

2017

## Think Twice Before Hitting 'Send': The Strategic Uses of Information in Marketing Channels

Pui Ying Tong

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**THINK TWICE BEFORE HITTING 'SEND':  
THE STRATEGIC USES OF INFORMATION IN MARKETING CHANNELS**

Pui Ying Tong

Dissertation submitted to the College of Business and Economics  
at West Virginia University  
in partial fulfillment of the requirements  
for the degree of

Doctor of Philosophy  
in  
Marketing

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Morgantown, West Virginia  
2017

Keywords: Information overload, strategic uses of information, marketing channels  
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## **Abstract**

### **THINK TWICE BEFORE HITTING 'SEND': THE STRATEGIC USES OF INFORMATION IN MARKETING CHANNELS**

**Pui Ying Tong**

This dissertation examines the growing problem of information overload in the context of marketing channels. Information overload occurs when shared information requires more mental resources to process than the mental resources available to the receiver. This research offers strategies to attenuate information overload and examines the impact of information overload on channel outcomes. Strategic uses of information are proposed and conceptualized as a sender's alteration of information volume, content, and/or timing to assist a receiver in processing information. Hypotheses are developed based on the normative perspective of communication from the organizational communication literature. Data from 244 salespeople are analyzed using structural equation modeling to test the hypotheses. The results suggest that information overload undermines shared understanding, while shared understanding enhances coordination and compliance, and reduces conflict. Post hoc analyses further reveal that the effectiveness of strategic uses of information on information overload is contingent on the task nature and receiver characteristics and that some strategies have a U-shaped relationship with information overload. The major contribution of this dissertation is integrating the paradigms of organizational communication and marketing channels literatures and providing an additional perspective in understanding information sharing in channel relationships. Contrary to conventional wisdom, this paper argues that more information sharing is not necessarily better.

**DEDICATION**

This dissertation is dedicated to my parents,  
who always believe in me and support me to pursue my dreams.

## ACKNOWLEDGMENTS

I could not complete my dissertation without the support of many people. I would like to express my most sincere thanks to them.

I would like to express my deepest gratitude to my dissertation chairs, Dr. James Brown and Dr. Jody Crosno, for guiding me through my dissertation, instilling confidence in me, and training me to be a critical thinker. Dr. Brown, my academic grandfather, always has citations off the top of his head that point me to the right research direction. Dr. Crosno has been an amazing mentor, guiding me through the PhD program and research projects and equipping me with the skills needed to be a superlative scholar. I am lucky to have them as my chairs.

I would like to thank Dr. Annie Cui and Dr. Mark Gavin for being my committee members and providing their insights and feedback on this dissertation. I want to give a special thanks to Dr. Li Wang for opening my world to organizational communication and providing great support in drafting my literature review.

I would also like to thank all the faculty members and doctoral students in the Marketing Department for being extremely friendly, supportive, and resourceful. I am fortunate to be part of this wonderful family.

I want to thank Dr. Chiharu Ishida who suggested for me to consider pursuing a PhD degree five years ago, and recommended for me to enroll at WVU.

I thank Chris Yench, who is my copy editor, cheerleader, and best friend. He always gives me encouragement when I need it most and makes sure I take breaks to reinvigorate my interest in my research.

I would like to thank my parents and my sister for their unconditional love and support and for being proud of me regardless of whatever path I choose in life.

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# CHAPTER 1

## INTRODUCTION

### Problem Statement

A stream of marketing channels research draws the conclusion that more information sharing leads to better firm performance. The distribution of accurate and timely information among channel members brings efficiency and effectiveness to channels by facilitating decision making and planning (e.g., Boyle, Dwyer, Robicheaux, & Simpson, 1992), coordinating channel members' activities (e.g., Gultinan, Rejab, & Rodgers, 1980), and developing relational norms and qualities (e.g., Morgan & Hunt, 1994). Yet, a growing number of business reports and academic journal articles has reported that handling and utilizing excessive information is a challenge:

- 40 percent of executives spend half a day to an entire day every week handling communication that has no value (McKinsey & Co., 2005, cited in Larkin & Larkin, 2005).
- Managers said that 38 percent of reports they receive are not tailored to their needs and are difficult to use (Business Objects, 1997, cited in Eppler & Mengis, 2008).
- Over 60 percent of the managers have problems dealing with information regularly. These problems include difficulties in applying information, irrelevant information, and lack of time to comprehend excessive information (Farhoomand & Drury, 2002).

The statistics above suggest that even though the sharing of information brings benefits to channel members, more information sharing is not always better. As such, these statistics call for further research on investigating the problems in processing information and developing

corresponding solutions. A major explanation for the problem is that people have cognitive limitations and cannot process all the available information (Daft & Lengel, 1986; Huber & Power, 1985; March & Simon, 1958; Williamson, 1985, 1993). When the capacity required to process available information exceeds one's processing capacity, one experiences information overload which leads to difficulty in gathering, comprehending, remembering, and synthesizing information (Tushman & Nadler, 1978).

Information that is not adapted to the receiver's cognitive limitations may cause information overload. Untailored information may result in hardship in comprehension or oversight of important information which leads to decreases in productivity and/or demotivation of receivers. Untailored information may also cause mental distress, such as confusion, stress, and distraction (Hemp, 2009; Jacoby, 1977; O'Reilly, 1980). Consequently, this can limit one's ability to respond to information and make quality decisions (O'Reilly, 1980; Spira & Burke, 2009).

When one has to spend more time managing information, less time can be devoted to actually interpreting the information (Farhoomand & Drury, 2002). A survey conducted by Economist Intelligence Unit (2005) shows that 39 percent of senior executives complained that too much information is available which hinders decision making (Eppler & Mengis, 2008). Also, 91 percent of the decision makers from the Times Top 1,000 list said that they do not have enough thinking time (Business Objects, 1997, cited in Eppler & Mengis, 2008).

The cognitive constraints of a channel partner underscore the need for channel managers, as senders, to make better use of their information by sharing more customized information with the receiver during the communication process. A sender is the person who sends a message whereas a receiver is the person who receives and interprets the message (Krone, Jablin, &

Putnam, 1987). When the receiver fails to understand the untailed information, the benefits of channel communication cannot be fully realized (O'Reilly, 1980; Spira & Burke, 2009).

### **Research Significance**

Perhaps the biggest challenge in dealing with excessive information is that not everyone recognizes it as a problem. Nathan Zeldes, a former Intel senior engineer, points out that many firms suffer from having too much information, but these firms do not try to solve their information problems “because communication is supposed to be good for you” (Hemp, 2009, p. 85). However, the stand that these companies take, denying the information overload problem, is not a surprising one in light of most marketing research. Marketing researchers have often emphasized the importance of communication in business-to-business contexts. The current perspective in marketing is that communication is not only the major driver of relationship marketing, but also has a positive relationship with performance (Mohr, Fisher, & Nevin, 1996; Palmatier, Dant, Grewal, & Evans, 2006).

The understanding of communication in marketing channels literature is incomplete because the problem of information overload is not considered. Without considering the cognitive constraints of managers, the results of studies on communication may not be accurate. Also, because the problem of information overload is not acknowledged, no business-to-business research provides a solution to this managerial problem. This dissertation aims to revise the current perspective of communication in the marketing channels literature and to offer solutions for the information overload problem.

The goal of this paper is to identify and define different strategic uses of information that a sender can apply to reduce information overload problem in the business-to-business context. The theoretical foundation of this paper draws on organizational communication and marketing

channels literatures. The strategic use of information describes a sender's alteration of information volume, content, and/or timing to assist a receiver in processing information. The emphasis of the strategic use of information is not on what the sender says, but on how it is said. The delivery of a message, through summarizing, creating ambiguity, and considering the receiver's workload, feelings, and background, is expected to make a difference in how a receiver understands the information and behaves.

This dissertation also aims to understand how communication affects a receiver cognitively and emotionally. Research in marketing channels often draws a direct relationship between communication and channel outcomes, such as coordination, and fails to specify the processes between communication, a receiver's comprehension, and organizational outcomes. Without a clear understanding of how communication influences the cognition and emotions of a receiver, the effectiveness of varying communication strategies cannot be differentiated. As Rogers and Agarwala-Rogers (1976) suggest, receivers are the most important element in communication yet are often forgotten.

When a sender can tailor the delivery of information to a targeted receiver, the delivery of communication is expected to influence channel outcomes through reducing information overload and subsequently enhancing shared understanding between sender and receiver. A sender has to be considerate and customize information for his/her audience to effectively achieve channel outcomes, including facilitating coordination, gaining compliance, and reducing conflict. The paper also specifies how the receiver's ability to comprehend information can influence the relationships between strategic uses of information and channel outcomes.

To conclude, this dissertation proposes that a sender can strategically create and share messages to assist a receiver to better select, interpret, store, and/or retrieve information. When a

receiver can process information more effectively, the receiver can better utilize the shared information to achieve channel goals.

### **Research Questions**

This dissertation aims to answer the following questions. First, how do the strategic uses of information affect the receivers' comprehension of information and their subsequent channel performances? Second, are all the strategies equally effective? Or are some more effective than others? Third, how does the receiver's ability to integrate new information with current knowledge influence the effectiveness of the strategic uses of information on the receiver's information processing?

### **Organization of Dissertation Proposal**

This dissertation proposal is organized in the following order. First, the literatures from marketing and organizational communication will be reviewed. Second, based on the literature, hypotheses and supporting arguments will be developed. Third, there will be discussion about the research method for item generation and pretests. The data collection process of the main study will then be explained. The results of the structural equation modeling analysis will be discussed. Lastly, implications, future research directions, and a summary will be provided.



## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **Introduction**

As stated in the previous chapter, this dissertation examines how a sender can strategically modify and deliver messages to help a receiver to better comprehend information so that the receiver can better apply information to achieve channel goals. To identify strategies that a sender can employ to alter information and to draw relationships between these strategies and organizational performance, one must first have a thorough understanding of the communication process. The purpose of this chapter is to review the communication process, various strategic uses of information, and relevant channel outcomes. This chapter is divided into two sections: the communication process and the communication strategies and outcomes in marketing channels.

The goal of this dissertation is to understand how a sender can strategically alter and deliver information to affect a receiver's interpretation and behavior in business interactions. To answer this question, literatures from marketing channels and organizational communication are drawn together. While marketing channels literature provides the context and the focus for the question, organizational communication offers a theoretical framework for understanding how a message can affect a receiver's perception, attitude, and behavior in organizational settings.

In the first section, the communication process within organizational settings will be reviewed. Because communication, information, and message are the important concepts for the understanding of the communication process, the definitions of these concepts will be reviewed before the discussion of the communication process. The discussion of communication process

focuses on five elements: sender, messages, media, noise, and receiver. The discussion will examine the “receiver” element more in-depth than the other elements because a thorough understanding of receivers is required to understand how a sender’s strategies to alter information can affect the receiver’s interpretations and, subsequently, his/her performance related to the information.

Following the review of the communication process model, the second section will examine communication in marketing channels. The discussion focuses on three topics: the sender’s strategies, the organizational outcomes of the strategies, and the moderators of the sender’s strategies. The sender’s strategies, which are called strategic uses of information, will be discussed and explained with examples. The organizational outcomes of the strategies will then be reviewed, followed by an examination of moderators.

### **Communication Process**

This section will focus on three topics: (1) the normative perspective of organizational communication, (2) the definitions of communication, information, and message, and (3) the explanation of communication process. The conceptual foundations of organizational communication will first be discussed to provide a theoretical framework for this dissertation. Then, communication, information, and message, will be defined to provide a conceptual background for the discussion of the rest of the dissertation. Other elements in communication process will also be reviewed, including sender, media, noise, and receiver.

### **The Normative Perspective of Organizational Communication**

The focal interest of organizational communication is to describe and explain the communication processes within organizations (Deetz, 2001; Miller, 2000; Mumby & Stohl, 1996). Deetz (2001) has provided an in-depth discussion on the domain of organizational

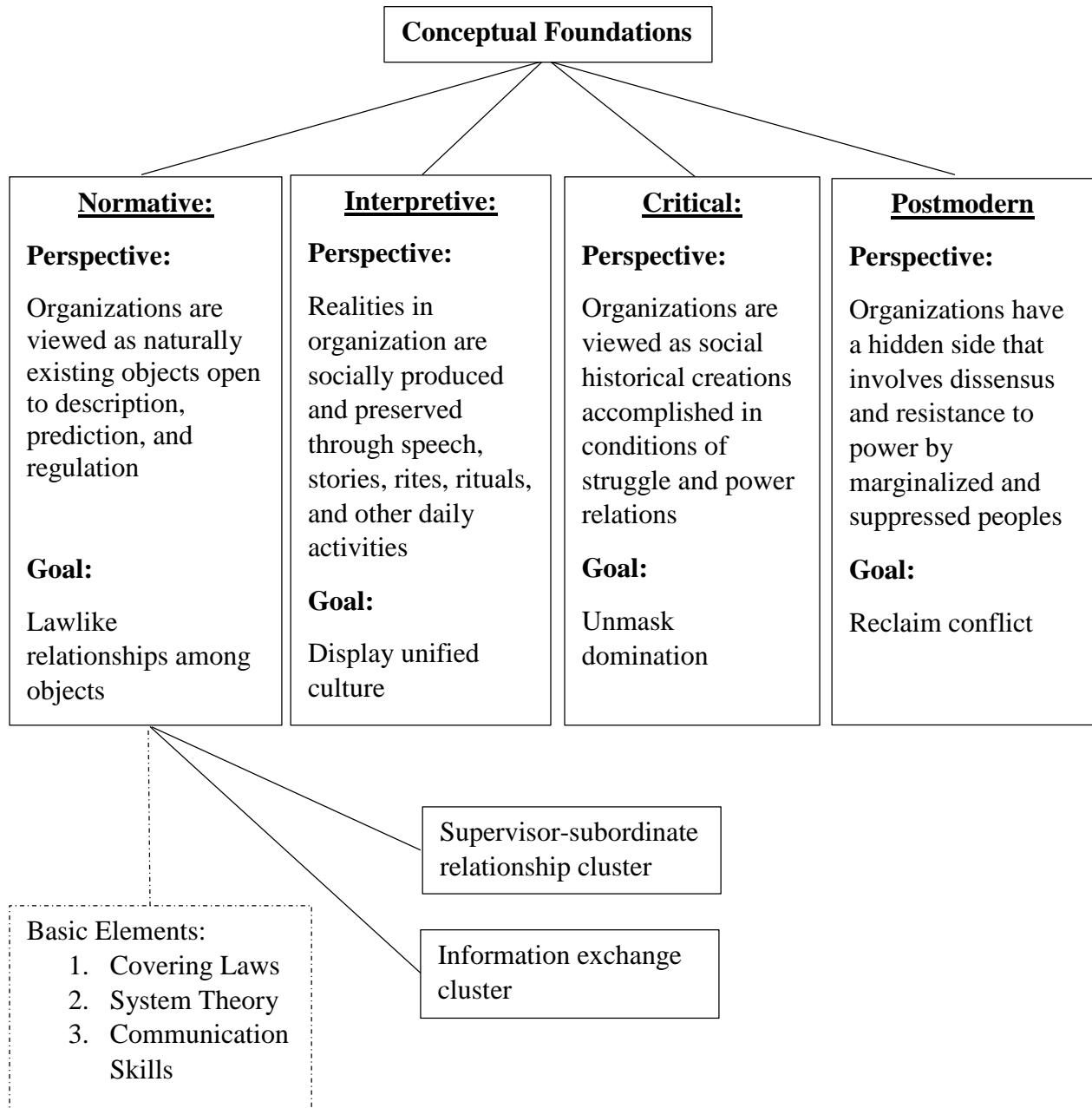
communication research and the different theoretical perspectives in understanding organizational communication. Communication should neither be treated as merely a function of an organization nor as a phenomenon that exists in an organization (Deetz, 2001). Instead, organizational communication studies provide explanation or perspective to understand organizational phenomena and behaviors (Deetz, 2001; Deetz & Eger, 2014). While the focus of organizational communication studies is to understand how organizational outcomes are produced and reproduced by communication (Giddens, 1979), these studies often approach the question with different perspectives.

Deetz (2001) has developed a typology for organizational communication research, which loosely classified organizational communication research into four categories: normative, interpretive, critical, and postmodern (see Figure 2.1). Studies from these categories often have diverse assumptions, perspectives, problems of interests, and goals. All four perspectives are valuable in understanding organizational communication. Because this dissertation aims to draw a causal relationship between senders' information strategies and receivers' behaviors, the normative perspective provides the appropriate theoretical framework for this dissertation.

The normative perspective views an organization as an ordered system that is open to description, prediction, and control (Conrad & Haynes, 2001; Deetz, 2001; Miller, 2000). Organizations exist to achieve rational and often economic goals. Organizational goals are often determined by upper management, whose decisions are usually accepted as given and seen as legitimate by lower level employees. Normative studies of organizational communication are composed of varying degrees of the following three basic elements: covering laws, systems theory, and communication skills (Deetz, 2001).

**Figure 2.1 The Conception Foundations of Organizational Communication**

(Deetz, 2001; Deetz & Eger, 2014)



The first element is covering laws. Normative perspectives view organizational events and behaviors as predictable and controllable, and so lawlike relationships can be derived (Berger, 1977; Deetz, 1973). Normative studies often view communication as a mean to control and coordinate. Topics in normative studies include persuasion, compliance gaining, strategic message design, and supervision/subordinate interaction (e.g., Alexander, Penley, & Jemigan, 1991; Sullivan & Taylor, 1991). In this dissertation, strategic message design is expected to predict organizational outcomes, such as compliance.

The second element is system theory. Normative studies frequently focus on searching for causal relationships that can enhance the order and regularity of an organization as well as the control of upper management (Contractor, 1994). Normative studies highlight the underlying mechanism that produces and interprets behavioral patterns (Pettigrew, 1990). The question of how and why patterns occur is of particular interest to normative researchers. The examination of causal relationships between a sender's information strategy and a receiver's behaviors is the driving logic of this dissertation.

The third element is communication skills. Because organizational members are subject to control and influence, normative studies emphasize the importance of developing communication skills (Deetz, 2001). Communication skills can range from interpersonal management skills to public speaking skills. Research that examines communication skills focus on deriving causal relationship between skills and outcomes and testing the effectiveness of skills (e.g., Argyris, 1994; Eisenberg & Goodall, 1993). All of these three elements provide a theoretical background for this dissertation.

From another angle of analysis, normative studies that examine factors influencing behaviors can also be divided into two clusters: the information exchange cluster and the

supervisor-subordinate relationship cluster (Conrad & Haynes 2001). While the two clusters have different focuses of interest, they are not independent of each other. The perspectives of these two clusters provide additional details for the theoretical framework of this dissertation, as explained below.

The focal interest of the information exchange cluster is to understand the flow of information from one place of an organization to another. Communication is understood as the flow of information transmitted through networks (Conrad & Haynes, 2001; Krone et al., 1987). There is a one-way causal relationship between the sender and the receiver where the sender affects the receiver through the use of information (Krone et al., 1987). The strategic use of information to affect a receiver's interpretation process and behaviors is the fundamental framework of the proposed relationship of this dissertation. Receivers are viewed as the users or processors of information. Receivers comprehend, integrate, and store information but may misinterpret information during these processes (Conrad & Haynes, 2001; Feldman & March, 1981; Wyer, 1974).

The supervisor-subordinate relationship cluster views communication as an approach for supervisors to accomplish their goals, which include to lead, motivate, influence, control, evaluate, and direct (Dansereau & Markham, 1987). Although ongoing supervisor-subordinate interactions are recognized, research in this cluster focuses on the strategies applied by the supervisors. Supervisors, who possess information and act as senders, attempt to control information to influence receivers' interpretations of organizational events (Jablin, 1987). Through communication, supervisors gain control over organizational events. This cluster also examines the influences of situational and personal factors on communication (Conrad & Haynes, 2001). Personal factors include senders' communication styles and differences between

senders' and receivers' interpretations (Conway & Swift, 2000), whereas situation factors include information flow and communication networks (Ritter, Wilkinson, & Johnston, 2004). This line of research provides the theoretical background for this dissertation. The relationships between strategic uses of information and channel outcomes are affected by personal factors, including the receiver's ability.

In sum, a theoretical framework for this dissertation is rooted in the normative perspective of organizational communication. In this dissertation, an organization is viewed as an ordered system. A skillful sender can utilize information as an approach to influence a receiver's interpretation and behavior. Receivers are viewed as the processors of information who comprehend, integrate, and store information while potentially distorting the information. While individuals are also affected by the social system and environment, their behaviors are predictable and controllable.

In the following section, the definitions of communication, information, and message are discussed, with the purpose of providing the precise meanings of the terms frequently used in this dissertation. Definitions of these constructs are important for the understanding of the subsequent discussion of communication process.

### **Organizational Communication, Information, and Message**

**Organizational communication.** Weick (1979) suggests that an organization exists through the process of organizing continuous cycles of planned human activities. Organizing specifies the arrangement of rules and agreements by which sets of interdependent behaviors are combined. Communication between organizational members is a crucial mechanism which allows these arrangements to take place (Weick, 1979). Without communication, there is no

organization (Euske & Roberts, 1987). Communication can be viewed as a “social glue” that ties individuals, groups, and organizations together (Euske & Roberts, 1987, p. 42).

Because communication underlies most organizational processes, it is necessary to understand communication to understand organizational phenomena (Euske & Roberts, 1987). Yet, as pointed out by different researchers, multiple definitions of communication exist in the literature. One reason is that researchers often define communication based on their perspectives, assumptions, research questions, and levels of analysis (Deetz, 2001; Euske & Roberts, 1987; Krone et al., 1987). Also, communication encompasses multiple meanings, providing more evidence to explain why no single definition is unanimously agreed upon in the literature (Tompson, 1987). This dissertation draws on the two definitions from marketing and distribution channels literature as reviewed below. These two definitions are applied because they are appropriate in describing communication between businesses, the context of this dissertation.

In the marketing literature, one of the most highly cited definitions of communication comes from Anderson and Narus (1990). They define communication broadly as “the formal as well as informal sharing of meaningful and timely information between firms” (p. 44). In the discussion of behavioral dimensions in distribution channels, Stern (1969) suggests that communication is a process of coordinating activities by clearly stating the intention and the nature of action. These two definitions focus on the process of creating and exchanging information. As pointed out in the introduction chapter and reflected in these definitions, the receiver’s comprehension of information is ignored in the marketing and distribution channels literature.



In a paper about organizational communication, Jablin (1990) views communication as “the process of creating, exchanging, interpreting, and storing messages within purposive systems” (p. 157). The definition from Jablin (1990) is applied in this dissertation for three reasons. First, communication is viewed as a process which suggests there is an ongoing and dynamic relationship between senders and receivers. Second, creating, exchanging, interpreting, and storing information are the focus of this dissertation. This dissertation proposes that a sender can purposely create and share messages to help a receiver to better interpret and store information so that a receiver can better utilize information to achieve organizational goals. Third, communication occurs within purposive systems, either within or between organizations, to achieve some specific set of objectives (Jablin, 1990). This dissertation focuses on business-to-business relationships where the businesses often work jointly to achieve a goal.

**Information.** Early research in mathematics and engineering quantified information by bits, where each bit of information is supposed to minimize uncertainty by half (Jacoby, 1977; Shannon & Weaver, 1949). However, some behavioral scientists found this definition too limiting (Driver & Streufert, 1969). Information was then understood as anything that affects objective or subjective evaluations of probabilities and utilities where utility is value multiplied by probability (Driver & Streufert, 1969).

Within the same vein, Schramm (1973) has suggested that information is “whatever content will help people structure or organize some aspects of their environment that are relevant to a situation in which they must act” (p. 38). At its core, information is something that can change or reinforce understanding (Daft, 1995). A more precise definition is found in Ungson, Braunstein, and Hall (1981), where the researchers define information as the “stimuli (or cues) capable of altering an individual’s expectations and evaluation in problem solving or decision

making” (p. 117). The word “capable” is important because it implies an uncertainty about the capacity to change one’s evaluations: whether or not one’s evaluation is changed depends on one’s existing knowledge.

Information is a necessary medium or material for knowledge creation and organization (Dretske, 1981; Nonaka, 1994). However, new information does not always restructure or change knowledge (Daft, 1995; Machlup, 1983). Because knowledge is the “information-produced (or sustained) belief” (Nonaka 1994, p. 15), whether new information changes beliefs and creates new knowledge depends on what the receiver already believes and knows (Nonaka, 1994). The same piece of information may be seen as new, meaningful, and perception changing by one but not by others.

In addition, information can be understood at three levels of analysis: syntactic, semantic, and pragmatic (Cherry, 1968). The syntactic component refers to the construction of information that are completely independent of the content meaning, such as the volume of information (Nonaka, 1994). The semantic component captures the meaning of information, which can be concrete, abstract, or objective. The pragmatic component refers to the interpretation of senders and receivers of the content of information (Cherry, 1968). In this dissertation, all three levels of analysis will be included to provide a comprehensive understanding of how different information characteristics may affect a receiver’ interpretation. The inclusion of all three levels of analysis will become more apparent in the later explanation of different strategic uses of information.

**Message.** A message is a nonrandom symbolization (Stohl & Redding, 1987) that a sender intentionally creates (Rogers & Agarwala-Rogers, 1976). A message is a combination of symbols that receivers perceive and from which they derive meaning (Goldhaber, 1990). Meanings are references, including ideas, images, and thoughts, that are conveyed in symbols.

For senders and receivers to understand each other, they must share some minimum degree of prior common experience or shared meaning (Rogers & Agarwala-Rogers, 1976). Message is one of the major elements of the communication process.

