developing a clear picture of those factors that carry the most weight in the choice process as well as how they interact requires a two-stage process. The first study involved a qualitative, interview-based process, and the second study involved a scenario-based, policy-capturing analysis. Chapter Four presents a detailed account of the

qualitative study, and the findings and hypotheses from this chapter form the basis for the quantitative study described in Chapter Five. Finally, Chapter Six presents a summary of the key findings, discusses the theoretical and practical contributions of this work, and outlines the limitations and future directions for this research stream.

CHAPTER TWO

THEORETICAL BACKGROUND

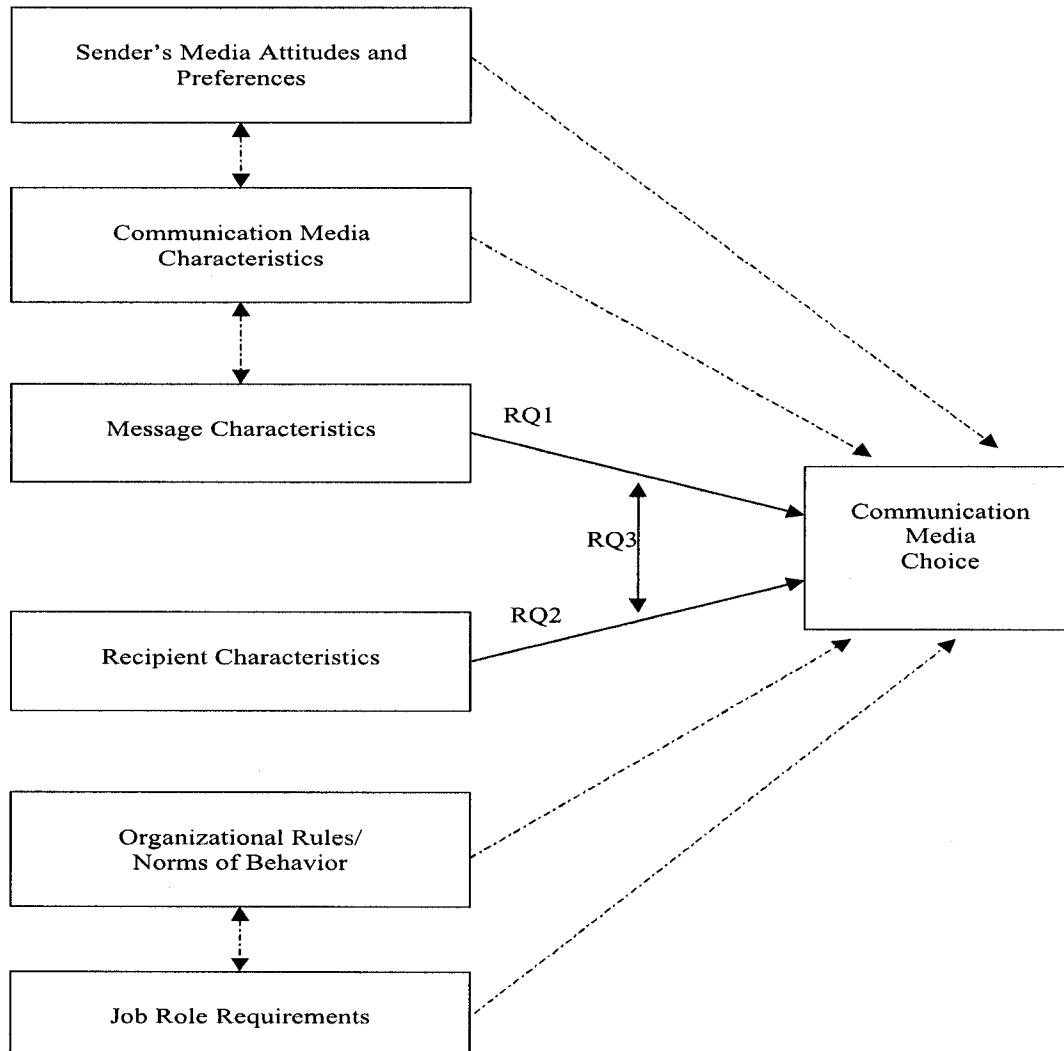
Media choice has been shown to be driven by individual, technical, task, and social factors. Figure 1 illustrates the broad factors that play a role in individual communication media choice. At the most micro level of analysis individual, cognitive-level effects on media choice have been studied in terms of the relationship between individuals' attitudes and preferences towards media both directly (Trevino et al., 2000) and in interaction with media characteristics (Te'eni, 2001). Task and message factors have been studied in terms of media richness theory (Daft et al., 1986) and media symbolism (Short, 1976), with the focus of these approaches on the fit between the task and the characteristics of the media. Broader, more macro-level effects on individual choice have been studied in terms of organizational and group effects: organizational rules and norms can be linked to issues such as communication genres (Yates & Orlikowski, 1992); social influence theory posits that media choice is influenced by the choices made by a sender's immediate work group (Fulk et al., 1987).

Existing research has shown support for the effects of media attitudes and preferences, technical effects, organizational norms, and job role requirements on communication media choice (represented by the dotted arrows in Figure 1). This study focuses on a key gap in our knowledge of individual communication media choice: how, when and why message and recipient characteristics interact to drive communication media choice (represented by solid arrows in Figure 1). Answering the first research question identifies which message characteristics are central to individual media choice; answering the second research question identifies which recipient characteristics are central to individual media choice; and answering the third research question clarifies how and when these factors interact to drive individual

communication media choice.

FIGURE 1

Illustration of Factors that Influence Communication Media Choice



Individual-Level Factors Driving Communication Media Choice

Communication does not take place in a vacuum, and many factors could conceivably be included in a list of “enablers and motivators of media use” (Carlson et al., 1999, p. 154).

Trevino, Webster, and Stein (2000) examined the role of objective, social, and person/technology

factors in influencing managers' media choices, attitudes, and use. The objective factors included were message and job equivocality. Social factors included the distance and number of recipients, as well as the senders' perception of the recipients' attitudes toward the media. The person/technology skills included the senders' skills with respect to each medium, the perceived richness of the media, the flow of the media (control, attention focus, curiosity, and intrinsic interest), and finally the ease of use of the media. This general template of individual, technical, and cultural factors driving media choice has brought us much closer to fully identifying the broad drivers of media use and choice. Trevino et al. (2000) found that the individual level of analysis was most suitable for understanding media choice because choice seemed to be primarily situationally driven, whereas broader job-related and social factors better explained general patterns of media use, which were rooted in work-group or organizational norms. For example, the individual level of analysis can be used to examine why a salesman chose to use email to contact a customer with information on an order confirmation, but might have chosen to telephone the customer on another occasion. Studies at the group level, in contrast, are better for developing an understanding of why sales people generally use the telephone when following up customer orders.

Thus, when determining how and when specific factors interact to drive communication media choice, an individual level of analysis is appropriate. Analysis at this level focuses on media choice events, including how the specific characteristics of each individual message interact with the characteristics of each individual recipient, thus clarifying the effects of and the interaction between task and social drivers of media choice.

This section presents an overview of the literature, using findings to date to identify a broad set of individual-level factors of communication media choice. In addition to highlighting

these individual-level factors, they are used in the development of a comprehensive set of propositions. These propositions form the basis of the first stage of the empirical portion of this study.

Media Richness Theory

Much of the early work on communication media use “has been dominated by a rational choice perspective that focuses on media-task interaction” (King & Xia, 1997, p. 879), with media richness theory (Daft et al., 1986) the approach that embodies this view. Media richness theory has the central proposition that message content can be more or less equivocal, and that media can be described on a continuum between rich and lean. Rich media allow the sender to transmit multiple non-verbal cues and support immediate feedback; lean media limit the ability to send complementary cues or receive feedback. Message equivocality relates to the degree to which a message can be misunderstood, with more equivocal messages requiring richer media for successful transmission. Face-to-face communication is the richest medium (Daft et al., 1986), with telephone, letters, memos, and most electronic communication media being progressively leaner (Lee, 1994; Lengel et al., 1987).

Media richness theory suggests that successful communication requires individuals to choose a given technology for a specific message based on the richness of the media and its match to the message. In general, however, there has been mixed support for these claims (Lee, 1994; Markus, 1994; Rasters, Vissers, & Dankbaar, 2002; Rice, 1992). For example, one study of media richness theory found that only all-female groups’ performance suffered from the lack of non-verbal cues (Dennis, Kinney, & Caisy Hung, 1999), indicating gender differences in the need for richer media to transmit equivocal information. Another study, which took an organizational level of analysis and therefore reported large-group effects, found that, in general,

there were no differences in the use of rich and lean media for complex or simple tasks (Yazici, 2002). In contrast to the general propositions of media richness theory, one study actually found that rich communication could be detrimental to the performance of fully virtual teams, as this led to the strengthening of sub-group identification; lean media in contrast resulted in virtual group members focusing on shared experiences rather than their other, less salient differences (Pratt et al., 2000). The central role media richness theory has played in the development of media choice research, and the continued mixed findings in the literature underline the need to include equivocalty in any study of communication media choice, leading to the first proposition:

Proposition 1: Message equivocalty will directly affect communication media choice.

A central aim of this study is to be as inclusive as possible when identifying possible factors driving individual communication choice. Although media richness theory focuses on the equivocalty of the message, there are other possible characteristics of an individual message that could affect an individual's media choice in terms of fit between the message and the media. Therefore, four more propositions are developed to examine in detail the effects of message characteristics on media choice. The first of these is the possible effects of time sensitive material in a message.

Sometimes a message must be transmitted speedily and concisely for the communication to be successful (Straub et al., 1998; Waller, 1999), and it is clear that time sensitive information is rendered irrelevant if the information is received too late. Thus, if the sender believes a given message has to be received within a certain time period, his or her choice of medium would be affected:

Proposition 2: Time sensitivity will directly affect communication media choice.

One of the characteristics of a rich media is the availability of instant feedback to the

sender that the message has been understood. However, feedback can also take the form of simple notification that the message has been received. When the individual initiating the communication feels that he or she needs to receive immediate feedback or needs to ensure the recipient has actually received the message, the sender is more likely to use a medium that supports that need. King & Xia (1997) showed that communication tasks split into two distinct types, those that required immediate feedback (reciprocal) and those that did not (non-reciprocal). McKechnie (2002) also suggested that individuals mainly use media that do not necessarily entail an immediate reply for conveying certain types of information, such as where and when a group meeting could take place. Thus, a sender usually bases the determination of medium used on the need for timely feedback in the most basic terms, that of notification of receipt of their message.

Proposition 3: Reciprocity will directly affect communication media choice.

Many of our everyday communications are routine; they are repeated so often that we have a set format for completing them. Routineness is another message characteristic that has been studied under the umbrella of message equivocality, with the findings that for some jobs all information to be communicated is equivocal. In such situations, complexity is routine and senders adapt their media use so as to routinely send complex information (Trevino et al., 2000). Another viewpoint takes the stance that some messages are so routine that the communicative event becomes a mindless, automatic action (Timmerman, 2002). This type of behavior is described as over-learned, and the individual only processes a minimum of information regarding the task (Langer, 1989). When this occurs, the sender may not pay any attention to the communication media he or she is using; in essence it becomes invisible (Cooren, 2000) and, in a way, the message and the medium become identical to the sender. In contrast, a novel or unusual

message can result in a mindful act that will require the sender to think about his or her behavior (Langer & Piper, 1987) and consciously consider his or her choice of communication medium.

Proposition 4: Routineity of the message, will directly affect communication media choice.

The final message characteristic included in this section, security, is one that has not been widely studied. However, there are many instances, from sending confidential human resources information within a department to distributing paychecks, where the sender will need to ensure that the content of a given message is seen only by the intended recipient. This need can be seen in everyday communication events, from the use of lined security envelopes for some written communications to the need for passwords to open email accounts. Some users, such as those who work in the legal or medical fields, may have a greater need to refer to security requirements than others. Security concerns could be a key factor in many organizations, either to keep within the law or to avoid legal liabilities that might occur from information being conveyed to the wrong recipient (Sitkin, Sutcliffe, & Barrios-Choplin, 1992). Therefore the possible effects of a need for security are presented in the fifth proposition.

Proposition 5: Need for security for a message will directly affect communication media choice.

Social Presence and Media Symbolism Theories

Social presence theory, like media richness theory, has been described as a rational approach to media choice. The basic premise in this case is that the sender will choose a transmission medium that enables him or her to transmit some awareness or presence of the person (sender) along with the basic message (Short et al., 1976). This sense of self can take the form of some type of affect or signaling tone, such as happiness or seniority, within the message. Media symbolism is a theory that is closely aligned with social presence theory and which states

that the choice of media has a symbolic meaning within specific social settings (Sitkin et al., 1992). For example, in some organizations a message delivered as a hard-copy letter may imbue the content with more gravitas than conveying the same information by telephone or email. However, in another organization messages delivered personally, such as via telephone call, may be those that appear to be the most important.

Both social presence and media symbolism posit media choice as a fit between the medium and the type of contextual information the sender wishes to transmit. Research that focuses on this point includes identifying when the sender clearly intends to convey some type of influence (Barry & Smithey Fulmer, 2004) or status signals (Gueguen & Celine, 2002). In such cases the senders will choose media that enable them to convey both the symbolic meaning and the content of their message (Sitkin et al., 1992).

Proposition 6: Message symbolism will directly affect communication media choice.

When determining the appropriate medium or media for a given piece of information, the sender may assess the importance of the message. Importance may be closely linked to one or more of the factors noted above, such as speed of delivery, reciprocity, and security. However, signaling the importance of a message could also be considered as an aspect of media symbolism. As yet, there has been no research about importance as a separate factor nor has there been research that shows if and how importance may affect media choice. With the aim of being inclusive, rather than exclusive, in the initial identification of factors for this study, importance was included in this set of potential variables with the aim both of determining whether senders define importance independently from the other factors noted above and ultimately whether it impacts media choice.

Proposition 7: Message importance will directly affect communication media choice.

Social Influence Theory

The effects of social processes on communication media choice are clearly explained by social influence theory, which is rooted in social constructivism and posits that an individual's attitudes towards and use of communication media are a result of social psychological processes (Fulk et al., 1987). In contrast to the rational choice theories described above, the basis of this approach is that media are chosen subjectively, based on a need for the sender to conform with the accepted norms modeled by his or her preferred workgroup, rather than on the content of the message (Fulk, 1993). Social influence effects have been shown to be the most salient when senders are choosing to use a newer communication technology (Webster et al., 1995); however, such findings are now relatively dated as the new technology studied in this case was email, a communication technology that has rapidly become generally available and widely used for most organizational communication. Numerous communication technologies have been developed that enable a sender to contact a recipient at almost any time and any place (Schmandt et al., 2000). The sender should correctly determine the appropriate medium for the message so that the recipient does not become over-burdened with instant information nor become confused and simply begin to ignore the messages (Mantovani, 2002). This theory motivates a proposition related to general effects of the sender's perception of the recipient's media preferences on media choice:

Proposition 8: Perceived media preferences of the recipient will directly affect the sender's communication media choice.

Social influence theory is based explicitly on work group effects, but there is evidence that different types of recipients may result in a greater or lesser social influence effect on the sender's communication media choice. Knowing that he or she is communicating with a senior

colleague can enable a subordinate to follow the appropriate form and level of politeness (Fussell & Benimoff, 1995). Certain communication conventions, such as titles and job roles copied onto emails and letterheads, ensure the identification of the status of the recipient; however, the sender might not be aware of any status differential or might be unable to confirm any status differential. It has further been posited that computer mediated communication will reduce status differences in communication behavior through producing a feeling of anonymity (Sproull & Kiesler, 1986). Yet, subsequent research has indicated that these differences may persist, even when the status differences are not clearly stated (Weisband & Schneider, 1995). Assessing the most appropriate media and tone for a message can be made more difficult if the unknown recipient is in a different department or organization from the sender because acceptable communication behaviors can vary greatly within as well as among organizations (Markus, 1994).

Knowing the status of the recipient can affect whether a message is routine or unusual and may increase the security requirements for a given message. For example, sending a routine message to an unknown recipient in another department or organization may make it unusual, or it may be routine to send employee performance reviews to a middle manager, but not to a supervisor.

Proposition 9: Recipient status will moderate the effects of routineity and need for security on communication media choice.

Further, communicating externally can have added complexity if the recipient is a customer, whose reaction to the communication may have a negative effect on the bottom line of the sender's department or organization. Extensive research in the marketing literature has examined communicating with customers, including marketing communication generally (Andersen, 2001; Coupey & Sandgathe, 2000; Duncan & Moriarty, 1998), marketing

communication media (Gronroes, 2004; Krakowka, 1997; Platt, 1993), and ways to persuade a customer to buy a product (Ganzach & Weber, 1997; Harvey, 2001; Yalch & Sternthal, 1984). However, these studies are designed at the group level of analysis and cannot easily be translated to individual communication media choice. The organizational and management literature has included limited research about the effects of external recipients on communication media choice. One study that examined the use of e-mail by salespeople (Xu, Weitz, & Liu, 2004) found that media choice was indeed a function of their relationship with their customer. Given that many customer-related communications can take place every day, from simple service contacts to “cold calling” a potential customer, there are many opportunities for this relationship to affect media choice. Just as knowledge of a recipient’s status could affect media choice, knowing that the recipient was some type of customer would also play an interactive role in a sender’s communication media choice by making a routine call non-routine, increasing a need for security as the communication is going outside the organization, or simply increasing the perceived importance of the communication.

Proposition 10: Communications with an external recipient moderate the effects of routineity, need for security, and message importance on communication media choice.

Channel Expansion Theory

The most recent research stream related to communication media choice has examined how and when users choose to accommodate or overcome the limitations of restrictive technologies (Carlson et al., 1999). Channel expansion theory was developed to explain how a sender’s perceptions of the richness of a given communication medium is developed and can change through experience working with specific recipients and media. Carlson and Zmud (1999, p. 153) noted how such an understanding “may be crucial in improving models of media selection and use, as well as explaining inconsistencies observed in prior research.”