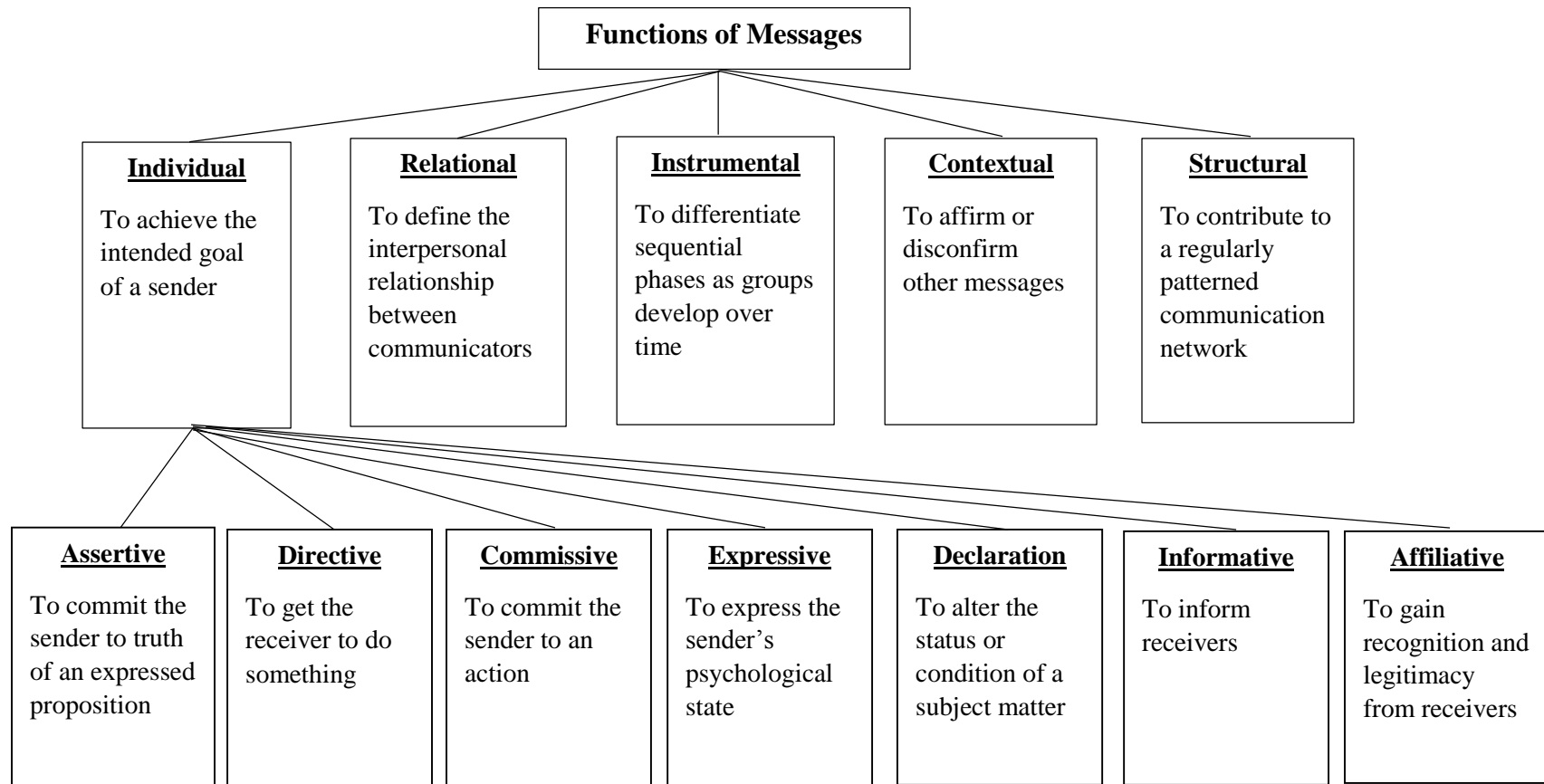
While information is contained in messages, these terms are often used interchangeably in understanding information exchange from the normative perspective (Conrad & Haynes, 2001; Harris & Nelson, 2008). As Conrad and Haynes (2001) suggest, “information exists in ‘chunks’ that often are called messages” (p. 51). They are used interchangeably because both messages and information are being transmitted from one part of an organization to another part. Both information and messages are inputs that a receiver processes to derive meaning. New meaning may change a receiver’s perception, attitude, and/or behavior (Conrad & Haynes, 2001).

The nature of a message can be classified into five functions: individual, relational, instrumental, contextual, and structural (Stohl & Redding, 1987). In the discussion here, the individual function is examined closely because this function represents the goals that a sender wishes to be fulfilled by communication (Stohl & Redding, 1987). Individual functions include seven sub-functions: assertive, directive, commissive, expressive, declarative, informative, and affiliative (Stohl & Redding, 1987). These functions are briefly explained in Figure 2.2.

Of these seven sub-functions, directive and informative are the most relevant to this research because these two functions target receivers. Directive message is also known as persuasive message. The goal of sharing a persuasive message is to get the receivers to do something (Hunt, 1976). Persuasive messages often relate to interpersonal influence and compliance gaining in organizational setting (Frazier & Sheth, 1985; Payan & McFarland, 2005). For informative message, the goal is to inform receivers.

**Figure 2.2 The Functions of Messages**

(Stohl & Redding, 1987)



While a distinction between the purposes of persuasive and informative messages is made by Stohl and Redding (1987), Emamalizadeh (1985) argues that all informative messages are persuasive by nature because to inform involves a goal to change one's perception. In fact, the goal to change perception is hinted in Stohl and Redding (1987) as they suggest that the effectiveness of an informative message depends on the sender's ability to understand receiver perspectives and adapt messages to receiver characteristics.

This dissertation focuses on messages with organizational purposes. These messages exist to inform and change perception of the receiver or to persuade the receiver to behave in a certain way. Because information sharing between businesses is costly, firms frequently share information with the primary intention to influence a receiver's perception, attitude, and/or behaviors (Stohl & Redding, 1987).

Although the sender often wants to influence, whether or not the receiver perceives the message as persuasive depends on the perspectives that receivers adopt (Stohl & Redding, 1987). For example, a persuasive message that a sender conveys may be viewed as an informative message by the receivers. The function of a message is subject to interpretation because the function is usually not contained within the message: a receiver infers the function (Stohl & Redding, 1987). The function of a message is interpreted based on the content of the message and the receiver's belief about why the information is being shared. Lastly, a message can serve multiple functions, which means that it can be both persuasive and informative (Stohl & Redding, 1987).

This section has provided a detailed discussion on definitions of communication, information, and message, which aims to set a clear theoretical framework for this research. The following section will lay out the process of communication drawing from the normative

perspective. The review on communication will focus on the process of how a message flows from senders to receivers through media. The discussion will focus on the receiver because understanding the receiver's cognitive process is imperative for the understanding of how a sender can strategically use information to influence a receiver.

### **Communication Process**

In this section, the communication process will be discussed to illustrate how information is transferred and interpreted. Information usually becomes less accurate and less precise when information is passed from person to person and from organization to organization (Putnam, Phillips, & Chapman, 1996). The discussion below highlights the need for “a more careful dissemination of information” in organizational settings (O'Reilly, 1980, p. 693).

In the communication process, a sender is the person who sends a message or the generalized source of a message whereas a receiver is the person who receives and interprets the message or the intended destination of a message (Krone et al., 1987). Communication systems start when the senders encode the information into a message and transmit the message as a signal through some media to the receivers (see Figure 2.3). The receivers then decode the message, which may have been affected by noise, into meanings and understanding. (Grabner & Rosenberg, 1969; Grabner, Zinszer, & Rosenberg, 1978; Guetzkow, 1965; Rogers & Agarwala-Rogers, 1976). A message may be transmitted to and from multiple individuals before it arrives at the intended destination. Often, senders are receivers and receivers are, themselves, senders as information is passed along within the system. Receivers may also provide feedback to senders, forming feedback loops in the communication process (Duncan & Moriarty, 1998; Guetzkow, 1965). The concept of message has been discussed in the previous section, so the other four

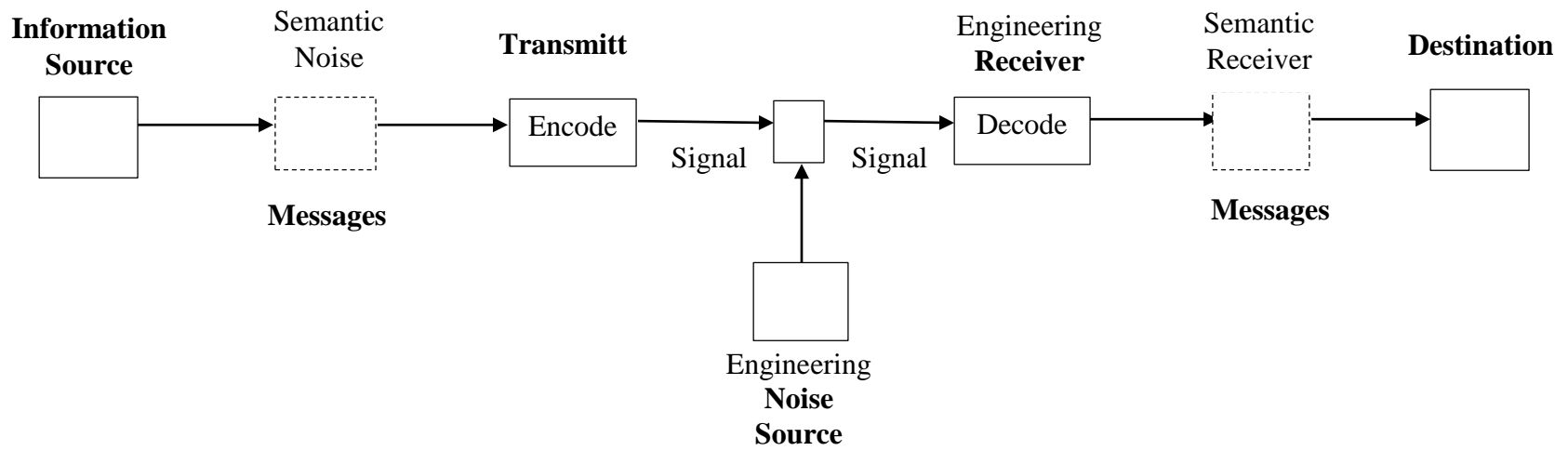
elements in the communication process, sender, media, noise, and receiver, will be reviewed next.

**Senders.** As pointed out by Grabner et al. (1978), the assumption that the content of information remains unchanged throughout the communication process is naïve. Senders may communicate information that is different from the original information due to cognitive limitations (March & Simon, 1958). A sender's cognitive ability refers to the sender's capability to codify and express information (Verbeke et al., 2008). Senders may fail to communicate the whole piece of information to receivers due to forgetfulness, language limitations, or being cognitively overloaded (Huber, 1982; Schilling & Fang, 2014). In addition, the nature of information itself may influence how easily that piece of information can be encoded and transmitted (Mohr & Nevin, 1990). For example, Nonaka (1994) suggests that tacit knowledge tends to be difficult to formalize and communicate because tacit knowledge cannot be fully codified (Miller, Zhao, & Calantone, 2006). Tacit knowledge is “deeply rooted in action, commitment, and involvement in a specific context” (Nonaka, 1994, p. 16).

Senders may be motivated to change the information (Argote & Ingram, 2000). For example, a sender may strategically create an ambiguous message to allow consensus to be reached in an organization (Eisenberg, 1984). While modification of information may be well-intended as a communication strategy to reduce receivers' efforts to comprehend the messages, senders may also manipulate information maliciously (Huber, 1982). Senders may purposely manipulate information due to secrecy (Grabner et al., 1978), self-interest, sub-goals (Jaworski, 1988; Phillips, 1982; O. Williamson, 1975), lack of trust (Roberts & O'Reilly, 1974; Zand, 1972), or an arduous relationship with receivers (Duncan & Moriarty, 1998; Szulanski, 1996). If

### Figure 2.3 Communication Process Model

(Guetzkow 1965, p. 535, Fig. I Communication System)





senders receive information from an information source, senders are also subject to the challenges that are faced by receivers, which will be discussed after medium and noise.

**Medium.** The medium of information transmission is the vehicle or channel within which a message travels (Krone et al., 1987). Media may include face-to-face conversation, skype, email, Facebook, telephone, radio, LinkedIn, websites, memos, flyers, bulletins, reports, etc. (Godfrey, Seiders, & Voss, 2011; Huber & Daft, 1987). The use of media can be organized into a richness hierarchy wherein richness of a medium is defined by its capacity to change a receiver's understanding (Huber & Daft, 1987).

This capacity to change receiver understanding is based on four elements: (1) the opportunity for timely feedback, (2) the ability to share multiple cues, (3) the tailoring of messages to personal situations, and (4) language variety (Daft & Lengel, 1986; Daft, Lengel, & Trevino, 1987). Face-to-face conversation is considered the "richest" medium because a receiver can ask for clarification and get immediate feedback from the sender to correct misunderstandings. Face-to-face conversation also allows senders to convey multiple cues through the use of body language, facial expression, and tone of voice. This can enhance a receiver's understanding of the message because a sender can convey information beyond the spoken message. Similarly, a sender can evaluate a receiver's body language to determine whether or not the receiver understands the message. Face-to-face conversations are personalized with the use of natural languages (Daft & Lengel, 1986; Fulk & Boyd, 1991). In contrast to face-to-face conversation, memos, flyers, and reports are at the bottom of the richness hierarchy because these media do not allow instant feedback, signals of cues, or the tailoring of messages and language (Daft & Lengel, 1986; Huber & Daft, 1987).

The core premise of message richness theory is that there is a match between media choice and the complexity of the task and the goals of the sender (Sheer & Chen, 2004). Non-routine, complex, unfamiliar, and ambiguous task information should be conveyed through richer media (Alexander et al., 1991; Van De Ven, Delbecq, & Koenig, 1976). Also, when a sender wants to understand the receiver's perspectives and opinions or to develop a close relationship with the receiver, employing a richer medium is more effective (Daft & Lengel, 1986; Mitussis, O'Malley, & Patterson, 2006). For task information that is routine, objective, impersonal, or unambiguous, a receiver has no problem interpreting the meaning of the information so a lower richness medium can be used to convey information effectively and efficiently.

In general, the employment of a variety of media is promoted because it allows for more redundancy of information. This repetition of information minimizes omission of information and preserves the accuracy of message contents being transmitted (Guetzkow, 1965). However, the flip side of employing a variety of media is that receivers are more likely to be overwhelmed by the amount of information (Farhoomand & Drury, 2002; Sparrow, 1999). Using a variety of media may lead to information overload problems as stated in the problem statement in the first chapter.

**Noise.** Noise is described as a second communication that exists on top of the transmission of the original message (Krone et al., 1987). Noise is present when the sender knows what the original message is but cannot predict what the message will eventually become when it reaches the receiver (Anand & Shachar, 2007; Weick, 1979). The same message can generate different outputs at the receiver's end because noise is added during the transmission of information (Krone et al., 1987). Noise in the medium creates message discrepancies where information may be unintentionally omitted or distorted (Finne & Strandvik, 2012; Grabner &

Rosenberg, 1969; Guetzkow, 1965). The presence of noise also leads to challenges and breakdowns in communication (Krone et al., 1987).

Noise can take two forms. Noise may occur as static in the channel, such as poor reception on the phone (Grabner et al., 1978). Noise may also result from complications in the encoding or decoding of messages, such as misunderstandings between senders and receivers (Anand & Shachar, 2007; Byron, 2008; Krone et al., 1987). The latter form of noise is more difficult to prevent. Unlike static that can be filtered if necessary, problems with the encoding or decoding of messages are difficult to screen out (Krone et al., 1987). In this dissertation, strategies for the sender are developed to assist the receiver in the decoding process to minimize “noise” or misunderstandings between the sender and the receiver.

**Receivers.** The focus of the dissertation is to investigate how a sender can create and deliver a message to influence the receiver’s comprehension and his/her subsequent behaviors. Whether or not the receiver understands information in the way the sender intended is the basic criterion for the success of communication. Thus, an in-depth discussion about a receiver’s information processing is necessary to provide a background for understanding the focus of this dissertation.

To decode information, receivers go through four cognitive processes: selection, interpretation, storage, and retrieval (Lang, 2000). For information to be decoded, information must first engage the sensory receptors, such as the eyes and ears, of the receiver. When receivers attend to a message, they enter into a selection process in which they determine which pieces of information to process (Lang, 2000). Information can be selected purposefully or unconsciously. For example, information that is viewed as invalid or irrelevant to problem solving may be purposefully ignored (Wyer, 1974). Often, the receiver’s selection process is

biased based on his/her own frame of reference. For example, receivers may only pay attention to information that aligns with their expectations and wishes (Guetzkow, 1965; Huber, 1982; Pfeffer, 1978). Because some information will get neglected, the attended information is unlikely to be identical to the original message (Lang, 2000).

Interpretation involves converting a message into a mental representation. A mental representation refers to “instances that are equivalent in meaning” (Sigel, 1999, p. 4). During the interpretation process, a mental representation of a message is constructed in the short term memory. The mental representation is then related to other activated information and knowledge in the short-term memory (Lang, 2000). Receivers alter certain contents of their knowledge to which the newly interpreted information is relevant (Wyer, 1974). The better a person can link the new information to his/her existing knowledge, the more completely the information is stored. The process of relating newly interpreted information to existing information or knowledge is called storage (Lang, 2000). Both the processes of interpretation and storage are influenced by the pre-existing structure and organization of knowledge (Wyer, 1974).

The purpose of the retrieval process is to search for a specific piece of information in the memory and reactivate it (Lang, 2000). The more associative linkages a piece of information has, the better that it is stored and the more likely that it can be retrieved. Retrieval is an ongoing process during message reception where existing knowledge is continuously retrieved from memory to assist in interpretation of the new information. The amount of information that a receiver can retrieve represents the degree to which a receiver has learned from the piece of information. Only information that can be retrieved can be utilized (Lang, 2000).

However, receivers do not always go through all these cognitive processes to decode messages. One of the reasons is that receivers may not have enough mental resources to process

the message (Eppler & Mengis, 2004; Lang, 2000). Receivers have cognitive limitations on the amount of information that they can process and the rate at which they can integrate information (Wyer, 1974). Miller (1956) suggests seven is a magical number because seven is often the number of things that receivers can process simultaneously. When more information is added on top of the magical seven, cognitive resources are likely to reach their limits. As a result, receivers cannot process a new piece of information without letting a previous thought go (Lang, 2000; Miller, 1956).

Unsurprisingly, a receiver's ability to thoroughly process information is also affected by the information load and the time pressure (Huber & Daft, 1987). The characteristics of information influence information load. The characteristics of information include the quantity, novelty, ambiguity, and complexity of information (Eppler & Mengis, 2004). In general, larger amounts of information and more novel, ambiguous, and complex information are more difficult to process and utilize (Huber & Daft, 1987).

Information overload occurs when the mental resources that are required to process the information exceed the amount of mental resources available to the receiver (Huber & Daft, 1987; Schneider, 1987; Sparrow, 1999). The quantity of information, which refers to the number of symbols or messages received per unit of time, often influences the required amount of mental resources to process information (Huber & Daft, 1987). When the quantity of information increases, a receiver often uses more mental resources. Information processing can increase up to a certain point, perhaps up to seven pieces of information simultaneously, before the capacity to process additional information falls significantly (Driver & Streufert, 1969; Eppler & Mengis, 2004; Miller, 1956).

Novel, unexpected, or non-routine information may require more mental resources to process because existing knowledge may be inadequate to interpret the new information (Huber & Daft, 1987). Receivers have to spend more time and mental resources to assimilate the new information and to relate it to existing knowledge (Eppler & Mengis, 2008). Also, abstract, ambiguous, or tacit information tends to be more difficult to comprehend and utilize, requiring more mental resources (Argote & Ingram, 2000; Guetzkow, 1965; Szulanski, 1996). Similar to the quantity of information, increases in complexity of information can increase the processing of information up to a certain point. After that certain point, receivers will start to ignore or delay processing any additional information, so the additional information is unlikely to have immediate influence on the receivers (Driver & Streufert, 1969).

Information overload may also occur when the demand of time to perform interactions and internal calculations exceeds the supply or capacity of time available for such processing (Schick, Gorden, & Haka, 1990). Time pressure to process and respond to information can confuse receivers, because they have difficulty setting priorities to complete these tasks (Schick et al., 1990). If information arrives when a receiver is on a tight schedule to process existing information, new information may disturb the receiver and he/she may fail to process some of the information (Wyer, 1974). Also, receivers are likely to have difficulty in retrieving prior information when dealing with time pressure (Schick et al., 1990). Time pressure is often related to other information characteristics. For example, complex information requires more mental resources and time to process, resulting in less time being available to process other information (Eppler & Mengis, 2004).

Information overload influences both the emotions of the receivers and their ability to process information. Emotionally, receivers may feel stressed, confused, frustrated, tired, and

discouraged when confronted with information overload (Eppler & Mengis, 2004). These feelings lead to lower job satisfaction and commitment (Farhoomand & Drury, 2002). Information overload may also cause poor work performance. A receiver may fail to comprehend all of the information, identify the relevant information, and prioritize information when receivers are overloaded with information (Jacoby, 1977; O'Reilly, 1980). They may deliberately ignore some of the information or become more tolerant of error (Eppler & Mengis, 2004; Herbig & Kramer, 1994; Sparrow, 1999). Receivers may also fail to retrieve information (Schick et al., 1990), relate details to the overall perspective (Schneider, 1987), spend more time to make a decision (Jacoby, Speller, & Berning, 1974), and make worse decisions under information overload (Eppler & Mengis, 2004; O'Reilly, 1980). Thus, receivers exhibit poor performance and feel demotivated.

This dissertation aims to address the information overload problem. The strategic use of information, which will be proposed and explained in the following section, should minimize the problems stemming from information overload. The key issue of information overload is that receivers do not have enough mental resources to understand information. By reducing the volume of information, the time pressure, and the required mental resources to digest information, a receiver can better process information. With a better understanding of information, a receiver is more likely to perform in a way that a sender wishes.

## **Summary**

In summary, information flows from senders to receivers through media during the communication process. The accuracy of a message that a receiver obtains is affected by many factors, including the sender, the medium, and noise in the transmission process. A receiver goes through four cognitive processes to decode information: selection, interpretation, storage, and

retrieval (Lang, 2000). Because of cognitive constraints, receivers may not perform all four cognitive processes to decode information and so cannot process all the shared information. The ability of a receiver to decode information properly is influenced by: 1) the information characteristics, 2) the time pressure the receiver faces, and 3) the available mental resources of the receiver. Problems associated with cognitive constraints highlight the need for senders to strategically create and deliver information so that a receiver can more easily and quickly decode information to achieve intended performance desired by senders. The next section will review literature on different strategic uses of information that help receivers to process information and the related channel outcomes.

### **Communication in Marketing Channels**

In this section, relevant literature will be employed to discuss different communication strategies that can minimize information overload. The discussion will then focus on various desirable outcomes from effective information sharing in marketing channels. Potential moderators that may change the strength of these communication strategies on the favorable channel outcomes will also be examined.

### **Strategic Use of Information**

A sender can strategically alter information during the process of encoding information to help the receiver to decode information. This dissertation refers to this approach as the strategic use of information. A strategic use of information describes a sender's alteration of information volume, content, and/or timing to assist a receiver in processing the information. The goal of this approach is to enhance the performance of the receiver, which in return benefits the sender. Since a sender and a receiver work in the same distribution channel, their performance depends on each other. The enhanced performance of the receiver may benefit the sender. The strategic



use of information includes leveling, sharpening, queuing, reshaping, adjusting, creating ambiguity, standardizing, and relating (Campbell, 1958; Eisenberg, 1984; Guetzkow, 1965; Harris & Nelson, 2008; Huber, 1982; Rogers & Agarwala-Rogers, 1976; Stohl & Redding, 1987). These strategies are drawn separately from current literature and are grouped as the strategic use of information. While each strategy has advantages, a sender has to be cautious applying the strategies because some of the strategies have potential drawbacks. The strategies are neither mutually exclusive nor exhaustive. The strategic use of information often involves more than one type of strategy.

**Leveling.** Leveling is a message summarizing process where one condenses the information by reducing the details while still “faithfully reproducing” the meaning of the message (Huber, 1982, p. 138). As a result, the content of information becomes more concise and easier to process (Allport & Postman, 1947). Leveling may involve the use of visual aids, such as graphs, pictures, and tables. Eppler and Mengis (2008) advocate the use of visual aids to summarize and compress information to makes information easier to comprehend, understand, and remember. Other examples of leveling are reporting summary statistics for large datasets or providing a detailed abstract or summary for a thousand-page report (Stohl & Redding, 1987). While leveling can reduce the information overload of the receiver, a sender should be cautious when applying the strategy. This strategy inevitably reduces the richness of messages and sometimes the interpretability of the messages, which can distort a receiver’s interpretation (Lau, 2014; Stohl & Redding, 1987). Therefore, senders have to be careful not to mislead receivers while condensing information.

**Sharpening.** Sharpening is “selective perception, retention, and reporting of a limited number of details from a larger context” (Allport & Postman, 1954, p. 146-148). Sharpening

involves highlighting certain parts of the information in order to direct a receiver's attention to the most important content (Guetzkow, 1965). An example of sharpening is designing a resumé, which often highlights a person's working experiences and education background. An abstract can also be an example of sharpening depending on the breadth of the information. If an abstract covers all the topics in a succinct way, it is considered as leveling. However, if only some of the most important topics are included, the abstract is sharpened. Similar to the problems with leveling, a sender has to be wary that sharpening reduces the richness of messages and may distort a receiver's interpretation.

**Queuing.** Queuing is to control the timing of information delivery by delaying or prioritizing (Guetzkow, 1965). One facet of queuing is to delay the passage of information during peak load periods and to catch up during breaks (Guetzkow, 1965; Huber, 1982). The other facet of queuing involves prioritizing information based on some criteria, such as the perceived relevance and importance of messages (Huber & Daft, 1987). Queuing allows receivers to handle information of most importance first. Also, information may be queued so that shared information forms a coherent picture which enhances receiver comprehension. The strategy also avoids premature delivery of information which may reduce the impact of the message or the message may be overlooked by receivers at the time of decision making (Driver & Streufert, 1969). However, queuing is not without problems. Prioritization means that some messages are being downgraded, delayed, or even ignored, so some messages may never make it to the receivers (Stohl & Redding, 1987). An example of queuing is the No Email Day. Firms that advocate no email day believe that having a day to not send and receive emails allows employees to catch up with their work and gives them more time to process information (Spira & Burke, 2009).

**Reshaping.** Reshaping describes the modification of information with consideration of the receiver's feelings of anxiousness (Campbell, 1958; Huber, 1982). Psychology literature suggests that anxiety can affect a receiver's ability to process information (Cassady & Johnson, 2002; Foa & Kozak, 1986; Liebert & Morris, 1967). When receivers are stressed or anxious, their minds are more likely to get distracted. Their worrisome thoughts are also likely to consume additional mental resources, resulting in less resources being available for processing information. This leads to inferior information processing and performance (Eysenck, Derakshan, Santos, & Calvo, 2007). Reshaping enables a receiver to better focus on and process the information, although one may argue that a small dose of stress can increase one's adrenaline and thus performance (Menkes, 2011). Aristotle once said the means of persuasion are "primarily ethos (the nature of the source), pathos (the emotions of the audience), and logos (the nature of the message presented by the source)" (Richmond & McCroskey, 2009, p. 224-225). Reshaping can make a message more persuasive by focusing on pathos. An example of reshaping is to modify a criticism into a constructive comment, which may alleviate receiver stress and enable better information processing (Campbell, 1958).

**Adjusting.** Adjusting describes the modification of information based on a receiver's background (Huber, 1982). When the sender employs adjusting, the sender considers the receiver's knowledge and experience levels during communication. As a result, the sender speaks in a language that a receiver can understand (Wittreich, 1969). Although the validity of a message as a representation of the actual environment may be reduced as a result of adjusting, adjusting can make the information easier to process or more interpretable to receivers, (Stohl & Redding, 1987). In addition, when a sender uses adjusting, the receiver is more likely to feel

connected with the sender because the sender shares a common language with the receiver (Marín & Maya, 2013).

Adjusting includes talking in layman's terms with non-experts or using specialized and shared language with in-group members. The use of shared language can enhance receivers' comprehensions of information. Hutt et al. (1995) suggest that organizations must develop a "shared language that reflects similarities in members' interpretation, understanding, and response to information" (p. 23). Without a shared language, receivers may misunderstand senders, consequently distorting or misinterpreting the information (Hutt et al., 1995; Maurer & Ebers, 2006; Rogers & Agarwala-Rogers, 1976; Stern, 1969).

**Creating ambiguity.** While creating ambiguity sounds counterintuitive for enhancing a receiver's comprehension, this strategy can have benefits in certain situations. Creating an ambiguous message induces a receiver to perceive two or more plausible ways of interpreting the message (Eisenberg, 1984; Eisenberg & Witten, 1987; Stohl & Redding, 1987). Ambiguity can be created using imprecise and figurative language as well as precise and detailed language. Creating ambiguity brings some benefits. First, because the message is open to multiple interpretations, receivers may attach the meaning that they believe on to the message (Eisenberg, 1984). For task information, ambiguous messages give flexibility to receivers to decide how to complete the task (McIver, Lengnick-Hall, Lengnick-Hall, & Ramachandran, 2013). Second, receivers are more likely to judge the information as valid, which promotes consensus as well as accommodates diversified perspectives within the organization (Eisenberg, 1984; Eisenberg & Witten, 1987; Guetzkow, 1965). Third, ambiguous messages also help to facilitate organizational change by minimizing receivers' perceived conflicts with senders, which might otherwise induce maladaptive behavior and resistance (Eisenberg, 1984; Euske & Roberts, 1987). Forth,

delivering ambiguous messages also prevents creative ideas from slipping out of the discussion (Weick, 1979). Despite these advantages, receivers may be confused by the messages and have trouble deciding on a single interpretation from two or more perceived interpretations (Stohl & Redding, 1987). Also, receivers may view the ambiguous message as meaningless and choose not to form any interpretation of the message (Stohl & Redding, 1987). An example of creating ambiguity is the instructions for output monitoring in channel management. Principals clearly communicate the output requirements without specifying the means, which allows agents to interpret the information regarding how to achieve the output level (Heide, Wathne, & Rokkan, 2007).

**Standardizing.** Standardizing refers to the use of predetermined rules or formats to present information to minimize variability and complexity (Rogers & Agarwala-Rogers, 1976). The use of standardized formats provides familiarity to a receiver. This allows a receiver to relate new information to existing knowledge more easily and spend less time on interpretation (Eppler & Mengis, 2008). However, the disadvantage of standardization is that following rules or formats too rigidly may result in loss of information because the prescribed categories may not be applicable to all situations (Rogers & Agarwala-Rogers, 1976). Examples include the use of application forms which enforce a standardized format for reporting.

**Relating.** Relating describes connecting information with a story, analogy, or previous event. Stories and analogies do not only capture receivers' attention, they also convey complicated information through the use of understandable and vivid imagery (Harris & Nelson, 2008). A receiver may find it easier to relate the information to existing knowledge (Eppler & Mengis, 2011). However, a story or an analogy has to be carefully chosen or else it risks creating confusion instead of assisting comprehension. A sender may use previous events as a reference

point. By comparing previous events with the current one, receivers can more easily relate the information to their knowledge. The effectiveness of relating may heavily depend on the level of experience and language that a sender and a receiver share (Hutt et al., 1995).

To sum, a sender can strategically alter information volume, content, and/or timing to help a receiver process the information. The strategic uses of information include leveling, sharpening, queuing, reshaping, adjusting, creating ambiguity, standardizing, and relating. To ensure that the hypothesized model is manageable, only leveling, queuing, reshaping, adjusting, and creating ambiguity will be included in this study. These constructs are chosen because they are more commonly applied and discussed in the organizational behavior literature. In the following paragraphs, the concept of strategic use of information is compared to other channel communication strategies that help to achieve organizational goals.

### **Strategic Use of Information and Other Channel Communication Strategies**

Different communication strategies have been proposed in the marketing channels literature. In this section, the similarities and differences between strategic uses of information and other channel communication strategies, including influence strategies and adaptive selling, will be discussed.

**Influence strategies.** Mohr and Nevin (1990) propose that marketing channel communication can be analyzed based on four dimensions: content, directionality, frequency, and formality of communication. Among all the dimensions, the strategic use of information focuses on the content of communication. Influence strategies also examine the content of a message, but from a different perspective than strategic uses of information. Influence strategies focus on how the combination of coerciveness, directness of power, and the presence of argument logic in the content of the message affect compliance (Frazier & Sheth, 1985; Payan &

McFarland, 2005). Types of influence strategies (e.g., threat, recommendation) are classified based on the combination of the above three dimensions. For example, the use of a threat is a direct and coercive use of power with the expression of punishment or consequences for failure of compliance. The strategic use of information focuses on how the content is delivered. For example, a sender can sharpen a threat by highlighting the most severe outcomes and leaving out trivial ones. A sender can also reshape a threat by using language that matches the receiver's background so that the receiver knows what the sender means. Influence strategies and strategic uses of information can be employed at the same time; in fact, strategic uses of information may enhance the effectiveness of influence strategies.

**Adaptive selling.** The idea that one tailors the delivery of information based on the audience is common to both the strategic uses of information and adaptive selling. Adaptive selling is defined by Weitz, Sujan, and Sujan (1986) as “the altering of sales behaviors during a customer interaction or across customer interactions based on perceived information about the nature of the selling situation” (p. 175). Salespeople's abilities to translate and phrase the content of the information in a way that consumers can understand determines their success (Verbeke et al., 2008). Empirical studies suggest that salespeople who apply adaptive selling behaviors perform better (e.g., Park & Holloway, 2003; Weitz et al., 1986). However, not all salespeople use adaptive selling or employ it effectively because the effectiveness of adaptive selling depends on the knowledge, abilities, confidence, experiences, and motivation of the salesperson (Franke & Park, 2006; Spiro & Barton, 1990; Weitz et al., 1986).

Adaptive selling and the strategic use of information are similar in three ways. First, both adaptive selling and the strategic use of information contain the idea of changing the presentation based on the audience's need. Both strategies recognize that audiences are different in their

cognitive abilities and emphasizes the need to adapt instead of repeating one presentation for all audiences. When adaptation is made based on an audience's needs, the message becomes more persuasive and effective. Second, the effectiveness of adaptive selling and the strategic use of information rely heavily on the sender's (i.e., salesperson's) capabilities and knowledge of the target audience. Not every sender is good at performing these strategies and one's effectiveness in performing these strategies is likely to vary. Third, adaptive selling and strategic use of information are expected to have a positive effect on performance. While adaptive selling may lead to better salesperson's performance while the strategic use of information may lead to better organizational outcomes.

Despite the similarities, the strategic use of information and adaptive selling are different in two ways. First, adaptive selling focuses on the knowledge structure of salespeople. The more categorized and well organized the knowledge of the selling situation that the salespeople have, the better they perform. However, how exactly the sales presentation is altered across different selling situations is missing in the adaptive selling literature. The strategic use of information may contribute to the adaptive selling literature by specifying different strategies that salespeople can employ to alter their presentations. Salespeople may change the information volume and/or content through leveling, sharpening, queuing, reshaping, adjusting, creating ambiguity, standardizing, and relating, based on the audience. Second, the outcome of adaptive selling focuses on the performance of the senders (i.e., salespeople), while the strategic use of information emphasizes the improvement of receivers' comprehension of information and thus the receivers' performances.

To conclude, while the concept of strategic use of information shares some common grounds with adaptive selling, the concepts focus on different aspects of communication. The



focus of strategic use of information is on the information and the receiver whereas the emphasis of adaptive selling is on the sender. As such, strategic use of information can contribute an in-depth perspective into the adaptive selling literature. The next section will talk about various types of performance outcomes, including compliance, decision making, coordination, relational benefits, knowledge transfer, and adoption of innovation, which could be affected by strategic use of information.

### **Outcomes in Marketing Channels**

Communication can lead to changes in a receiver's knowledge, attitude, and/or behaviors (Rogers & Agarwala-Rogers, 1976). Knowledge is one's "justified true belief" (Nonaka, 1994, p. 15). Attitude is the general assessment of a behavior, which may be determined by one's beliefs about consequences of performing a behavior and the importance or desirability of the consequences (Fishbein & Ajzen, 1975). While attitude affects one's intention to engage in a behavior positively, behavior can be independent of attitude because it is also driven by norms and one's perception (Fishbein & Ajzen, 1975). Communication is effective when the changes in receiver behaviors are the same as what the sender intended (Grabner et al, 1978; Shannon & Weaver, 1949). The following discussion focuses on the changes in receivers' actions because the goal of strategic use of information is to influence receiver performance (i.e., achieve intended action) by making information processing easier.

The literature suggests that communication can lead to higher levels of compliance through persuasion, better decision making, enhanced coordination, and improved relational outcomes (e.g., Hunt & Morgan, 1995; Mohr & Nevin, 1990). In addition, communication can facilitate knowledge transfer and knowledge creation as well as the adoption of innovation (Nonaka, 1994; Rogers, 2003).

**Compliance.** Communication is a medium for persuasion and the execution of power (Frazier & Sheth, 1985). Through communication, a sender can convey the potential consequences of a receiver's behaviors, either directly or indirectly and coercively or noncoercively (Frazier & Sheth, 1985; Payan & McFarland, 2005). The goals of communication are to influence receivers to change their perceptions and attitudes and, most importantly, to comply. Compliance refers to the acceptance of influence regardless of attitude (Kelman, 1958).

However, the acceptance of influence does not necessarily involve a change in attitude (Frazier & Sheth, 1985). Kelman (1958) has identified three forms of compliance. First, a receiver may accept a sender's influence to avoid unfavorable consequences or to obtain favorable outcomes, even though the receiver may not necessary believe in the content (Kelman, 1958, 1961). Kelman (1958) names this form of acquiescence as compliance. Second, receivers may accept senders' influences to develop or maintain "satisfying self-defining relationship(s)" with the senders, where the content of the influence or the information is irrelevant (Kelman, 1958, p. 53). This form of compliance is known as identification. Third, receivers may accept senders' influences because the content is consistent with receivers' values. When receivers' values are consistent with the senders' influences, satisfaction is derived from complying to the intended behaviors (Brown, Lusch, & Nicholson, 1995; Kelman, 1958, 1961). This form of compliance is called internalization.

To gain receiver compliance, senders can strategically vary their message content (Frazier & Summers, 1984). Influence strategies can take the forms of information exchange, requests, recommendations, threats, and promises (Frazier & Summers, 1986; McFarland, Challagalla, & Shervani, 2006; Payan & Nevin, 2006). Contrary to information exchange where senders discuss general business issues to change a receiver's perception without stating a

request, in requests senders clearly state the actions that they want the receivers to take (Frazier & Sheth, 1985; Payan & McFarland, 2005). In recommendations, a sender explains the benefits that a receiver will get if the receiver follows the sender's suggestions (McFarland, Bloodgood, & Payan, 2008). In threats, senders threaten receivers with the consequence of not complying to a request, while in promises senders promise rewards if receivers comply with the influence (Payan & McFarland, 2005). Different influence strategies can yield different outcomes. For example, threat and promise induce compliance while information exchange and recommendation induce internalization (Payan & McFarland, 2005). In participative decision making, communication allows receivers to contribute in the decision making process making them feel involved and inducing voluntary compliance (Guiltinan et al., 1980).

**Decision making.** Because organizational environments change constantly, decision makers must pay attention and adapt to the dynamic environment. Decision making involves the use of information to assess the consequences of future sequences of actions to reduce uncertainty (Fisher, Maltz, & Jaworski, 1997; Frazier, Maltz, Antia, & Rindfleisch, 2009; Lievens & Moenaert, 2000; O'Reilly, Chatman, & Anderson, 1987). Decision makers acquire information to make more accurate evaluations because incomplete information hinders quality decision making (Euske & Roberts, 1987). Decision making is therefore a result of the communication of premises (Tompkins, 1987).

Predicting future events is difficult when the environment is unstable. To make sense of what is happening in the surroundings and to predict what will happen, decision makers look for patterns in the environment and from past experiences. This helps decision makers to draw causal relationships between events and provide guidance for decision making (De Vries, Walter, Van Der Vegt, & Essens, 2014; Slater & Narver, 2000; Weick, 1979). To make sense of the

environment, a decision maker may observe others or actively search for relevant information. Decision makers may imitate the behaviors of other actors who are in similar situations or follow accepted social norms and standards (Galaskiewicz & Wasserman, 1989; Henisz & Delios, 2001). By imitating the decisions of other more proven organizations or managers or following common practices, decision makers legitimize their decisions (Kumar, Stern, & Achrol, 1992; Pfeffer & Salancik, 1978).

A decision maker may actively gather information about the environment to identify opportunities and problems (Duncan & Moriarty, 1998; Feldman & March, 1981; Schramm, 1973). For exploiting opportunities and solving problems, a decision maker acquires information about all available choices, evaluates each option based on some criteria, compares the possible outcomes of each choice, and selects the best solution (Euske & Roberts, 1987; Huber & Daft, 1987; Rogers, 2003). However, both decision makers and organizations have limitations in obtaining all the available choices and processing all of the information (March & Simon, 1958; Weick, 1979). Decision making often involves a selection process in searching for information where decision makers can only select and interpret part of the information set and make the inference from this information to guide their actions (Gal-Or, Geylani, & Dukes, 2008; Weick, 1979). Decision makers may spend more time and resources searching for information that is actionable (Huber & Daft, 1987) Because decision makers have cognitive limitations, they use relatively simple criteria to assess potential outcomes (Euske & Roberts, 1987).

**Coordination.** An organization can be viewed as a system because its outcomes depend on various interrelated and interdependent parts (Buckley, 1967; Kumar et al., 1992). These interrelated parts interact with each other and rely on each other to form the organization as a whole. The arrangement of these interrelated parts creates the organizational system (Harris &

Nelson 2008). Because the actions taken by one part of the organization can affect other parts, communication is imperative to convey rules and roles to guide activities of individuals and groups to achieve coordination (Harris & Nelson, 2008).

Coordination is the integration or linkage of separate parts of the organization to collectively complete a set of tasks (Mohr & Nevin, 1990; Van De Ven et al., 1976). Stern (1969) suggests that “communication is a process of coordinating specific actions by permitting explicit statements regarding the intent to act and the nature of the act” (p. 3). On the one hand, through communication, a sender conveys what activity has to be done and how it should be done. On the other hand, a receiver understands how others’ actions will affect them and responds appropriately (Guiltinan et al., 1980; Kanawattanachai & Yoo, 2007; Stern, 1969). As a result, communication allows for activities from different parts of the organization to be synchronized or coordinated (Kim, Cavusgil, & Calantone, 2006; Mohr & Nevin, 1990; Sahin & Robinson, 2005).

**Relational outcomes.** Communication is important for the development and maintenance of relationships. Duncan and Moriarty (1998) view information sharing as “the tie that binds in any relationship” (p. 5), while Mohr and Nevin (1990) describe communication as “the glue that holds together a channel of distribution” (p. 36). Communication is the foundation for building close relationships and developing relational norms (Grönroos, 2004; Heide & John, 1992; Morgan & Hunt, 1994; Palmatier et al., 2006). Through numerous interactions, senders and receivers develop “a set of mutual expectations and understandings” (Lusch & Brown, 1996, p. 19).

**Trust, commitment, and satisfaction.** Communication drives the development of trust, commitment, and satisfaction by facilitating the alignment of perceptions and expectations

(Agnihotri, Rapp, & Trainor, 2009; Morgan & Hunt, 1994). Trust is the willingness of a firm to depend on its exchange partner in whom the firm has confidence (Moorman, Deshpandé, & Zaltman, 1993). Commitment is the belief that a firm will put forth maximum effort to maintain the exchange relationship (Morgan & Hunt, 1994) and satisfaction is a firm's favorable affective assessment towards an exchange relationship (Anderson & Narus, 1984). Much research has shown that communication has a positive impact on these favorable relationship outcomes (e.g., Foroudi, Suraksha, Kitchen, Melewar, & Foroudi, 2016; Patterson, 2016). Indeed, a meta-analytic study conducted by Palmatier et al. (2006) concluded that the sharing of information between exchange partners is one of the strongest predictors for the presence of trust, commitment, and satisfaction in the exchange relationship. A sender can employ a collaborative communication strategy, which is characterized by frequent, bi-directional, and noncoercive information sharing, to achieve higher levels of satisfaction and commitment (Mohr et al., 1996; Mohr & Nevin, 1990).

***Conflict.*** Communication can also reduce the level of conflict between senders and receivers. Conflict is the perceptions of receivers that a sender is impeding and frustrating their attempts to “reach their goals, nurture their values, or pursue their interests” (Brown & Day, 1981, p. 264). Both instrumental communication, which is the sharing of information on work-related activities, and social communication, which is the sharing of information on personal non-work-related activities, can reduce conflicts (Sheng, Brown, Nicholson, & Poppo, 2006). Through instrumental communication, a sender and a receiver align their work expectations and resolve disputes jointly, minimizing potential conflict (Anderson & Narus, 1990). Additionally, social communication assists the formation of personal ties and bonds. These personal ties and bonds enhance trust and the willingness to make adaptations to environmental changes (Sheng et

al., 2006). With one being flexible to the other's needs, fewer conflicts are expected in the relationship. Furthermore, a sender may strategically communicate information that allows multiple interpretations to reduce conflict that may damage the relationship between senders and receivers (Bochner, 1984; Eisenberg, 1984).

**Knowledge transfer and creation.** Communication between individuals drives both knowledge transfer and knowledge creation (Alavi & Leidner, 2001; Calantone, Cavusgil, & Zhao, 2002; Min & Mentzer, 2000; Mohr et al., 1996; Nonaka, 1994). Senders share both tacit and explicit knowledge and this knowledge become tacit or explicit knowledge of receivers through communication. While tacit knowledge is about “know-how” which is more abstract and difficult to communicate, explicit knowledge is about “know that” which can be more easily transmitted through systematic language (Brown & Duguid, 2001; Nonaka, 1994). Thus, four modes of knowledge creation can be identified: (1) socialization (from tacit knowledge to tacit knowledge), (2) internalization (from explicit knowledge to tacit knowledge), (3) externalization (from tacit knowledge to explicit knowledge), or (4) combination (from explicit knowledge to explicit knowledge). Because tacit knowledge is accumulated from experience, the sharing of tacit knowledge often requires senders to articulate their perspectives and experiences with receivers. The sharing of tacit and explicit knowledge leads to the creation of new knowledge or the alteration of existing knowledge (Alavi & Leidner, 2001). Organizational knowledge creation is encouraged by designing practices so that all four modes of knowledge creation are produced in a continual cycle (Nonaka, 1994). The ability to create and transfer knowledge within an organization is a distinct competitive advantage that helps firms to survive and compete in dynamic environments (Slater & Narver, 1995).

**Adoption of innovation.** Effective communication can accelerate the adoption of an innovation. An innovation is “an idea, practice, or object perceived as new by an individual” (Rogers, 2003, p. 12). Communication is important to facilitate the adoption of innovation because it permits the diffusion of an innovation from one individual/organization to another. To reduce the risk involved in adopting an innovation, individuals are motivated to learn about the advantages and disadvantages of an innovation through the sharing of information (Rogers, 2003). Learning about the innovation as well as the alternatives permits an individual to have enough knowledge about the innovation, form an attitude toward the innovation, and take action to adopt or reject the innovation (Lewis, 2014). The idea of innovation adoption is very similar to information adoption, which is the goal of strategic use of information. Both information and innovation can diffuse in a cascade. Often, when adopters implement an idea, they spread the word to influence others’ attitudes toward the idea (Carl, 2006; Rogers, 2003; Walsh, Gwinner, & Swanson, 2004).

In sum, strategic uses of information can reduce information overload. With strategic uses of information, the receiver will be better at comprehending the information and thus understanding the sender. When the receiver and the sender achieve shared understanding of the information, the receiver is more likely to behave in the way that the sender communicates and desires, leading to the achievement of the outcomes discussed above. The following section will examine how the relationships between strategic use of information and the outcomes may be strengthened or weakened depending upon the receiver’s characteristics and perceptions.

### **Moderators**

The relationships between the strategic use of information and performance outcomes may be affected by the characteristics of the receiver and the receiver’s perception of the sender



and the information (Chaiken, 1980; Rogers, 2003; Simpson & Prusak, 1995; Szulanski, 1996). These moderators may reduce or enhance the effectiveness of the strategic use of information on the performance outcomes.

**Individual ability and motivation on information processing.** Although all receivers are constrained by their information processing abilities (Wyer, 1974), some receivers are better at processing a message than others (Krone et al., 1987). Information processing ability is defined as the proficiency “to assimilate, retain, and integrate information in order to form complex judgments” (Henry, 1980, p. 42). Masson and Miller (1983) suggest that receivers’ abilities to process information are positively related to (1) their scores on a standardized reading comprehension test, (2) their abilities to integrate information from different sources and infer ideas and relationships that are not explicitly stated, and (3) their abilities to store and retrieve information. Besides these three attributes, receivers’ existing knowledge structures affect their capacities to process information. Cohen and Levinthal (1990) suggest that a receiver with a high level of relevant knowledge is better at recognizing the value of new information and interpreting and utilizing the new information. These abilities collectively form absorptive capacity, which is a receiver’s “ability to value, assimilate, and apply new knowledge successfully to commercial ends” (Cohen & Levinthal, 1990, p. 128). However, existing knowledge can also be argued to be a barrier for processing new information. Receivers who are highly trained to use a specific method or perspective to understand information may fail to comprehend new information that does not fit into their existing knowledge framework (Burke, 1984; Merton, 1957).

Motivation is defined as the desire to process information to form valid, accurate judgements (Chaiken, Liberman, & Eagly, 1989; MacInnis & Jaworski, 1989). The motivation to process information can be influenced by both situational and personality factors (Cacioppo,

Petty, Feinstein, & Jarvis, 1996). Information that is considered as personally relevant or as having personal consequences increases the involvement of the receivers. When receivers are highly involved, they are more motivated to devote more cognitive effort to evaluate the merits of the information, which should provide additional evidence about the information validity (Chaiken et al., 1989; Petty, Cacioppo, & Schumann, 1983). On the contrary, receivers with lower involvement in the subject matter are likely to use simple, heuristic decision rules to form judgements about the information (Chaiken et al., 1989).

Some receivers have higher needs for cognition than others (Cacioppo et al., 1996). The need for cognition is defined as “a need to structure relevant situations in meaningful, integrated ways. It is a need to understand and make reasonable the experiential world” (Cohen, Stotland, & Wolfe, 1955, p. 291). People who have a high need for cognition may be described as thinkers who enjoy thinking and have strong needs to understand (Cacioppo & Petty, 1982). Receivers with higher needs for cognition tend to be more motivated in comprehending information. They tend to seek, obtain, think about, and reflect back on information (Cacioppo et al., 1996).

**Perceptions about senders.** Receivers’ perceptions of senders may also affect their motivations to process the information and their judgment of that information. A receiver is more likely to adopt the shared information when a sender is perceived as knowledgeable, expert, or trustworthy (Özer, Zheng, & Ren, 2014; Pornpitakpan, 2004; Rhee & Fiss, 2014; Rogers, 2003). Also, when senders are viewed as charismatic they are more likely to influence the receivers (Gladwell, 2002; Rogers, 2003). In this case, receivers are more likely to comply with the shared information. When receivers perceive that senders treat them with respect and dignity during the interaction, receivers are more likely to be persuaded (Lewis, 2014).

The intentions of senders as perceived by receivers can also affect their judgement of the information (Andersen, 2001). When receivers perceive that the sender's motivation for sharing information is to educate and help, instead of to persuade, receivers are more likely to believe the sender and to be convinced (Gladwell, 2002). Similarly, senders are more likely to gain compliance from receivers if senders use questions or persuasion instead of demands (Dansereau & Markham, 1987). When receivers perceive senders' information sharing behaviors as a means to control, receivers may have less motivation to process the information or to comply (Ishida & Brown, 2011). In fact, receivers may be motivated to behave in a way that is opposed to what the information suggests (Crosno & Brown, 2015).

Another important construct related to the perception of the sender is homophily. Homophily is defined as the degree to which two or more individuals who interact are similar in certain attributes, such as personal and social characteristics (Rogers, 2003). The theory of homophily suggests that when a sender shares certain attributes with a receiver, communication is easier and more effective because the receiver is likely to have shared language and assumptions with the sender. As a result, the sender's information is likely to have a stronger influence on the receiver's attitude and behavior change (Rogers, 2003; Rogers & Agarwala-Rogers, 1976; Zott & Huy, 2007). Similarly, when a sender and a receiver share a similar business strategy, experience, or cultural background, the receiver is more likely to interpret, understand, and respond to the information in the way that the sender wishes (Argote & Ingram, 2000; Conway & Swift, 2000; Hutt et al., 1995).

**Perception about information.** Information quality is formed by multiple facets including the degree of relevancy, accuracy, timeliness, adequacy, and credibility of the information for decision making (Feldman & March, 1981; Keller & Staelin, 1987; Li & Lin,

2006; Moberg, Cutler, Gross, & Speh, 2002; Simpson & Prusak, 1995). Receivers who perceive the information as low quality are unlikely to take the information seriously and act upon it (Gupta & Govindarajan, 2000; Simpson & Prusak, 1995). When receivers view information as irrelevant, inaccurate, incredible, or inadequate, they may purposefully ignore the information (Wyer, 1974). Information that arrives too late may be viewed as irrelevant (Grabner et al., 1978). As mentioned previously, the timing of information can influence information overload. Only information that is of high quality is likely to affect receivers' behaviors (Feldman & March, 1981). In addition, receivers may view information that contradicts their existing knowledge as less logical and persuasive (Laczniak, DeCarlo, & Ramaswami, 2001). Receivers may take more time to comprehend and validate the information when information contradicts their current knowledge (Eppler & Mengis, 2008; Schneider, 1987). Perception about information quality may affect the perception about the senders. When receivers perceive the information that is shared by senders as high quality, this will increase the level of trust on senders (Anderson & Narus, 1990; Morgan & Hunt, 1994).

### **Summary**

This dissertation aims to understand how a sender can strategically alter information to assist a receiver to process information and to achieve better performance. This literature review has provided theoretical background and framework for the topic. The first section of this chapter describes the communication process. The communication process is rooted in the normative perspective of organizational communication, where this perspective suggests that a causal relationship can be drawn between sender communication and receiver behaviors. This perspective is applied in this dissertation because strategic use of information from a sender can affect how receivers process information. To provide a clear understanding of the

communication process, important concepts including communication, information, and message are defined. Five elements in the communication process, sender, media, message, noise, and receiver, are also discussed. An extensive review about receivers is provided to understand a receiver's comprehension process and constraints, which gives a background on how a sender's strategic use of information can affect the receiver.

In the second section, communication on marketing channels is discussed. The discussion focuses on three topics: the sender's strategic use of information, channel outcomes, and the moderators of the strategic use of information. Different strategic uses of information, including leveling, sharpening, queuing, reshaping, adjusting, creating ambiguity, standardizing, and relating, are reviewed. The strategic use of information can affect how receivers comprehend information and achieve better performance. The effectiveness of the strategic use of information on performance may be attenuated by a receiver's ability and motivation as well as the perception about the sender and the information.