Research has shown that senders can and do choose lean media for equivocal or complex communications, especially in instances where the sender has experience working and communicating with the recipient. For example, knowing one's audience and how they will react to the information being sent enables the sender to appropriately package relational and social presence information. In his study of communication within the editorial groups of two national newspapers, Zack (1993) found that participants knew when a humorous message sent by electronic mail would be appreciated by one individual and perceived as hostile by another. The determination of the complexity of the message interacts to some degree with the sender's knowledge of the recipient, thus affecting media use. If the sender and recipient have had a great deal of experience working on a given project and communicating regularly, they would be able to communicate highly complicated messages in a very precise manner (Isaacs, Walendowski, Whittaker, Schiano, & Kamm, 2002), in contrast to previous research findings that instant messaging was used only for short messages (Nardi, Whittaker, & Bradner, 2000).

Knowledge of the recipient can also make it easier for a sender to transmit some type of symbolic aspect to the message for a given recipient. As has been shown, general experience communicating with the recipient will enable the sender to transmit a more nuanced meaning using leaner communication media (Zack, 1993); thus knowledge of the recipient will ease the transmission of symbolic messages.

Proposition 11: Familiarity with the recipient will moderate the effects of message complexity and message symbolism on communication media choice.

Situational Effects.

Prior research has shown that distance affects communication media choice (Trevino, Lengel, & Daft, 1987; Webster et al., 1995). For example, if a colleague is in a different office a face-to-face meeting may not be an option. However, it may be the case that the information to

be imparted is deemed so important or complicated by the sender that it must be delivered in person, so the distance is not as central to the media choice as the characteristics of the message. Aspects of distance become even more salient when the sender and recipient are in different time zones. For example, globally distributed teams that developed patterns of temporal coordination between the use of asynchronous and verbal synchronous communication performed more successfully than those that did not (Massey, 2003).

Proposition 12: The geographic distance between the sender and recipient will moderate the effects of time sensitivity on communication media choice.

As with distance, the number of recipients influences communication media choice (Trevino et al., 1987; Webster et al., 1995) because cost and time constraints are generally higher when communicating with multiple recipients. However, aspects of complexity and urgency may moderate these effects if senders feel that transmitting these message characteristics calls for the use of a different medium than they would use for a simple, everyday communication.

Proposition 13: The level of complexity and level of importance of the message will moderate the effects of the number of recipients on communication media choice.

Drawing on a wide range of theories of communication media choice thirteen propositions have been developed in relation to aspects of individual communication media choice; these propositions will form the basis for the first, qualitative stage of the analysis in this dissertation. The following chapter details the two-step methodology that will empirically use these propositions to develop an inductive model and a set of hypotheses that will ultimately be tested to illuminate which factors drive sender's to consider his or her choice of communication medium, and how and when those factors interact.

CHAPTER THREE

METHODOLOGY

The central research questions for this study are 1) Which message characteristics cause a sender to more carefully consider his or her choice of communication media, and how do they affect this choice? 2) Which recipient characteristics cause a sender to more carefully consider his or her choice of communication media, and how do they affect this choice? 3) How do these message and recipient characteristics interact to cause the sender to more carefully consider his or her choice of communication media, and how do they affect this choice? The previous chapter described a large number of message and recipient characteristics identified in the literature as having some effect on individual communication media choice. Answering the research questions requires reducing this list of possible characteristics into an empirically testable model that illustrates which factors are central to the individual's decision-making process, and how they interact. Thus the most appropriate method is one that enables the identification and measurement of the effects of message and recipient characteristics on the sender's communication media choice. Therefore, this study uses policy capturing, a method that is rooted in an individual sender's actual behaviors and enables the researcher "to determine which pieces of information are most influential in determining decisions" (Aiman-Smith, Scullen, & Barr, 2002, p. 388).

Policy Capturing

Policy capturing enables researchers to understand how individuals use information when making specific judgments (Zedeck, 1977). It has been used in the fields of management, human resources, and marketing to study decision making in a variety of settings, including job search, compensation, and motivation (see Karren & Barringer (2002) for a complete review). The

method involves combining ideas from balanced multivariate experimental designs with sample survey procedures (Rossi & Anderson, 1982). One study of media choice has applied this method in an attempt to determine whether rational or social theories better explained communication media use (Webster & Trevino, 1995). The core of this method “involves asking decision makers to judge a series of scenarios describing various levels of the explanatory factors, or cues, and then regressing their responses on the cues” (Karren & Barringer, 2002, p. 337). The resulting regression coefficients can be used to identify the factors that have the greatest impact on the decision. This method can answer idiographic or nomothetic research questions (Aiman-Smith et al., 2002). Idiographic questions focus on the understanding of individual differences or similarities in specific decision situations; nomothetic questions attempt to understand the factors that predict the overall tendencies in decision making across many decision makers. The research questions for this study fall into the nomothetic category because they seek to understand the recipient and message factors that senders generally use to determine their communication media choice.

Issues of validity must be carefully considered when designing a policy-capturing study. To ensure validity “care must therefore be taken to create scenarios that include salient and realistically defined cues and to avoid unlikely cue combinations” (Karren & Barringer, 2002, p. 338). Researchers need to develop the decision scenarios from interviews or surveys with individuals who are actively involved in making the type of decision of interest. However, even after using a truly representative sample to develop the scenarios, realism and validity can be lost due to the fact that only a small number of factors can be included in a policy-capturing scenario, as the factors must be evenly balanced across the scenarios (Webster et al., 1995). This limitation is a significant issue in this type of study because trying to include many different

factors or levels of factors within one study can result in a very long and repetitive survey instrument. This problem is clearly described by Aiman-Smith et al. (2002, p. 397): “For a study with four cue variables, each with three levels, a completely crossed design would require $3^4=81$ scenarios. Adding a fifth cue variable would increase the required number of scenarios to $3^5=243$.” It is essential to include only the most important cues in the scenarios while limiting the total number of scenarios to mitigate against respondent boredom and fatigue.

Policy capturing questionnaire designs can take many forms: the fully crossed design described above, a full factorial design, or a confounded factorial design. The latter two designs are more suitable for testing models that include multiple variables or levels and involve splitting the required scenarios among groups of participants. Full factorial designs are the most common in the literature and involve the researcher taking a subset (usually one-half) of the full set of scenarios and asking participants to respond to this group of scenarios. A confounded factorial design includes the incomplete block design, a model that is the most suitable for studies that require a very large number of scenarios (Graham & Cable, 2001).

The design involves taking the complete set of scenarios, dividing them into subsets, using each subset in a separate questionnaire, and then distributing the questionnaires to participants so that all scenarios are considered. There are some technical issues related to this type of study that have to be carefully considered when designing the division of the scenarios. First, this type of design requires a greater number of respondents for statistical significance than a fractional factorial or fully crossed design (Cohen, 1977). Second, the patterns of confounding (how the scenarios are distributed across the various subsets) are complex and can reduce the researcher’s ability to test for interaction effects within specific blocks of the scenarios.

A final issue for any policy capturing design involves ensuring reliability in the scenarios

used. Including duplicate scenarios easily solves this problem. The researcher can then test for consistency in the subject's responses. In summary, policy capturing is suitable for this study because it supports the examination of human evaluation processes for these reasons: (1) in general, individuals pay attention to only a relatively small number of characteristics when making judgments; (2) in general, judgments are socially structured, and most people agree on the weightings given to relative characteristics and the combination of those characteristics; and (3) individuals tend towards consistency in their own judgments (Rossi et al., 1982).

Determining which variables to include in the scenarios can be done by referencing previous research or interviewing a representative sample of respondents (Rossi et al., 1982). Therefore, to support the development of a reliable and relevant policy capturing survey, this study first identifies the key message and recipient characteristics using previous research and qualitative interviews (Hitt & Middlemist, 1979). The following chapter details the qualitative study designed to identify which task and recipient characteristics to include in the questionnaire. The qualitative study also identifies emic operationalization of those variables to support the development of realistic scenarios (Rossi et al., 1982).

CHAPTER FOUR

QUALITATIVE STUDY

The central research questions for this entire project are 1) Which message characteristics cause a sender to more carefully consider his or her communication media choice, and how do they affect this choice? 2) Which recipient characteristics cause a sender to more carefully consider his or her choice of communication media, and how do they affect this choice? 3) How do these message and recipient characteristics interact to cause a sender to more carefully consider his or her choice of communication media, and how do they affect this choice? However, as discussed earlier, the wide range of message and recipient characteristics that have been posited in the literature mean that answering these questions requires two stages of analysis. The first stage of this research process is a qualitative study which clarifies which message and recipient characteristics play a central role in the individual's communication media choice process and illuminates how they interact. The results of this study are then used to develop a set of testable hypotheses, with the recipients' descriptions of the various message and recipient characteristics forming the basis for scenario development.

Because the aim of the qualitative study was to develop a focused conceptual framework for the policy capturing study, the following set of research questions were developed: a) Which message characteristics do senders perceive as affecting their communication media choice? b) Which recipient characteristics do senders perceive as affecting their communication media choice? c) How do the senders describe message and recipient characteristics in everyday communication situations? d) Do the senders describe any interactions between message and recipient characteristics in driving communication media choice?

A key component of this stage of the study is encapsulated in the research question that

asks how senders describe message and recipient characteristics in everyday communication situations. Not only will identifying how senders describe message and recipient characteristics in their own words add to the validity of the scenarios created for the policy capturing questionnaire, it will also serve to ground this study in the senders' point of view, meeting calls to bring the user back into a central role in research into information and communication technologies (Lamb & Kling, 2003; Orlikowski & Barley, 2001; Orlikowski & Iacono, 2001). Thus, the findings from this research can also be used to determine if the conceptualizations of characteristics of messages developed in the 1970s, 1980s, and 1990s are still relevant in today's organizational environment.

Interview Protocol

The interview protocol, presented in Appendix A, consists of a comprehensive set of semi-structured questions related to those factors for which propositions were developed in Chapter Two. The questions ask respondents to describe each of the factors in their own terms and also to describe how each factor affects their media choice processes. For example, rather than asking respondents how equivocality of a message will affect their communication media choice, the interviewees were asked to describe what characteristics they felt made a message complicated or easily misunderstood, and how transmitting such a message affected their media choice. Therefore, the responses supported the development of realistic scenarios for the quantitative study, while also allowing the identification of any other message or recipient characteristics that play a key role but have not yet been identified in the literature.

Sample

To test and control for organizational and job role factors, the participants were drawn from two distinct settings. The first set of interviews was conducted in the U.S. office of a small,

bi-national software company, hereafter referred to as Software Inc. This 10 year-old company sells its proprietary software in Europe and the United States and has its head office in the United Kingdom. The U.S. office is responsible for selling the software package to customers across the United States and providing customer support and consulting services to its clients. This organization offers a wide range of communication media to its staff, and the national and international nature of the firm means that the employees face a range of communication situations both within and outside the organization, including telecommuting options and differences in distance and time. Volunteer participants were solicited through an email request, and eight interviews were conducted with a range of employees, as shown in Table 1. Two staff members declined to take part in the study; however, their job roles (one administrative, one technical) were similar to other employees who participated in the study.

TABLE 1
Study One Participant Organizations, Job Roles, and Experience

Participant Group	Sex	Organization Type	Organization Tenure (years)	Workforce Tenure (years)
Software Inc.	5 Male 3 Female	Computer Software Development	Range: 1.5 - 10 Average: 5	Range: 5.5 – 25 Average: 14
MBA Cohort	4 Male 3 Female	Public Relations Business School Medical School Computer Hardware Computer Software Banking	Range: 0.08 – 9 Average: 3.7	Range: 2.5 – 15 Average: 8

The second set of participants was solicited through an email request to the part-time MBA cohort in a northeastern U.S. university. Seven interviews were conducted, with these participants also described in Table 1. Both groups include full-time employees who make multiple communication choices during their workday. Because people generally agree on the

weighting of characteristics of everyday decisions (Rossi et al., 1982), these two samples provided the opportunity to discover a broad and generalizable set of central message and recipient characteristics that could be tested with a larger sample in the policy capturing stage of the research. The inclusion of results from this heterogeneous sample together with the findings from the single organization support the identification of message and recipient characteristics that drive media choice, while controlling for job role or organizational effects.

Analysis

All interviews were digitally recorded and transcribed. The resulting transcripts were analyzed to identify which message and recipient characteristics interviewees indicated as the most central in their communication media decision process. The data were reduced into content-analytic summary tables (Miles & Huberman, 1994), highlighting similarities and differences in the choice of drivers across job roles and between participant pools. These tables were then used as a basis for the development of a set of testable hypotheses and the conceptual model for examination with a larger group of participants.

RESULTS OF STUDY ONE

The first section of results presents a general overview of the participants and their communication media choices; subsequent sections show the results related to each of the four research questions for Study 1. Raw counts of participants responses will be shown for all results. T-tests were conducted on the means of these raw counts, and the results of the tests were non-significant. This result means that the responses from the two groups are not statistically different, a finding that supports amalgamating the responses for analysis and model development. The first two research questions for this study focused on identifying which characteristics affect the participants' choice of communication media. For the purposes of this

study a strong effect will be indicated by a clear majority of the responses, which in this study has been set as those characteristics cited by two-thirds of the respondents. This proportion was chosen because it ensured the characteristics identified were representative of both groups of respondents, while not being so restrictive as to rule out too many characteristics at this stage in the analysis.

Respondents and General Media Choice

The participants were asked to list which communication media were available to them in their organizations, their preferred medium, and the medium they used the most. Table 2 presents the results of these questions, as well as their job roles, and organization size. Overall the participants noted an average of seven communication media. However, when asked which media they would choose with respect to specific message or recipient characteristics, participants limited their options to face-to-face, telephone, or email.

All participants specified email as the medium they used the most, with the general explanation for this choice being its ease and flexibility. For example, a senior software engineer noted: "I would say about only 10% of my time will I use the telephone. We don't quite use it because.....basically email fulfills everything." The flexibility of the medium was based in the sender's ability to transmit short or long documents, while simultaneously providing the sender with an instant audit trail. This reasoning was put succinctly by the relationship manager: "Emails allow you to cover your ass, in itself the media documents electronically, versus having to Fedex or having somebody fax a 50 page document." The responses indicate that respondents do not generally consider all media available to them, but will generally select only among face-to-face, email or telephone.

TABLE 2

Participant Job Roles, Organization, Preferred Media, and Most Used Media

Participant Group	Job Role	Organization Size (Number of Employees)	Number of Media Available	Preferred Media	Most Used Media
Software Inc.	Senior Manager	50	7	Face-to-Face	Email
	Senior Manager	50	6	Email	Email
	Sales	50	6	Phone and Email	Email
	Sales	50	6	Phone and Email	Email
	Pre-Sales/Technical	50	6	Phone and Email	Email
	Analyst/Technical	50	6	Face-to-Face and Phone	Email
	Customer Support	50	6	Email	Email
	Administrative	50	5	Email	Email
MBA Cohort	PR Officer	5	7	Phone	Phone
	Project Manager	300,000	9	Email	Email
	Marketing Director	160	7	Phone and Face-to-Face	Email and Face-to-Face
	Media Relations Director	3,000	6	Email	Email
	Financial Analyst	5,000	8	Email and Phone	Email
	Senior Software Engineer	20,000	9	Email	Email
	Relationship Manager	100,000	9	Phone and Email	Email

The Effects of Message Characteristics on Media Choice

The participants were asked two questions for each message characteristic: Did the specific characteristic affect their communication media choice? How did it affect their media choice. Table 3 presents a summary of the results for the participants who stated a specific message characteristic had an effect on their choice of communication media.

The data indicate that most message content characteristics have a strong effect on communication medium choice. All respondents (N=15) cited that complexity of the content of the message's affected their media choice, with 14 also noting that symbolism and routineness had effects on communication media choice.

TABLE 3

Message Characteristic Media Choice Effects

Message Characteristic	Total Number Stating Media Choice Affected by Each Characteristic
Complexity	15
Time Sensitivity	12
Reciprocity	6
Routine	14
Security	0
Symbolism	14
Importance	10

Time sensitivity was noted as affecting media choice by 12 participants, and 10 respondents stated that the importance of the message affected their media choice. Issues of reciprocity had an effect for only six respondents. In contrast to the other message characteristics, no respondent indicated that security was a concern in their choice of media.

Recipient Characteristics Effects on Media Choice

The interviewees' responses related to which recipient characteristics have an effect on their choice of communication media are presented in Table 4. In contrast to the data for message characteristics, the results for recipient characteristics do not indicate such a strong effect on communication media choice. The strongest effects were shown with respect to the last two characteristics: twelve participants stated that multiple recipients and ten that distance of the recipient would affect their media choice. Eight participants noted that recipient media preferences and familiarity with a recipient would affect their choice.

Nine participants said that communicating with an external recipient would affect their media choice. However, when the respondents described the effect that an external recipient had on their media choice, it appeared that the effect was one of media use rather than media choice.

TABLE 4

Recipient Characteristic Media Choice Effects

Recipient Characteristic	Total Number Stating Media Choice Affected by Each Characteristic
Recipient Media Preferences	8
Boss	3
Coworker	0
Subordinate	2
External	9
Familiarity with Recipient	8
Distance	10
Multiple Recipients	12

The determination that this effect is one on media use, rather than a direct effect on media choice, is based on the evidence that those participants who stated that an external recipient would affect their choice of media described this effect in terms of a need to be more prepared for the communication event than they would for a similar internal communication. Therefore, having to communicate with an external recipient affected how they used a particular medium, but did not directly affect their choice of media. As described by a senior manager at Software Inc., “A typical communication may be a more formal type of email, where you spend time crafting it, and maybe get somebody else to review it before you send it, rather than just dashing off a note. Or a call, where you’ve got a specific outcome that you’re trying to achieve.” This extra preparation was described by other respondents in terms of making notes before a phone call or having a colleague proof read a letter or email before it is sent.

Communication with a boss, coworker, and subordinate show little support for status of the recipient affecting media choice, with only five respondents noting any effect as a result of any of these status differences.

Participants' Descriptions of Message and Recipient Characteristics

A central objective for this study was to identify the meaning of each characteristic from the participants' point of view; these findings were used to develop testable hypotheses and valid, real-world policy capturing scenarios for the quantitative analysis. The interview responses with respect to message characteristics provided evidence of differing definitions of these characteristics than are generally found in the literature. These findings are shown in Table 5, which also includes the number of recipients who described the characteristics in each way. The number of respondents shown as specifying the characteristics together may be higher than the total number of participants because sometimes a single respondent described two or more facets for a given characteristic. In contrast, the participants' descriptions of the recipient characteristics were the same as described in the literature and as presented in Chapter Two; therefore, these results are not presented because they repeat the definitions given previously.