## **CHAPTER 3**

### **CONCEPTUAL DEVELOPMENT**

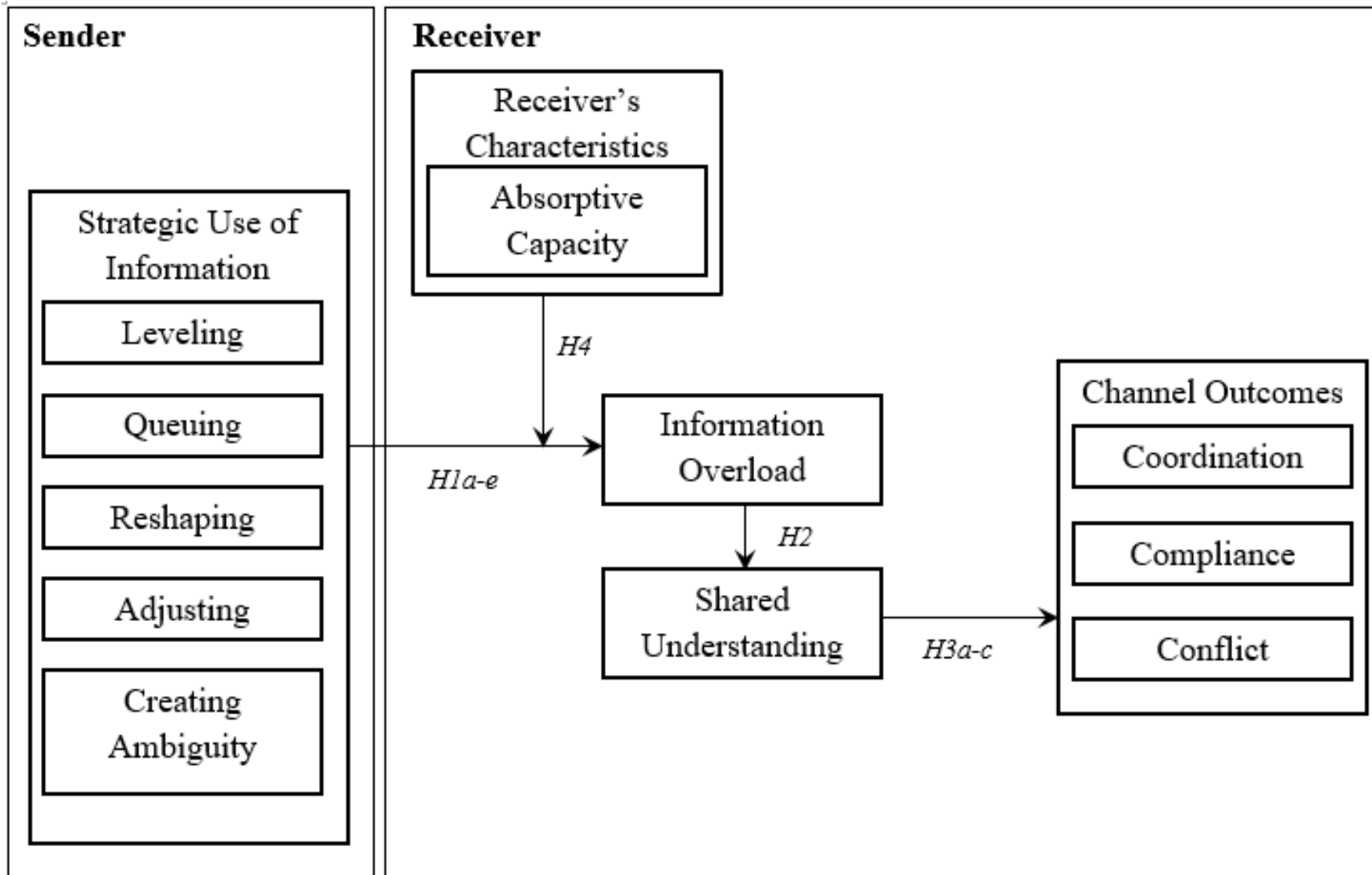
#### **Introduction**

When a sender shares information without considering of the limitation of the receiver's mental resources, a receiver may encounter difficulties in processing information. As reviewed in Chapter Two, previous research has suggested that the characteristics of a message, time pressures, and the receiver's available mental resources can influence the receiver's ability to select, comprehend, store, and retrieve the shared information. When a receiver has trouble processing all the shared information, the performances of the sender and the receiver may suffer.

This dissertation suggests that the sender can strategically deliver information to facilitate comprehension of information by the receiver and achieve desirable channel outcomes. Strategic uses of information are the alteration of information volume, content, and/or timing to assist a receiver's comprehension of information. The normative perspective of organizational communication suggests that the sender's shared information can directly influence the receiver's ability to properly process the information and subsequent behaviors.

Figure 3.1 represents the conceptual model and Table 3.1 contains the definitions of the constructs in the model. Hypotheses will be developed for each relationship. Through empirical testing of the hypotheses, this dissertation aims to provide answers for (1) how the strategic use of information directly influences the receiver's information processing and indirectly affect channel outcomes, (2) whether all of the strategic uses of information are equally effective, and

Figure 3.1 Conceptual Model



**Table 3.1 Definitions of Key Constructs**

Construct	Definition
Leveling	Leveling is a message summarizing process where one condenses the information by reducing the details while still “faithfully reproducing” the meaning of the message (Huber, 1982, p. 138).
Queuing	Queuing is to control information delivery through delaying or prioritizing information (Guetzkow, 1965).
Reshaping	Reshaping describes the modification of information with consideration of the receiver’s feeling of anxiousness (Campbell, 1958; Huber, 1982).
Adjusting	Adjusting describes the modification of information based on a receiver’s background (Huber, 1982).
Creating Ambiguity	Creating ambiguity refers to the forming of messages that induces receivers to perceive two or more plausible ways of interpreting the message, giving flexibility to the receiver (Eisenberg, 1984).
Information Overload	The degree to which the mental resources that are required to process the task information exceed the amount of mental resources available to the receiver (Tushman & Nadler, 1978).
Shared Understanding	Shared understanding is the degree of mutual interpretation and meaning between the sender and the receiver about the task (Duncan & Moriarty, 1998).
Coordination	Coordination is the accomplishment of a task that contributes to part of an overall collective task (Mohr & Nevin, 1990; Van De Ven et al., 1976).
Compliance	Compliance refers to obedience to the task direction (Kelman, 1958).
Conflict	Conflict is the perception of the sender or the receiver that the other is impeding and frustrating his/her attempts to accomplish the task (Brown & Day, 1981).
Absorptive capacity	Absorptive capacity is one’s “ability to value, assimilate, and apply” new information to complete a task successfully (Cohen & Levinthal, 1990, p. 128).



(3) how the receiver's absorptive capacity influences the relationship between the strategic use of information and comprehension of information.

The attention of this dissertation is constrained to examine instrumental communication, where a sender shares information that is directly related to business activities, as opposed to non-work-related conversations (Sheng et al., 2006). As discussed in the literature review, persuasive messages are the focus of the paper. This dissertation examines how persuasive messages can be delivered strategically to influence a receiver's perceptions, attitudes, knowledge, and/or behaviors of a task.

Grabner and Rosenberg (1969) suggest that a message's capacity to change a receiver's behavior in a desired way requires the following four conditions: (1) the message is understandable from the receiver's perspective; (2) the receiver perceives the message as consistent with the purpose of his/her role; (3) the receiver's personal interests are compatible with the contents of the message; and (4) the receiver has the ability to comply with the message. As the purpose of the strategic use of information is to enhance comprehension, this paper primarily focuses on the understandability of a message. The other three factors are beyond the scope of this paper.

The focus of this dissertation is on how the strategic use of information can influence the receiver's comprehension of information and, subsequently, his/her coordination, compliance, and conflict. The unit of analysis of all constructs is the individual. Research has suggested relationships between coordination, compliance, and conflict (Brown et al., 1995; Menon, Bharadwaj, & Howell, 1996); however, the causal relationships between coordination, conflict, and compliance are beyond the scope of this study. In the following sections, the outcomes of strategic uses of information will be proposed.

## **Direct and Indirect Outcomes of Strategic Uses of Information**

This dissertation suggests that the strategic use of information minimizes information overload. When the receiver is less overloaded with information, a higher level of shared understanding between the sender and the receiver is achieved. Consequently, higher levels of coordination and compliance and a lower level of conflict are expected. Each outcome construct is introduced and hypotheses based on each strategic use of information is developed.

### **Outcomes of Receiver's Information Processing**

**Information overload.** Tushman and Nadler (1978) suggest that information overload occurs when the mental resources required to process the information exceed the mental resources that are available to the receiver. The amount of mental resources required to process information is affected by the characteristics of the task information, such as the quantity, quality, or novelty of the information, as well as the time pressure that a receiver faces (Eppler & Mengis, 2004; Huber & Daft, 1987; Stohl & Redding, 1987). The strategic use of information reduces the chance of information overload because it modifies the characteristics of the task information and the perceived time pressure of the receiver such that either fewer mental resources are required to process the information and/or more mental resources are available to the receiver. Besides reducing the likelihood of information overload, strategic uses of information may increase the degree of shared understanding between the sender and the receiver.

*Leveling.* Leveling is a message summarizing process where one condenses the information by reducing the details while still “faithfully reproducing” the meaning of the message (Huber, 1982, p. 138). The amount of information affects the required amount of mental resources needed to select, comprehend, retrieve, and store information (Huber & Daft, 1987).

Because leveling reduces the amount of information, fewer mental resources are required to process the information (Chervany & Dickson, 1974; Huber, 1982). The receiver is less likely to feel information overload when fewer mental resources are required. Therefore, leveling reduces information overload.

***H1a:** The increased use of leveling decreases information overload.*

*Queuing.* Queuing is to control information delivery through delaying or prioritizing information (Guetzkow, 1965). One facet of queuing is to delay the passage of information during peak load periods and to catch up during breaks (Guetzkow, 1965; Huber, 1982). The other facet of queuing is to prioritize information so that the receiver only has to focus on a small part of the information at a time (Huber & Daft, 1987). Senders may prioritize information and give out information based on the work sequence of a task or based on the importance or relevance of the information.

The use of queuing is expected to decrease information overload. However, the two facets of queuing, delaying and prioritizing, are expected to work under different mechanisms to reduce information overload. With the use of delaying, information is delivered when the receiver has more mental resources available to process information. As the receiver has more available resources to devote attention to the information, the receiver is less likely to feel overloaded by the information. The use of prioritizing should reduce the mental resources required to process information because information is delivered in smaller pieces. As the required mental resources to process the information is reduced, the receiver is less likely to feel overloaded by information.

***H1b:** The increased use of queuing decreases information overload.*

*Reshaping.* Reshaping describes the modification of information with consideration of the receiver's feelings of anxiousness (Campbell, 1958; Huber, 1982). The focus of this strategy is on the receiver's feelings of anxiousness because previous research suggests that work anxiety is prevalent among employees and employees' feelings of anxiety have a strong negative impact on their productivity (e.g., Godfrey, Seiders, & Voss, 2011; Lim, Sanderson, & Andrews, 2000). Anxiety consists of two major elements: worry and emotionality (Liebert & Morris, 1967). While worry is the cognitive aspect of anxiety which distracts one from focusing on a task, emotionality is the automatic physiological change due to nervousness (Cassady & Johnson, 2002; Deffenbacher, 1978). Both worry and emotionality reduce the mental resources available to the receiver; however, research has suggested that reductions in mental resources from anxiety is primarily driven by worry (Wine, 1971).

Psychology research suggests that feelings of anxiety hinder information processing. Anxiety leads a receiver to focus on self-relevant thoughts instead of task-relevant thoughts (Bishop, Duncan, Brett, & Lawrence, 2004; Kouchaki & Desai, 2014). These self-relevant thoughts include self-doubting and self-deprecation. Instead of spending time to process task information, the receiver is more likely to spend time worrying about his/her ability and performance, how the sender thinks of him/her, and potential unfavorable outcomes (Carver & Scheier, 2012; Marlett, & Watson, 1968; Wine, 1971). People who are anxious use their available mental resources to worry and, consequently, fewer mental resources are available to the receiver to devote to processing information (Darke, 1988; Eysenck et al., 2007; Sengupta & Johar, 2001). Feelings of anxiety are caused by stress and tension. While many factors can induce stress and tension, this dissertation examines task-related information that induces these negative feelings. Negative feedback and information that contains "stress-related threat words,"

such as “failed” and “foolish” (Gray & McNaughton, 2003; Mogg, Mathews, Bird, & Macgregor-Morris, 1990; Sengupta & Johar, 2001) can bring the receiver stress, tension, and anxiousness.

A sender can reshape stress- and tension-inducing information, such as negative feedback. By adapting communication to consider the receiver’s feelings of anxiety, the receiver is less likely to feel anxious. Because the receiver is less anxious, he/she is likely to have more cognitive resources available to process the task information (Kouchaki & Desai, 2014). Hence, the receiver is more likely to have sufficient mental resources available to process the information when information is modified to allay the receiver’s feelings of anxiety and stress.

***H1c:** The increased use of reshaping decreases information overload.*

*Adjusting.* Adjusting describes the modification of information based on a receiver’s background (Huber, 1982). Communicating in terminology that the receiver can understand is important. Wittreich (1969) points out that retailers fail to understand manufacturers because the manufacturers do not use the vocabulary that retailers can understand. When the sender fails to speak in the receiver’s vocabulary, misunderstanding is likely to happen (Hutt et al., 1995; Rogers & Agarwala-Rogers, 1976; Stern, 1969). In contrast, when the sender speaks in the receiver’s language, the information becomes easier to comprehend (Duncan & Moriarty, 1998; Grabner & Rosenberg, 1969).

When information is worded in a way that matches the receiver’s background, the receiver can more easily relate that information to his/her existing knowledge and experiences (Maurer & Ebers, 2006; Tushman & Nadler, 1978). Because the receiver can draw on existing knowledge to understand the information, fewer mental resources are required for the receiver to

comprehend the information. As the receiver spends fewer mental resources to comprehend the information, the receiver is less overloaded by the information.

***H1d:** The increased use of adjusting decreases information overload.*

*Creating ambiguity.* Creating ambiguity refers to the forming of messages that induces receivers to perceive two or more plausible ways of interpreting the message, thereby giving flexibility to the receiver (Eisenberg, 1984). Giving ambiguous information grants the receiver “the freedom and creativity to excel” (Goodall, Wilson, & Waagen, 1986, p. 77). With flexibility in interpretation, the receiver has more freedom to attach his/her own meaning to the message. Because the receiver is likely to attach meaning that he/she can easily retrieve from memory, the receiver may have to spend fewer mental resources to comprehend that information (Eisenberg, 1984; Eppler & Mengis, 2008). The receiver is less likely to feel overloaded with information when the message allows the receiver to form his/her own interpretation.

Creating ambiguity gives flexibility to the receiver to interpret information, which may enhance the receiver’s perceived autonomy. The receiver may feel empowered with the autonomy to interpret information in his/her own way. This empowerment may lead the receiver to believe that he/she has a greater capability to interpret the information (DeCarlo & Agarwal, 1999; Wang & Netemeyer, 2002). As the receiver believes that he/she is more capable in processing the information, the receiver may perceive that he/she has enough mental resources to handle the information, which reduces perceived information overload (Ahuja, Chudoba, Kacmar, McKnight, & George, 2007; Lee & Ashforth, 1996).

***H1e:** The increased use of creating ambiguity decreases information overload.*

In the above section, the effects of strategic uses of information on information overload were hypothesized. With less information overload, the receiver is likely to better comprehend

the information and understand the sender. The relationship between information overload and shared understanding is discussed in the following paragraphs.

**Shared understanding.** Shared understanding is the degree of mutual interpretation and meaning between the sender and the receiver about the task (Duncan & Moriarty, 1998). The degree of this shared understanding heavily depends on how well the receiver can interpret the meaning of the information. When a receiver is experiencing a lesser degree of information overload, he/she is more likely to have enough mental resources to process the information. With more mental resources to comprehend information, the receiver can better understand the shared information. As a result, the sender and receiver will have a closer interpretation of the information and achieve a higher shared understanding of that information (Huber, 1982).

When a receiver is overloaded with information, he/she is likely to have trouble processing the information. A receiver may have difficulty selecting, interpreting, storing, and retrieving the information because of limited mental resources (Lang, 2000). Since the receiver can only process a finite amount of information, he/she may deliberately ignore information that is beyond the amount that he/she can handle or postpone comprehension of the information (Driver & Streufert, 1969; Miller, 1956; Wyer, 1974). Even if the receiver pays attention to the information, he/she may quickly forget that piece of information because of inadequate mental resources (Eppler & Mengis, 2004). The receiver may also have trouble identifying relevant information, prioritizing information, and retrieving existing knowledge from memory to interpret the information (Jacoby, 1977; O'Reilly, 1980; Schick et al., 1990). When the receiver fails to adequately process the information, he/she is less likely to have an accurate understanding of the sender's expectation. This leads to lower shared understanding between the sender and the receiver.

*H2: The increased level of information overload decreases shared understanding.*

In this section, hypotheses were developed between the strategic uses of information and information overload. The relationship between information overload and shared understanding was also proposed. In the next section, the way in which shared understanding influences coordination, compliance, and conflict will be discussed.

### **Outcomes of Marketing Channels**

**Coordination.** Coordination is the accomplishment of a task that contributes to part of an overall collective task (Mohr et al., 1996; Van De Ven et al., 1976). When the receiver is fulfilling his/her task role to work in the same direction as the sender and other channel members, his/her task performance is more integrated with the sender's and others' performances. As the receiver's performance is integrated with other members' performances, the collective task is likely to be well coordinated and the channel is better at accomplishing its tasks and goals (Jeuland & Shugan, 1983; Sahin & Robinson, 2005).

When there is a high degree of shared understanding between the sender and the receiver about a task, their activities are more likely to be coordinated. First, the sender and the receiver are likely to have similar perceptions about what tasks are more urgent and/or important (Morgan & Hunt, 1994). Second, the notions of what tasks have to be accomplished, how to accomplish the tasks, and how the tasks relate to other tasks are better understood (Anderson, Lodish, & Weitz, 1987; Byron, 2008). Third, when the receiver has a high degree of shared understanding with the sender, the receiver who becomes a sender later will be less likely to distort or omit information (Putnam et al., 1996). As the information passed on is less distorted, the channel members who receive the information are more likely to understand the information and work as expected to contribute to the overall collective task.



*H3a: The increased level of shared understanding increases coordination.*

**Compliance.** Compliance refers to acceptance of the task directions (Kelman, 1958). As mentioned in the introduction, the focus of this dissertation is on whether the receiver understands the message. While multiple factors may influence a receiver's compliance, the understanding of the message of the receiver is the prerequisite for a receiver to be able to comply with the message from the sender. The receiver cannot comply if he/she does not understand the message.

When the degree of shared understanding between the sender and the receiver is high, the expectations of the sender about the task are clear to the receiver (Hinds & Weisband, 2003). All else equal, when the receiver fully understands the instructions and expectations of the senders, he/she is more likely to comply with the instructions. Indeed, how well the receiver can understand the message is a necessary condition for a message to be able to change a receiver's behavior (Grabner & Rosenberg, 1969). Therefore, a high degree of shared understanding leads to a higher level of compliance.

*H3b: All else equal, the increased level of shared understanding increases compliance.*

**Conflict.** Conflict is the perception of the sender or receiver that the other is impeding and frustrating his/her attempts to accomplish the task (Brown & Day, 1981). This frustration can arise when the sender and the receiver have different expectations about task performance (Gaski, 1984). Because the sender's and the receiver's performances are likely to diverge from each other's expectations, both parties see the other as impeding their goal attainments (Etgar, 1979; Zhou, Zhuang, & Yip, 2007). Thus, conflict arises.

With a high degree of shared understanding, a sender and a receiver have a close understanding of the task information and the perceptual difference on the information is

minimized (Dwyer, Schurr, & Oh, 1987). All else equal, the receiver is more likely to behave in a way that aligns with the sender's wishes when the sender's expectations are well understood. As the receiver is achieving what the sender desires, the sender is less likely to view the receiver as impeding his/her goal attainment (Anderson & Narus, 1990; Gaski, 1984; Morgan & Hunt, 1994). Thus, conflict is less likely to happen. At the same time, the sender may evaluate the receiver's performance favorably when the receiver closely follows the task information. Positive work evaluation may lead to intrinsic or extrinsic reward, which may fulfill the receiver's work goal. Thus, a high degree of shared understanding should lead to lower levels of conflict (Cronin & Weingart, 2007; Maltz & Kohli, 2000).

*H3c: All else equal, the increased level of shared understanding decreases conflict.*

In this section, the influences of strategic uses of information on information overload were proposed. Information overload was hypothesized to negatively affect shared understanding. The relationships between shared understanding and coordination, compliance, and conflict were discussed. In the following section, absorptive capacity will be proposed as a moderator which influences the strength of the relationships between strategic uses of information on information overload.

### **The Effectiveness of Strategic Uses of Information**

Cohen and Levinthal (1989, 1990) develop the idea of absorptive capacity to explain why certain firms are better at exploiting new knowledge than others. They suggest that a firm's absorptive capacity depends on the absorptive capacities of the individual members. Previous research has conceptualized absorptive capacity at multiple levels of analysis (Zahra & George, 2002). In this research, absorptive capacity is understood at the individual level because the research focus is on interpersonal interaction in the business-to-business setting. Absorptive

capacity is the receiver's "ability to value, assimilate, and apply" new information successfully (Cohen & Levinthal, 1990, p. 128).

The core idea of absorptive capacity is that how well a receiver can exploit new knowledge is related to the level of prior related knowledge. Cohen and Levinthal (1990) have proposed two reasons to support this idea. First, prior related knowledge may assist the development of problem solving and learning skills. When new knowledge is related to what the receiver already knows, the receiver can easily form associations and store new information in memory. The better the new information is stored (i.e., more associations), the more readily that information can be retrieved and applied. Second, prior related knowledge may be accumulated to form a general knowledge base. With a larger general knowledge base, the receiver is required to learn less to achieve a given level of performance.

The prior related knowledge contributes to absorptive capacity through enhancing an individual's problem solving skills and/or increasing the general knowledge. The receiver with high absorptive capacity can better (1) recognize and understand the value of new information, (2) integrate new information with current knowledge, and (3) apply the integrated information to create new knowledge and put it in use (Cohen & Levinthal, 1990; Lane, Koka, & Pathak, 2006). The argument of Cohen and Levinthal's (1990) work implies that receivers with high absorptive capacities require fewer mental resources to process information because of their prior related knowledge. Strategic uses of information are likely to be more critical on assisting receivers with lower absorptive capacities to deal with information overload than receivers with higher absorptive capacities. Therefore,

*H4: As absorptive capacity increases, a receiver becomes better at utilizing acquired information, decreasing the impact of (a)leveling, (b)queuing, (c)reshaping, (d)adjusting, and (e)creating ambiguity on information overload.*

### **Conclusion**

By reducing the required mental resources to process the information and altering the timing and content of information to allow for more available mental resources, strategic uses of information assist a receiver to integrate, utilize, and respond to new information. When strategic uses of information are employed, receivers are less likely to be overloaded with information, which in turn leads to a higher shared understanding with the sender. Greater shared understanding is expected to enhance coordination and compliance while reducing conflict.

In the next chapter, the discussion will focus on the methods that were employed to generate and purify measurement items. The design and the results of the item generation methods and three pretests will be explained.

## **CHAPTER 4**

### **METHODS – ITEM GENERATION AND PRETEST**

#### **Introduction**

This chapter describes methods that were employed to develop and purify measurement items. This chapter is divided into two sections: Item Generation and Pretests. In the Item Generation section, procedures to develop the new measurement items are explained and results are presented. In the Pretests section, the design of three pretests and the statistical methods to analyze the data are reviewed. The results of the pretests will also be discussed. The end of this chapter will discuss the pilot study, which was employed to test the design of the final survey.

#### **Item Generation**

The item generation process focuses on eight constructs: leveling, queuing, reshaping, adjusting, creating ambiguity, shared understanding, information overload, and absorptive capacity. Because the measurement items for strategic uses of information, including leveling, queuing, reshaping, adjusting, and creating ambiguity, do not exist in the literature, measurement items must be developed. Shared understanding, information overload, and absorptive capacity are also included in the item generation process because the adaptation from existing measurement items appears to be inadequate or inappropriate due to differences in the context of the study. The development of measurement items follows the procedures proposed by Churchill (1979). Churchill (1979) has specified the following steps for developing measurement items: (1) specifying the domain of the constructs, (2) generating sample items, (3) collecting data, (4) purifying measurement items, (5) collecting new data, (6) assessing the reliability of the new data, and (7) assessing the validity of the constructs. The first and second steps of the procedure,

specifying the domain of the constructs and generating sample items, will be discussed in the following paragraphs.

### **Specify the Domain of the Constructs**

The first step of item generation is to specify the domain of the construct. A starting point is to define the constructs. A researcher should delineate what concepts should be included or excluded in the construct definitions (Churchill, 1979). The construct definitions in this dissertation are based on previous literature with some modifications to fit into the context of the research question, as stated in Table 3.1. Constructs are defined so that the definitions are broad enough to include the concepts of interest but narrow enough to exclude unwanted ideas (MacKenzie, 2003). Based on the construct definition, the operational definitions of the constructs are developed in Table 4.1.

### **Preliminary Interviews**

Prior to item generation, preliminary interviews were done with two field managers of a smartphone company. The purpose of the preliminary interviews is to understand if strategic uses of information, the new concepts proposed by this dissertation, are used by managers in communication at work. One of the roles of these field managers is to disseminate information to frontline staff in their regions whose stores carry the smartphones manufactured by their company. An open question was asked to the field managers to describe how they present the information that they gather from their company to the frontline staff. When the field managers describe communication approaches that match the definitions of leveling, queuing, reshaping, adjusting, or creating ambiguity, they were asked to describe the reasons for using the strategy and how specifically they use the strategy in their presentations. Each phone interview lasted for

**Table 4.1 Operational Definitions of Key Constructs**

Construct	Operational Definition
Leveling	Leveling is the degree to which the sender reduces the details of a message while keeping all the meaning of the message.
Queuing	Delaying is the degree to which the sender waits to share information until the receiver is available. Prioritizing is the degree to which the sender shares only a portion of information at a time.
Reshaping	Reshaping is the degree to which the sender modifies a message with the consideration of the receiver's feeling of anxiousness.
Adjusting	Adjusting is the degree to which the sender modifies a message with the consideration of the receiver's background.
Creating Ambiguity	Creating ambiguity is the degree to which the sender creates a message that allows for more than one interpretation.
Information Overload	Information overload is the receiver's perception that the mental resources required to process a message exceed the amount of mental resources available to him/her.
Shared Understanding	Shared understanding is the receiver's perception that he/she shares a mutual interpretation and meaning of a message with the sender.
Absorptive capacity	Absorptive capacity is the receiver's perception about his/her ability to value, assimilate, and apply new information to complete a task successfully.

about 30 minutes. The key takeaway of these interviews is that strategic uses of information seem to be commonly used by managers when they deliver information.