Table 5 illustrates that complexity was a multi-faceted characteristic for both groups of respondents. Eleven respondents stated that complexity in a message resulted from the need to communicate some quantity of detailed information. This definition was clearly separated from the description of complexity resulting from easily misunderstood information, with 10 respondents noting this as a source of complexity. These two types of complexity also resulted in different media choices: the volume of detailed content is more suited to being presented in an email, and easily misunderstood information best communicated in spoken form over the telephone or in person.

TABLE 5

Participants' Descriptions of Message Characteristics

	Meaning for Sender	Number of Respondents	Illustrative Quotations
Complexity	Volume of detailed content	11	"Complex, something that has just a lot of different steps." Marketing Director
	Easily mis-understood	10	"If there were subtleties that I could only relay by speaking to the individual or speaking to the groups of individuals." Project Manager
Timeliness	Need for action on behalf of recipient	12	"If you're involved in an actual transaction time is critical, and time, time constraints lead to immediate channels, the phone and email, both of which are immediate." Salesperson
Reciprocity	Acknowledge receipt and ensure action by the recipient	6	"I generally need them to get back to me to confirm they are going to give me the type of input I need." Analyst
Routine	Varies according to job role	15	<i>No one illustrative quote as responses varied by job role.</i>
Security	Sensitive business information	12	"You know I'm always under the assumption that with the bank email system, the intranet system, there is some level of encryption that there is security there, so I don't give it much of a thought." Relationship Manager
	Personal information	5	"I suppose for anything I'm sending I regard the telephone as secure, email is secure. secure enough anyway for the kinds of things...." Senior Manager
Symbolism	Emotion	11	"I certainly do try and express certain feelings or thoughts through my communication, but it's usually in a more subtle sense than it in a direct and open sense." Financial Analysis
	Negative versus positive symbols	4	"In cases transmitting emotion, or especially negative news, the choice of media is key." Pre-Sales Officer
	Formality	3	"I'd just print it out on a letterhead and send it out in a nice envelope to somebody." Marketing Director
Importance	Deadline/time sensitive	6	"You know if there was a time frame" Administrator
	Business, staff or personal impact	11	"There are just so many....an important internal message, maybe pay raises....because that would be important to everybody. An external important message might be something about...a new therapy to treat cancer" Media Relations Director

One senior manager at Software Inc. illustrates how respondents distinguished between the two types:

Well I guess you mean complex, you could have a lot of content of some kind. You know rich type of content you're probably not going to try to explain it to them over the phone, you're going to show it to them in person.....I guess you could have complex, you know difficult to understand or something.....[if you write it down] you have a lot of time to think about how you express it, rather than trying to explain it on the fly to somebody. That's a different type of complicated.

When describing the determinants of time sensitivity on their communications, 12 participants described such communications as those that were intended to initiate some type of action on the part of the recipient. For example the project manager answered; "Certainly projects have dates and milestones that have to be accomplished." Further, when describing the effects of media choice for this characteristics, all respondents noted the use of multiple media for this type of communication; for example, the project manager's answer concluded, "...having multiple components, face-to-face, web, voice and so forth." Therefore, the effects of this characteristic highlight that the media choice question should include an option for respondents to signal the use of multiple media.

When addressing issues of reciprocity the respondents described this aspect of their communication in the same terms as the effects of time sensitivity. The six respondents who stated that this characteristic had an effect on their media choices said that they only required acknowledgement of their communications when they were sending an urgent message that was requesting some type of action by the recipient.

When describing what made a communication routine and how this type of message affected their communication media choice, the responses were very much job role and job task dependent. Although all but one participant noted that they made specific media choices for routine communications, this choice was directly related to accepted media usage in that

particular role. For example, the three participants who regularly dealt with the press as part of their job roles noted that press releases were always communicated through email. These responses indicated that routine communication media choices were a result of accepted media use for each job role, rather than individual media choice resulting directly from the more specific message characteristics.

Issues of security in communication were acknowledged by most participants; however, none paid any attention to this issue when choosing his or her communication media. In all cases the participants noted that general security precautions were in place for any of the communication media they used, such as email firewalls and private telephone calls; therefore, they paid no attention to security and chose media based on other aspects of the communication.

When questioned about transmitting some level of symbolism in their communication, 11 participants described situations where the need to carefully choose the most suitable communication medium resulted from the need to transmit some type of emotion, such as happiness, concern, or frustration. Four of those interviewed differentiated between the transmission of negative and positive emotions, with all four noting the need for extra care specifically when transmitting negative emotions. For example, the public relations officer stated, "Actually I've had several conversations about how it is very easy to build a horrendous attitude into an email, you can read an email and just tell that [it is] very stern. It was written, you know you can't really pin-point how they're being stern in the email, but somehow you are being ripped a new one while you're reading what they've said!" In contrast, a Software Inc. senior manager said, "Rather than just banging in an angry email that says what's going on here, I don't agree with this, it's better to pick up the phone and say what's going on here...." Three respondents cited a need to symbolize a suitable level of formality in their communications, with

all of them stating that such a communication should be in written form with a letterhead; however, this requirement did not preclude the use of email to communicate the message.

Importance was the only characteristic included in the study that had not been clearly defined as a stand-alone factor in previous research, and it was included in this study to ensure that as many possible factors related to media choice as possible were included in the first stage of the analysis. The findings from this study indicate that importance should not be treated as a separate factor because the participants did not describe it as distinct from the other characteristics. Eleven respondents cited some type of business or personal impact made a message important, and that they needed to choose a media that symbolized this importance. Further, five respondents stated that an important message was an urgent message, noting again the effects of time sensitivity on their media choice. There was agreement that impact and urgency were two distinct determinants of importance; a typical explanation of the distinction can be seen in the explanation from the administrator at Software Inc., “You know if there was a time frame, or if it had some type of financial effect.”

Interactions Between Message and Recipient Characteristics

The participants were not asked directly if they felt any of the various message and recipient characteristics interacted to drive their communication media choices. However, when describing how the individual characteristics affected their media choice, the participants discussed a range of interaction effects, in particular how the various recipient characteristics interacted with the characteristics of the message. Table 6 presents a summary of the interactions and the number of participants who described them.

Fourteen participants stated that they generally knew their recipient’s media preferences and that this knowledge was inferred through experience, with only sales staff noting that they

would directly ask a new recipient's media preferences. However, when describing the effects of a recipient's preferences, six participants noted that the only time they would definitely follow recipient media preferences would be when the message to be communicated was time sensitive. The recipient's preferred medium would be used in an effort to ensure receipt of the message and timely action.

TABLE 6

Interaction Effects

Characteristic	Characteristic	Description of Interaction Effect	Number of Respondents
Media Preferences	Timeliness	Media preferences of the recipient are not considered unless the content of the message is urgent.	6
Familiarity	Media Preferences	Senders are more likely to follow recipient media preferences if they are familiar with the recipient and know the geographic location of the recipient.	10
Familiarity	Complexity	Familiarity with the recipient reduces the need to carefully choose media for easily misunderstood content.	7
Familiarity	Symbolism	Experience working with the recipient reduces the sender's need to carefully select the correct media to transmit the correct tone.	7

The participants noted that recipient preferences would not directly determine media use because of the other characteristics they deemed more important in driving media choice. The public relations officer noted many of the issues related to the effects of this characteristic when she said,

I would say [the communication] was again something that you wanted or needed to have in writing even if their preferred media was the phone. If they are a decision maker that you are contacting, again you may call and then say I'm going to follow up in writing, due to the fact that we'd like to have this in this format. So, if you need the immediate attention of the person that you are contacting, even if you are just alerting them that there is an email for them, asking if they'd log on today. So you have to pick and choose, but it depends on the message, even if it's not their preferred media.

When discussing the effects of familiarity with the recipient, eight participants stated that experience working and communicating with the recipient affected their media choice. However, these effects were described in terms of interaction effects with other characteristics. Ten respondents stated that experience improved the sender's knowledge of where the recipient might be and so ensured that the sender chose a medium that was most suitable to the recipient at that time; for example there was no point in calling a deskphone if you knew the recipient was on the road. The greater the experience, the easier the choice of medium; for example, the project manager described how experience working with the recipient meant he knew where the recipient was in the building and so could contact colleagues at adjoining offices to track down a given recipient if he or she was not responding to urgent communications.

Seven participants indicated that previous experience reduced the need to carefully choose their communication for complex messages. For example, a senior manager for Software Inc. stated, "With someone you've worked with a long time, you know you have that assumption that they understand a lot more of the context that you would be able to send them an email or leave them a voice mail or something. There's less risk that it's going to be misunderstood." In contrast to this view, as noted above, one participant did state that previous experience could result in increased complexity and a greater chance for misunderstanding. Further, another interaction effect, highlighted by seven respondents, was that previous contact made it easier to use the appropriate tone, regardless of the media used, as explained by the relationship manager, "With, for example an attorney that we work closely with, it would be okay to say this guy's really pissing me off about x, y or z. Whereas if I'm trying to reach out to someone else in the bank that language wouldn't necessarily apply, it would have to be something like the situation is getting exceedingly frustrating based on whatever it is."

HYPOTHESES AND CONCEPTUAL MODEL

The qualitative study's results identified a core group of message and recipient characteristics that drive media choice. In addition, the detailed answers from the participants provided some insight into how and when these factors may interact. The small number of participants in this study means that these results alone cannot be used to determine which message and recipient characteristics to include in the policy capturing study. However, the aim for this stage of the project was not to build a totally new theory of communication media choice, but to develop a set of testable hypotheses and to identify and operationalize a core set of message and recipient characteristics to be used in scenario development.

The requirement in policy capturing designs of exponentially more scenarios for each added factor or level means that all of the factors identified in Study One cannot be included in the final questionnaire document. Therefore, the determination of which factors to include was based on a need for parsimony, coupled with a central research focus on understanding how and when message and recipient characteristics interact.

The findings indicate that rational choice factors play a central role in driving communication media choice, with symbolic needs, such as indicating importance or negative affect with the content, also key determining factors in the senders' choice process. However, there was evidence of interaction effects resulting from social influence factors in the form of the recipient's media preferences, and contingency effects resulting from familiarity with the recipient. These results are informative as they show that when a large group of message and recipient characteristics are studied together there are differences in strength and type of effect of the various key factors. For example, few participants noted status effects on their media choice processes, but all participants cited message complexity as key to their media choice. This

finding, that some of the characteristics play a more central role than others, supports the value of focusing only on these key characteristics in the policy capturing study.

Further the findings in the qualitative study indicate that there are two aspects to the media choice process; the first being that certain characteristics of the situation will cause the sender to actually consciously consider his or her media choice, and the second being the actual medium chosen. Therefore, each of the hypotheses tests this duality of media choice.

Overall, the findings relate directly to previous research underlining the importance of considering both content and social factors together (Straub et al., 1998). The characteristics that received the most support in Study One, message complexity, time sensitivity, symbolism, familiarity, and recipient media preferences, have been proposed as central to media choice in previous research. However the added detail in this study indicates that message content characteristics related to media richness, social presence, and media symbolism theories are stronger determinants of media choice, with social characteristics playing moderating roles. Although this finding seems intuitive, especially given the long-standing acceptance and face validity of rational choice theories in spite of some very mixed empirical support, it has yet to be stated or tested empirically and so leads directly to the first hypothesis:

H1: Message characteristics are stronger determinants than recipient characteristics of attention to and choice of communication media.

The remaining set of hypotheses will be focused on identifying which characteristics cause the sender to actually consider their communication media choice, thus highlighting those factors that make the communication choice process more salient. In this way, the research will identify which characteristics drive media choice, without reference to a specific communication media. The question of whether specific media are more preferred in respect of certain media will also be addressed in a complementary set of hypotheses. The high degree of agreement

among the respondents regarding the effects of complexity, symbolism, and time sensitivity indicate that these message characteristics are the ones that have the strongest effects on a sender's communication media choice. Evidence from media richness theory research (Daft et al., 1986; Lengel et al., 1987) led to the development of Proposition 1, and evidence from the qualitative study also indicates that complex message content plays a central role in driving a sender's communication media choice. Detailed definitions of this characteristic from the respondents enable the operationalization of this concept into two different types of complexity. The first type of complexity is described in terms of transmitting a large volume of detailed information. The second description of complexity was in terms of message equivocality as described in media richness theory, that is, information that can be easily misunderstood. These findings lead to the following two hypotheses:

H2a: Volume of detailed information affects attention to and choice of communication media.

H2b: Complex information affects attention to and choice of communication media.

The qualitative study results also show evidence of support for Proposition 6, that media choice effects result from the need to transmit some sense of self (Short et al., 1976) in the form of symbolic content (Sitkin et al., 1992). The respondents' definitions of symbolic content highlighted the need to transmit some type of emotion with the message. When generally discussing symbolizing some type of affect with their message, participants used terms such as anger and frustration. Four participants gave even more detail by differentiating between transmitting negative and positive symbols and noting that the greatest care in media choice resulted from the wish to transmit negative symbols. This finding is echoed in recent theoretical work that posits managers must be more careful in the media they chose to transmit bad news (Timmerman & Harrison, 2005) as certain media may increase feelings of interactional justice on

the part of the recipient. Thus, emotional affect in a message is operationalized as a need to transmit a negative symbol with the content of the message.

H3: Negative affect affects attention to and choice of communication media.

The findings from Study One that indicated that symbolism could be operationalized as a need to indicate business or personal impact of the content of message were not included in the policy capturing study. There are two reasons for this decision. First, there are no clear references in the literature to support this finding. Second, adding these two different operationalizations at two levels would greatly increase the number of scenarios required in the questionnaire, making the instrument unwieldy and perhaps reducing the possibility of finding clear interactions between factors that have previously been shown to have an effect on media choice.

The final message characteristic that exhibited a strong effect on media choice was time sensitivity. Again, this finding confirms previous research that posited a direct effect from the need for timeliness in the communication on media choice (Straub et al., 1998) and the effect described in Proposition 2. However, once again the detailed definitions from the participants in the qualitative study provided clear evidence of a specific operationalization for a time sensitive message. The respondents indicated that an urgent message was one that required immediate action on the part of the recipient, leading to the following hypothesis:

H4: Need for action affects attention to and choice of communication media.

No individual hypotheses have been developed for the effects of social and experiential factors on communication media choice. The results from the qualitative study and findings in the literature indicate these characteristics affect media choice only in interaction with message characteristics.

There was evidence in the qualitative study of an interaction between time sensitivity and social influence effects, a finding echoed in the literature (Fulk et al., 1987). Proposition 8 stated that recipient media preferences would directly affect communication media choice; however, participants stated that the content of the message would determine the media chosen, irrespective of the recipient's media preferences, with one exception. Participants noted that if the content of their communication was time sensitive they would be more likely to follow a recipient's communication media preferences, thus describing a moderating effect between time sensitivity and recipient media preferences. However, a recent study about manager preferences regarding how they received certain information showed a preference for receiving equivocal information through specific channels (Salmon & Joiner, 2005). Taking this finding together with those in this study suggest that there is evidence that recipient media preferences may moderate more message characteristics than indicated in the qualitative study. Therefore, the moderating role of recipient's media preferences will be hypothesized in relation to all three key message characteristics identified as driving communication media choice, leading to the following set of hypotheses:

H5a: Recipients' media preferences moderate the impact of volume of information on the sender's attention to and choice of communication media.

H5b: Recipients' media preferences moderate the impact of complex information on the sender's attention to and choice of communication media.

H5c: Recipients' media preferences moderate the impact of negative affect on the sender's attention to and choice of communication media.

H5d: Recipients' media preferences moderate the impact of need for action on the sender's attention to and choice of communication media.

Contingency theories of media choice describe how senders who have more experience working with their recipient have an easier decision process when transmitting complex and

symbolic content (Carlson et al., 1999). This interaction formed the basis for Proposition 11 and was supported by qualitative study results. The detailed responses from the participants illustrated that this interaction took the form of familiarity having a moderating effect on these two message content characteristics. This finding leads to the following two hypotheses:

H6a: Experience working with the recipient moderates the impact of volume of information on the sender's attention to and choice of communication media.

H6b: Experience working with the recipient moderates the impact of complex information on the sender's attention to and choice of communication media.

An additional finding with respect to experience working with the recipient was that it moderated the effects not only of message content characteristics, but also of recipient media preferences. Experience working with the recipient increases the sender's knowledge of the recipient's preferred communication media, thus simplifying the choice of media because the sender knew the most appropriate way to contact the recipient when he or she urgently needed to. This finding updates results from a 1998 study that found recipient availability played a central role in driving communication media choice (Straub et al., 1998). The increase in the use of mobile communication media in recent years means that recipients can be contacted in a greater range of ways and places. The detailed findings from Study One show that familiarity ensures that the sender's media choice can be targeted to the media most suitable to reach a given recipient at a given time, specifically choosing the media the recipient is most likely to prefer depending on knowledge of where they are. These results form the basis for the following hypothesis:

H6c: Experience working with the recipient moderates the impact of recipient media preferences on the sender's attention to and choice of communication media.

The results related to the final two recipient characteristics studied, distance and number of recipients, indicated that these factors had strong, direct effects on communication media

choice. However, the focus of this research project was to identify not only those message and recipient characteristics that carry the most weight in communication media choice, but also to clarify how they interact. The results from Study One do not provide any evidence of interactions between these characteristics and the others studied. Therefore, it appears that geographically distant and multiple recipients do play an important, but independent role in driving communication media choice.

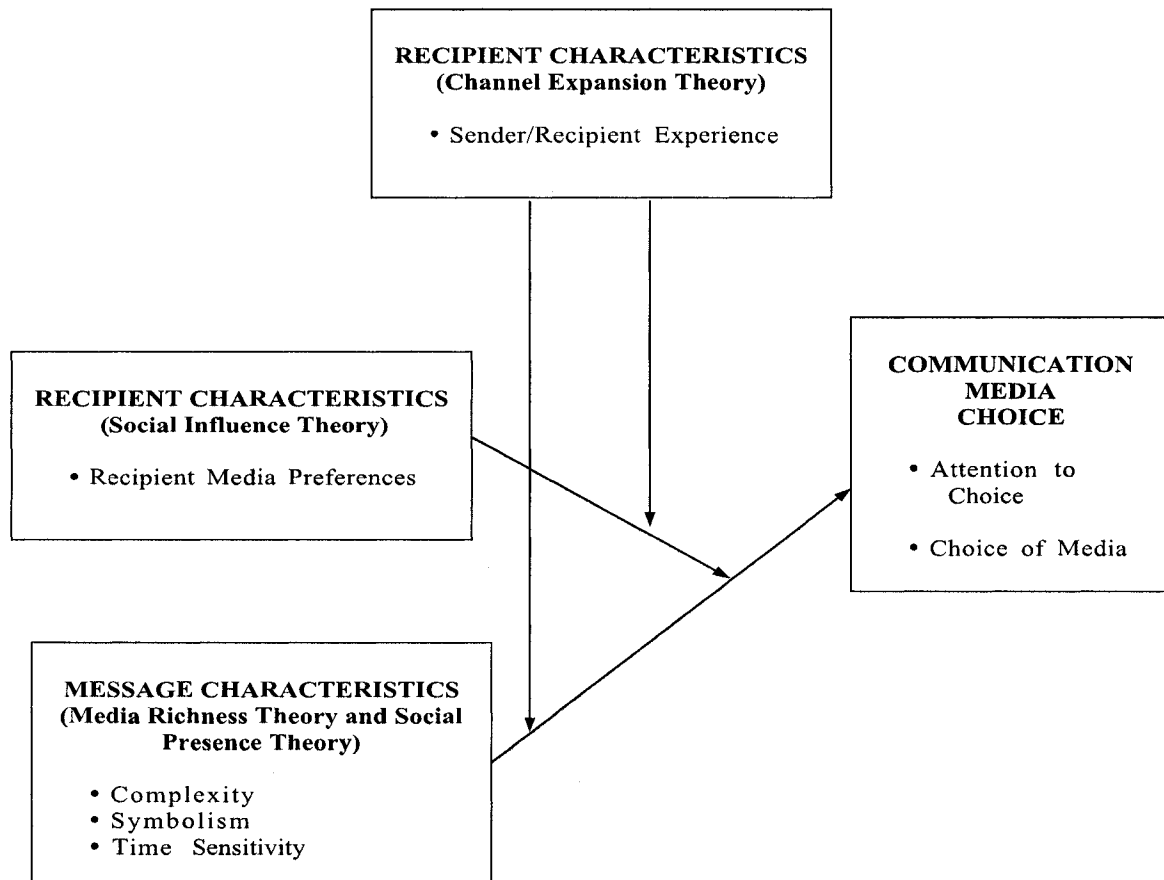
In terms of the central aims of the study, the results from the qualitative analysis have identified that geographically distant and multiple recipients are key determining factors in individual communication choice and carry the most weight of the recipient characteristics studied. A great deal of research has been designed specifically to examine the direct effects of these characteristics, and the results from this study underscore the independent nature of these factors in driving media choice. Therefore, to support parsimony in the number of factors included in the policy capturing study and because there are no clear interaction effects identified between these and any other characteristics, these factors will not be included in the policy capturing study.

Figure 2 shows a revised model that illustrates the interactions hypothesized above. The model shows that rational choice, social, and contingent factors all have some direct effects on communication media choice. However, key to this model are the hypothesized interaction effects. Recipient media preference is shown to moderate the effects of message content on final choice. Further, recipient-sender experience is shown to moderate not only the message content effects, but also the recipient media preferences effects. As well as focusing on a small group of factors when making the decision, it appears that, under most conditions, senders also limit their choice to a basic one between face-to-face, telephone, email, or a mixture of two or more of

these. This model will be tested in the second, quantitative stage of the analysis, which is described in the next chapter.

FIGURE 2

**Interaction Effects between Message and Recipient Characteristics
Driving Communication Media Choice**



CHAPTER FIVE

QUANTITATIVE STUDY

The policy capturing method supports the statistical analysis of an individual's or a group's decision processes to identify which pieces of information are most influential and to illustrate how they interact (Aiman-Smith et al., 2002). However, such an analysis can easily become unwieldy if too many variables are included and lacks validity if the scenarios developed are unrealistic. Therefore, the qualitative study was a key component in ensuring the validity of the design and development of the quantitative study described in this chapter.

The next section of this chapter presents an overview of the development and design of the policy capturing study. This is followed by an explanation of the statistical analyses used and the results obtained from these analyses. The results are presented to show where and how the research hypotheses developed in Chapter Four are supported.

Participants and Procedures

The participant pool for this study was the evening MBA cohort in a northeastern university. This sample enabled access to a large group of employed individuals who are engaged every day in some type of organizational communication. The participants were solicited through classroom visits in spring 2006. Classes were selected to ensure that no participants completed the survey twice. The surveys, which took about ten minutes to complete, were administered during class breaks. All participants were volunteers, and completion of the survey was anonymous. Given the small sample size for Study One, data on organizational and job role factors was gathered to enable further testing of these effects. In addition, demographic information, such as gender, age, and tenure in job, organization, and

workforce, was gathered. Table 7 presents a summary of the background information for the 158 participants.

TABLE 7
Participant Background Information

Male	Female	Months in Job (Mean)	Months in Organization (Mean)	Months in Workforce (Mean)
85*	72*	34.6	42.9	75.5
Age				
20-25	26-30	31-35	36-40	Age Over 41
39**	86**	23**	7**	2**
Organizational Types Represented (Number of Participants Affiliated)				
Accounting (23)	Consulting (7)	Consumer Goods (10)	Education (9)	Engineering (3)
Finance (46)	Hardware/Software (14)	Healthcare (6)	Insurance (4)	Marketing (5)
Non-Profit (4)	Pharmaceutical (4)	Telecoms (5)	Other (13)	Not-Reported (5)

* One participant did not indicate gender.

** One participant did not indicate age.

Development of the Policy Capturing Questionnaire

The final set of hypotheses required testing six variables: volume, complexity, time sensitivity, negative affect of the message, sender/recipient experience, and recipient media preferences on the sender's consideration of their media choice, and the likelihood of choosing face-to-face, telephone, and email communication. As described in Chapter Three, policy capturing scenarios consist of specific groupings of levels of the factors in question. The determination of the levels of each variable (or factor in policy capturing terminology) is dependent upon both the research questions and hypotheses, and the characteristics of each specific variable. For example, if one of the variables in question was gender, then that variable

would be split into two levels: male and female. If the variable in question was salary level, then the number of levels is more dependent on the realistic levels indicated by job roles or organizations in the study.

In this study, the questions are based on the direct and indirect effects of the variables, not on the effects of different magnitudes of each variable. Therefore, the questions can be answered by simply including or not including each variable in each scenario. Thus, a two-level, present/not present design is most suitable for five of the six variables: volume, complexity, time sensitivity, negative affect, and sender/recipient experience. The sixth variable, recipient media preference, could be included as a present/not present variable. However, simply including a statement such as “you know the recipient’s media preferences” detracts from the realism of the scenarios. Further, the finding from Study One that most of the senders limited their choices to face-to-face, telephone or email, pointed to the need to measure the effects of these particular three media on their choice in each situation. This led to the determination that this variable would have four levels: face-to-face, telephone, email, and not known.

This design, with five two-level factors and one four-level factor, resulted in the need for 128 scenarios to fully cross the six factors and levels. Previous research has indicated that respondents can usually respond to up to 50 scenarios before they become overwhelmed or bored (Rossi et al., 1982). Therefore, the survey was piloted as a split factorial design, with each participant responding to one fourth of the possible scenarios, that is 32 scenarios.

After developing sentences for each level of each factor, the sentences were combined to form the 128 possible scenarios using an excel randomizing program written for the process. The order of the scenarios was then randomized, and these randomized scenarios were split into four 32-scenario sections. One version was randomly selected for the pilot study. The outcome

measure for each scenario was the likelihood that the factors detailed in the scenario would affect the participant's communication media choice, measured on a seven-point Likert scale. In addition the respondents were asked to indicate which media they would most likely use for their communication. Some example scenarios from the pilot study are shown in Appendix C.

Pilot Questionnaire #1. This version was piloted during an evening MBA Organizational Behavior class and was completed by 45 respondents, with these results only used for the pilot study. Analysis of the results of this pilot study indicated some problems with the design. The responses to the general question, "what is the likelihood that this scenario would affect your communication media choice?" had no within-subject variance. In other words, the results to this question indicated that the differences in the scenarios had no effect on the respondents' media choice. The respondents also completed a short set of questions about the survey instrument, and these comments indicated that the lack of variance may not have been a result of the design of the scenarios, but a problem with the wording of the question. Respondents noted that the question was too general and they were not clear about how to respond because they did not know what sort of "effect" was being asked for. In contrast, results for the focused question asking respondents to indicate which media they would actually choose (face-to-face, telephone, or email) exhibited significant variance.

Thus, the different combinations of variables in the scenarios did affect the respondent's media choice, but this effect was being captured in the clear question asking which media would be chosen and not in the open, generally worded question. This finding, coupled with the respondents' comments, indicated that the problem lay not with the content or presentation of the scenarios, but was rooted in the wording of the related questions.

Almost all participants noted that the survey was too long. Most respondents took about 20 minutes to complete the survey and indicated that they were bored by the time they had answered all 32 scenarios. Some noted that they had stopped reading the scenarios properly at about the halfway point of the survey. This outcome would compromise the results and suggests a lack of internal reliability from the results for each survey. Reliability in policy capturing surveys is usually tested by including one or more duplicate scenarios in the survey and then correlating the results; however in this case, adding more scenarios would simply increase the probability of reduced reliability.

Pilot Questionnaire #2. The major finding from the first pilot study was that the survey had to be shorter, with the questions clearer and more detailed. The design challenge was reducing the number of scenarios, rewording and including more questions, while retaining the required number and levels of factors. The redesign of the survey instrument was a four-stage process.

The first stage involved expanding and rewording the questions related to final media chosen. The first survey had one question that asked respondents to indicate which media they would choose. The second survey had one Likert-scale type question asking the respondents to indicate the likelihood they would choose each of face-to-face, telephone, or email in the circumstances outlined in the scenario. A fourth question asked them to indicate if they would rather choose another media not listed. A fifth question asked respondents to indicate which media they would choose if they could choose only one.

The addition of the specific media-related questions enabled a more detailed analysis of the effects of recipient media preferences, as different preferences could now be tested in relation to various final media choices. For example, would a respondent's answers be the same in a

scenario where the variables included would normally drive them to choose email if they knew the recipient preferred telephone communication? This line of analysis could only be pursued if the scenarios included specific media preferences. To support this, without adding to the number of scenarios required, three versions of the survey were developed: one with the recipient media preference stated in the scenarios as face-to-face, one with the preference stated as telephone, and one with the preference stated as email. This second stage of the redesign process reduced the final factor by one level, which also reduced the total number of scenarios required, as the new design had six, two-level factors (64 scenarios per version), shown in Table 8.

TABLE 8

Experimental Factors and Levels

Factor	Levels
Volume of Detailed Information	Present/Not Present
Complexity	Present/Not Present
Time Sensitivity	Present/Not Present
Negative Affect	Present/Not Present
Sender/Recipient Experience	Present/Not Present
Recipient Media Preferences	Known/Not Known

One aim of this study was to identify which characteristics force a sender to actually pay attention to his or her choice process and to separate this from the effects that could be identified in relation to the medium chosen. Evidence from the qualitative study indicated that it was very difficult for participants to think about their media choice processes without reference to particular media. However, results of the pilot studies indicated that it was possible to ask people to indicate which scenarios were most likely to make them carefully consider their media choices, showing which variables have the effect of making their decision process salient, regardless of the media available.

The final stage of the survey redesign was directed to reducing the number of scenarios in each survey. The problem of reducing the number of scenarios to be completed, while still supporting the inclusion of all of the variables and levels in the study, was solved by redesigning the survey as an incomplete block design. This technique, as discussed in Chapter Three, involves fully crossing the variables across a full set of scenarios and then distributing the scenarios across a predetermined number of “blocks” of scenarios. This distribution of the variables and scenarios is called confounding. The value of this policy capturing design is that it greatly reduces the number of scenarios to be completed by each participant, while still including the full set of scenarios in the analysis. The main drawback related to splitting up the scenarios across sets of blocks is that this type of design cannot support the identification of all first-order interaction effects within all blocks. However, in all cases interaction effects can be identified by analyzing data across the blocks.

The resulting study design has three sets of 64 scenarios (all identical except that a different, specific recipient media preference is included in each of the three versions). The full set of 64 scenarios was then split into four blocks of 16 scenarios, with the allocation of the scenarios confounded using SAS/QC to ensure that the first-order interaction effects hypothesized in Chapter Three could be analyzed within each block. Table 9 illustrates the distribution of the variables and scenarios across the blocks. Two duplicate scenarios were developed for each of the four blocks to support internal reliability testing of the responses. As such, each individual block contained 18 scenarios, with the final full design involving three versions of 72 scenarios (64 experimental scenarios plus eight duplicates).

To ensure that the target participant pool was not depleted due to the pilot tests, the second pilot study was tested through approaching undergraduate School of Management

students as volunteers between classes. Volunteers were asked if they had experience communicating in an organizational setting, and only those with such experience were asked to complete the survey. Twenty students completed the redesigned version.

TABLE 9
Survey Block Design*

Scenario	Block 1	Block 2	Block 3	Block 4
1	011110	100101	100110	000000
2	101010	011010	101000	101100
3	011011	100000	011001	000101
4	111100	111000	000100	100010
5	111001	001001	000001	011101
6	101111	111101	100011	101001
7	001000	101011	110000	010110
8	100100	110110	001010	100111
9	010101	000111	010111	111111
10	110111	010100	110101	110001
11	110010	101110	001111	001011
12	010000	010001	101101	010011
13	000011	110011	010010	110100
14	100001	011111	011100	011000
15	001101	000010	111110	001110
16	000110	001100	111011	111010

*Order of variables is volume, complexity, time sensitivity, negative affect, experience, preference. For example block 1, scenario 1 comprises complexity, time sensitivity, negative affect, and experience; volume and preference are not included in this scenario.

The results indicated that the problems with comprehension of the outcome questions and length of the survey had been ameliorated. Thus, the final study design involved six independent variables: volume of information, easily misinterpreted information, need for action, negative affect, recipient media preferences, and experience working with the recipient. There were also six dependent variables: consideration of media choice, likelihood of choosing each of the three target media, choice of a different medium, and forced choice of only one medium. Seven point likert scales measured the effect of each scenario on consideration of media choice and likelihood of choosing each medium. An example scenario and question set is shown in Table 10, and Appendix D presents three versions of the questionnaires, one with the recipient

preference stated as face-to-face, one with recipient preference stated as telephone, and one with the recipient preference stated as email.

TABLE 10
Example Scenario and Questions

The purpose of this communication is to deliver a large volume of detailed information. You require the recipient to take action immediately on receipt of the information. You want the recipient to know that you are unhappy about having to convey this information. You know that your recipient prefers to communicate via email.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All				Somewhat				Definitely
1	2	3	4	5	6	7	7	7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely			
Face-To-Face Meeting	1	2	3	4	5	6	7	7
Telephone	1	2	3	4	5	6	7	7
Email	1	2	3	4	5	6	7	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

The full data collection of the quantitative data was then conducted with evening MBA students as described above. The following sections detail the data analysis and results of Study Two.

Analysis

Policy capturing studies are analyzed using multiple regression techniques. The choice of specific technique is determined by the type of dependent and independent variables in each

particular study (Aiman-Smith et al., 2002). The incomplete block design used in this instance results in a numerical dependent variable with categorically coded independent variables. For example, in each scenario there are two possible categories for the independent variables (present or not present), with an ordinal score given on the likert scale responses for each of the dependent variables. The most suitable analysis method is the regression-based General Linear Model (GLM) Multiple Analysis of Variance (MANOVA) (Graham et al., 2001). This method provides an overall test for effects of the full model, the F-Test, but also allows the researcher to identify the significance of the effects of each of the independent variables on the dependent variable.

The relative weights of the effects for each of the independent variables can be estimated by calculating the eta squared (η^2) for each effect. This statistic provides an indication of the proportion of total variance explained by each independent variable, while the square root, eta (η) is analogous to a regression coefficient. Because each respondent rated the effects of 16 scenarios, the independence assumption in MANOVA was violated, and it was necessary to control for the lack of independence in the observations by creating dummy variables representing each of the subjects and including all but one of these in the GLM analysis (Cable & Graham, 2000; Graham et al., 2001); (Pedhazur, 1997).

The final question for each scenario asked participants to indicate which medium they would choose for that particular scenario if they could only choose one and again presented the options of face-to-face, telephone, or email. The dependent variable in this case was categorical, which violates the assumptions for the GLM analysis described above. Therefore, multinomial logistic regression was used to identify the most preferred medium for each variable because this analysis exists to regress independent variables of any type on a categorical dependent variable

(Pampel, 2000). Multinomial is used in this case because the dependent variable has more than two categories. This method applies maximum likelihood estimations to predict the independent variables effects on the dependent variable. As the method changes the dependent variable into a logit variable (the natural log of the odds of the dependent occurring or not), the regression calculates changes in the log odds of choosing each category of the dependent variable, not in changes in the dependent itself as an OLS regression would. However, the results are analogous to OLS as logit coefficients correspond to b coefficients and a pseudo R^2 statistic is available to summarize the strength of the relationship. As with the GLM analysis described above, dummy variables representing each of the subjects were created and included in the analysis to control for the lack of independence of the observations.

Results

A total of 158 completed surveys were collected, resulting in a maximum of 2,528 cases (158 respondents answering 16 scenarios). This total is reduced slightly for each analysis when a small number of missing cases is taken into account. Even allowing for missing cases, this number of respondents is sufficient to assume statistical power of .80 ($\alpha = 0.05$) for the analyses (Cohen, 1977; Green, 1991).

Reliability and Validity Testing

Each participant completed 18 scenarios; two duplicate scenarios were included in each survey to test for intra-rater reliability, a key issue for policy capturing studies. The average correlation for these duplicate scenarios was 0.92, indicating a strong degree of internal consistency and thus reliability for each participant.

Testing the validity of the results involved determining if there were any differences between the responses to each of the three versions of the survey (with different specific media

preferences). The basic premise of the study, that recipient characteristics have some effect on sender communication choice, would suggest that differences would exist in the results, depending on which version the respondent was completing. Significant differences identified between the various groups were used to determine how the data were grouped in the subsequent analyses. Between-group effects for each of the dependent variables were analyzed by a one-way ANOVA, followed by Bonferroni post hoc tests (this being the preferred test for an analysis including a small number of groups). The results of this analysis are presented in Table 11.