### **Generate Sample Items**

The second step is to generate sample items. All the measurement items were carefully developed based on the construct definitions and discussions about these constructs in previous literature. For example, measurement items for queuing capture the two dimensions of queuing, both delaying and prioritizing information, as described in the construct definition. Some of the items are adapted from studies where the items seem to describe the constructs of interest in this dissertation, although these items were originally used to measure a different construct. For example, one of the items for the construct “information communication” from Agnihotri, Rapp, and Trainor (2009), “always present information to customer in a clear and concise manner (p. 485),” is adapted as a measurement item for leveling in this dissertation.

While most of the measurement items are created for this study, some measurement items for information overload and absorptive capacity are loosely adapted from the previous literature, as reported in Table B.1. Hunter and Goebel (2008) have developed measurement items for information overload. However, the construct is measured by the negative emotion and amount of errors made which are consequences of information overload. While the items appear to be valid and reliable and some are modified to be included in this study, new measurement items are developed to capture the perception of information overload - the perception that one receives more information than he/she can process. Although there is a stream of research that measures absorptive capacity, few survey items appear to fit the context of this study. Thus, instead of using one set of measurement items from a single study, items are borrowed from multiple studies and largely modified.



Items have been carefully developed to make sure they are easy to understand and to minimize respondent confusion. A pool of items was generated and then reviewed by experts as explained below.

### **Expert Review**

All the items were pre-screened by the co-chairs of this dissertation and were revised based on feedback from the co-chairs. The generated items were then reviewed by two other experienced researchers. The two researchers specialize in sales management and strategic organizational management. Both researchers also have more than ten years of industrial experience in professional selling. The researchers were asked to comment on how well the measurement items captured the definitions of the constructs. Some measurement items were revised based on their feedbacks. The review of the measurement items by these experts increases the face validity of the items. The generated items appear to reasonably capture the constructs. The items were tested using the Q-sort method described below.

### **Q-Sort Method**

A Q-sort method was employed (Block, 1961; Funder, Colvin, & Furr, 2000). A Q-sort method is commonly used in the measurement development process in social sciences where respondents are asked to classify the measurement items based on the construct definitions. A Q-sort method is employed here for three reasons: (1) to ensure that the items can be understood by readers, (2) to assess if the measurement items match the construct definitions, and (3) to pare down some of the measurement items.

**Sample and procedure.** The respondents for the Q-sort test are the administrative staff in the College of Business and Economics at West Virginia University. They are appropriate respondents because their jobs involve frequent interaction with people and work-related

communication is the focus of the measurement items. A Q-sort test were printed and distributed by hand to respondents in the college. Distribution of the Q-sort task by hand allowed the researcher to (1) emphasize the importance of the Q-sort task, (2) clarify the instructions of the Q-sort task, and (3) increase response rate. The Q-sort task focused on the constructs and the measurement items in Table B.1. Similar to the Q-sort task in Walsh and Beatty (2007), each construct definition and measurement item was printed on an index card. Respondents were asked to read the cards carefully and to match the measurement items with the construct definitions by stacking the measurement item cards on top of the construct definition cards. When the respondents were done, they were instructed to use a rubber band to tie all the measurement item cards describing each construct together with the appropriate construct definition card. An additional index card for unclassified items were included. Respondents were instructed to stack any measurement item that does not belong to any construct or appears to be ambiguous or unclear on top of that card. Once completed, respondents were told to put all the tied index cards in an envelope and drop the envelope off at a designated spot. All responses are anonymous.

**Analysis and results.** The Q-sort test was distributed to 19 administrative staff. Twelve packages were returned. One Q-sort exercise was incomplete and so was dropped from the analysis. Inter-rater reliability was calculated using Fleiss's Kappa (Fleiss, 1971). With eleven judges, ten construct definitions, and 62 items, the inter-rater reliability is .738 with the upper bound of .739 and the lower bound of .716 in 95% confidence interval. The number of respondents who matched the construct definition with the item as expected is noted in Table B.1. Only items that are consistently being classified as expected were retained. The pattern of classification was also examined. Items that were repeatedly being classified as two or more

constructs were dropped. The results of the Q-sort method helped to inform the development of valid measurement items. These revised measurement items were employed in the first pretest, which will be discussed in the following section.

### **Pretests**

Three pretests and a pilot study were conducted. The goal of the pretests is to purify the measurement items so that they appropriately reflect the constructs of interest and can be used in the main study. The pilot study aims to pretest the final survey to make sure that the survey is easy to follow and no question is confusing. The pretests followed the procedures for measurement development specified by Churchill (1979) which was discussed in the above section. In pretests, data collection was conducted and the reliability and validity of the measurement items in representing the constructs of interest were assessed. Based on the statistical results, measurement items were purified. In the following paragraphs, the sample characteristics, sample size, study design, measurement items, and statistical analysis and results for the three pretests were discussed. The discussion will also include the sample, procedures, and the results of the pilot study.

#### **Pretest One**

**Objective.** The goal of the first pretest is to purify the measurement items empirically. The measurement items in the first pretest were items that were consistently classified as expected in the Q-sort exercise as discussed in the previous section. Data collected from this pretest were analyzed to provide empirical evidence for the reliability and validity of the items in representing the constructs of interests.

**Sample.** The sample for the first pretest was recruited from Mechanical Turk (MTurk). While there is often a concern about the characteristics and effort of participants for completing a

survey for as low as ten cents, previous research has suggested that MTurk respondents provide similar responses as traditional samples (e.g., Berinsky, Huber, & Lenz, 2012; Goodman, Cryder, & Cheema, 2013). Participation in the pretest was anonymous. Respondents were awarded 50 cents for completing the survey which took approximately ten minutes. Respondents were required to have some working experience during the last two years, which was employed as selection criteria.

**Sample size.** Without a large enough sample, the analysis will lack the statistical power required to reduce the chance of rejecting the false null at a chosen significance criterion (Cohen, 1988, 1992; Shadish, Cook, & Campbell, 2002). As suggested by Bagozzi and Yi (1988, 2012), a sample size of 100 is often adequate for analyzing models using structural equation models. However, they recommend researchers to aim for above 200 observations to be conservative. Following the suggestions of Bagozzi and Yi (1988, 2012), the target sample size of the pretest is 250, which should provide enough statistical power to analyze the data. A total of 249 respondents have taken the sender survey; while a total of 259 respondents have taken the receiver survey.

**Design.** The pretest was conducted as a self-reported online survey (see Appendix A). Respondents were randomly directed to answer either the sender or receiver survey. Respondents first read the cover letter, and then the survey questions. In the cover letter of the pretest, respondents were notified that they were eligible to complete the survey only if they had some working experience within the last two years. In other words, they should not fill out the survey if they did not have any recent working experience. Respondents read an introduction before answering survey questions. The introduction is also included in Appendix A. In the introduction of the sender survey, the respondent was asked to recall the most recent event where the

respondent had taught someone a task at work. The respondent was instructed to write down the name of the person he/she taught and describe the task. Respondents then filled out the survey questions of the measurement items of the strategic use of information (i.e., leveling, queuing, reshaping, adjusting, and creating ambiguity). In the introduction of the receiver survey, the respondent was instructed to recall the most recent event where someone had asked the respondent to complete a task at work. The respondent was instructed to write down the name of the person who gave the task and the task that he/she was asked to complete. The respondent then answered questions related to information overload, shared understanding, and absorptive capacity. This pretest is purposely designed in such a way that anyone with experience asking and being asked to do something at work is an appropriate respondent.

**Measures.** The survey items were based on the results in the Q-sort method as discussed in the previous section. Some new items were added to replace the dropped items. All constructs are measured by multi-item reflective scales. All the scale items are seven-point Likert-type, ranging from 1 (“strongly disagree”) to 7 (“strongly agree”). The measurement items of each construct are phrased either all positively or all negatively to avoid the mix of both types of phrasing. A mix of positive and negative phrasing measurement items often confuses respondents, which may threaten the reliability and validity of the measurement scales (Schriethem & Eisenbach, 1995). The statistical analysis of the data from the pretest is described below.

**Analysis and results.** Statistical analysis was employed to evaluate the reliability and validity of the measurement items in representing the constructs. The statistical results from the analysis provide some guidance for refining and purifying the measurement items (Churchill, 1979). An exploratory factor analysis (EFA) and a confirmatory factor analysis (CFA) were

employed. While some researchers argue that EFA and CFA should not be performed together on the same data set because the analyses tend to yield very similar results, other researchers disagree and point out that EFA and CFA provide different information and that the results are not necessarily similar (Farrell, 2010; Van Prooijen & Van Der Kloot, 2001). Specifically, an EFA can identify cross-loading items and verify the number of conceptualized dimensions from the measurement items, while a CFA can provide evidence for the internal and external consistency of the unidimensionality of the measurement items (Churchill, 1979; Gerbing & Anderson, 1988). Before conducting EFA and CFA, one should first analyze the distributional properties of the measurement items because the maximum likelihood procedures in these analyses require multivariate normality (Bagozzi & Yi, 2012).

The descriptive statistics are reported in Table B.2 and Table B.3. For both sender and receiver surveys, missing data and the normality of the data were examined before conducting EFA and CFA. Upon inspection, missing data appear to be missing at random. Based on Hair, Anderson, Tatham, and Black (1998), the z value of skewness and kurtosis should be within  $\pm 2.58$ . Items outside this range were square root, log, or inverse transformed. Note that the distribution of some items become farther away from normality after transformations, so no transformation was done on those items.

To evaluate multivariate normality, Mahalanobis distances were calculated. The Mahalanobis distance of the observation should not be greater than the critical value of chi-square based on the degrees of freedom, which is equal to the number of items (Tabachnick & Fidell, 2013). The critical value of chi-square was set very conservatively at  $p = .001$  as suggested by Hair et al. (1998). With 34 items in the sender survey, a Mahalanobis distance greater than 65.25 is considered as a multivariate outlier. Fifteen observations are multivariate

outliers by this standard. The examination of these observations suggests that responses to items of the same constructs are very inconsistent and sometimes extreme. Because these responses may bias the results, the observations are removed from the later analysis.

Given that there are 23 items in the receiver survey, an observation with a Mahalanobis distance greater than 49.83 may be defined as a multivariate outlier. No such case is found. After checking for missing data and the normality of the data, EFA and CFA are performed as described below.

***Exploratory factor analysis.*** An EFA is employed to analyze the relationships among the measurement items to identify the number of constructs empirically (Hair et al., 1998). Principal axis factoring is employed for EFA. The analysis examines if the number of constructs are the same as expected. Through EFA, the measurement items of each construct can be identified and the extent to which the construct is represented by the measurement items can be determined. The number of constructs can be determined by (1) the number of factors with eigenvalues greater than one and (2) the examination of the “elbow” in the scree plot (Hair et al., 1998). An oblique rotation is performed to simplify the factor structure and to provide a more meaningful pattern of factor loadings. Oblique rotation is appropriate because the constructs are expected to be correlated.

The scree plot and the EFA results for the sender survey are reported in Figure B.1 and Table B.4. Examination of the eigenvalues, scree plot, and factor loadings suggests a five-factor solution for the sender survey. Given that the sample size of 250, a factor loading greater than .35 is significant (Hair et al., 1998). Items that have a factor loading below .35 show a low correlation with the construct and should be removed. As a result, Leveling6, Leveling7, Queuing\_Prioritize1, Queuing\_Prioritize4, Adjusting1, and Adjusting3 are dropped. Two items

from queuing (i.e., Queuing\_Prioritize3 and Queuing\_Prioritize6) and adjusting (i.e., Adjusting 4 and Adjusting6) cross-load on two constructs with factor loadings above .35, although the factor loadings on the intended constructs are slightly higher. The measurement for adjusting appear to be very problematic because there are only three items measuring the construct including the two cross-loaded items. While these four items should be dropped due to cross-loading problems, they are retained so that there are enough items to represent the construct for an identified model in CFA. The results in CFA may give clues to revise and develop new items for queuing and adjusting.

The scree plot and the EFA results for the receiver survey can be found in Figure B.2 and Table B.5. The scree plot, eigenvalues, and factor loadings suggest a three-factor solution for the receiver survey. In the receiver survey, all the measurement items for information overload, shared understanding, and absorptive capacity are loaded on the construct as expected and have a factor loading over .35. No cross-loading item is found. As all the items in the receiver survey perform well in measuring the construct, no items are dropped.

To assess the internal consistency of the measurements, Cronbach's alpha and item-to-total correlation are included in the analysis. Cronbach's alpha evaluates the consistency of the whole scale. In general, the value of Cronbach's alpha of .70 or above is considered acceptable (Hair et al., 1998). Item-to-total correlations are the correlations of the items to the total scale score and the value should exceed .50 (Hair et al., 1998).

The results of the test for internal consistency of the sender survey are summarized in Table B.6. In the sender survey, all the Cronbach's alphas are above .70. All items have an item-to-total correlation value exceeding .50 except Leveling1, Queuing\_Delay3, Queuing\_Delay4, and Queuing\_Prioritize 5. These items, however, are retained so that there are enough items to



represent the constructs in CFA, specifically the delaying and prioritizing dimensions of queuing. The results of the internal consistency test for receiver survey are reported in Table B.7. In the receiver survey, all the Cronbach's alphas have values above .70 and all the item-to-total correlations have values above .50. The measurement items demonstrate internal consistency.

Based on the EFA results, items for leveling, queuing, and adjusting perform poorly while items for reshaping and creating ambiguity show reasonable results. For the receiver survey, all the items for information overload, shared understanding, and absorptive capacity perform satisfactorily in the EFA. Both the sender and the receiver survey items are then examined under CFA, which is described in the following paragraphs.

***Confirmatory factor analysis.*** CFA is performed to inform the unidimensionality, composite reliability, convergent validity, and discriminant validity of the measurement items. Unidimensionality refers to the presence of a single construct underlying a set of measurement items, meaning that all items of a construct are measuring only one thing in common (Gerbing & Anderson, 1988). The unidimensionality of the measurement items is reflected by the overall fit of the model (Bagozzi & Yi, 1988). While multiple indices generated from CFA can be examined to evaluate the overall fit of the model, the discussion below focuses on some of the representatives. The overall fit of the model can be evaluated based on comparative fit index (CFI), root mean square error approximation (RMSEA), and standardized root mean residual (SRMR).

CFI is an incremental fit index which represents the goodness-of fit statistics (Kline, 2015). This index compares the amount of departure from close fit for the hypothesized model against the null model. The value of the CFI ranges from zero to one where the value of one suggests a perfect model fit. RMSEA is an absolute fit index which represents the badness-of-fit

statistics (Kline, 2015). The value of RMSEA ranges from zero to one where zero represents the best results. RMSEA generally rewards models with more degrees of freedom. SRMR is another absolute fit index that indicates the badness-of-fit statistics (Kline, 2015). It represents the mean absolute covariance residual. The index ranges from zero to one and the value of zero represents a perfect model fit. Bagozzi and Yi (2012) suggest the cut-off values for CFI at  $\geq .93$ , RMSEA at  $\leq .07$ , and SRMR at  $\leq .07$ .

As reported in Table B.8, the chi-square of the sender CFA model is 599.86 with 328 degrees of freedom ( $p \leq .00$ ). Notice that some of the error terms of the same constructs are correlated based on the results in the modification index. These correlations are not unusual because items of a construct may be influenced by other unobservable factors besides the construct, causing their error terms to be correlated. The value of CFI, RMSEA, and SRMR are .925, .058, and .073 respectively. While the value of RMSEA meets the cut-off criteria, the CFI and SRMR values are close.

The results of the receiver CFA model are summarized in Table B.9. The chi-square of the receiver CFA model is 708.96 with 227 degrees of freedom ( $p \leq .00$ ). The CFI value of the model is .918. The RMSEA value is .009 and the SRMR value is .046. Both RMSEA and the SRMR meet the cut-off criteria while CFI is close. Taken the values of CFI, RMSEA, and SRMR together, both CFA models of the sender and the receiver surveys appear to have a reasonable model fit. The results suggest all the measurement items achieve unidimensionality.

CFA also provides evidence for composite reliability, convergent validity, and discriminant validity of the construct measures. A value of composite reliability larger than or equal to .60 shows some internal consistency between measurement items (Bagozzi & Yi, 1988). The achievement of convergent validity is observed when the factor loadings are over .60 and the

average variance extracted (AVE) is over .50 (Bagozzi & Yi, 1988). Lastly, discriminant validity is observed when the AVEs of the constructs, which reflect the internal factor loadings, are larger than the squared correlations between two constructs (Fornell & Larcker, 1981).

In the sender survey, the composite reliabilities of all the constructs are over .60 except for adjusting as reported in Table B.8. The results should not be surprising given the EFA results. The measurement items for adjusting require revision. The AVE values for queuing and adjusting are far below the .50 target while the AVE values for leveling and reshaping are close. Only the AVE value of creating ambiguity meets the standard. The factor loadings and their error terms are also examined. Items with a standardized factor loading below .60 and/or a high error term suggest that they are not accurate and precise measures for the construct and thus are dropped. As a result, Leveling1, Queuing\_Delay1, Queuing\_Delay2, Queuing\_Delay3, Queuing\_Delay4, Queuing\_Prioritize5, Reshaping2, Reshaping3, Reshaping4, Adjusting5, Creating\_Ambiguity3, and Creating\_Ambiguity7 are removed from the sender survey. Creating\_Ambiguity8 is also dropped to trim down the scale. This item is chosen because it reads like a shorter version of Creating\_Ambiguity2. The squared correlations between constructs are reported in Table B.10. All the constructs in the sender survey have an AVE value higher than the value of its square correlations with another construct, except adjusting. The AVE value of adjusting equals its squared correlation with reshaping. The results suggest that while leveling, queuing, reshaping, and creating ambiguity are unique constructs, adjusting is not distinguishable from reshaping. Major revisions of the adjusting items are needed.

As reported in Table B.9, the composite reliabilities of all the constructs in the receiver survey exceed .60, demonstrating internal consistency among items. The AVE values are all above the suggested .50 value. While all the factor loadings are greater than .60, some

information overload items are dropped based on the size of the error term to reduce the number of items in the scale. Information\_Overload1, Information\_Overload2, Information\_Overload3, and Information\_Overload5 are therefore dropped. All the constructs have an AVE value greater than their squared correlations with other constructs (see Table B.11). The results suggest that information overload, shared understanding, and absorptive capacity are distinct constructs.

**Conclusions.** Taken all the results together, the measurement items for leveling, queuing, reshaping, and adjusting still require further development and refinement. Among these constructs, queuing and adjusting are concerning because fewer than three items are acceptable measures for the constructs. It is also essential to add more items to measure leveling and reshaping so that there are at least three items representing the construct if some items do not perform well in another sample. Measurement items for creating ambiguity, information overload, shared understanding, and absorptive capacity show satisfactory results for measuring the constructs. Because most of the items in the sender survey fail to measure the constructs in the first pretest, another pretest is launched in an effort to develop new measurement items and to purify the items. The second pretest focuses on the constructs in the sender survey, including leveling, queuing, reshaping, adjusting, and creating ambiguity. In the next section, the methods employed in the second pretest will be described.

## **Pretest Two**

**Objective.** The goal of the second pretest is to develop new measurement items and analyze these items empirically. The first step was to conduct interviews with sales managers to develop new measurement items. These new measurement items, along with the items from Pretest One, were then included in the self-reported survey. Data were collected and analyzed following the procedures that were employed in Pretest One.

**Interviews.** The wordings of items may be different from how people usually describe strategic uses of information and this may explain why the items in Pretest One did not fully measure the construct. Because most items are generated from literature review, the wordings of the items may be removed from daily language. To address this issue, interviews with sales managers are conducted to help develop new items.

Four sales managers were recruited, all of which are field managers of a smartphone company. Their job responsibilities include visiting retail stores in their areas to promote their products, educate front line employees about their products, and gather information about the market. They are ideal candidates for this study because their job involves many interactions with people. Most importantly, strategic uses of information are often applied in their job to communicate effectively. Each individual interview lasted for between 30 and 45 minutes and the interviews were conducted by phone. Sales managers were asked with open questions about their interactions with front line employees and customers, including the approaches they use to make sure people fully comprehend what they communicate about their products at work. Respondents were encouraged to provide a lot of details and examples. The wordings that respondents used to describe their communication approaches were documented. By replicating the wordings that these sales managers used to describe their communication approaches, new items for leveling, queuing, reshaping, and adjusting were developed. These new items are analyzed empirically as described below.

**Sample and design.** The design of Pretest Two is identical to that of Pretest One. The pretest was conducted as a self-reported online survey. A group of 302 respondents were recruited from Mturk. To be qualified for the study, respondents were required to have working experience in the last two years. Respondents were asked to recall an event at work where they

had taught someone a task. They were asked to provide the first name of the person who they taught and briefly describe the task. The respondents then filled out the survey that contained items about strategic uses of information. The survey takes about ten minutes to complete and participation is anonymous. Each respondent was rewarded 55 cents for completion.

**Measures.** Similar to Pretest One, all constructs are measured by multi-item reflective scales. All the scale items are seven-point Likert-type, ranging from 1 (“strongly disagree”) to 7 (“strongly agree”). The measurement items in Pretest Two include items that were generated from the interviews as described previously and items that showed acceptable results in the statistical tests in Pretest One.

**Analysis and results.** The descriptive statistics of Pretest Two are shown in Table B.12. The pattern of missing data and the normality of the data are examined. Data appear to be missing at random. Some items are not distributed normally, as indicated by their z values of skewness and kurtosis being outside of the  $\pm 2.58$  range. Different kinds of transformations, including square root, log, and inverse transformations, are applied to normalize item distributions. Yet, the distributions of items either become less normal or more skewed as the kurtosis approaches that of a normal distribution after the transformation. Because none of the transformations appear to be appropriate, none are applied at the end.

The multivariate normality of items is assessed by calculating the Mahalanobis distances. Given 39 degrees of freedom, an observation with a Mahalanobis distance of 72.055 or above is considered a multivariate outlier ( $p = .001$ ). A total of 23 observations are multivariate outliers by this definition. An examination of the responses of these observations reveals that some gave bipolar answers on items that measure the same construct. Potentially, these respondents did not pay close attention to the questions. Because these respondents answered differently from the

rest of the respondents and their extreme responses may bias the results, these 23 observations are removed from the subsequent analysis. As the data is cleaned up, EFA and CFA are conducted to test the reliability and the validity of the measurement items.

***Exploratory factor analysis.*** An EFA is employed to identify the underlying relationships among the measurement items and to determine the number of constructs. Principal axis factoring with an oblique rotation was employed. As illustrated in Figure B.3 and reported in Table B.13, the scree plot, eigenvalues, and factor loadings suggest a six-factor solution. Items that capture the two dimensions of queuing, delaying and prioritizing, indicate two different constructs. A factor loading below .35 is considered as non-significant and should be removed (Hair et al., 1998). Therefore, Leveling9, Adjusting8, Adjusting11, and Adjusting12 are dropped. Items that load on two or more factors should also be eliminated. Since Adjusting10 loads on both adjusting and prioritizing, this item is removed.

Cronbach's alphas and item-to-total correlations were calculated and examined to evaluate the internal consistency of the measurement items. The results are summarized in Table B.14. The results show that all Cronbach's alphas are greater than .70, as recommended by Hair et al. (1998). All items have an item-to-total correlation above .50 except four items from leveling. These four items, including Leveling 10, Leveling11, Leveling12, and Leveling13, are removed. Overall, measurement items for leveling, queuing–delaying, queuing–prioritizing, reshaping, adjusting, and creating ambiguity have performed reasonably in the EFA test. CFA is then employed to further analyze the unidimensionality, reliability, and validity of the measurement items. The results of CFA are discussed below.

***Confirmatory factor analysis.*** The results of CFA are reported in Table B.15 and Table B.16. The model demonstrates a reasonable model fit ( $\chi^2_{(309)} = 691.12$ ,  $p \leq .00$ ; CFI = 0.96;

RMSEA = .064; SRMR = .069). All the fit indices pass the criteria outlined by Bagozzi & Yi (2012). All composite reliabilities exceed the value of .60, demonstrating internal consistency among items. Also, all AVEs are greater than the suggested .50 value and all factor loadings are greater than the .60 target (Bagozzi & Yi, 1988). These statistics suggest convergent validity among items. Lastly, the largest squared correlation between constructs is .372, far smaller than the AVE values of constructs, which demonstrates discriminant validity according to Fornell and Larcker (1981).

**Conclusion.** The results of the second pretest provide evidence for reliability and validity of measurement items. However, there are still two concerns. First, there were only three measurement items left for leveling. While three is the preferred minimum number of items to represent a construct, any validity issue with the items in the final study may result in two or fewer indicators and thus, increase the risk of getting an unidentified solution. Second, the values of AVEs for leveling, prioritizing, and adjusting were just slightly above the .50 suggested cut-off. Another pretest is therefore conducted to further develop and purify measurement items for the final study. Pretest Three is discussed below.

### **Pretest Three**

**Objective.** The third pretest aims to develop new measurement items for leveling, prioritizing, and adjusting as well as to refine the existing measurements. The addition of new measurement items ensures that there are enough valid measurement items for each construct in the final study.

**Sample and design.** The third pretest survey includes all the measurement items for strategic uses of information constructs that were tested to be valid and reliable in the second pretest. In addition, three items for leveling, one item for prioritizing, and two items for adjusting



were added in the pretest survey. This online survey followed the same design as the first and second pretest surveys. Respondents were asked to recall an event where they instructed someone at work to complete a task and then answered the survey questions with that event in mind. A total of 253 respondents responded to the survey on MTurk, each of which were compensated with 80 cents for completing the survey.

**Analysis and results.** The descriptive statistics of Pretest Three are reported in Table B.17. Inspection of the data suggests that missing data appears to be missing at random. The z values of skewness and/or kurtosis suggest that some items may not be distributed normally as these scores are outside the  $\pm 2.58$  range (Hair et al., 1998). The application of square root, log, and inverse transformations do not improve the distributions and so no transformations are applied.

Multivariate normality of the data is examined next. Based on the Mahalanobis Distance, twenty-one observations are considered multivariate outliers because their distances exceed 63.870, the critical value for 33 degrees of freedom ( $p = .001$ ) (Hair et al., 1998). These observations appear to give very different answers to questions about the same construct. Given that their answers may bias the results, their responses are removed from subsequent analysis. A total of 232 respondents are included in the subsequent analysis.

**Exploratory factor analysis.** EFA is conducted to detect the underlying relationships between items and inform the number of constructs. Principal axis factoring with oblique rotation is employed. The scree plot, factor loadings, and eigenvalues suggest a six-factor solution, as depicted in Figure B.4 and Table B.18. As shown in Table B.18, all the factor loadings have a value of .35 or above, meaning that items are reasonably correlated with the constructs (Hair et al., 1998). Leveling5 cross-loads on two constructs: leveling and prioritizing.

The item is kept because its loading on leveling is much stronger than its loading on prioritizing. Also, this item was demonstrated to be a reliable measurement for leveling in the two previous pretests.

Cronbach's alpha and item-to-correlation scores are calculated to evaluate the internal consistency of the measurement items. The results are reported in Table B.19. All the Cronbach's alphas are greater than the .70 recommended cutoff. Similarly, all the item-to-correlation scores pass the .50 suggested value (Hair et al., 1998). The results suggest that items demonstrate internal consistency. All the items are then analyzed under CFA, as described below.

**Confirmatory factor analysis.** The CFA results are summarized in Table B.20. The measurement model has a good fit with the data ( $\chi^2_{(480)} = 925.14$ ,  $p < .001$ , CFI = .96, RMSEA = .06, SRMR = .07). The results suggest that all the measurement items except one have moderately high to high factor loadings on their constructs. All the constructs have a value of AVE over .50 and the value of CR over .60 (Bagozzi & Yi, 1988). As reported in Table B.21, the results also suggest that all the AVEs are greater than the squared correlations between any two constructs (Fornell & Larcker, 1981).

**Conclusion.** The results suggest that the measurement items are unidimensional, valid, and reliable. These items are appropriate to use for the main study. Prior to the main study, the survey was tested in the pilot study as described below.

### **Pilot Study**

Prior to the main study, a pilot study was conducted to ensure that the final survey is easy to follow and the questions are clear. Four respondents from the hospitality industry and two respondents from the education industry were recruited. With the presence of the researcher,

respondents were asked to complete the main study survey and point out any survey questions that were confusing or difficult to answer. Based on the feedback of the respondents and the observation of the researcher, it was clear that respondents did not have any problems in completing the survey. The survey is easy to follow and the questions are simple to understand. No changes were made to the survey and it was later used for the main study. The details of the main study are explained in the next section.

### **Conclusion**

In this chapter, a series of item generation methods and pretests are discussed. Items are generated and purified with the use of both qualitative and quantitative approaches. New items for leveling, delaying, prioritizing, reshaping, adjusting, creating ambiguity, information overload, shared understanding, and absorptive capacity are developed. The statistical results show evidence that these measurement items are valid and reliable in capturing the constructs. A pilot study was performed to ensure that the design of the survey is easy to follow. Given confidence in the validity of measurement items and the design of the survey, the survey is used in main study. The methods of the main study are described in the next chapter.

## **CHAPTER 5**

### **METHOD - SAMPLE AND MEASUREMENT**

#### **Introduction**

The goal of the main study is to empirically test the conceptual model in business contexts. The sample and measurement items of the main study will be described in this chapter. The first section of this chapter will discuss the sample of the study, design of the survey, and the steps that are taken to detect nonresponse bias and common method bias. The second section of this chapter focuses on the measurement items that are included in the main study. The discussion will cover the measurement items for each construct and the validity of the measurement items.

#### **The Sample**

To evaluate the proposed conceptual model, survey data are collected from salespeople. The following discussion will explain the selection of the study population, the unit of analysis, the design of the survey, the process of data collection, and the analysis of nonresponse and common method biases.

#### **Study Population**

Because this research focuses on communication, the proposed model is relevant to describing various types of marketing channel relationships. Marketing channels relationships that involve communication provide appropriate contexts to test the hypothesized model of this study. In previous literature, communication in marketing channels has been studied under a wide range of contexts with respondents of different marketing roles, including manufacturer (e.g., Doney & Cannon, 1997), distributor (e.g., Frazier et al., 2009), retailer (e.g., Jia, Cai, &

Xu, 2014), franchisor (e.g., Mohr et al., 1996), independent dealers (e.g., Sezen & Yilmaz, 2007), and salespeople (e.g., Bell, Mengüç, & Widing, 2010).

In this dissertation study, the target population is salespeople. Salespeople are selected because research has shown that the communication of sales managers has an important direct impact on salespeople performance (Johlke, Duhan, Howell, & Wilkes, 2000). The sales manager's communication on salesperson performance is likely to have a robust correlation, which provides the best chance for the hypothesized relationships to be observed. A recent study found that salespeople believe that communication is the most important skill that sales managers possess (Darnell Corporation, 1999 cited in Johlke et al., 2000). The results of this research will inform managerial practices on effective communication to enhance performance of salespeople.

While the target sample of this study is salespeople, the proposed model is believed to be generalizable to other marketing contexts. A stream of marketing channels research has suggested that channel communication has a crucial impact on channel performance and this relationship has been observed under different industries and marketing relationships (e.g., Fisher et al., 1997; Frazier et al., 2009). Strategic uses of information are expected to be applicable and useful to channel members of different functions and industries.

### **Unit of Analysis and Research Design**

The unit of analysis of this research is the relationship between a sales manager's communication and the corresponding salesperson's performance. The study focuses on the salesperson's perceptions of his/her sales manager's strategic uses of information on a specific work task and the salesperson's performance on that task. While dyadic data from sampling both sales manager and salespeople would be ideal, the attempt to collect data from dyads has been

unsuccessful. Given the time and budget constraints, this study only focuses on one side of the dyad.

A self-reported online survey is designed for salespeople to complete (see Appendix C). The format of the online survey resembles that of the pretest surveys. Early in the survey, respondents are asked to recall a recent work task that their sales managers had asked them to complete. The respondent then must write down the name of his/her sales manager and briefly describe that recent task. With that recent task in their minds, respondents answer questions about how their sales managers communicate that task and the outcomes of that task. The survey contains screener questions at the beginning to make sure that respondents currently work in sales under a sales manager.

### **Data Collection**

The Qualtrics panel service was employed to recruit salespeople and distribute the online survey. The Qualtrics panel service has been widely used in academic studies and some of these studies have been published in top marketing journals (e.g., Hagtvedt, 2011). Because Qualtrics only recruits their panel by invitation, this ensures the quality of the sample and gives confidence that people who take the survey are actually salespeople. The target sample size is 250 to ensure that there is enough statistical power to reject the false null in the analysis (Bagozzi & Yi, 1988, 2012). The study is conducted as a self-reported online survey and participation is anonymous. Qualtrics charges six dollars for each completed response.

A group of 263 salespeople from the Qualtrics panel responded to the survey. The description of the characteristics of the respondents and their companies are summarized in Table D.1 and Table D.2. Of the 263 respondents, 134 of them are male. The median age range of respondents is between 35 and 40. About half of the respondent have a college degree or

above, and most of the respondents hold the position of in-store sales representative. These respondents are from companies of various sizes and in a variety of industries. Companies of respondents offer durable goods, nondurable goods, and/or services and most of them sell to individual and household customers.

### **Nonresponse and Common Method Biases**

Because the information about the number and the characteristics of the salespeople in Qualtrics panel is unavailable, the response rate of the survey and the comparison between responding and nonresponding salespeople cannot be evaluated. Nonresponse bias is estimated by comparing the early and late respondents following the procedure outlined by Armstrong and Overton (1977). Armstrong and Overton (1977) argue that late respondents are likely to share more similar characteristics with people who do not respond to the survey than the early respondents. A t-test of two independent samples is conducted with both the assumptions of equal variance and non-equal variance. The results suggest that the early and late respondents are no different in terms of their gender, age, education level, and the type of customer they serve. However, late respondents work in companies with more employees ( $t = 3.231, p \leq .05$ ) and a higher annual sales revenue ( $t = 3.608, p \leq .05$ ). Based on the results, nonresponse bias does not appear to be a concern.

Common method bias can threaten the validity of the study because data are reported by a single informant. To reduce the potential threat to validity, the design of the survey follows the procedures recommended by Podsakoff, MacKenzie, Lee, and Podsakoff (2003). First, the participation of the online survey is anonymous. This can reduce social desirability bias where respondents choose answers that are more acceptable by the others. Second, the use of negatively worded items is avoided in the survey questions. Negatively worded items may generate

artificial responses that do not exist if questions were asked with positive wordings and create bias. Third, items of different constructs are intermixed in the survey questions to avoid consistency bias because respondents try to maintain consistency in their answers.

Besides minimizing the threat of common method bias through the survey design, two post hoc analyses are conducted to ensure that the bias does not present a problem to the study. First, a Harman's single-factor test is employed where all the items of interest are analyzed under an EFA (Podsakoff et al., 2003). The results suggest that the variances are explained by numerous factors and the first factor only accounts for 24.95% of the total variance. A CFA is also performed where all the items are modeled as the indicators of a single factor. The model fits the data poorly ( $\chi^2_{(1952)} = 10331.91$ ,  $p \leq .00$ ; CFI = 0.83; RMSEA = .24; SRMR = .21), suggesting that variances in the items are not explained by a single factor.

Second, Lindell and Whitney (2001)'s method is employed to detect common method variance. Lindell and Whitney (2001) propose that the presence of common method variance should have a constant effect on all observed items and the smallest correlation between items is a reasonable proxy for common method variance. Correlation between items should be common-method-variance-adjusted to determine if their statistical significances still hold after the adjustment. To be conservative, the second smallest correlation is used to partial out the effect of common method variance (Lindell & Whitney, 2001). In this case, the second smallest correlation between items is .000856. The results suggest that the statistical significances of correlations remain unchanged after the adjustment. Collectively, common method bias is unlikely to represent a threat to the validity of this study.



## Measurement

In this section, the measurements items that are applied in the survey are introduced. The operational definitions of constructs and the descriptions of the indicators will be discussed. Statistical analyses are employed to analyze the validity of the measurement items. The results of these analyses will be described.

### Measurement Items

The measurement items included in the survey are either adapted from existing measures or newly developed as discussed in the previous section. All the measurements are reflective items that are measured on a seven-point Likert-type scale, ranging from 1 (“strongly disagree”) to 7 (“strongly agree”) except for the control variables. Measurement items are summarized in Table D.3.

**Strategic uses of information.** The operational definitions for strategic uses of information are revised to fit in the context and design of the study. *Leveling* is the degree to which the salesperson perceives that the sales manager reduces the details while keeping all the meaning of a message. *Delaying* is the degree to which the salesperson thinks that the sales manager waits to share the information until he/she is available. *Prioritizing* is the degree to which the salesperson perceives that the sales manager shares only a portion of information at a time. *Reshaping* is the degree to which the salesperson perceives that the sales manager modifies a message with the consideration of his/her feeling of anxiousness. *Adjusting* is the degree to which the salesperson believes that the sales manager modifies a message based on his/her background. Lastly, *creating ambiguity* is the degree to which the salesperson perceives that the sales manager creates a message that allows for more than one interpretation.

All the measurement items for strategic uses of information are slightly revised so that the strategies are described from the salesperson's point of view and all the items make sense to the respondents. Measurement items for strategic uses of information have been developed under three pretests and their validity and reliability have been demonstrated as discussed in the Pretests section. A new item for leveling, leveling17, is added in the survey after the third pretest. This effort is to ensure that there are enough indicators to measure the construct even if some items are removed in the purification process.

**Information overload.** The operational definition of information overload is the degree to which the salesperson perceives that the mental resources that are required to process the task information from the sales manager exceed the amount of mental resources available to him/her. A total of nine items are used to capture the constructs. Three measurement items are newly developed and six items are adapted from Hunter and Goebel (2008). The newly developed items capture the feeling of being overwhelmed by information while the items from Hunter and Goebel (2008) measure the negative emotion and the mistakes that are caused by information overload. The results from the first pretest suggest that all nine items are valid measures of the construct.

**Shared understanding.** Shared understanding is operationalized as the degree to which the salesperson perceives that he/she shares a mutual interpretation and meaning of the task with the sales manager (Duncan & Moriarty, 1998). The construct is measured by five measurement items. The items capture the degree of common understanding between the respondents and their sales managers on what the task is, how the task should be completed, and the respondent's role in the task.

**Coordination.** Coordination is the salesperson's evaluation of the degree to which the task activities of the salesperson and the sales manager are well-organized and synchronized (Gultinan et al., 1980). Four measurement items are adapted from existing measures including items from Gultinan et al. (1980), Jap (1999), and Mohr et al. (1996). These items capture how well the sales manager and salesperson work together to complete the task.

**Compliance.** Compliance is the salesperson's perception of the degree to which he/she adopts the sales manager's instructions of the task (Dahlstrom & Nygaard, 1999). Four items are adapted from Kashyap, Antia, and Frazier (2012) to capture this construct. The items capture the salesperson's compliance of the instruction of the sales manager and his/her effort to follow the guidelines closely.

**Conflict.** Conflict is operationalized as the degree of expressed disagreements between the salesperson and the sales manager over the task (Brown & Day, 1981). Five items are included to measure the construct. These items are adapted from Brown and Day (1981) and Mohr et al. (1996). They capture the disagreement and tension between the salesperson and the sales manager on how to approach the task.

**Absorptive capacity.** Absorptive capacity is the receiver's perception about his/her ability to value, assimilate, and apply new information to complete the task successfully (Cohen & Levinthal, 1990). Five items were used to capture the construct. These measures are adapted from Lane et al. (2001), Park et al. (2007), and Szulanski (1996). The items capture the salesperson's general ability to understand the task instructions and complete the task successfully. These items are analyzed in the first pretest and appear to be valid and reliable.

**Control variables.** Control variables are included in the estimation of information overload to account for the heterogeneity of the sample. All the control variables are measured

by single indicators. Number of employees and annual sales revenue are included to represent the size of the company at which the salesperson works. The number of employees is classified into six categories while the annual sales revenue is grouped into five categories as shown in Table D.2. The degree to which the salesperson sells durable goods, non-durable goods, and services are measured by 5-point Likert type scales from 1 (Never) to 5 (Always) to account for the difference of industry type. The gender of the respondents is also incorporated in the estimation.

Except for the control variables, the measurement items mentioned above are analyzed using EFA and CFA to assess their validity and reliability. The next section will discuss the methods and results.

### **Measurement Validation**

In this section, the discussion will focus on analyzing the validity of the measurement items. The descriptive statistics of the items for the main study are summarized in Table D.3. The correlations of the constructs are reported in Table D.4. Like the pretests, these measurement items are evaluated using EFA and CFA.

Prior to these analyses, several steps were taken to examine the data. First, missing data were examined and they appear to be missing at random. Second, the z values of skewness and kurtosis reveal that some measurement items are not normally distributed. However, transformations did not improve the normality of these items and so none were applied. Lastly, the Mahalanobis distance for each observation was calculated to detect multivariate outliers. Given 65 degrees of freedom, 19 observations have a Mahalanobis distance exceeding 105.988 and thus are defined as multivariate outliers (Hair et al., 1998). These 19 respondents appear to give bipolar answers to items that measure the same construct, which may be an indication that

they did not pay close attention to the questions. Because these respondents give inconsistent answers and their answers may bias the results, these respondents are excluded from the subsequent analysis. A total of 244 respondents are included in the subsequent analyses.

**Exploratory factor analysis.** EFA is conducted to provide information about the underlying relationships between items and the number of constructs. Principal axis factoring with oblique rotation is employed. The analyses are performed separately for independent variables and dependent variables. The scree plot and results of the EFA for the independent variables are depicted in Figure D.1 and Table D.5, respectively. The eigenvalues and factor loadings suggest a seven-factor solution. As reported in Table D.5, all the items loaded on the constructs as expected except Leveling17. Leveling17 is therefore removed. All the factor loadings exceed the suggested value of .35 and only load significantly on one construct (Hair et al., 1998). This suggests that items have a reasonable correlation with its construct. The internal consistency of items for independent variables is reported in Table D.6. All the Cronbach's alphas reach the recommended value of .70 (Hair et al., 1998). One item-to-total correlation is below the suggested cutoff of .50 and that item is removed from the study (Hair et al., 1998). Overall, the EFA results suggest that the measurement items for independent variables are consistent and reliable measures in representing the constructs.

Another EFA is conducted to examine the measurement items for the dependent variables. The scree plot and results of EFA for dependent variable items are reported in Figure D.2 and Table D.7. Based on the eigenvalues, scree plot, and factor loadings, a three-factor solution emerges, deviating from the expected five-factor solution. Items for information overload and conflict both loaded strongly on the same factor. The factor loadings for information overload are between .770 and .920 and factor loadings for conflict are between .756

and .864. Also, items for shared understanding and compliance are both contributing to the same factor with moderately high factor loadings. The factor loadings for shared understanding ranged from .453 to .695 while the loadings for compliance are in the range of .489 to .631. Items for shared understanding are also loading on another factor with relatively weak factor loadings of .093 to .372. Only items for coordination perform as expected.

The design of the survey may have caused the convergence of items of different constructs. Items for the dependent variables are all grouped in the same section in the survey and are mixed to reduce consistency bias, as described in the common method bias section. As Podsakoff et al. (2003) have warned, while the practice of mixing items may reduce bias, it often increases the inter-construct correlations and reduces the intra-construct correlations. When respondents were completing the survey, they might comprehend items for information overload and conflict as something negative and give similar answers to these negative ideas. The same issue might have happened to shared understanding and compliance, where respondents might understand the items of these two constructs as the same idea of recognizing the instructions of their managers. The concern of Podsakoff et al. (2003) appears to be true in this study even though all items in the study have either been purified through the pretest or adapted from well-established measurements. Some items are not performing as well as they had in the pretest or previous studies. For example, items for shared understanding have shown to be reliable measurements in the EFA of the first pretest with the lowest factor loading of .784 (see Table B.5). Yet, the highest factor loading of items for shared understanding in the main study is only .695.

Looking at the internal consistency of the items, the results are acceptable as described in Table D.8. Cronbach's alphas are between the values of .726 and .958. Most items have an item-

to-total correlation over the recommended .50 value, except Compliance3 (.406) and Compliance1 (.471). Compliance3 is dropped from the study while Compliance1 is retained because the value is close to the cutoff. In sum, only coordination performs as expected. The EFA results for the dependent variables suggest that information overload and conflict are not distinguishable from one another. Shared understanding and compliance also cannot be differentiated from each other. A correlation analysis is conducted as an exploratory study to understand the correlations of items of information overload, conflict, shared understanding, and compliance.

**Correlation Analysis.** To further investigate the relationships between the measurement items for information overload and conflict as well as shared understanding and compliance, the inter-item correlations for these two pairs of constructs are calculated. The results are reported in Table D.9 and Table D.10, respectively.

As shown in Table D.9, the intra-item correlations for information overload do not appear to be any stronger than the inter-item correlations between information overload and conflict. Similarly, the strengths of the intra-item correlations for conflict seem to be no different than that of the inter-item correlations between information overload and conflict. Items for Information\_Overload4, Information\_Overload5, Information\_Overload\_Affective1, and Information\_Overload\_Affective2 do appear to have stronger correlations among themselves compared to the other correlations. No intra-item correlations for conflict seem to be stronger than the other associations, but Conflict1, Conflict3 and Conflict5 appear to be more highly correlated among themselves than with the other two conflict items. Based on the correlations, it is hard to tell why the items are highly correlated. The speculation prior to the analysis was that conflict might be highly correlated with the error dimension of information overload. Making

errors as a result of receiving too much information may directly obstruct the goals of the sales manager and salesperson to achieve desirable work performance. Yet, the item correlations between conflict and the error dimension of information overload do not appear to have stronger correlations than the others, which means the theory is not supported.

As reported in Table D.10, all the intra-item correlations for shared understanding appear to be much stronger than the inter-item correlations between shared understanding and compliance. Among the intra-item correlations, Shared\_Understanding1, Shared\_Understanding2, and Shared\_Understanding4 appear to have the strongest correlations. In contrast, the intra-item correlations for compliance appear to be weaker than the inter-item correlations. Overall, the results suggest that items for shared understanding demonstrate some degree of discriminant validity, but items for compliance do not.

The EFA and correlation analysis provide information about the reliability and validity of the measurement items. All the items are retained to be further examined in CFA. The results of the CFA are described as below.

**Confirmatory factor analysis.** CFA is performed to evaluate the unidimensionality and validity of the measurement items. Items for independent variables and dependent variables are grouped separately and tested under two CFAs. The results of the CFA for independent variables are summarized in Table D.11. The model demonstrates a satisfactory fit to the data ( $\chi^2_{(573)} = 1022.03$ ,  $p \leq .00$ , CFI = 0.97, RMSEA = .058, SRMR = .069). The values of the fit indices passed the criteria outlined by Bagozzi and Yi (2012), suggesting that the measurement items are unidimensional. Convergent validity is also observed in the measurement items. All the factor loadings are .60 or above, except Leveling15, which is removed from the study. All the constructs have a AVE value exceeds the recommended floor of .50, except leveling (Bagozzi &



Yi, 1988). However, the AVE value of leveling (.49) is just slightly below the cutoff. All the composite reliabilities are above .60, which suggests that items are internally consistent (Bagozzi & Yi, 1988). As reported in Table D.12, all the squared correlations between independent variables are smaller than the AVE values of the variables. Discriminant validity of measurement items is achieved (Fornell & Larcker, 1981). To summarize, the CFA results show evidence that all the measurement items for independent variables are unidimensional, reliable, and valid.

The CFA results for dependent variables are reported in Table D.13. The model provides a reasonable fit with the data ( $\chi^2_{(314)} = 900.58$ ,  $p \leq .00$ , CFI = .96, RMSEA = .094, SRMR = .059). While the values of CFI and SRMR satisfy the suggested criteria, RMSEA is greater than the recommended value of .07 (Bagozzi & Yi, 2012). The examination of convergent validity shows that all AVEs exceed the proposed value of .50 and all the factor loadings are greater than the recommended value of .60 (Bagozzi & Yi, 1988). Also, all the composite reliabilities have a value of .60 or above (Bagozzi & Yi, 1988). While items seem to perform reasonably based on the above indices, the squared correlations between constructs reflect the problems in the measurement items.

In Table D.14, the squared correlation of information overload and conflict (.883) is greater than the AVE values of information overload (.71) and conflict (.64). Similarly, the squared correlation of shared understanding and compliance (.774) is larger than their AVE values (.60 for shared understanding and .50 for compliance). The squared correlation between shared understanding and coordination (.656) is also larger than the AVE value of shared understanding (.60). According to Fornell and Larcker (1981), measurement items for information overload, conflict, shared understanding, and compliance lack discriminant validity.

The discriminant validity of these constructs is also examined through the procedures outlined by Anderson and Gerbing (1988). Two constructs are examined at a time. Two models are developed where one has the covariance of the two constructs constrained to one and the other has the covariance freely estimated. A chi-square difference test is conducted to compare the models. Discriminant validity is achieved when the model with unconstrained variance has a significantly smaller chi-square. A change of 3.84 in chi-square value or greater is considered as significant for the difference of one degree of freedom.

The discriminant validity of information overload and conflict is evaluated. The model that constrains the covariance has 77 degrees of freedom and a chi-square value of 485.14 while the unconstrained model has 76 degrees of freedom and a chi-square value of 433.94. The difference in chi-square value (i.e., 51.2) is significant which suggests discriminant validity between information overload and conflict. Shared understanding and compliance are also examined. The constrained model has 27 degrees of freedom with a chi-square value of 63.75, whereas the unconstrained model has 26 degrees of freedom with a chi-square value of 42.94. The difference in chi-square value is significant (i.e., 20.81), meaning that shared understanding and compliance are distinct measurements.

To sum up, measurement items for dependent variables demonstrate some degrees of unidimensionality, validity, and reliability. Some pairs of constructs fail the requirement described in Fornell and Larcker (1981), but they all satisfy the criteria for discriminant validity stated by Anderson and Gerbing (1988). Given that there may still be concern about the discriminant validity of the constructs, an alternative model will be evaluated to check the robustness of the findings. The alternative model will exclude conflict and compliance. The alternative model will be compared with the hypothesized model to determine if the results still

hold. In the following chapter, the hypothesized model and the alternative model will be evaluated. The methods and the results of the analyses will be discussed.

## **CHAPTER 6**

### **STRUCTURAL MODEL**

This chapter will continue to examine the survey data collected from 244 salespeople. Specifically, this chapter will investigate the fit between the observed data and the model hypothesized in Chapter Three. The results of the hypotheses will be discussed. As mentioned in the previous chapter, because items for conflict and compliance fail to achieve discriminant validity, an alternative model without these two constructs will be tested to determine if the results from the original model still hold.

#### **Hypothesized Model**

##### **Model Specification**

The hypothesized model proposed in Chapter Three is evaluated through structural equation modeling (SEM) with LISREL 8.8 (see Figure 3.1). In the model, there are thirteen exogenous variables: six constructs of strategic uses of information constructs, one construct of absorptive capacity, and six interaction terms of absorptive capacity and strategic uses of information. Five endogenous variables, including information overload, shared understanding, coordination, compliance, and conflict are modeled. SEM has several advantages over multiple regression analysis (Hair et al., 1998). First, SEM allows for the simultaneous estimation of multiple separate but interdependent equations. SEM evaluates the conceptual model as a whole and provides information about the effects of constructs. Second, SEM accounts for measurement error and generates more accurate coefficient estimates.

Note that all the interaction terms of absorptive capacity and strategic uses of information are created using the residual-centered approach via orthogonalizing processes (Hair, Hult, Ringle, & Sarstedt, 2016; Little, 2006). According to Little (2006), the residual-centered

approach via the orthogonalizing process has two benefits over the mean-centered approach. First, the regression coefficients for orthogonalized product terms are stable. The inclusion of products term does not change the estimates for the latent main effects. Second, orthogonality via residual centering ensures full independence between the product terms and main effect variables. The mean-centered approach reduces the collinearity but does not completely eliminate the problems of collinearity among predictors. Residual centering solves this problem.

Product terms are calculated by multiplying an item of absorptive capacity with an item from one of the strategic uses of information constructs. For example, with five items measuring absorptive capacity and four items measuring leveling, a total of 20 products terms are created for the interaction between absorptive capacity and leveling. These products terms are then regressed on all the measurement items for absorptive capacity and leveling in linear equations. The residual terms of these equations become the indicators for the interaction. In this case, there are 20 indicators for the absorptive capacity-leveling interaction. To reduce the number of parameters, all the residual-centered indicators of an interaction relationship are aggregated to form a composite variable. A total of six interaction terms are included in the hypothesized model.

A covariance matrix of 74 observed variables are created to estimate the hypothesized model. The hypothesized model is comprised of 19 exogenous latent variables including the hypothesized predicting variables: leveling (represented by four items), delaying (five items), prioritizing (five items), reshaping (six items), adjusting (six items), creating ambiguity (five items), absorptive capacity (five items), and the six interactions terms mentioned previously (six items). Control variables, which represent the company size, industry type, and gender of the respondents, are also included. More specifically, the number of employees and the annual sales

revenue of the respondent's company, the degree to which the company is in durable goods, non-durable goods, and/or services industries, and the respondent's gender (six items) are included in the model. All 19 exogenous variables are set to covary with each other. Variances of exogenous variables with more than one indicator are fixed to one such that all the factor loadings can be estimated. The factor loadings of single indicators are fixed to one. The error variances for the interaction terms are set as  $(1 - \text{reliability}) * \text{variance}$  while the error variances for the control variables (e.g. gender) are set as zero. Both the lambda X matrix and the theta delta matrix contain 36 estimates while the phi matrix consists of 183 estimates.

In addition, the hypothesized model is constructed by five exogenous variables, including information overload (represented by nine items), shared understanding (five items), coordination (four items), compliance (three items), and conflict (five items). The factor loadings of the first indicators of the endogenous variables are set to one. The lambda Y matrix contains 21 estimates, the psi matrix includes five estimates, and the theta epsilon matrix is comprised of 26 estimates.