TABLE 11
Between Survey Versions Bonferroni Tests

Dependent Variable	Version[†] (i)	Version[†] (j)	Mean Difference (i-j)	Standard Error
General Decision Process Effect	1	2	-.0793	.609
		3	2.350*	.605
	2	1	.0793	.609
		3	2.430*	.599
	3	1	-2.350*	.605
		2	-2.430*	.599
Likelihood of Choice of Face-to-Face	1	2	5.317*	.716
		3	9.247*	.712
	2	1	-5.317*	.716
		3	3.930*	.704
	3	1	-9.247*	.712
		2	-3.930*	.704
Likelihood of Choice of Telephone	1	2	-7.287*	.693
		3	-.349	.689
	2	1	7.287*	.693
		3	6.938*	.681
	3	1	.349	.689
		2	-3.938*	.681
Likelihood of Choice of Email	1	2	-.638	.751
		3	-6.379*	.746
	2	1	.638	.751
		3	-5.740*	.738
	3	1	6.379*	.746
		2	5.740*	.738

* p < 0.000; † version 1 = recipient preference stated as face-to-face, version 2 = recipient preference stated as telephone, version 3 = recipient preference stated as email.

The first question was designed to capture which factors caused the participants to pay attention to his or her decision process resulting from the factors in each scenario. The results show that there were no significant differences in the responses between those participants who completed version 1 (recipient preference stated as face-to-face communication), and version 2 (recipient preference stated as telephone communication). However, responses to this question from those participants who completed the third version of the survey (recipient preference stated as email communication) were significantly different ($p < .000$) from both versions 1 and 2. The respondents were less likely to have their decision process affected when the recipient's preference was email than when it was face-to-face or telephone. This finding can be directly linked to results from Study One, that senders use email as their "default" medium of choice: with this baseline it is not surprising that respondents reported they were more likely to consider their choice of communication medium when the recipient's preferences vary from this default choice. This finding means that for all further analysis on the issue of general decision process effects of the independent variables, the data will be analyzed in two groups; the first comprising the responses from those that completed survey versions 1 and 2, and the second comprising the responses from those that completed survey version 3.

The second question asked respondents to indicate the likelihood they would choose face-to-face communication for each scenario. The Bonferroni results for this dependent variable showed significant differences ($p < .000$) for each of the versions. Those completing version 1 (F-t-F) were more likely to choose face-to-face communication than those completing versions 2 (telephone) or 3 (email). This finding makes intuitive sense, as those participants told that their recipients prefer face-to-face communication are more likely to choose that medium than those told their recipients preferred telephone or email communication.

Further, those completing version 2 were significantly more likely to choose face-to-face than those completing version 3, showing that, when the senders believe their recipient prefers to communicate by telephone, they are more likely to choose face-to-face communication than those who believe their recipient prefers to communicate via email. This finding means that for all further analyses on the effects of the independent variables on the likelihood of choosing face-to-face communication, the data will be analyzed in three groups.

The third dependent variable is the likelihood that participants would choose to use telephone communication for each particular scenario. In this case, as with the first dependent variable, the responses to the three versions of the survey could be split into two distinct groups. Those participants who completed version 2 (with recipients' preferences stated as telephone communication) of the survey were significantly more likely ($p < .000$) to choose the telephone to communicate than those who completed versions 1 and 3. Therefore, in all further analyses of the effects of the independent variables on this dependent variable, the responses will be analyzed in two groups: those who completed versions 1 and 3 and those who completed version 2.

The final dependent variable focused on the likelihood that participants would choose to use email to communicate. Again, the responses to this question could be split according to those who believed their recipients preferred the medium in question (email), and those who did not. Participants who completed version 3 were significantly more likely ($p < .000$) to choose that medium to communicate than those who completed versions 1 and 2. There were no significant differences in the responses between those who completed versions 1 and 2. Therefore, this finding means that in all further analyses of the effects of the independent

variables on this dependent variable, the participant's responses will be split into two groups: those who completed versions 1 and 2 and those who completed version 3.

In summary, this set of results not only provides insight into the effects of knowledge of a recipient's media preferences on a sender's communication media choice, but also indicates how to organize the data for further analysis to identify the relationships between the independent variables and communication media choice. As noted above, the differences in responses to the question analyzing general effects on the media choice process can be understood in terms of the ubiquity of the use of email for organizational communication indicated from the qualitative study. However, it is interesting to note that the delineation of results for the other three dependent variables, likelihood of choosing a specific media, were not as clear-cut as may have been expected. Those who believed their recipients preferred telephone and email communication were clearly more likely to choose whichever of these media was indicated as preferred than the other two choices. However, when the senders believed the recipient preferred to communicate face-to-face, this not only increased the likelihood that they would choose this media, but also made it more likely that they would choose the telephone to communicate. This indicates a ranking of choices, from face-to-face (recipient's preference), then telephone, and finally email. The next section presents the findings for the effects of the experimental variables, which shed further light on some of the findings above.

Experimental Variable Effects on Communication Media Choice

Table 12 below presents the means, standard deviations, and two-tailed Pearson correlation coefficients among the dependent and independent variables in the policy capturing analysis. To meet the GLM requirement that the variables are normally distributed, the four outcome variables were transformed by squaring for all analyses. The zero correlations between

the six manipulated factors reflect the fact that these are orthogonal by design, a requirement for any incomplete block design.

The first hypothesis posited that message characteristics would be stronger determinants of communication media choice than recipient characteristics. Table 13 shows the results for the two GLM models analyzing the effects of the independent variables on the dependent variable; i.e., that the factors in the scenario would affect the participant's media choice process. Table 12 also presents the Pearson correlation coefficients for each of the independent variables and the dependent variable. This is because GLM analyses identify which independent variables have the most significant effect on the dependent variables, but do not indicate the direction of this effect, so the correlation coefficient can be used to indicate a positive or a negative effect.

TABLE 12

Means, Standard Deviations, and Correlations Between Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. Volume of Information	.50	.50	1.000									
2. Complexity of Information	.50	.50	.000	1.000								
3. Time Sensitivity	.50	.50	.000	.000	1.000							
4. Negative Affect	.50	.50	.000	.000	.000	1.000						
5. Experience with Recipient	.50	.50	.000	.000	.000	.000	1.000					
6. Recipient Media Preferences	.50	.50	.000	.000	.000	.000	.000	1.000				
7. General Effect on Media Choice	30.12	12.37	.046*	.109**	.135**	.054**	-.052*	.047*	1.000			
8. Likelihood of choosing face-to-face	30.10	15.00	-.038	.145**	.086**	.133**	-.007**	-.025	.315**	1.000		
9. Likelihood of choosing telephone	25.90	14.44	-.130**	.034	.077**	.001	.007	.039*	.133**	.125**	1.000	
10. Likelihood of choosing email	24.83	15.49	.131**	-.103**	-.055**	-.122**	.025	-.043*	-.129**	-.428**	-.184**	1.000

* $p < 0.05$. ** $p < 0.01$.

Model 1 presents the results for the combined responses from those who completed the versions where recipient media preferences were stated as face-to-face and telephone

communication, while Model 2 presents the results for those who completed the third version that stated the recipient media preference as email.

TABLE 13
Independent Variable Effects on Media Choice Process

<u>Dependent Variable</u>	Model 1 η^2	Model 1 Correlation Coefficients	Model 2 η^2	Model 2 Correlation Coefficients
Consideration of Media Choice	(F-t-F & Telephone preferred)		(Email preferred)	
<u>Independent Variables</u>				
Volume	.001	.033	.006**	.073*
Complexity	.009**	.093**	.020**	.142**
Negative Affect	.004**	.074	.000	.016
Time Sensitivity	.018**	.126**	.023**	.154**
Experience with Recipient	.003**	-.054*	.003*	-.049
Media Preference	.003**	.060*	.000	.024
<u>Interaction Effects</u>				
Volume X Preference	.003**	.021	.001	.039
Complexity X Preference	.000	.090**	.000	.079*
Negative Affect X Preference	.000	.072**	.000	.010
Time Sensitivity X Preference	.004**	.072**	.006*	.060
Volume X Experience	.005**	-.052*	.002	-.010
Complexity X Experience	.000	.030	.000	.033
Experience X Preference	.000	-.002	.000	-.005
# Observations	1637		858	
F	10.55**		8.20**	
R²	.501		.496	

* $p < 0.05$. ** $p < 0.01$.

Because η^2 for each can be used as an indicator of the variance explained by each variable (Graham et al., 2001) the total strength of effect for the message and recipient characteristics is estimated by averaging the η^2 for each of the variables derived from these characteristics. Because there are twice as many message characteristic variables in the analysis as recipient characteristics, a simple sum of variances across the two sets of variables is not appropriate. Instead, the average variance explained by each message factor is calculated by

summing the total variance explained by volume, complexity, negative affect, and time sensitivity for both Models 1 and 2 and dividing this number by eight. The average variance for each recipient factor is similarly calculated by summing the total variance explained by experience working with a recipient, and recipient media preferences for both models and dividing this number by four.

The results show that individual message characteristics account for an average 10.12% of the variance in the dependent variable, while each recipient characteristic averages only 2.25% of the variance in the dependent variable. Therefore, taking all of the possible factors (and the error term) into account, the average effect resulting from message characteristics are five times greater than the average effect from recipient characteristics. These results show support for Hypothesis 1, that message factors are stronger determinants of attention to and communication media choice.

Message Characteristic Effects on Consideration of Media Choice

Hypothesis 2a focused on the effects of volume of information to be communicated. The effect of volume on media choice was not significant for Model 1, but did have a significant effect ($\eta^2 = .006$, $p < .01$) in Model 2. These findings indicate partial support for Hypothesis 2a, as volume did have a significant effect for one group of respondents.

Hypothesis 2b also posited a strong positive effect on media choice for communicating complex information. This hypothesis was supported for both Model 1 ($\eta^2 = .009$; $p < .01$) and Model 2 ($\eta^2 = .020$; $p < .01$), and reference to the correlations again show this to be a positive effect. Therefore, complexity of information does result in the sender more carefully considering their choice of communication media.

Hypothesis 3 posited that when a sender wished to transmit some type of negative affect

in addition to the basic information in their message, he or she would be more likely to consider his or her communication media choice. This hypothesis was partially supported, as there was only a significant effect on the dependent variable in Model 1 ($\eta^2 = .004$; $p < .01$), and not for Model 2.

The fourth hypothesis stated that time sensitivity of the message would have a strong, positive influence on communication media choice. This hypothesis was supported for both Model 1 ($\eta^2 = .018$; $p < .01$) and Model 2 ($\eta^2 = .023$; $p < .01$).

Recipient Characteristic Effects on Consideration of Media Choice

The findings from the qualitative study indicated that recipient characteristics did not have direct effects on the sender's media choice process, and therefore no hypotheses were developed regarding the possible direct effects of these factors. However, the results presented in Table 12 show that these two factors do have significant, direct effects on media choice, although the magnitudes of those effects are not as strong as those for message characteristics. Experience working with the recipient has a significant, negative effect on media choice in both Model 1 ($\eta^2 = .003$; $p < .01$) and Model 2 ($\eta^2 = .003$; $p < .05$), indicating that experience working with the recipient reduces the likelihood the sender will deliberate over his or her media choice. However, knowledge of the recipient's media preferences is only significant in Model 1 ($\eta^2 = .003$; $p < .01$). This finding supports the position that recipient media preferences mainly play a moderating role on the sender's media choice. The significant differences in the responses above indicate that, even when the recipient's media preferences are not actually stated in a particular scenario, the overall effect of having them mentioned in a particular way (i.e., whenever media preferences were stated in version 1 they were described in terms of face-to-face communication) means that respondents answered in terms that indicated knowledge of the

recipient's media preference. This apparent halo effect of the belief that a recipient prefers a specific communication medium will be discussed in detail in Chapter Six.

In summary, the results above show full and partial levels of support for the influence of all message characteristics studied. However, as was noted in the qualitative study, recipient media preferences play a key role in understanding the specific effects of individual message characteristics. The next section presents the results from the GLM analyses showing which moderation effects are significant.

Moderator Effects

Seven possible moderator effects between message and recipient characteristics were hypothesized. However, only three of these were found to have any support in the analyses: those specified in hypotheses 5a, 5d, and 6a.

Hypothesis 5a, that recipient media preferences would reduce the effect of volume of information on the sender's media choice process was significant in Model 1 ($\eta^2 = .003$; $p < .01$), but not in Model 2. This provides partial support of this hypothesis, as recipient media preferences do moderate the effect of volume of information when the sender believes the recipient prefers face-to-face or telephone communication. However the direction of this effect was positive, an increase in effect on their media choice, rather than the hypothesized reduction in effect. This shows that when respondents believed their recipients preferred to communicate face-to-face or by telephone, the choice of how to transmit a message that contained a large amount of information was more carefully considered.

Hypothesis 5d, that the effects of time sensitivity on media choice would be moderated by knowledge of a recipient's media preferences was also partially supported. Although this interaction effect was statistically significant for both Model 1 ($\eta^2 = .004$; $p < .01$) and Model 2

($\eta^2 = .006$; $p < .05$), the correlation coefficients again show that the interaction effect is actually greater than the direct effect. This finding shows that when the recipient is believed to prefer face-to-face or email communication, this knowledge actually increases the likelihood the sender will carefully consider their choice of communication medium for time sensitive messages.

Finally, the results show partial support for hypothesis 6a, that experience working with the recipient reduces the effect of volume of information on the sender's media choice process. This interaction was significant and negative for Model 1 ($\eta^2 = .005$; $p < .01$), but was not significant for Model 2. Therefore, experience working with a recipient only reduces the amount of consideration in deciding how to transmit a large volume of information when the sender believes the recipient prefers to communicate face-to-face or by telephone.

The results show a complex set of relationships between the effects of the various message characteristics and the sender's media choice process. It is clear that knowledge of a recipient's specific media preferences plays a key role in the decision process, and this role varies depending on which message characteristics and recipient characteristics are considered. The following section will detail the results related to the likelihood of choosing a specific medium in terms of the effects of the independent variables.

Experimental Variable Effects on the Likelihood of Choosing Face-to-Face Communication

Table 14 presents the η^2 and correlation coefficients for the GLM analyses conducted to determine the effects of the independent variables on the likelihood the sender would choose face-to-face communication. As shown in Table 11, because the participants' responses were significantly different for all three versions of the survey, three separate analyses were conducted on this dependent variable; Model 3 included only those who completed version 1 (recipient preference stated as face-to-face communication), Model 4 included only those who completed

version 2 (recipient preferences stated as telephone communication), and Model 5 only version 3 (recipient preferences stated as email communication).

When focusing on how the independent variables affect a sender's likelihood of choosing face-to-face communication, Model 3, Model 4, and Model 5 exhibit positive, significant effects for complexity of information [(Model 3 $\eta^2 = .013$; $p < .01$), (Model 4 $\eta^2 = .018$; $p < .01$), (Model 5 $\eta^2 = .040$; $p < .01$)], and negative affect of the message [(Model 3 $\eta^2 = .009$; $p < .01$), (Model 4 $\eta^2 = .012$; $p < .01$), (Model 5 $\eta^2 = .035$; $p < .01$)]. These findings show that the sender's likelihood of choosing face-to-face communication is greater when he or she wishes to transmit a complex message or include some type of negative affect in the message.

TABLE 14

Independent Variable Effects on Likelihood of Choosing Face-to-Face Communication

Dependent Variable	Model 3 η^2	Model 3 Corr. Coeffs.	Model 4 η^2	Model 4 Corr. Coeffs.	Model 5 η^2	Model 5 Corr. Coeffs.
Likelihood of Choosing F-t-F	(F-t-F preferred)		(Telephone preferred)		(Email preferred)	
Independent Variables						
Volume	.009**	-.095**	.005**	-.072*	.001	.034
Complexity	.013**	.112**	.018**	.128**	.040**	.202**
Negative Affect	.009**	.103**	.012**	.116**	.035**	.188**
Time Sensitivity	.002	.046	.014**	.111**	.011**	.104**
Experience with Recipient	.000	-.033	.000	-.006	.000	.012
Media Preference	.080**	.289**	.026**	-.168**	.026**	-.162**
Interaction Effects						
Volume X Preference	.000	.101**	.000	-.125**	.000	-.067*
Complexity X Preference	.004*	.192**	.000	-.023	.000	.039
Negative Affect X Preference	.002	.203**	.000	-.022	.000	.025
Time Sensitivity X Preference	.004*	.158**	.000	-.040	.000	-.030
Volume X Experience	.000	-.090*	.002	-.068*	.000	.013
Complexity X Experience	.000	.050	.001	.049	.001	.105**
Experience X Preference	.000	.148**	.000	-.093**	.000	-.072*
# Observations	805		840		862	
F	6.36**		6.69**		9.30**	
R²	.442		.449		.526	

* $p < 0.05$. ** $p < 0.01$.

Models 3 and 4 also exhibit significant, negative relationships [(Model 3 $\eta^2 = .009$; $p < .01$), (Model 4 $\eta^2 = .005$; $p < .01$)] with the effect of a large volume of information on the likelihood of choosing face-to-face communication. This result means that these two groups of respondents are less likely to choose face-to-face communication for a message that contains a large volume of information when the stated preference is telephone or face-to-face communication.

Time sensitivity of the message only has a significant effect on choosing face-to-face communication for two groups of participants [(Model 4 $\eta^2 = .014$; $p < .01$), (Model 5 $\eta^2 = .011$; $p < .01$)]. In both cases, this variable increases the likelihood that face-to-face communication will be selected.

In terms of measuring the direct effects of media preferences, all three Models show a significant relationship between recipient media preferences and the likelihood that face-to-face communication will be chosen [(Model 3 $\eta^2 = .080$; $p < .01$), (Model 4 $\eta^2 = .026$; $p < .01$), (Model 5 $\eta^2 = .026$; $p < .01$)]. Perhaps not surprisingly, this relationship is positive for Model 3 and negative for Models 4 and 5. Thus, when a sender believes his or her recipient prefers face-to-face communication the sender is more likely to choose this medium, but less likely to make this choice if he or she believes the recipient prefers to use the telephone or email.