For the structural relationships among the constructs, all 19 exogenous variables are hypothesized as antecedents of information overload. Information overload is modeled to predict shared understanding and shared understanding is the cause of coordination, compliance, and conflict. The gamma matrix consists of 19 estimates while the beta matrix is comprised of four estimates. The following section focuses on the model fit and the structural paths (i.e., gamma and beta matrices) of the model, as summarized in Table 6.1. The phi matrix and the psi matrix are reported in Table D.15 and Table D.16.

## Overall Model Fit

The overall fit of the model is evaluated based on the criteria outlined in the previous chapter. As described in Table 6.1, the chi-square value of the model is 4916.51 with 2445 degrees of freedom ( $p \leq .00$ ). The scores of CFI and RMSEA are .95 and .058 respectively. These two indices suggest that the hypothesized model has a reasonable fit with the data (Bagozzi & Yi, 2012). However, the SRMR has a value of .18, which is much higher than the .07 suggested value. The high SRMR score should not be surprising given that items of information overload and conflict as well as shared understanding and compliance are highly correlated. Indeed, the modification indices recommend adding the correlation paths of error terms between the items of these two pairs of constructs to improve the model fit.

Squared multiple correlations (SMC) reflect the explained variances of the endogenous variables. The variances of information overload, coordination, and compliance are reasonably explained in the estimation (0.49, 0.66, and 0.81 respectively). However, large portions of variances in shared understanding and conflict are not being explained (SMC: 0.02 and 0.05 respectively). The results may be affected by the strong correlations between some constructs. An additional model will be included where conflict and compliance are removed from the model to determine if the SMCs will change and the results of the current model will still hold.

## Results

**Antecedents of information overload.** In the first hypothesis, the applications of the strategic uses of information are predicted to reduce the level of information overload. Among all six strategic uses of information, only delaying ( $\gamma = 0.14$ ,  $p \leq 0.10$ )<sup>1</sup> and prioritizing ( $\gamma = 0.49$ ,

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<sup>1</sup> Because this research is a preliminary attempt to empirically evaluate the effect of different strategic ways of communication on information overload, a less stringent significance level ( $p = .10$ ) is applied to detect potential effects of the strategies. A significance level of .10 means that the probability of rejecting a true null hypothesis is 10% or below.

**Table 6.1 Hypothesized Model Results**

<b>Overall Model Fit</b>											
$\chi^2_{(2445)} = 4916.51, p \leq .00; CFI = 0.95; RMSEA = .058; SRMR = .18; AIC = 5103.14$											
		<b>Dependent Variables</b>									
<b>Hypo thesis</b>	<b>Independent Variables</b>	<b>Information Overload</b>		<b>Shared Understanding</b>		<b>Coordination</b>		<b>Compliance</b>		<b>Conflict</b>	
		Std. Coeff.	t-value	Std. Coeff.	t-value	Std. Coeff.	t-value	Std. Coeff.	t-value	Std. Coeff.	t-value
H1a	Leveling	-0.13	-0.83								
H1b	Delaying	0.14 <sup>b</sup>	1.74								
H1b	Prioritizing	0.49 <sup>a</sup>	3.62								
H1c	Reshaping	-0.10	-0.98								
H1d	Adjusting	-0.03	-0.22								
H1e	Creating Ambiguity	0.03	0.31								
<u>H2</u>	Information Overload			-0.14 <sup>a</sup>	-2.05						
<u>H3a-c</u>	Shared Understanding					0.82 <sup>a</sup>	11.50	0.90 <sup>a</sup>	7.88	-0.22 <sup>a</sup>	-3.23
	Absorptive Capacity (AC)	-0.24 <sup>a</sup>	-2.94								
H4	Leveling*AC	0.17	1.47								
	Delaying*AC	-0.15 <sup>b</sup>	-1.89								
	Prioritizing*AC	-0.13	-1.04								
	Reshaping*AC	0.06	0.58								
	Adjusting*AC	-0.09	-0.93								
	Creating ambiguity*AC	-0.05	-0.58								

Note: Supported hypotheses are underlined. <sup>a</sup> p ≤ 0.05; <sup>b</sup> p ≤ 0.10.



(Continue) Table 6.1 Hypothesized Model Results

Hypothesis	Independent Variables	Dependent Variables									
		Information Overload		Shared Understanding		Coordination		Compliance		Conflict	
		Std. Coeff.	t-value	Std. Coeff.	t-value	Std. Coeff.	t-value	Std. Coeff.	t-value	Std. Coeff.	t-value
<b>Control Variables</b>											
	Number of Employees	0.08	1.21								
	Annual Sales Revenue	-0.05	-0.80								
	Durable Goods	0.05	0.78								
	Non-durable Goods	0.19 <sup>a</sup>	3.40								
	Services	0.17 <sup>a</sup>	3.11								
	Gender	0.00	0.06								
	Squared Multiple Correlation	0.49		0.02		0.66		0.81		0.05	

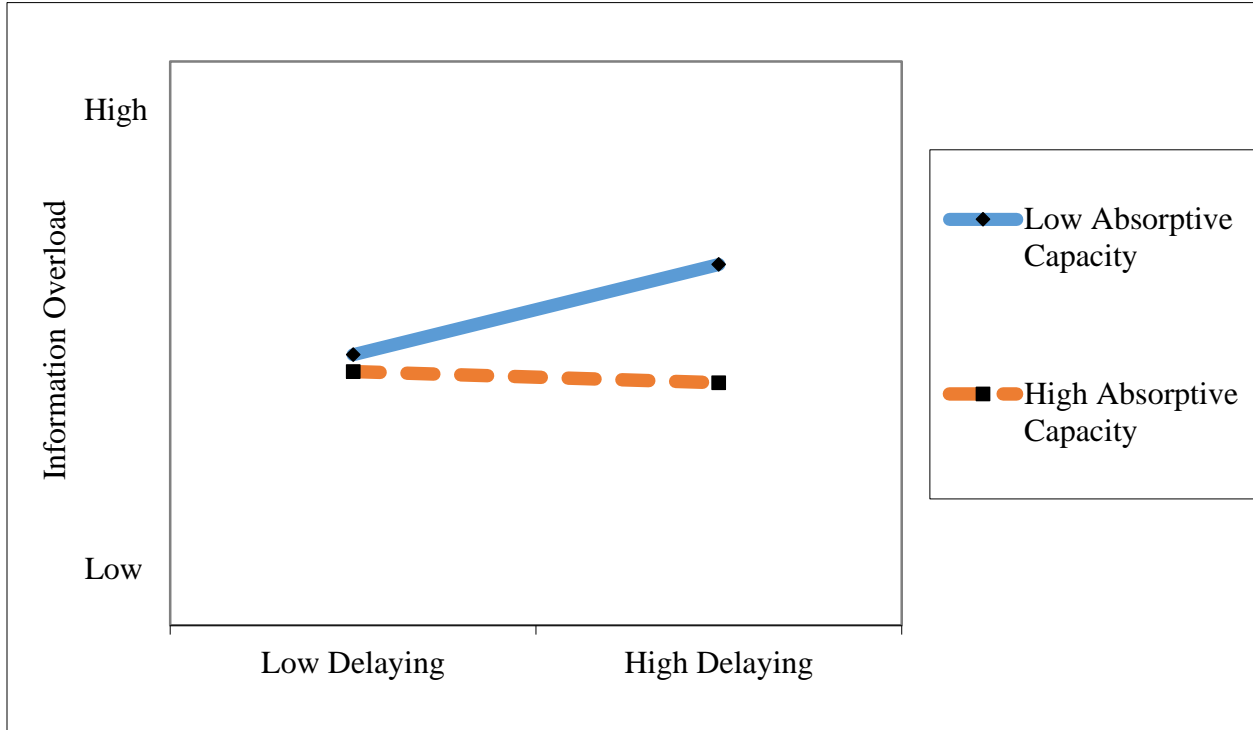
<sup>a</sup>  $p \leq 0.05$ ; <sup>b</sup>  $p \leq 0.10$ .

$p \leq 0.05$ ) are significant predictors for information overload. However, the signs of the relationships go against expectations. The uses of delaying and prioritizing increase, instead of reduce, information overload.

**Outcomes of information overload.** In the second hypothesis, information overload is proposed to undermine shared understanding. This negative relationship between the constructs is observed ( $\beta = -0.14$ ,  $p \leq 0.05$ ) and thus H2 is supported. Shared understand is hypothesized to enhance coordination and compliance while reducing conflict as described in H3a, H3b, and H3c. All three relationships are statistically significant in the predicted directions ( $\beta = 0.82, 0.90, -0.22$ , respectively, all  $p \leq 0.05$ ). H3a, H3b, and H3c are supported.

**Moderator of information overload.** Absorptive capacity has a negative significant effect on information overload ( $\gamma = -0.24$ ,  $p \leq 0.05$ ). The more capable the receiver is in utilizing new information, the less information overload he/she perceives. In the fourth hypothesis, high absorptive capacity of the receiver is argued to weaken the relationship of strategic uses of information on information overload. The interactions are represented by the product terms of absorptive capacity and the strategies. Only the interaction between delaying and absorptive capacity is significant ( $\gamma = -0.15$ ,  $p \leq 0.10$ ). The effect of the interaction term on information overload is graphed in Figure 6.1. As illustrated in the graph, a receiver with low absorptive capacity feels more overloaded with information when the sender employs the delaying strategy. In contrast, a receiver with high absorptive capacity perceives less information overload when the delaying strategy is applied. The results contradict the prediction. Thus, H4 is not supported.

**Figure 6.1 The Interaction between Absorptive Capacity and Delaying**



**Control variables.** Industry type appears to affect information overload. The degree to which the respondents sell non-durable products and services has a positive significant impact on information overload ( $\gamma = 0.19$  and  $0.17$ ,  $p \leq 0.05$ ). Respondents who are in non-durable products and/or services industries are more likely to feel overloaded by information. Other control variables, including the number of employees, annual sales revenue, and gender, do not have an effect on information overload.

**Mediation effect of information overload.** The mediation effects of information overload are examined. Among all the strategic uses of information, only prioritizing has a significant indirect influence on shared understanding ( $\gamma = -0.07$ ,  $p \leq 0.10$ ). The negative indirect effect suggests that prioritizing increases information overload while information overload reduces shared understanding. Information overload also mediates the effect of absorptive capacity on shared understanding ( $\gamma = 0.03$ ,  $p \leq 0.10$ ). Absorptive capacity enhances shared

understanding by undermining information overload. For control variables, non-durable goods and services have negative impacts on shared understanding ( $\gamma = -0.02$  and  $-0.01$ , both  $p \leq 0.10$ ). These two industry types are associated with increased information overload, and information overload weakens shared understanding.

**Mediation effect of shared understanding.** Shared understanding mediates the path between information overload and the channel outcomes. Information overload has a negative impact on both coordination and compliance ( $\beta = -0.11$  and  $-0.13$ , both  $p \leq 0.05$ ). Information overload undermines shared understanding and, consequently, coordination and compliance. The indirect effect between information overload and conflict is positive ( $\beta = 0.03$ ,  $p \leq 0.10$ ). Information overload intensifies conflict by reducing shared understanding.

**Summary.** To conclude, the hypothesized model shows an acceptable fit with the data. The findings suggest that H1 and H4 are not supported while H2 and H3 are supported. In the following sections, an alternative model will be examined and the results will be discussed.

### **Alternative Model**

To check the robustness of the findings that are discussed previously, an alternative model without conflict and compliance is estimated. An alternative model is constructed because of the concern of measurement validity, as described in the previous chapter. Two pairs of constructs, information overload and conflict as well as shared understanding and compliance, do not meet the Fornell and Larcker (1981) criteria for discriminant validity, although these constructs are considered as distinguishable by Anderson and Gerbing (1988)'s standard. Because imperfect measurements may bias the results of the hypothesized model, the estimation of structural model without the problematic constructs is necessary. Specifically, one construct from each problematic pair of constructs is removed. The measurement and structural paths of

conflict and compliance are removed from the estimation. The following section will discuss the results of the alternative model and compare the results with that of the hypothesized model.

### **Overall Model Fit**

The results of the alternative model are reported in Table 6.2. The model has a chi-square value of 3398.39 and a degree of freedom of 1899 ( $p \leq .00$ ). The CFI value is .96 and the RMSEA value is .053, which meets the suggested criteria. However, the score of SRMR is .15, which is greater than the suggested .07 cutoff. While the CFI and RMSEA scores show that the model has a decent fit with the data, the SRMR value suggests the opposite. This model fit of the alternative model resembles the model fit of the hypothesized model. Like the hypothesized model, the explained variance of shared understanding is very low while the variances of information overload and coordination are reasonably explained in the estimations.

### **Results**

The results of the alternative model are almost identical to the results of the hypothesized model. Similar to the previous results, delaying ( $\gamma = 0.14, p \leq 0.10$ ) and prioritizing ( $\gamma = 0.49, p \leq 0.05$ ) have positive significant effects on information overload. The relationship between information overload and shared understanding is still negative, although the path estimate is only significant at  $p \leq .10$  but not at  $p \leq .05$  ( $\beta = -0.12, p \leq 0.10$ ). The effect of shared understanding on coordination remains positive and statistically significant ( $\beta = 0.82, p \leq 0.05$ ). Like the previous findings, absorptive capacity has a negative impact on information overload ( $\gamma = -0.24, p \leq 0.05$ ) and the interaction term of absorptive capacity and delaying is significant ( $\gamma = -0.15, p \leq 0.10$ ). For control variables, non-durable goods ( $\gamma = 0.19, p \leq 0.10$ ) and services ( $\gamma = 0.17, p \leq 0.10$ ) industries have a positive association with information overload.

In sum, the signs and the statistical significances of all the estimated parameters remain the same. The exclusion of compliance and conflict from the structural model does not change the results. The results from the alternative model suggest that the findings of the hypothesized model are robust. In the next chapter, the discussion will focus on the implications of the findings.

**Table 6.2 Alternative Model Results**

<b>Overall Model Fit</b>											
$\chi^2_{(1899)} = 3398.39, p \leq .00; CFI = 0.96; RMSEA = .053; SRMR = .15; AIC = 3796.30$											
		<b>Dependent Variables</b>									
<b>Hypothesis</b>	<b>Independent Variables</b>	<b>Information Overload</b>		<b>Shared Understanding</b>		<b>Coordination</b>		<b>Compliance</b>		<b>Conflict</b>	
		Std. Coeff.	t-value	Std. Coeff.	t-value	Std. Coeff.	t-value	Std. Coeff.	t-value	Std. Coeff.	t-value
H1a	Leveling	-0.13	-0.83								
H1b	Delaying	0.14 <sup>b</sup>	1.74								
H1b	Prioritizing	0.49 <sup>a</sup>	3.62								
H1c	Reshaping	-0.10	-0.98								
H1d	Adjusting	-0.03	-0.21								
H1e	Creating Ambiguity	0.03	0.31								
H2	Information Overload			-0.12 <sup>b</sup>	-1.72						
H3	Shared Understanding					0.82 <sup>a</sup>	11.35	--	--	--	--
	Absorptive Capacity (AC)	-0.24 <sup>a</sup>	-2.94								
H4	Leveling*AC	0.17	1.47								
	Delaying*AC	-0.15	-1.89								
	Prioritizing*AC	-0.13	-1.04								
	Reshaping*AC	0.06	0.58								
	Adjusting*AC	-0.09	-0.93								
	Creating ambiguity*AC	-0.05	-0.58								

Note: <sup>a</sup> p ≤ 0.05, <sup>b</sup> p ≤ 0.10.

(Continue) Table 6.2 Alternative Model Results

Hypothesis	Independent Variables	Dependent Variables									
		Information Overload		Shared Understanding		Coordination		Compliance		Conflict	
		Std. Coeff.	t-value	Std. Coeff.	t-value	Std. Coeff.	t-value	Std. Coeff.	t-value	Std. Coeff.	t-value
<b>Control Variables</b>											
	Number of Employees	0.08	1.22								
	Annual Sales Revenue	-0.05	-0.81								
	Durable Goods	0.05	0.79								
	Non-durable Goods	0.19 <sup>a</sup>	3.40								
	Services	0.17 <sup>a</sup>	3.10								
	Gender	0.00	0.06								
	Squared Multiple Correlation	0.49		0.01		0.67		--		--	

<sup>a</sup>  $p \leq 0.05$ ; <sup>b</sup>  $p \leq 0.10$ .



## **CHAPTER 7**

### **DISCUSSION AND RESEARCH IMPLICATIONS**

#### **Introduction**

In this chapter, the findings from Chapter Six will be discussed. Potential explanations for unexpected relationships are proposed and post hoc analyses are described and discussed. Theoretical and managerial implications of the results will be explained. This chapter will end with a discussion of the limitation of the study and future research direction.

#### **Discussion**

This research provides additional perspective to the marketing channels literature on information sharing by addressing the problem of information overload. The results highlight the importance of minimizing information overload. Reduction of information overload enhances the shared understanding between the sender and the receiver. Shared understanding then enhances coordination between parties, increases compliance of a channel member, and reduces occurrence of conflicts. Thus, effective management of information overload can lead to desirable channel outcomes.

The results provide support that too much information sharing can be harmful. This finding poses an opposition to the conventional wisdom in the marketing channels literature that more information sharing enhances performance. This highlights the need to revise the understanding of information sharing in the literature. Information may only be beneficial to performance up to a certain limit. Once the amount of information exceeds that optimal point, the shared information may become counter-productive and create barriers for channel members

to recognize each other's needs. This happens because receivers are constrained by their cognitive abilities to comprehend all the information.

The consequences of controlling the timing of information sharing are unanticipated and intriguing. The findings show that waiting until the receiver is available to deliver the information and/or sharing only a portion of the information at a time may increase information overload. This results here conflict with the belief that sharing information during off-hours or in piecemeal can help comprehension as proposed in the organizational communication literature (Huber & Daft, 1987). One reason is that delaying or prioritizing may create anxiety when receivers know that they do not get all the information. While receiving too much information can be exhausting, the feeling of not holding all the available information may make one feel worse. Another explanation is that when task information is withheld to be shared at a later time, receivers may perceive that they have a tighter time schedule to complete the tasks. This may cause more anxiety and information overload in receivers. Also, since delaying is applied when the receivers are busy, receivers may report their perceptions of information overload around the time they received the tasks, rather than the degree of information overload caused by the reported work task. It is possible that respondents might not recall their level of information overload specific to the task correctly.

The ability of the receiver influences the vulnerability of the receiver to information overload. In general, receivers who are more capable of interpreting and utilizing new information are less likely to feel overloaded by information. This should not be surprising because receivers with high absorptive capacity are likely to be better at recognizing important information and relating the information to pre-existing knowledge. High absorptive capacity receivers are likely to use fewer mental resources to comprehend information than those who

have low absorptive capacity. As such, receivers with high absorptive capacity are more likely to have sufficient mental resources to process information, decreasing the chance of information overload. The absorptive capacity of a receiver also changes the effects of strategic uses of information on information overload. For receivers with high absorptive capacity, delaying appears to reduce information overload. However, the same communication strategy increases information overload for those with low absorptive capacity. The findings show that the characteristics of receivers can strengthen or weaken the effectiveness of the strategic uses of information.

Although the effect of industry type is not hypothesized in the model, the results suggest that the industry in which a receiver works can impact his/her level of information overload. Specifically, non-durable goods and services industries are positively associated with information overload. Receivers who work in non-durable goods or services industries are more likely to suffer from information overload. One explanation is that work in the services industry often involves the sharing of tacit knowledge. Because tacit knowledge cannot be easily codified and often requires hands-on experience to fully grasp the meaning (Nonaka, 1994), this kind of knowledge is generally hard to communicate and comprehend. Tacit knowledge is likely to require more mental resources to interpret and thus the sharing of it increases the perception of information overload of the receivers. Therefore, receivers in the services industry may perceive a greater extent of information overload.

For the non-durable goods industry, the products in general have a much shorter life span than durable goods. This means that receivers who work in the non-durable goods industry must frequently adapt to the change of product offerings and perform various tasks that are related to the fast-moving product life cycle. Tasks in the non-durable goods industry are likely to be more

diverse and less repetitive, compared to the durable goods industry. Task information may generally require more mental resources to process, remember, and recall. As a result, workers in the non-durable goods industry are more likely to be overwhelmed by information. The significant effects of industry type on information overload signal that the context of study is an important concern for research on communication in marketing channels.

The following paragraphs will argue that conditional factors may come to play in affecting the relationships of strategic uses of information and information overload. The mechanisms for how these factors influence the effectiveness of strategic uses of information will be discussed. These conditional factors may explain the unexpected non-significant findings in the hypothesized model.

### **Potential Explanations for Non-Significant Results**

Although the management of information overload is critical for channel performance, information overload appears not to be an easy issue to solve. The results find that none of the examined communication strategies are effective in reducing information. These non-significant findings are interesting. The proposed strategic uses of information are developed on extensive review of literatures from multiple disciplines, including organizational communication, management, and marketing channels. A great portion of these studies are theoretical papers that make sound arguments on how the characteristics of information changes comprehension, though few of them examine their claims empirically. The unexpected non-significant results in this study may open the discussion on how information, and perhaps other factors, come to play to influence interpretation. Providing explanations for why these theoretically sound communication strategies do not decrease information overload is one of the contributions of this study. Two mechanisms, interaction effects and non-linear effects are proposed below.

**Interaction effects.** The null findings of strategic uses of information in the structural analysis may be explained by the characteristics of the task and the personality of the receivers. The results reveal that summary of information cannot help to reduce information overload. While it is difficult to provide a theoretical mechanism to rationalize this result, the result may be affected by the nature of the task. Leveling may only be useful if the task is something unusual or out of the ordinary. For routine tasks, receivers are already familiar with the assignments and are unlikely to have problems in comprehending the task information. In this case, leveling is unlikely to affect information processing and information overload. In contrast, when tasks are non-routine, receivers may have trouble comprehending all the information and leveling is more likely to be effective in reducing information overload.

Reshaping, which is considering the receiver's feeling of anxiety and instilling confidence during communication, does not have a significant effect on minimizing information overload. Perhaps the influence of reshaping depends on the perceived difficulty of the task. Reshaping may have the strongest impact on information overload when the task is perceived by the receiver as difficult or hard to accomplish. The effect of reshaping may have been diluted in the study because a mix of tasks of various levels of difficulty are being reported. When tasks are perceived as easy to achieve, encouraging words may not add much towards reducing the feeling of anxiety and information overload.

The findings also suggest that using terminology with which receivers are familiar to convey information does not reduce information overload. This finding is puzzling. In general, familiar wordings are easier to process and should alleviate information overload. The results may be related to the context of the study. Because sales managers and salespeople are in the same field, they may already be speaking the same language. The modification of jargons or

technical terms may not be necessary at all for them to easily understand each other. Adjusting may only be useful and effective for assisting comprehension when channel members are from different roles, expertise, and/or industries. As suggested by Wittreich (1969), retailers and wholesalers have a hard time understanding each other because they perform different functions in distribution channels and use different terminologies. Potentially, the effectiveness of adjusting depends on whether the sender and receiver have diverse backgrounds.

Conveying ambiguous information appears to show no effect on information overload. The impact of ambiguous information may be counter-balanced by two different types of personalities. The effect of creating ambiguity may be contingent on the personality of the respondents. Some receivers may be more risk averse and feel uncomfortable filling in the information themselves. For these receivers, creating ambiguity can be confusing and increase the burden of processing information (Hatch & Schultz, 2001). Highly risk averse receivers may prefer instructions that are as specific as possible. In contrast, less risk averse receivers may prefer ambiguous information and view it as an opportunity to be flexible to approach the tasks. Receivers can fill in meanings that are the most accessible, reducing the required mental resources to process information and thus information overload.

**Non-linear relationships.** The relationships between strategic uses of information and information overload may not be linear. While low levels of strategic uses of information may reduce information overload, high levels of the strategies might become dysfunctional. Marsden, Pakath, and Wibowo (2006) argue that information input and decision quality form a U-shaped relationship. The shared information initially enhances performance but later becomes counterproductive due to cognitive limitation. Driver and Streufert (1969) propose that there exists a range of optimal levels of information sharing where the level of performance outcome

is the highest. The strategic uses of information may have a similar mechanism where a moderate use of the strategies is most effective in curtailing information overload.

### **Post Hoc Analysis**

To investigate some of the explanations that are proposed above, post hoc analyses are conducted. Two linear regression equations are formulated where one examines the interaction effects and the other focuses on the non-linear effects. Both equations include all the predicting variables from the hypothesized model. These predicting variables include strategic uses of information, absorptive capacity, the interactions terms between absorptive capacity and strategic uses of information, and the control variables. Composite variables are created for constructs that have more than one indicator, such that one variable represents one construct idea. Variables are regressed against information overload.

In the first regression equation, task routineness and the interaction terms of task routineness with leveling and reshaping are added as predictors for the theoretical reasons above, in addition to the predictors from the hypothesized model. Task routineness describes the degree to which the assignment was usual and ordinary to the receiver. The speculation is that leveling and reshaping are more effective in attenuating information overload when the tasks are non-routine. Risk aversion of the receiver and the interaction term of risk aversion and creating ambiguity are also included to regress against information overload. Risk aversion is the degree to which receivers feel uncomfortable when dealing with uncertainty at work in general. The expectation is that creating ambiguity cannot help receivers with high risk aversion to better comprehend information, so the strategy does not reduce information overload. All the interaction terms are created using the residual-centered orthogonalizing process that is described and applied in the previous chapter.

In the second regression equation, the square terms of all the strategic uses of information are created and included to capture the potential non-linear effects. U-shaped relationships between strategic uses of information and information overload are expected.

**Interaction effects.** The results of the first regression analysis are described in Table 7.1. The results suggest that information overload is not affected by task routineness. Routine tasks may cause information overload as much as non-routine tasks. The interaction term between leveling and task routineness is however significant ( $\beta = 0.140, p \leq 0.05$ ). The moderating effect is graphed in Figure 7.1. As shown in the graph, leveling reduces information overload for non-routine tasks but the same strategy is ineffective for routine tasks. Task routineness does not change the relationship between reshaping and information overload.

Risk aversion has a positive significant effect on information overload ( $\beta = 0.357, p \leq 0.05$ ). The more risk averse a receiver is, the more likely that he/she perceives information overload. The interaction of creating ambiguity and risk aversion also significantly influences information overload ( $\beta = 0.141, p \leq 0.05$ ). As illustrated in Figure 7.2, creating ambiguity increases information overload for receivers who are highly risk averse at work, while the same strategy slightly decreases information overload for receivers who are less risk averse.