The analyses for the interaction effects show the results for those scenarios that had both the specific message characteristics and the specific recipient characteristics in the scenario. For example, a participant may be completing version 1 of the survey, but only some of the scenarios indicate that the recipient prefers to communicate face-to-face; in an equal number of alternative scenarios no media preference is indicated. Therefore, the results for the interaction effects show the direction and magnitude of the effects when the two variables appear together. Only two

significant interaction effects were identified, and both were in Model 3. The likelihood of choosing face-to-face communication is greater for a message that is both complex and the recipient is known to prefer face-to-face communication (Model 3 $\eta^2 = .004$; $p < .05$). Similarly, when the message is time sensitive and the recipient is known to prefer face-to-face communication, the sender is significantly more likely to choose this medium to communicate (Model 3 $\eta^2 = .004$; $p < .05$).

Experimental Variable Effects on the Likelihood of Choosing Telephone Communication

Table 15 presents the η^2 and correlation coefficients for the GLM analyses conducted to determine the effects of the independent variables on the likelihood the sender would choose telephone communication. As shown in Table 10, for this dependent variable the participants responses split into two groups. There were no significant differences in those who responded to version 1 (recipient prefers face-to-face communication) and version 3 (recipient prefers email communication), but those who responded to version 2 (recipient prefers telephone communication) did significantly differ from the rest. Therefore two sets of analyses were conducted in this instance; Model 6 includes the responses from those who completed versions 1 and 3, and Model 7 presents the responses from those who completed version 2.

The results for both Models indicate that transmitting a large volume of information tends to decrease the likelihood the sender is going to choose the telephone [(Model 6 $\eta^2 = .016$; $p < .01$), (Model 7 $\eta^2 = .022$; $p < .01$)]. In contrast, if the sender wishes to communicate some complex information he or she is significantly more likely to choose the telephone, even when he or she believes the recipient prefers to communicate face-to-face or by email (Model 6 $\eta^2 = .004$; $p < .01$).

If the message was time sensitive [(Model 6 $\eta^2 = .009$; $p < .01$), (Model 7 $\eta^2 = .04$; $p <$

.05)] or if the sender knew the recipient preferred telephone communication (Model 7 $\eta^2 = .112$; $p < .01$), the likelihood that the telephone would be used was higher. However, if the sender believed the recipient preferred face-to-face or email communication, he or she was less likely to choose the telephone to communicate (Model 6 $\eta^2 = .009$; $p < .01$). When the sender wished to transmit some type of negative affect with their message, he or she was significantly more likely to choose the telephone, only if he or she completed version 2 (Model 7 $\eta^2 = .004$; $p < .05$).

TABLE 15

Independent Variable Effects on Likelihood of Choosing Telephone Communication

<u>Dependent Variable</u>	Model 6 η^2	Model 6 Correlation Coefficients	Model 7 η^2	Model 7 Correlation Coefficients
Likelihood of Choosing the Telephone	(F-to-F and Email preferred)		(Telephone preferred)	
<u>Independent Variables</u>				
Volume	.016**	-.125**	.022**	-.153**
Complexity	.004**	.063*	.000	-.026
Negative Affect	.001	.031	.004*	-.064
Time Sensitivity	.009**	.091**	.004*	.054
Experience with Recipient	.000	.001	.000	.018
Media Preference	.009**	-.099**	.112**	.347**
<u>Interaction Effects</u>				
Volume X Preference	.007**	-.082**	.002	.134**
Complexity X Preference	.000	-.029	.007**	.142**
Negative Affect X Preference	.000	-.031	.000	.163**
Time Sensitivity X Preference	.002*	-.027	.005*	.190**
Volume X Experience	.000	-.076**	.000	-.077*
Complexity X Experience	.000	.046	.001	.018
Experience X Preference	.000	-.048	.000	.223**
# Observations	1667		840	
F	11.77**		6.31**	
R²	.525		.434	

* $p < 0.05$. ** $p < 0.01$.

Again the interaction variables focus on the effects on the dependent variable for both message and recipient characteristics together. Those who completed versions 1 and 3 were significantly less likely to choose the telephone to communicate a large volume of information

(Model 6 $\eta^2 = .007$; $p < .01$) or when they wished to communicate some time sensitive information Model (6 $\eta^2 = .002$; $p < .05$), indicating that in these instances they were not likely to choose a medium other than the one that they believed their recipient preferred. Those who completed version 2, which stated the recipient preferred to communicate by telephone, were more likely to match this preference when transmitting complex (Model 7 $\eta^2 = .007$; $p < .01$) or time sensitive information (Model 7 $\eta^2 = .005$; $p < .05$).

Experimental Variable Effects on the Likelihood of Choosing Email

Table 16 presents the η^2 and correlation coefficients for the GLM analyses conducted to determine the effects of the independent variables on the likelihood the sender would choose email communication. As shown in Table 11, for this dependent variable the participants' responses split into two groups. There were no significant differences in those who responded to version 1 (recipient prefers face-to-face communication) and version 2 (recipient prefers telephone communication); however those who completed version 3 (recipient prefers email communication) did differ significantly from the responses of the rest. Therefore two sets of analyses were conducted in this instance, Model 8 includes the responses from those who completed versions 1 and 2, and Model 9 presents the responses from those who completed version 3.

The volume, complexity, negative affect, and media preferences had significant effects on the likelihood of choosing email; however, in one case the two Models differed in the direction of these effects. Volume of information to be transmitted significantly increased the likelihood of the sender choosing email for both groups of participants [(Model 8 $\eta^2 = .022$; $p < .01$), (Model 9 $\eta^2 = .008$; $p < .01$)]. Email was less likely to be chosen if the message was complex [(Model 8 $\eta^2 = .006$; $p < .01$), (Model 9 $\eta^2 = .028$; $p < .05$)] or if the sender wanted to

transmit some negative affect [(Model 8 $\eta^2 = .011$; $p < .01$), (Model 9 $\eta^2 = .024$; $p < .01$)].

However the senders were significantly less likely to choose email if they believed their recipient preferred to communicate face-to-face or by email (Model 8 $\eta^2 = .037$; $p < .01$) and more likely when they believed the recipient preferred email (Model 9 $\eta^2 = .067$; $p < .01$). Those who responded to versions 1 and 2 were significantly less likely to choose email to transmit time sensitive information (Model 8 $\eta^2 = .005$; $p < .01$).

TABLE 16

Independent Variable Effects on Likelihood of Choosing Email Communication

<u>Dependent Variable</u>	Model 8 η^2	Model 8 Correlation Coefficients	Model 9 η^2	Model 9 Correlation Coefficients
Likelihood of Choosing Email	(F-t-F and Telephone preferred)		(Email preferred)	
<u>Independent Variables</u>				
Volume	.022**	.154**	.008**	.091
Complexity	.006**	-.074**	.028**	-.168*
Negative Affect	.011**	-.108**	.024**	-.159**
Time Sensitivity	.005**	-.067**	.000	-.031
Experience with Recipient	.000	.016	.002	.046
Media Preference	.037**	-.192**	.067**	.265**
<u>Interaction Effects</u>				
Volume X Preference	.000	-.029	.001	.185**
Complexity X Preference	.003**	-.124**	.000	.045
Negative Affect X Preference	.003**	-.140**	.000	.073*
Time Sensitivity X Preference	.001	-.135**	.001	.118**
Volume X Experience	.000	.101**	.000	.083*
Complexity X Experience	.000	-.037	.001	-.049
Experience X Preference	.000	-.094**	.002	.202**
# Observations	1664		863	
F	10.35**		7.49**	
R²	.495		.472	

* $p < 0.05$. ** $p < 0.01$.

There were no significant interaction effects on the likelihood of choosing email for those who completed version 3. However, when recipient media preferences were stated as face-to-

face or telephone, the senders were significantly less likely to choose email to transmit complex information (Model 8 $\eta^2 = .003$; $p < .01$) or to transmit some type of negative affect with their message (Model 8 $\eta^2 = .003$; $p < .01$).

Analysis of the Forced Choice Decisions

The final question for each scenario asked respondents to indicate which medium they would choose for that particular situation if they could choose only one. These data were analyzed using multinomial logistic regression, and the results are presented in Table 17.

TABLE 17

Multinomial Logistic Regression Analysis for Forced Choice of Medium

	Model 10a (reference category email)			Model 10b (reference category telephone)		
	Response	Log Odds	χ^2	Response	Log Odds	χ^2
Volume	F-to-F	-.396	40.61**	Email	.686	87.08**
	Telephone	-.686	87.2**	F-to-F	.290	17.28**
Complexity	F-to-F	.435	49.67**	Email	-.156	4.73*
	Telephone	.156	4.74*	F-to-F	.279	16.57**
Negative Affect	F-to-F	.494	63.15**	Email	-.318	19.49**
	Telephone	.318	19.52**	F-to-F	.176	6.58*
Time Sensitivity	F-to-F	.258	17.8**	Email	-.153	4.63*
	Telephone	.153	4.63*	F-to-F	.105	2.37
Experience	F-to-F	-.176	8.3**	Email	.037	.28
	Telephone	-.037	.28	F-to-F	-.138	4.14*
Preference stated as face-to-face	F-to-F	.924	66.37**	Email	.058	.14
	Telephone	-.058	.15	F-to-F	.981	49.86**
Preference stated as telephone	F-to-F	.024	.04	Email	-1.47	127.54**
	Telephone	1.474	147.88**	F-to-F	-1.45	134.9**
Preference stated as email	F-to-F	-.895	75.53**	Email	.885	48.95**
	Telephone	-.885	53.52**	F-to-F	-.010	.01
Model Fit						
-2 Log Likelihood		1866.08			1909.46	
χ^2		336.75**			243.32**	
Cox & Snell (Pseudo R ²)		.128			.113	

• $p < 0.05$. ** $p < 0.01$.

Multinomial logistic regression analysis supports the identification of the log likelihood that one of the dependent variable categories is going to be chosen over another, with the results

interpreted in a similar manner to dummy variables in a classic OLS regression Model. In this case, because the aim of the analysis was to identify significant differences in the ranking of each medium in relation to the other two, two Models had to be run. The first Model, 10a, shows the log odds that face-to-face or telephone communication will be chosen in reference to choosing email. The second Model, 10b, shows the log odds that face-to-face or email will be chosen in reference to choosing the telephone. The results from the second Model partly overlap the first; however, it is required to identify the probability of choosing face-to-face in reference to the telephone. Further, by identifying which log odds are significant between the two sets of Models, the participants' forced choice of media can be ranked. For example, in Model 10a the participants are significantly less likely to choose face-to-face (log odds = $-.396$, $p < .01$) or the telephone (log odds = $-.686$, $p < .01$) than email for a message with a large volume of information. In Model 10b the first result is identical to Model 10a, showing that participants are significantly more likely to choose email than the telephone (log odds = $.686$, $p < .01$) for a message that contains a high volume of information, but adds that participants are significantly more likely to choose face-to-face than the telephone (log odds = $.290$, $p < .01$). Thus, the ranking for forced media selection for messages that includes a large volume of information is email first, then face-to-face, and finally the telephone. The final rankings for each of the media for each variable are presented in Table 18.

The two analyses summarized in Table 18 show that participants have a clear preference for one medium in respect to six of the eight variables studied. If the message contains a large volume of information the sender is most likely to choose email, if the message is complex then they will choose face-to-face communication, and finally if they wish to transmit some type of negative affect then they will choose to communicate face-to-face. However, for time sensitive

messages they are just as likely to choose the face-to-face as the telephone. In cases where they have experience working with the recipient they are equally likely to choose email or the telephone. Finally, it is clear that, in general, senders will try to match their choice of media to their recipient's preferred medium.

TABLE 18

Rankings for Choosing Each Medium

	Odds of Choosing F-to-F or Email (from Model 1a)	Odds of Choosing Telephone or Email (from Model 1a)	Odds of Choosing F-to-F or Telephone (from Model 1b)	Ranking
Volume	Face-to-Face < Email (p < .01)	Telephone < Email (p < .01)	Face-to-Face > Telephone (p < .01)	(1) Email (2) F-to-F (3) Telephone
Complexity	Face-to-Face > Email (p < .01)	Telephone > Email (p < .05)	Face-to-Face > Telephone (p < .01)	(1) F-to-F (2) Telephone (3) Email
Negative Affect	Face-to-Face > Email (p < .01)	Telephone > Email (p < .01)	Face-to-Face > Telephone (p < .05)	(1) F-to-F (2) Telephone (3) Email
Time Sensitivity	Face-to-Face > Email (p < .01)	Telephone > Email (p < .05)	Face-to-Face ~ Telephone	(1) F-to-F (1) Telephone (3) Email
Experience	Face-to-Face < Email (p < .01)	Telephone ~ Email	Face-to-Face < Telephone (p < .05)	(1) Email (1) Telephone (3) F-to-F
Preference stated as Face-to-Face	Face-to-Face > Email (p < .01)	Telephone ~ Email	Face-to-Face > Telephone (p < .01)	(1) F-to-F (3) Telephone (3) Email
Preference stated as Telephone	Face-to-Face ~ Email	Telephone > Email (p < .01)	Face-to-Face < Telephone (p , .01)	(1) Phone (3) Email (3) F-to-F
Preference stated as Email	Face-to-Face < Email (p < .01)	Telephone < Email (p < .01)	Face-to-Face ~ Telephone	(1) Email (3) F-to-F (3) Telephone

CHAPTER SIX

DISCUSSION, LIMITATIONS AND FUTURE DIRECTIONS

The findings from this study illustrate how and when message and recipient characteristics drive individual-level communication media choice. From the standpoint of studying the effects of as many factors as possible, the results show that rational choice factors are central in the sender's decision process, with social influence and experiential factors moderating these effects in specific circumstances. The review of the literature identified 13 potential factors that could affect individual communication media choice, drawn from five theories: media richness theory, social presence theory, media symbolism theory, social influence theory, and bandwidth expansion theory. The two-stage analysis reduced this number to six factors that had significant effects on media use: volume of information, equivocality of information, time sensitivity, negative affect, experience working with the recipient, and recipient media preferences. The direct and interactive effects of the factors were illustrated, and also the final media chosen in each instance was indicated. In so doing, this study shed light on how and when media richness, social presence, social influence, and channel expansion theories are interdependent when explaining media choice.

This chapter summarizes the results and shows how these findings contribute to the literature. The study's limitations and practical contributions are then presented, and finally the future directions for this research stream are discussed.

Summary Results and Theoretical Contributions

The key results are outlined below and followed by a discussion highlighting the five ways these findings add to the literature by: (1) illustrating how rational choice and social factors interact to drive media choice; (2) indicating aspects of current theories that should be expanded;

(3) identifying differences in the strength of effect of specific factors; (4) developing an inductive model which can be used to design focused empirical analyses; (5) identifying a range of media choice factors that are independent of job and organizational effects.

The results show that rational choice motives, linked to media richness theory (Daft et al., 1986) and social presence theory (Short et al., 1976; Sitkin et al., 1992), are central to the individual's communication media choice (a summary of how the factors affect media choice is presented in Table 19). Message characteristic effects are moderated both by experience working with the recipient (a factor related to bandwidth expansion theory (Carlson et al., 1999)) and social influence (Fulk et al., 1990) in the form of recipient media preferences.

TABLE 19

Summary of Independent Variable Effects on Communication Media Choice

Supporting Theory	Variable	Media Choice Process Effect	Media Chosen
Media Richness Theory	Volume	Volume has little effect on a sender's consideration of his or her communication media choice.	Email
Media Richness Theory	Equivocality	When a message can be easily misunderstood, senders will more carefully consider their choice of medium.	Face-to-Face
Media Richness	Time Sensitivity	This factor had the strongest effect on the sender's consideration of his or her choice of medium.	Face-to-Face or Telephone
Social Presence Theory	Negative Affect	Senders will more carefully consider their choice of communication medium when they wish to transmit some type of negative affect with the message.	Face-to-Face
Channel Expansion Theory	Experience working with Recipient	Experience working with a recipient moderates the effect of volume of information on a sender's consideration of his or her communication media choice.	Telephone or Email
Social Influence Theory	Recipient Media Preferences	Knowledge of a recipient's specific media preferences will moderate the effects of volume, equivocality, time sensitivity, and negative affect on the sender's consideration of his or her media choice. The sender will try to match the recipient's preferences, but final choice is still dependent on message characteristics.	No clear media chosen

Not only were rational choice factors strong determinants of media choice as a group, the methodology of this study supported an expanded view of how these factors should be operationalized in future research. This study drew on previous research to identify which factors to include, but rather than simply operationalizing these in the traditional manner, qualitative analysis supported the re-interpretation of each factor in emic terms. This method supported the inclusion of not just the effects of equivocality of the message on media choice, but also the effects of the volume of information to be transmitted. Further, time sensitivity, the need for the recipient to take some action as a result of the message, had the strongest direct effect on media choice, with participants indicating a preference for choosing face-to-face or telephone communication for such a message.

Theoretical Contributions

The finding that social influence and bandwidth expansion characteristics moderate the effects of media richness characteristics on media choice contributes to the literature by not only illustrating the complementary nature of these approaches in explaining media choice (Trevino et al., 2000; Webster et al., 1995), but also by detailing which specific aspects of each theory interact, how they interact, and which medium senders are most likely to choose in relation to each factor. It appears that a sender's central motivation with respect to media choice is for the efficacy of fitting the message to the appropriate medium. However, senders are also aware that some recipients react differently to information presented in different forms and, therefore, if using the recipient's preferred medium will not clash with the sender's preferred choice too much, then the sender will follow his or her recipient's perceived preferences. The finding that recipient characteristics play a moderating role is perhaps not surprising as the sender's first

consideration must be the actual information to be communicated; then the recipient factors will be considered in reference to the characteristics of the message.

This finding also supports earlier propositions that social factors rooted in job role and organizational effects are more associated with communication media use than media choice (Trevino et al., 1987). This study focused on general factor's effects on media choice; however, findings from the qualitative study indicated that media choice for routine messages was determined by job-related norms. Therefore future studies focusing on media use may find social influence effects to be the central determinants of the media used, with, in this instance, message characteristics' effects playing a moderating role.

The first two research questions forming the basis for this study asked which message and recipient characteristics would cause the sender to more carefully consider his or her communication media choice. The results from the qualitative study indicated a core group of message and recipient characteristics: volume, equivocality, time sensitivity, and negative affect of the information, recipient media preferences, and sender's experience working with the recipient. These factors were then quantitatively analyzed in the policy capturing study. The final results showed that the greatest degree of variance in the media choice decision is explained by the message characteristics. The finding that there is significant variance in the strength of the effect of individual factors extends current thinking by showing how focus on one or two factors related to media richness and social influence theories in the existing literature may have resulted in research designs that cannot identify the true effects of factors of interest. Inclusion of one or two central message effect characteristics could easily reduce the ability of researchers to identify the effects of another message or recipient characteristic. Another outcome of the large degree of variance in the media choice decision that is explained by message characteristics

is the enduring support of media richness theory that can be traced through the literature over the years. This level of support has been surprising in some ways, especially in the face of the attempts by some researchers to directly discredit the theory (Kinney & Dennis, 1994).

Differences in strength of effect were also apparent in relation to the effects of social influence (Fulk et al., 1990) and experiential factors (Carlson et al., 1999). Recipient factors were shown to moderate the effects of message characteristics on choice. However, in some circumstances the sender would still base his or her media choice on message factors rather than select the recipient's preferred medium. These findings indicate that there are differences in when and how recipient preferences moderate the effects of message characteristics. The participants in both studies exhibited clear preferences for selecting specific media for certain types of messages. Indeed, although there was evidence that senders will generally attempt to match the final medium chosen to recipients' media preferences, this is not always the case. The results show that senders will not use face-to-face or telephone to communicate a large volume of information, even when they believe the recipient to prefer one of these media. Further, although senders are less likely to choose face-to-face communication to convey a message with negative affect when they believe their recipient prefers email, they are not significantly more likely to choose email. Findings again echo the basic tenets of rational choice theory, that rich media such as face-to-face and the telephone are a better fit for complex and easily misunderstood messages.

This study was designed to develop a clear understanding of individual communication media choice processes, independent of specific media and across a range of organizations and job roles. This choice was made in order to overcome the limitations of much of the prior research into communication media choice that has tended to focus on communication at the

managerial level (Carlson & Davis, 1998; Huang, 2002; Marginson, King, & McAulay, 2000; Markus, 1994; Salmon et al., 2005; Timmerman et al., 2005) or on specific media used in geographically distributed groups (Ahuja & Galvin, 2003; Etzioni & Etzioni, 1999; Kruempel, 2000; Massey, 2003; Maznevski & Chudoba, 2000; Oker & Morand, 2002; Pratt et al., 2000; Sarker, 2003). In contrast, this study includes a range of employees across a range of organizations, with relatively free choice of media. The results show that it is possible to identify a set of task and social factors that drive communication media choice regardless of the sender's job role or organization, supporting the expansion of some current research on managerial communication to broader organizational communication. Further, findings indicating that senders actively limit their use of and generalize their understanding of communication media points to a need for a less experimental approach to studying media choice. Studies that compare and contrast the use of different media in different groups may be forcing users to differentiate among media in a manner unrepresentative of their everyday organizational communication. The findings that senders independently reduce their decision process to a choice between three core technologies illustrate that studying real communication processes need not lead to overly complex analyses.

Further, the qualitative results indicate that participants did not automatically differentiate among some of the communication media that are often delineated in research. For example, respondents did not list voice mail as a separate communication medium; it was simply a part of using the telephone. Linked to this was the finding that the two respondents who used BlackBerry, a mobile device for sending and receiving emails, simply noted their use of email to communicate; they did not separate using the handheld device from their computer unless specifically prompted by the interviewer. Taken together with the findings above, these results

indicate that people satisfice when choosing which communication medium to use, a finding that links to previous research on a number of levels. The contingent approach to media choice indicates that experience working with a recipient (Zack, 1993) and experience using a communication media (Barry et al., 2004; Carlson et al., 1999) simplify media choice by making it easier for senders to choose to use one specific medium for a range of different messages. Decision theory also shows us that satisficing may not result in such high quality decisions as taking all aspects of the situation into consideration, but those who satisfice are significantly happier with the outcome (Iyengar, Wells, & Schwartz, 2006). Thus, it would appear that even in the face of the many new communication technologies that are developed, senders are keeping their choices simple by focusing on choosing between the three core media as identified in this project.

Practical Contributions

In practical terms the conceptual model of media choice developed in this study can be easily transformed into a general framework for use by organizations to determine the most suitable types of media to make available to their staff. The framework can be directly related to the types of messages that organization members actually send and the characteristics of the recipients with whom they generally communicate.

The results show that senders typically limit their choices to a decision between face-to-face, telephone, and email communication. This is an important finding for managers deciding whether or not to make a new technology available to their staff. The results from this study indicate that email communication is not preferred over voice-contact communication (face-to-face or telephone) unless the sender has experience working with the recipient. Such a finding indicates that simply making newer, more complex types of electronic communication available

to organizational members does not necessarily mean it will be used in preference to voice-contact communication. However, if the new technology further supports the transmission of significant volumes of information, it appears more likely that it will be adopted.

Practically speaking, the finding that email is the most used, but least preferred, medium is important. In general terms even though senders find it easy to choose and use email, they would ideally prefer some type of voice contact in most circumstances. Although a manager may feel that adopting a new type of electronic communication will support more effective and efficient communication within their organization, the outcome may be different. The findings in this study show that when they can, senders will not choose email for messages that include easily misunderstood information, negative affect, or are time sensitive. Providing more options for employees to use appropriate voice or face-to-face communication may increase efficiency by ensuring such messages are appropriately received and understood the first time, rather than, for example, resulting in a long stream of email between the sender and recipient to clarify the message.

The overall findings from this project show that recipient media preferences play a moderating role in communication media choice only under specific circumstances. However, this does not mean that managers need not refer to recipients' preferences when choosing media for their staff. The results from Study One showed clear, job-level effects of recipient preferences with respect to sales staff. It appears that different types of recipient do have different effects on media choice; for example, if a sales manager is choosing whether or not to adopt a new communication medium, they should refer to their customers' preferences to discern if the sales staff will ever use the medium.

The qualitative finding that senders do not clearly differentiate among some types of media that are generally differentiated in the literature is also useful information for managers. For example, it appears that senders simply think of the telephone when discussing voicemail, or of sending an email when they are using a “BlackBerry”-type device. Therefore, it may be easier for a manager to introduce a new medium by explaining its functions in terms of media his or her staff are already using. If the medium is not easily relatable to the three central media identified in this study, it appears staff will not include it in their decision process.

Finally, the identification of the general set of drivers of communication media choice, along with their effects on media choice, means that managers do not necessarily have to seek out organization-specific evidence when determining whether or not to procure some new communication technology for their staff. This model can be used across a wide range of job roles and organizations to analyze the types of communications carried out and to then determine the types of media that would be most likely chosen in each case. Such analysis could help to determine whether the characteristics of the new technology would be suitable for the task and social factors generally at play in the media choice decisions in the organization, or even as a diagnostic tool to support staff in reflecting on their communication media decisions to improved efficiency and efficacy.

Limitations and Future Research Directions

There are some limitations that must be taken into consideration when interpreting the results of this study. The limitations are based in: the participant group; the development of a general model of communication media choice; and the use of a policy capturing design. The first is a result of using evening MBA students as the main participant pool for the study. This decision enabled the researcher to reach participants representing a wide range of organizations

and job roles. However, the use of MBA students may also have resulted in a concentration of respondents representing mainly lower and middle management positions. Although the findings in Study One indicated that the responses from those participants representing one organization (Software Inc.) were statistically equivalent to as those from the MBA participant pool, the small numbers in this study mean these findings might not be generalizable to the communication media choice decisions of those in administrative or senior managerial roles.

An inevitable consequence of creating a general model of communication media choice is that it will not explain some specific media choice situations. For example, the participants in this study believed that all media were available to them, and that even though a recipient's preferences may be known, there were no specific rules or regulations regarding the transmission of information. In organizations with very strict control or communication policies, this model will likely not be applicable.

Another limitation that also results from trying to identify a set of decision characteristics that resonate with a wide range of participants (and have internal reliability) is that the resulting set of scenarios was perhaps too generic. This could mean that some characteristics' effects were missed, as their operationalization in the scenarios as presented were somewhat bland. This could be tested by re-running the policy capturing study, using a participant pool that represented two or more specific organizations. This type of design would allow the researcher to include the same group of independent and dependent variables, but develop more organization-specific scenarios. This added level of realism could lead to the identification of more subtle interaction effects, or even specific organizational effects missed in the current design.

The policy capturing design supported the identification and strength of effect of the various core decision characteristics. However, it necessarily also constrained the number of

characteristics included in the final study. The small sample size used to identify the core set of characteristics in the second study was tempered by the use of previous research to identify the final variable set. However, further research including factors not included in Study Two should be conducted to determine whether any omitted characteristics play a more central role than suggested here, perhaps through interesting or unusual interaction effects with the other characteristics.

A final limitation arose from the decision to administer three versions of the survey instrument. Operationalizing recipient media preference without naming a specific medium was unsuccessful in the pilot study, and using different preferences within one survey instrument would have necessitated an unwieldy number of scenarios in the final questionnaire. The decision to present three versions of the survey overcame these problems and also eased the analysis and interpretation of the results. However, the different versions of the survey also produced some differing results that may have masked the identification of possible interaction effects in the findings. It appears that respondents generalized the recipient's media preferences to all scenarios, not just the ones in which they were stated. The design did support the identification of the effects of recipient media preferences on media choice, but the fact that very few significant interaction effects were identified for the three medium-specific dependent variables indicates that these interactions were being unconsciously applied across the board and so could not be statistically identified for specific scenarios. The suggestion posed earlier of re-testing the survey in specific organizations could enable the inclusion of all three preferences in one survey, with participants perhaps more amenable to responding to more organizational specific scenarios if they perceived some personal benefit from their participation in the study.

The discussion of limitations to this study has already identified several future directions for this research. The recipient variables excluded from this study that were shown to have a strong effect on media choice (number of recipients and geographic distance) should be re-woven into the survey. A new survey should include these two recipient characteristics in addition to the core set of very strong message characteristics (complexity, negative affect, and time sensitivity) to see which of these factors have the strongest effects when tested together and how they interact.

Another variation on the current survey should include testing these characteristics in two or three specific, large organizations to determine which, if any, of the characteristics have organization-specific effects. Choosing focused participant pools will support the development of organization-specific scenarios, and large organizations will also ensure the availability of a sufficiently large participant pool to ensure statistical power in the findings. This would support the development of models of media choice at both the group and organizational level.

The finding that email was the least likely medium to be chosen is very surprising, both in terms of qualitative findings from Study One and recent research. The results presented in Chapter Three indicated that email was by far the most used communication medium, but not the most preferred. When asked about this issue the respondents discussed the ease of using email, its flexibility, and the fact that sending an email could reduce steps in a communication exchange by automatically recording and saving the message. This ubiquity of email as an organizational communication tool has also been noted in the literature, with findings that email is not only extremely pervasive within organizations (Tassabehji et al., 2005), but that employees also find email to be highly useful (Dawley & Anthony, 2003). The results of Study Two may point towards the ideal choice of medium for a particular message, as opposed to the real choice. The

scenarios were developed from the qualitative findings to include as realistic operationalizations of the message and recipient characteristics as possible; however, the fact that some factors were not included and the respondents were advised that all media were equally available perhaps resulted in respondents indicating the likelihood of using each medium under perfect circumstances. Real organizational life is not perfect, and although a person may want to telephone a colleague to advise him or her of some complex information, the sender may simply not feel he or she has the required time to make the call, with the result that information is sent by email. This type of contingent factor, situational issues related to the sender, was not included in this study. This topic of communication media choice requires further study to be fully understood.

The qualitative study highlighted some interesting issues relating to the grouping and sequencing of communication media. Future studies should be developed that clearly identify and illuminate the media choice processes that result in such use of multiple media. There were clear indications that different factors resulted in the use of multiple media at the same time (emailing and telephoning) versus those that resulted in sequencing of media (telephone, followed by an email, followed by a face-to-face meeting). This type of research would be important conceptually as such work will probably further illuminate the mixed findings in previous research studies and guide the design of future research. In addition, on a practical level, such knowledge would provide further information for managers when determining which types of communication media to make available to their staff.

This study has shown the importance of operationalizing message characteristics in emic terms and indicates a need to conduct more studies that examine users' definitions of factors and media. Like this study, most researchers use media richness theory as a basis for research

design, and although many of the characteristics were defined by participants in similar terms to the theory, this was not universally the case. Media richness studies generally examine complexity only in terms of equivocality; however, in this study complexity was also described in terms of volume of information, with different effects on media choice resulting from the two types of complexity. Such differences, including the different levels of symbolism identified in Study One, but not included in Study Two, should be examined in a future study, to identify how and when the etic operationalizations generally used may have masked some interesting theoretical findings.

Closely linked to the issue of operationalization of specific theoretical constructs are the unexpected findings in this study related to the sender's self-limiting of media options and apparent bracketing by voice contact and electronic contact. This requires more study. Senders do not appear to differentiate between media in the same way as posited by much of the research designed to identify the effects of different media. Rather than comparing and contrasting the choice and use of specific media, future studies need to first clarify how senders make sense of the media available to them. Then, knowing how senders bracket the media available to them, it may be easier to empirically identify why and how they tune out the availability of certain media.

Finally, this study did not include any measures of efficacy, efficiency, or success for the communication events studied. The findings described here provide a platform for designing future studies that analyze the communication event from both the sender's and the recipient's point of view. The knowledge that senders prefer certain media for specific types of messages should be used to develop a study that simultaneously measures the success of the communication on multiple levels for both sides of the event. The issue of satisficing on the part

of the sender, both in terms of limiting his or her choice of media and not always following a recipient's media preferences, should be further examined to understand how these decisions affect the quality of the communication from the recipient's point of view. Such research will add conceptually to the literature in showing not only how specific factors interact to drive choice, but also the impact of that decision, and practically by providing further information to managers regarding the efficiency and efficacy of providing specific types of media for their staff.

Conclusion

This project plays an important role in media choice research by moving beyond the controversy of whether rational choice or social influence approaches provide better explanations of individual communication media choice, and instead focused on identifying which factors play a central role in the process. This premise supported a research design that focused on the inclusion of all possible media choice factors and the identification of how and when those factors directly affected the media choice decision. The results of this study show that media choice is a complex process and that no one theory or approach can fully explain the process, but that careful research design and attention to what senders actually do can shed light on how and when the multiple factors driving choice interact.

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APPENDIX A

PILOT STUDY INTERVIEW PROTOCOL

General Background Questions

- What type of organization do you work for?*
- Does your organization have other offices in the US? If yes, where? Do you ever have to communicate with these offices?*
- Does your organization have other offices internationally? If yes, where? Do you ever have to communicate with these offices?*
- How many people work for this organization?*
- How many people work in your department?*
- What is your job title/role?*
- Can you give me a basic explanation of your usual tasks/duties?*
- How many years/months of experience have you had in this role? In this organization? In general?*

The following questions refer to communication media; this term refers to all of the methods/technologies you have available to you for contacting and disseminating information within your organization.

- What communication media do you have available in your organization?
 - Do you use all of these?
 - Of those you don't use, why?
 - Do you think you have a preferred communication medium?
 - What do you especially like about this medium?
 - Do you have a medium you particularly dislike?
 - When would you typically use this medium?
- Do you actively consider your choice of communication medium?
- Do you have a preferred/default communication medium?
- Do you feel there are any media you must use based on constraints within your current role/job?
- Are there any communication media available to you that you would never use? Why?*

* This question was omitted with participants from Software Inc.

Message Characteristic Questions

- Could you describe a type of message that would require you to use a specific medium?
 - What media would you use and why?
- If you felt a message was particularly complex, would this affect your media choice?
 - If yes, in what way?
- Do you ever feel that you want to transmit a feeling or context to a particular message?
 - When this has happened did it affect your media choice? In what way?
- Do you ever have tight timelines on your communications?
 - When this has happened did it affect your media choice? In what way?
- Do you ever have communications that require some type of immediate feedback?
 - Could you explain exactly what type(s) of feedback might be required, and how the content of the message may affect this?
- What would you say is your most routine type of message?
 - Do you have a particular media you like to use for this type of message?
- Do you ever have communications that you feel require some level of security?
 - Does such a consideration affect your media choice? In what way?
- What type of message, if any, would you describe as important?
 - If you determined a message to be important would this affect your media choice?
- Are there any other message characteristics that I haven't mentioned that you pay particular attention to when you have to communicate something?
 - How does this/do these affect your media choice?

Recipient Characteristics Questions

- Do you generally know your recipient's communication media preferences?
 - Can you give me an example of a time you did, and a time you didn't?
 - Have you ever based your communication media choice on this knowledge?
- Can you describe a typical communication with a recipient you know well?
 - Do you generally use the same media with this recipient?
 - When would you not use this media for a communication with this recipient?
- Can you describe a typical communication with a recipient outside your organization or department?
 - Do you generally use the same media with this recipient?
 - When would you not use this media for a communication with this recipient?
- Could you describe a typical communication with your boss/senior?
 - Do you generally use the same media
 - When would you use another media for a communication with this recipient?
- Could you describe a typical communication with your colleague/peer/co-worker?
 - Do you generally use the same media
 - When would you use another media for a communication with this recipient?
- Could you describe a typical communication with your junior?
 - Do you generally use the same media
 - When would you use another media for a communication with this recipient?

- Could you describe a typical communication with a customer?
 - Do you generally use the same media
 - When would you use another media for a communication with this recipient?
- Are there any other recipient characteristics that I haven't mentioned that you pay particular attention to when you have to communicate something?
 - How does this/do these affect your media choice?

Critical Incident Questions

- Has there been a communication you thought was particularly unsuccessful?
 - Why? What aspects of the event made it unsuccessful?
 - If you could do it again what would you do differently?
- Has there been a communication you thought was particularly successful?
 - Why? What aspects of the event made it successful?

APPENDIX B

EXAMPLE OF PILOT STUDY ONE SCENARIOS

1. The purpose of this communication is to deliver information that could be easily misinterpreted. You want the recipient to know that you are unhappy about having to convey this information. You have had a great deal of experience communicating with this recipient. You know that your recipient likes to communicate by telephone.

What is the likelihood that such a scenario would affect your communication media choice?

Not at all likely
1 2 3 4 5 6 7
Highly Likely

Which communication media would you most likely use for this communication? (You may circle more than one medium)

Face-to-Face Email Telephone Other _____

2. You wish to transmit some information. You require the recipient to take action immediately on receipt of the information. You have had a great deal of experience communicating with this recipient. You know that your recipient likes email.

What is the likelihood that such a scenario would affect your communication media choice?

Not at all likely
1 2 3 4 5 6 7
Highly Likely

Which communication media would you most likely use for this communication? (You may circle more than one medium)

Face-to-Face Email Telephone Other _____

3. The purpose of this communication is to deliver information that could be easily misinterpreted. You want the recipient to know that you are unhappy about having to convey this information. You have had a great deal of experience communicating with this recipient.

What is the likelihood that such a scenario would affect your communication media choice?

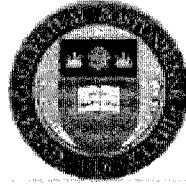
Not at all likely
1 2 3 4 5 6 7
Highly Likely

Which communication media would you most likely use for this communication? (You may circle more than one medium)

Face-to-Face Email Telephone Other _____

APPENDIX C

INCOMPLETE BLOCK DESIGN SURVEYS



COMMUNICATION MEDIA CHOICE QUESTIONNAIRE (VERSION 1A)

The purpose of this questionnaire is to examine some of the factors that may play a role in your communication media choices at work. The term communication media is used to denote any channel/media you may use to transmit information, including but not limited to, face-to-face conversations, the telephone, and email.

Your answers to the questionnaire are completely anonymous; at no point will you have to give your name or any information that could lead to your identification. There is no risk to yourself by completing the questionnaire; and there is no reward or benefit for completion of the questionnaire. There is no penalty for refusing to complete the questionnaire.

The questionnaire is divided into two sections. The first section includes questions relating to some general background information. The second section includes a set of 18 communication scenarios. Each of these scenarios contains a unique set of factors relating to some information you wish to communicate. Please read each scenario carefully and use the information provided in the scenario to answer the questions that follow each scenario.

This study forms part of the dissertation research of Sharon McKechnie, a graduate student in the Organization Studies Department of the Carroll School of Management. Ms McKechnie is guided in this study by Professor Judith Gordon, also of the Organization Studies Department in the Carroll School. You are encouraged to ask questions now, and at any time during the study. You can reach Sharon McKechnie, by telephone at 617-552-1697, or by email at mckechns@bc.edu. Professor Gordon can be contacted by telephone at 617-552-0454, or by email at gordonj@bc.edu. If you have any questions about your rights as a participant in a research study, please contact the Boston College Office for Human Research Participant Protection, 617-552-4778.

Section 1 – Background Information

Please circle the appropriate answer

1. Gender: Male Female
2. Age: Under 20 20-25 26-30 31-35 36-40 41-45 46-50 51-55 56 or over
3. Job Role: _____
4. Organization Type: (For example Software; Accounting; Law Firm) _____
5. Years/Months in Job Role: _____

6. Years/Months in Organization: _____

7. Years/Months in the Workforce: _____

Section 2 – Communication Media Choice Scenarios

WHEN DETERMINING YOUR ANSWERS FOR EACH SITUATION, PLEASE REMEMBER THAT ALL CHOICES OF MEDIA ARE AVAILABLE. DISTANCE SHOULD NOT FACTOR INTO YOUR DECISION, NEITHER ARE THERE ANY LEGAL IMPEDIMENTS TO USING ANY FORM OF MEDIA FOR COMMUNICATING THE INFORMATION DESCRIBED IN THE SCENARIO. ALTHOUGH THERE ARE SIMILARITIES IN THE SCENARIOS PLEASE TRY TO BASE YOUR ANSWERS ON THE SPECIFIC INFORMATION DESCRIBED IN EACH INDIVIDUAL SCENARIO.

1. The purpose of this communication is to deliver information that could be easily misinterpreted. You require the recipient to take action immediately on receipt of the information. You want the recipient to know that you are unhappy about having to convey this information. You have had a great deal of experience communicating with this recipient.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

2. The purpose of this communication is to deliver a large volume of detailed information. You require the recipient to take action immediately on receipt of the information. You have had a great deal of experience communicating with this recipient.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

Not at all Likely Highly Likely

Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

3. The purpose of this communication is to deliver information that could be easily misinterpreted. You require the recipient to take action immediately on receipt of the information. You have had a great deal of experience communicating with this recipient. You know that your recipient prefers to communicate face to face.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

		Not at all Likely			Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

4. The purpose of this communication is to deliver a large volume of detailed information. The purpose of this communication is to deliver information that could be easily misinterpreted. You require the recipient to take action immediately on receipt of the information. You want the recipient to know that you are unhappy about having to convey this information.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

		Not at all Likely			Highly Likely		
--	--	-------------------	--	--	---------------	--	--

Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

5. The purpose of this communication is to deliver a large volume of detailed information. The purpose of this communication is to deliver information that could be easily misinterpreted. You require the recipient to take action immediately on receipt of the information. You know that your recipient prefers to communicate face to face.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely			Highly Likely			
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

6. The purpose of this communication is to deliver a large volume of detailed information. You require the recipient to take action immediately on receipt of the information. You want the recipient to know that you are unhappy about having to convey this information. You have had a great deal of experience communicating with this recipient. You know that your recipient prefers to communicate face to face.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely			Highly Likely			
Face-To-Face Meeting	1	2	3	4	5	6	7

Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

7. You require the recipient to take action immediately on receipt of the information.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

8. The purpose of this communication is to deliver a large volume of detailed information. You want the recipient to know that you are unhappy about having to convey this information.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

9. The purpose of this communication is to deliver information that could be easily misinterpreted. You want the recipient to know that you are unhappy about having to convey this information. You know that your recipient prefers to communicate face to face.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

10. The purpose of this communication is to deliver a large volume of detailed information. The purpose of this communication is to deliver information that could be easily misinterpreted. You want the recipient to know that you are unhappy about having to convey this information. You have had a great deal of experience communicating with this recipient. You know that your recipient prefers to communicate face to face.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

11. The purpose of this communication is to deliver a large volume of detailed information. The purpose of this communication is to deliver information that could be easily misinterpreted. You have had a great deal of experience communicating with this recipient.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

12. The purpose of this communication is to deliver information that could be easily misinterpreted.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

13. You have had a great deal of experience communicating with this recipient. You know that your recipient prefers to communicate face to face.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

14. The purpose of this communication is to deliver a large volume of detailed information. The purpose of this communication is to deliver information that could be easily misinterpreted. You require the recipient to take action immediately on receipt of the information. You want the recipient to know that you are unhappy about having to convey this information.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

15. The purpose of this communication is to deliver a large volume of detailed information. You know that your recipient prefers to communicate face to face.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely			
Face-To-Face Meeting	1	2	3	4	5	6	7	
Telephone	1	2	3	4	5	6	7	
Email	1	2	3	4	5	6	7	

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

16. You require the recipient to take action immediately on receipt of the information. You want the recipient to know that you are unhappy about having to convey this information. You know that your recipient prefers to communicate face to face.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely			
Face-To-Face Meeting	1	2	3	4	5	6	7	
Telephone	1	2	3	4	5	6	7	
Email	1	2	3	4	5	6	7	

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

17. The purpose of this communication is to deliver a large volume of detailed information. You require the recipient to take action immediately on receipt of the information. You want the recipient to know that you are unhappy about having to convey this information. You have had a great deal of experience communicating with this recipient. You know that your recipient prefers to communicate face to face.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

18. You want the recipient to know that you are unhappy about having to convey this information. You have had a great deal of experience communicating with this recipient.

Do you feel the particular aspects of this situation make you more carefully consider which communication media to choose than you generally would?

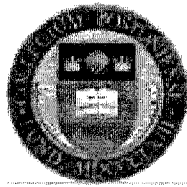
Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email



**COMMUNICATION MEDIA CHOICE QUESTIONNAIRE
(VERSION 2B)**

The purpose of this questionnaire is to examine some of the factors that may play a role in your communication media choices. The term communication media is used to denote any channel/media you may use to transmit information, including but not limited to, face-to-face conversations, the telephone, and email.

Your answers to the questionnaire are completely anonymous; at no point will you have to give your name or any information that could lead to your identification. There is no risk to yourself by completing the questionnaire; and there is no reward or benefit for completion of the questionnaire. There is no penalty for refusing to complete the questionnaire.

The questionnaire is divided into two sections. The first section includes questions relating to some general background information. The second section includes a set of 18 communication scenarios. Each of these scenarios contains a unique set of factors relating to some information you wish to communicate. Please read each scenario carefully and use the information provided in the scenario to answer the questions that follow each scenario.

This study forms part of the dissertation research of Sharon McKechnie, a graduate student in the Organization Studies Department of the Carroll School of Management. Ms McKechnie is guided in this study by Professor Judith Gordon, also of the Organization Studies Department in the Carroll School. You are encouraged to ask questions now, and at any time during the study. You can reach Sharon McKechnie, by telephone at 617-552-1697, or by email at mckechns@bc.edu. Professor Gordon can be contacted by telephone at 617-552-0454, or by email at gordonj@bc.edu. If you have any questions about your rights as a participant in a research study, please contact the Boston College Office for Human Research Participant Protection, 617-552-4778.

Section 1 – Background Information

Please circle the appropriate answer

8. Gender: Male Female
9. Age: Under 20 20-25 26-30 31-35 36-40 41-45 46-50 51-55 56 or over
10. Job Role: _____
11. Organization Type: (For example Software; Accounting; Law Firm) _____
12. Years/Months in Job Role: _____
13. Years/Months in Organization: _____
14. Years/Months in the Workforce: _____

Section 2 – Communication Media Choice Scenarios

WHEN DETERMINING YOUR ANSWERS FOR EACH SITUATION, PLEASE REMEMBER THAT ALL CHOICES OF MEDIA ARE AVAILABLE. DISTANCE SHOULD NOT FACTOR INTO YOUR DECISION, NEITHER ARE THERE ANY LEGAL IMPEDIMENTS TO USING ANY FORM OF MEDIA FOR COMMUNICATING THE INFORMATION DESCRIBED IN THE SCENARIO. ALTHOUGH THERE ARE SIMILARITIES IN THE SCENARIOS PLEASE TRY TO BASE YOUR ANSWERS ON THE SPECIFIC INFORMATION DESCRIBED IN EACH INDIVIDUAL SCENARIO.

1. The purpose of this communication is to deliver a large volume of detailed information. You want the recipient to know that you are unhappy about having to convey this information. You know that your recipient prefers to communicate by telephone.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

2. The purpose of this communication is to deliver information that could be easily misinterpreted. You require the recipient to take action immediately on receipt of the information. You have had a great deal of experience communicating with this recipient.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

3. The purpose of this communication is to deliver a large volume of detailed information.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

4. The purpose of this communication is to deliver a large volume of detailed information. The purpose of this communication is to deliver information that could be easily misinterpreted. You require the recipient to take action immediately on receipt of the information.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

5. You require the recipient to take action immediately on receipt of the information. You know that your recipient prefers to communicate by telephone.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All 1 2 3 4 5 6 7
Somewhat Definitely

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
	1	2	3	4	5	6	7
Face-To-Face Meeting							
Telephone							
Email							

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

6. The purpose of this communication is to deliver a large volume of detailed information. The purpose of this communication is to deliver information that could be easily misinterpreted. You require the recipient to take action immediately on receipt of the information. You want the recipient to know that you are unhappy about having to convey this information. You know that your recipient prefers to communicate by telephone.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All 1 2 3 4 5 6 7
Somewhat Definitely

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
	1	2	3	4	5	6	7
Face-To-Face Meeting							
Telephone							
Email							

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

7. The purpose of this communication is to deliver a large volume of detailed information. You require the recipient to take action immediately on receipt of the information. You have had a great deal of experience communicating with this recipient. You know that your recipient prefers to communicate by telephone.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

8. The purpose of this communication is to deliver a large volume of detailed information. The purpose of this communication is to deliver information that could be easily misinterpreted. You want the recipient to know that you are unhappy about having to convey this information. You have had a great deal of experience communicating with this recipient.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

9. You want the recipient to know that you are unhappy about having to convey this information. You have had a great deal of experience communicating with this recipient. You know that your recipient prefers to communicate by telephone.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

10. The purpose of this communication is to deliver information that could be easily misinterpreted. You want the recipient to know that you are unhappy about having to convey this information.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

11. You require the recipient to take action immediately on receipt of the information. You know that your recipient prefers to communicate by telephone.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

12. The purpose of this communication is to deliver a large volume of detailed information. You require the recipient to take action immediately on receipt of the information. You want the recipient to know that you are unhappy about having to convey this information. You have had a great deal of experience communicating with this recipient.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

13. The purpose of this communication is to deliver a large volume of detailed information.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All Somewhat Definitely

1 2 3 4 5 6 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

14. The purpose of this communication is to deliver information that could be easily misinterpreted. You know that your recipient prefers to communicate by telephone.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All Somewhat Definitely
1 2 3 4 5 6 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

15. The purpose of this communication is to deliver a large volume of detailed information. The purpose of this communication is to deliver information that could be easily misinterpreted. You have had a great deal of experience communicating with this recipient. You know that your recipient prefers to communicate by telephone.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All Somewhat Definitely
1 2 3 4 5 6 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

16. The purpose of this communication is to deliver information that could be easily misinterpreted. You require the recipient to take action immediately on receipt of the information. You want the recipient to know that you are unhappy about having to convey this information. You have had a great deal of experience communicating with this recipient. You know that your recipient prefers to communicate by telephone.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

17. You have had a great deal of experience communicating with this recipient.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

Not at all Likely	Highly Likely
-------------------	---------------

Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

18. You require the recipient to take action immediately on receipt of the information. You want the recipient to know that you are unhappy about having to convey this information.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

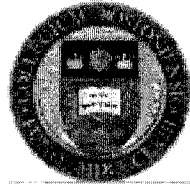
Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email



**COMMUNICATION MEDIA CHOICE QUESTIONNAIRE
(VERSION 3C)**

The purpose of this questionnaire is to examine some of the factors that may play a role in your communication media choices at work. The term communication media is used to denote any channel/media you may use to transmit information, including but not limited to, face-to-face conversations, the telephone, and email.

Your answers to the questionnaire are completely anonymous; at no point will you have to give your name or any information that could lead to your identification. There is no risk to yourself by completing the questionnaire; and there is no reward or benefit for completion of the questionnaire. There is no penalty for refusing to complete the questionnaire.

The questionnaire is divided into two sections. The first section includes questions relating to some general background information. The second section includes a set of 18 communication scenarios. Each of these scenarios contains a unique set of factors relating to some information you wish to communicate. Please read each scenario carefully and use the information provided in the scenario to answer the questions that follow each scenario.

This study forms part of the dissertation research of Sharon McKechnie, a graduate student in the Organization Studies Department of the Carroll School of Management. Ms McKechnie is guided in this study by Professor Judith Gordon, also of the Organization Studies Department in the Carroll School. You are encouraged to ask questions now, and at any time during the study. You can reach Sharon McKechnie, by telephone at 617-552-1697, or by email at mckechns@bc.edu. Professor Gordon can be contacted by telephone at 617-552-0454, or by email at gordonj@bc.edu. If you have any questions about your rights as a participant in a research study, please contact the Boston College Office for Human Research Participant Protection, 617-552-4778.

Section 1 – Background Information

Please circle the appropriate answer

15. Gender: Male Female
16. Age: Under 20 20-25 26-30 31-35 36-40 41-45 46-50 51-55 56 or over
17. Job Role: _____
18. Organization Type: (For example Software; Accounting; Law Firm) _____
19. Years/Months in Job Role: _____
20. Years/Months in Organization: _____
21. Years/Months in the Workforce: _____

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

3. The purpose of this communication is to deliver information that could be easily misinterpreted. You require the recipient to take action immediately on receipt of the information. You know that your recipient prefers to communicate via email.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

4. You want the recipient to know that you are unhappy about having to convey this information.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

5. You know that your recipient prefers to communicate via email.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

6. The purpose of this communication is to deliver a large volume of detailed information. You have had a great deal of experience communicating with this recipient. You know that your recipient prefers to communicate via email.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

7. The purpose of this communication is to deliver a large volume of detailed information. The purpose of this communication is to deliver information that could be easily misinterpreted.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

8. You require the recipient to take action immediately on receipt of the information. You have had a great deal of experience communicating with this recipient.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All 1 2 3 Somewhat 4 5 6 Definitely 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

9. The purpose of this communication is to deliver information that could be easily misinterpreted. You want the recipient to know that you are unhappy about having to convey this information. You have had a great deal of experience communicating with this recipient. You know that your recipient prefers to communicate via email.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

1 2 3 4 5 6 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

12. The purpose of this communication is to deliver a large volume of detailed information. You require the recipient to take action immediately on receipt of the information. You want the recipient to know that you are unhappy about having to convey this information. You know that your recipient prefers to communicate via email.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All Somewhat Definitely
 1 2 3 4 5 6 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

13. The purpose of this communication is to deliver information that could be easily misinterpreted. You require the recipient to take action immediately on receipt of the information. You know that your recipient prefers to communicate via email.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All Somewhat Definitely
 1 2 3 4 5 6 7

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

14. The purpose of this communication is to deliver information that could be easily misinterpreted. You have had a great deal of experience communicating with this recipient.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

15. The purpose of this communication is to deliver information that could be easily misinterpreted. You require the recipient to take action immediately on receipt of the information. You want the recipient to know that you are unhappy about having to convey this information.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

Not at all Likely Highly Likely

Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

16. You want the recipient to know that you are unhappy about having to convey this information.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely			Highly Likely			
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

17. The purpose of this communication is to deliver a large volume of detailed information. The purpose of this communication is to deliver information that could be easily misinterpreted. You require the recipient to take action immediately on receipt of the information. You want the recipient to know that you are unhappy about having to convey this information. You have had a great deal of experience communicating with this recipient.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely			Highly Likely			
Face-To-Face Meeting	1	2	3	4	5	6	7

Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email

18. The purpose of this communication is to deliver a large volume of detailed information. The purpose of this communication is to deliver information that could be easily misinterpreted. You require the recipient to take action immediately on receipt of the information. You have had a great deal of experience communicating with this recipient. You know that your recipient prefers to communicate via email.

Do you feel the particular aspects of this situation make you more carefully consider your choice of communication media than you generally would?

Not At All				Somewhat			Definitely
1	2	3	4	5	6	7	

What is the likelihood that you would choose each of the following communication media in this situation? Please circle the numbers that best represent your likely responses.

	Not at all Likely				Highly Likely		
Face-To-Face Meeting	1	2	3	4	5	6	7
Telephone	1	2	3	4	5	6	7
Email	1	2	3	4	5	6	7

If you would rather choose another medium, what would it be? _____

If you could only choose one of the above, what would it be? Face-to-Face Telephone Email