**Non-Linear effects.** The results of the non-linear relationships are reported in Table 7.2. The non-linear term of delaying is significant ( $\beta_{\text{square}} = 0.725, \text{ both } p \leq .10$ ), meaning that the relationship between delaying and information overload is curvilinear. As depicted in Figure 7.3, the initial application of delaying decreases information overload, but after a certain point, the strategy surges information overload. Similar U-shaped relationships are observed in the relationships of prioritizing and creating ambiguity with information overload. The main effect and the non-linear term of prioritizing are both significant in predicting information overload ( $\beta$



= 1.142,  $\beta_{\text{square}} = 1.571$ , both  $p \leq .05$ ), suggesting that the relationship between prioritizing and information overload is non-linear. As shown in Figure 7.4, prioritizing initially decreases but then increases information overload. Likewise, both the main effect and the non-linear term of creating ambiguity are significant ( $\beta = -0.690$ ,  $\beta_{\text{square}} = 0.760$ , both  $p \leq .05$ ). Depicted in Figure 7.5, a moderate degree of creating ambiguity results in the lowest level of information overload. In contrast, a low or high degree of creating ambiguity are associated with a greater perception of information overload. No non-linear effects are found for leveling, delaying, reshaping, and adjusting.

**Discussion.** The findings suggest that the personality of the receivers (e.g., risk aversion) and the characteristics of the task (e.g., task routineness) can change the strength of the relationship between strategic uses of information and information overload. One may conclude that the effectiveness of the strategic uses of information is context-dependent. While creating ambiguity may decrease information overload for people who are less risk averse, the same strategy is counterproductive for people who are highly risk averse. This strategy requires receivers to interpret the ambiguous information and fill in the specifics by themselves. Receivers who are highly risk averse may feel confused and uncertain about how to interpret the abstract information. They may not be comfortable filling in the information by themselves and end up employing more mental resources to interpret the task information than they need to. Receivers, who are highly risk averse, may therefore feel overloaded by information.

Also, the characteristics of the task affect the effectiveness of the strategic uses of information in assisting comprehension and minimizing information overload. Specifically, leveling appears to lower information overload only when the tasks are non-routine. The strategy is not effective in alleviating information overload when the tasks are routine. Perhaps

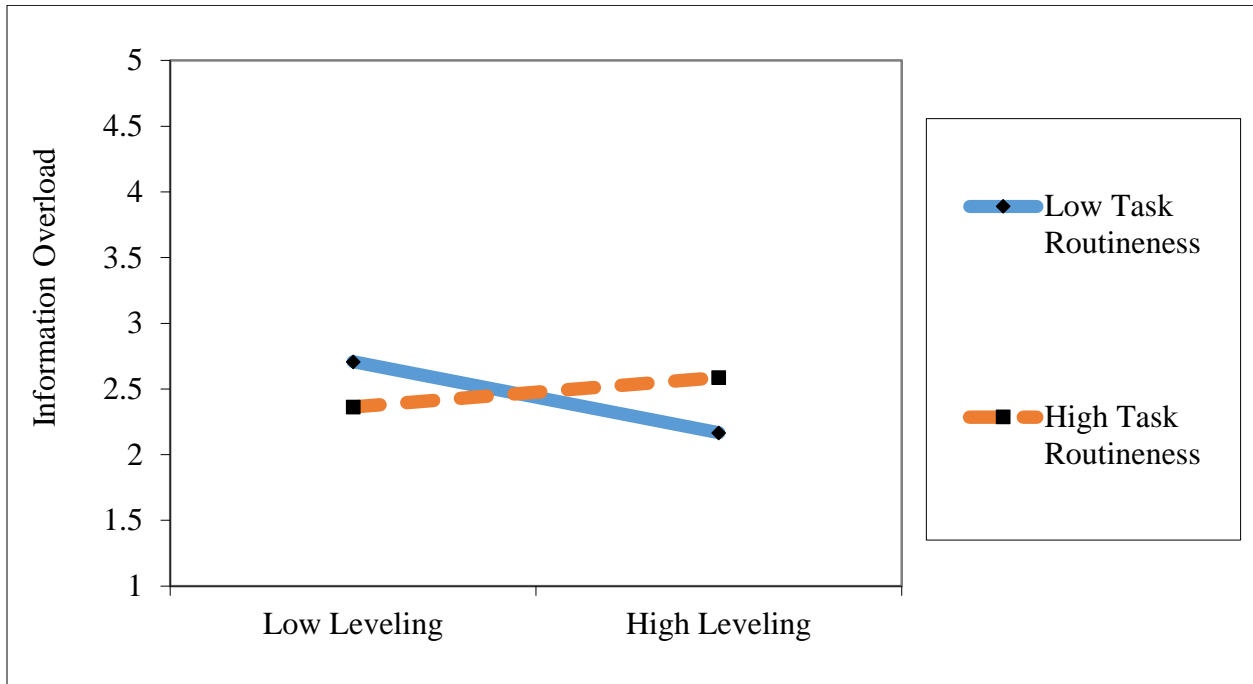
information of routine tasks requires fewer mental resources to comprehend. The application of leveling cannot further reduce the required mental resources to process information and information overload.

Moderate uses of delaying, prioritizing, and creating ambiguity appear to reduce information overload. Delaying, prioritizing, and creating ambiguity have a U-shaped relationship with information overload. A high or a low degree of these three strategic uses of information is counter-productive while the medium degree of the strategies results in the lowest level of information overload. The results appear to align with other studies on information processing (e.g., Driver & Streufert, 1969; Hwang & Lin, 1999). The relationship of information input and the quality of comprehension is argued to be a U-shaped curve. A moderate degree of ambiguity in information gives flexibility to receivers and allows them to fill in their own interpretations. However, too much ambiguity can be confusing. There is an optimal range of ambiguousness in information for the highest level of comprehension. Similarly, dividing information into small chunks and sharing a chunk at a time can be effective to curtail information overload. The strategy allows receivers to focus on one piece of information at a time and reduces information overload. However, a high degree of prioritizing can be detrimental because the chunks of information becomes too small and the sharing of information becomes too frequent. In a similar vein, withholding information until the receiver is less busy can reduce information overload because the receiver has more mental resources available to process the shared information. Yet, a high degree of delaying may mean that the sender withholds too much information or waits so long to share the information that by the time the receiver acquires the information, task information either is in a large quantity or the task becomes an urgent issue to address, leading to information overload.

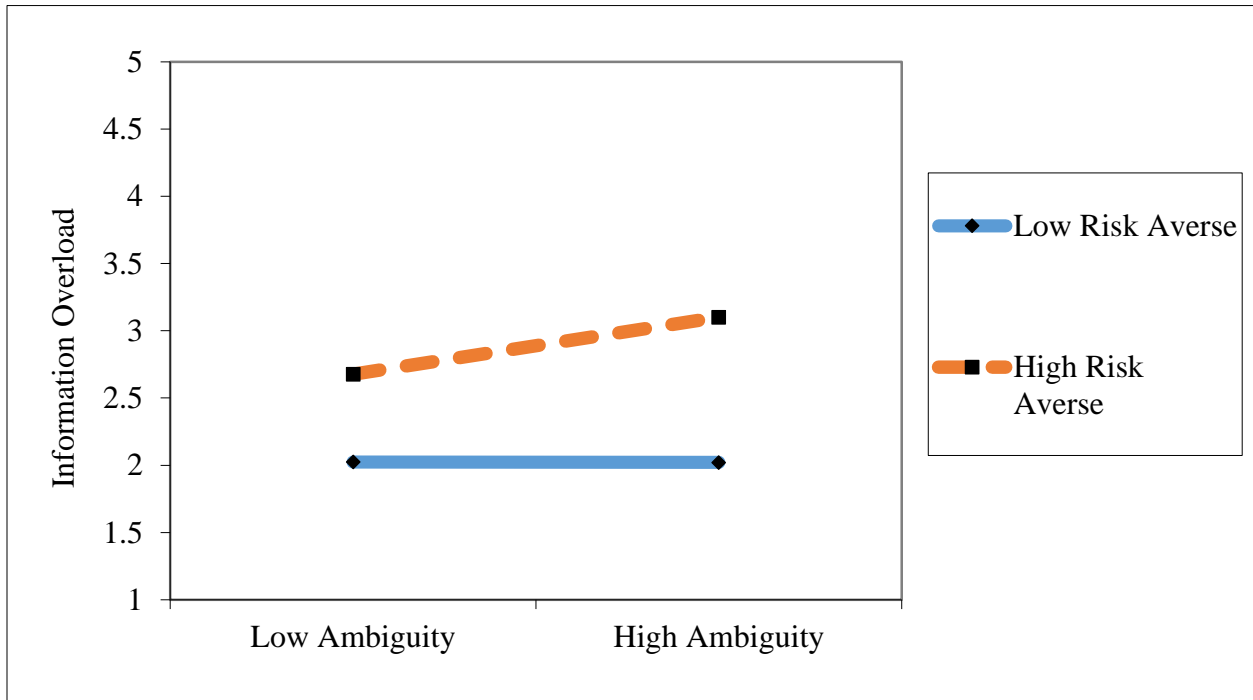
**Table 7.1 Regression Results of Post Hoc Analysis – Interaction Effects**

	Unstandardized		Standardized	t-value	Sig.
	Beta	Std. Error	Beta		
(Constant)	2.456	1.139		2.156	0.032
Leveling	-0.079	0.104	-0.052	-0.762	0.447
Delaying	0.192	0.080	0.155	2.411	0.017
Prioritizing	0.338	0.084	0.303	4.047	0.000
Reshaping	0.001	0.099	0.000	0.007	0.995
Adjusting	-0.304	0.192	-0.118	-1.580	0.116
Creating Ambiguity	0.105	0.079	0.085	1.326	0.186
Absorptive Capacity	-0.446	0.176	-0.163	-2.540	0.012
Leveling*AC	0.252	0.212	0.086	1.192	0.235
Delaying*AC	-0.077	0.147	-0.036	-0.524	0.601
Prioritizing*AC	-0.238	0.179	-0.098	-1.328	0.186
Reshaping*AC	-0.081	0.195	-0.030	-0.415	0.679
Adjusting*AC	-0.215	0.212	-0.069	-1.017	0.310
Ambiguity*AC	0.068	0.175	0.026	0.387	0.699
Routineness	0.019	0.091	0.012	0.206	0.837
Risk Averse	0.433	0.065	0.357	6.688	0.000
Leveling*Routine	0.191	0.072	0.140	2.642	0.009
Reshaping*Routine	-0.033	0.061	-0.028	-0.543	0.588
Ambiguity*Risk	0.107	0.039	0.141	2.744	0.007
Employees	0.051	0.065	0.048	0.787	0.432
Annual Revenue	0.043	0.080	0.034	0.538	0.591
Durable Goods	0.056	0.057	0.053	0.984	0.327
Non-durable Goods	0.073	0.062	0.062	1.172	0.243
Services	0.148	0.056	0.132	2.634	0.009
Gender	-0.354	0.186	-0.102	-1.906	0.058

**Figure 7.1 The Interaction of Leveling and Task Routineness**



**Figure 7.2 The Interaction of Creating Ambiguity and Risk Averse**

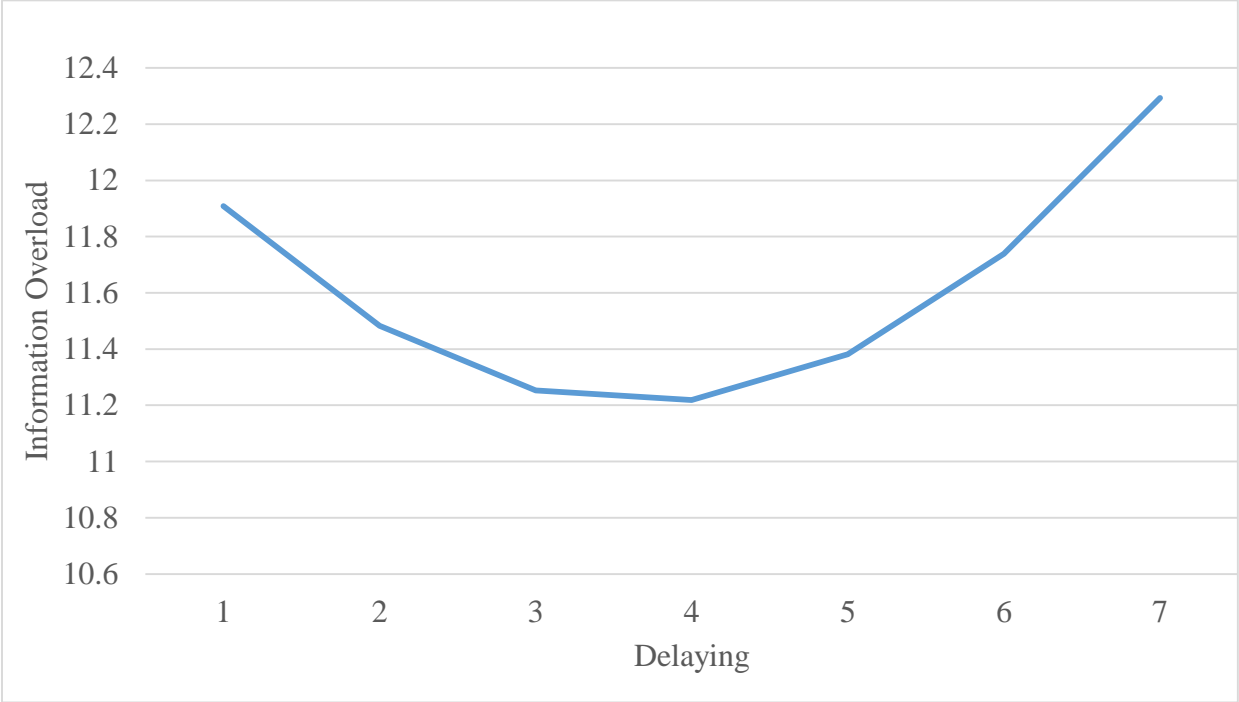


**Table 7.2 Regression Results of Post Hoc Analysis – Non-Linear Effects**

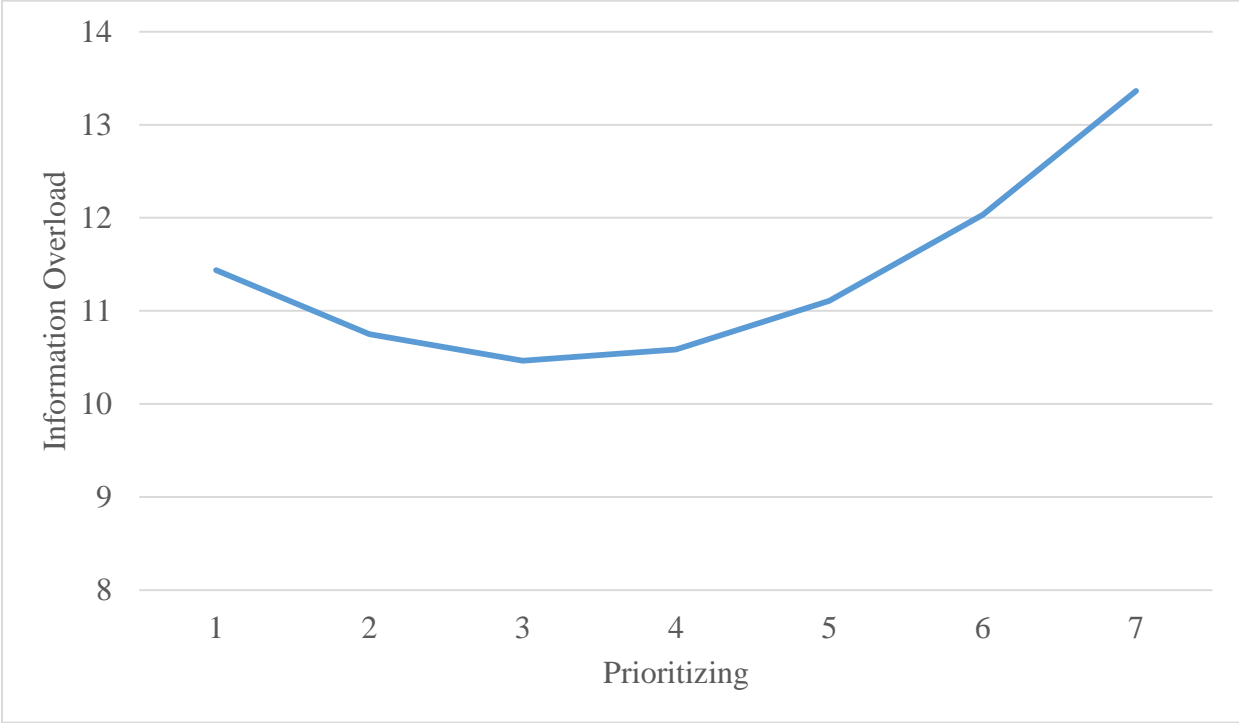
	Unstandardized		Standardized Beta	t-value	Sig.
	Beta	Std. Error			
(Constant)	12.531	6.403		1.957	0.052
Leveling	0.501	0.695	0.325	0.720	0.472
Delaying	-0.720	0.465	-0.569	-1.548	0.123
Prioritizing	-1.295	0.373	-1.142	-3.471	0.001
Reshaping	0.170	0.600	0.113	0.283	0.777
Adjusting	-0.434	2.291	-0.166	-0.189	0.850
Creating Ambiguity	-0.852	0.416	-0.690	-2.045	0.042
Absorptive Capacity	-0.820	0.193	-0.295	-4.241	0.000
Leveling*AC	0.206	0.220	0.071	0.937	0.350
Delaying*AC	-0.266	0.156	-0.122	-1.706	0.090
Prioritizing*AC	0.016	0.189	0.006	0.083	0.934
Reshaping*AC	-0.041	0.203	-0.015	-0.201	0.841
Adjusting*AC	-0.212	0.257	-0.067	-0.827	0.409
Ambiguity*AC	-0.110	0.182	-0.041	-0.602	0.548
Squared Leveling	-0.062	0.071	-0.411	-0.881	0.379
Squared Delaying	0.098	0.051	0.725	1.913	0.057
Squared Prioritizing	0.202	0.044	1.571	4.620	0.000
Squared Reshaping	-0.031	0.063	-0.204	-0.491	0.624
Squared Adjusting	-0.008	0.193	-0.036	-0.040	0.968
Squared Ambiguity	0.104	0.048	0.760	2.153	0.033
Employees	0.118	0.069	0.110	1.723	0.087
Annual Revenue	-0.004	0.082	-0.003	-0.049	0.961
Durable Goods	0.040	0.059	0.038	0.689	0.492
Non-durable Goods	0.191	0.064	0.160	2.969	0.003
Services	0.119	0.061	0.104	1.959	0.052
Gender	-0.119	0.191	-0.034	-0.624	0.533

Dependent variable: information overload

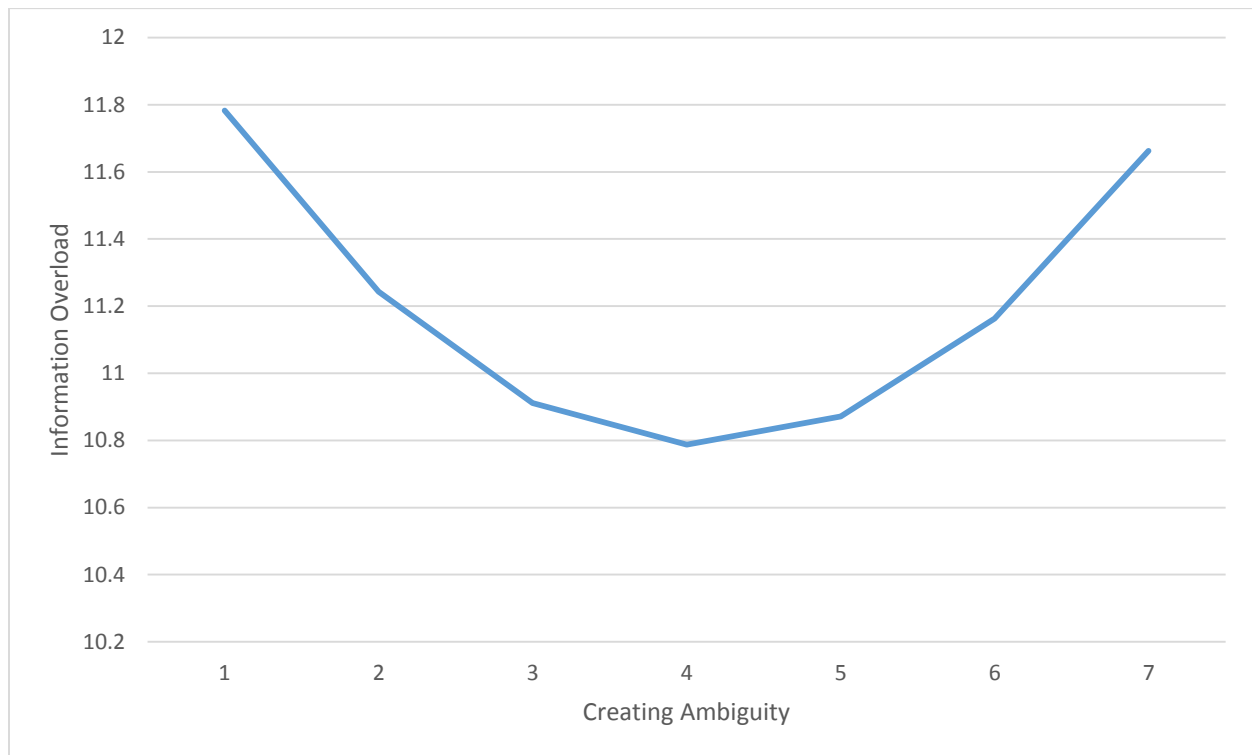
**Figure 7.3 The Non-Linear Relationship between Delaying and Information Overload**



**Figure 7.4 The Non-Linear Relationship between Prioritizing and Information Overload**



**Figure 7.5 The Non-Linear Relationship between Creating Ambiguity and Information Overload**



### **Implications**

#### **Theoretical Implications**

The results of this study paint a different picture of the impact of information sharing in marketing channels. Specifically, the results provide evidence that the current understanding of communication in the marketing channels literature is incomplete because the problem of information overload is often not considered. A stream of marketing channels research has drawn the conclusion that more information sharing is better for performance; however, this conclusion is likely too simplistic. Too much information can be problematic due to limitations in mental resources. This research provides indication of the harmfulness of information overload. Information overload can limit the understanding of information and thus adversely affect channel outcomes.

This research study examines additional dimensions of information content that can enrich the understanding of information sharing in marketing channels. Most channels research solely focuses on the coerciveness of information content (e.g., Mohr et al., 1996; Maltz & Kohli, 1996). The dimension of coerciveness are drawn from earlier marketing channels research that investigates power and dependence as well as influence strategies (e.g., Frazier & Summers, 1984). This study examines other aspects of information content besides coerciveness. Reshaping, adjusting, and creating ambiguity are strategies that modify information content to assist the receivers to comprehend information. By applying encouraging words to instill confidence in receivers, using terminologies and vocabulary that make sense to receivers, and/or creating ambiguity to leave room for receivers to interpret information, communication can become more effective. This research introduces these three aspects of information content that have yet to be explored in the marketing channels literature, broadening the scope of study on information sharing.

Borrowing theories from other disciplines appears to be fruitful in establishing a more complete theoretical framework for information sharing in marketing channels. The paper advances the knowledge of how information overload and various characteristics of shared information may impact desirable channel outcomes. Perhaps the failure to recognize the information overload problem in marketing channels research is that the comprehension process of receivers is often ignored. Research often draws a direct causal relationship from communication to channel outcomes without exploring the underlying mechanism. The omission of information processing of receivers might have led to the conclusion of more communication always leading to better performance. As pointed out by Rogers and Agarwala-Rogers (1976), receivers are the most important component in the communication process, but this element is



often neglected. The limitation in the marketing channels research reflects the need to review theories or theoretical frameworks from other disciplines to further understand how to achieve effective communication. The theoretical foundation of the conceptual model proposed in this paper is grounded in organizational communication and marketing channels literatures. By incorporating theories from the organizational communication literature, a more holistic interpretation of information sharing in marketing channels is obtained.

The relationship between strategic uses of information and information overload appears to be more complicated than the literature has suggested. This research proposes strategic uses of information as the solution to information overload, yet the findings do not align with the theoretical arguments. First, the timing of information appears to affect information overload very differently than the volume and content of information. The control of the timing of information increases, instead of reduces, information overload. This finding is opposite to what the literature has proposed (e.g., Eppler & Mengis, 2004; Huber, 1982). Previous studies suggest that by delaying information and dividing it into small chunks, respondents will have more mental resources and time to pay attention to the information on hand, which enhances comprehension quality. The findings here suggest that these strategies can backfire. It is possible that receivers may feel the need to complete the task more quickly when the information is being delayed. Receivers may want to complete the task under a tight time schedule and thus feel anxious and overloaded. Therefore, delaying leads to information overload. Sharing a small piece of information at a time may distract receivers from the big picture or general direction of the task. Receivers may end up using more mental resources and time to complete the task, causing information overload.

Second, the conceptualization of information sharing should consider the nature of tasks and characteristics of receivers. Current research on information sharing in marketing channels rarely examines the task characteristics and the receiver's personality and ability to process information. More often, research focuses on the relationship between the sender and the receiver and the receiver's perception of the information as moderators or control variables. This study has examined task routineness as well as absorptive capacity and risk aversion of the receiver. The findings suggest that all these factors can significantly change the strength of the relationships between strategic uses of information and information overload. The study suggests that leveling is only helpful in controlling information overload when the task is non-routine. Delaying may intensify information overload when the absorptive capacity of a receiver is low, while one's risk aversion makes him/her more susceptible to information overload. The findings suggest that the effectiveness of communication strategies on comprehension are likely to be contingent on the characteristics of the task and the receiver. Research should account for the nature of the task and the ability and personality of receivers in the examination of information sharing in marketing channels.

Third, non-linear relationships of delaying, prioritizing, and creating ambiguity with information overload are observed. The increased uses of these communication strategies initially decrease information overload but then increase information overload. The findings appear to align with the theoretical arguments of strategic ambiguity in the literature (e.g., Bernheim & Whinston, 1998). A moderate use of ambiguous information allows receivers to assign meaning to the information, giving some degree of freedom for them to take control on how to complete their tasks. Similarly, a moderate degree of delaying or prioritizing gives receivers opportunities to pay attention to the shared information and tackle tasks a little at a

time. However, a low or high degree of delaying, prioritizing, or creating ambiguity can be detrimental to performance. There appears to be an optimal degree of strategic uses of information that leads to the lowest level of information overload. These findings again reflect that the current perspective of information sharing, more equals better performance, is likely to be overly simplistic. The non-linear relationships of communication strategies and channels outcomes should be considered.

### **Managerial Implications**

The major implication of this research for managerial practice is that too much information sharing can be counterproductive. Specifically, the study provides support that information overload can limit the comprehension of information. When a channel member does not have enough mental resources to process the information, the performances of channel members suffer. Although much research in the marketing channels literature has suggested benefits from information sharing, this study argues that the exchange of information may only be beneficial up to a certain point. Too much information can cause frustration and harm performance. Channel members should be aware of the potential downside of information sharing. One must be strategic and considerate of the receiver when sharing information to achieve effective communication.

The study provides insights on how to manage information overload. The findings suggest that the application of a single communication strategy is unlikely to reduce information overload. For example, summarizing information appears to have no effect helping channel members to process information. Also, giving only a small portion of information to channel members to encourage focus on that piece of information may intensify information overload.

Apparently, there is not a single communication strategy that works. The results highlight the need to consider other factors when dealing with information overload.

In the management of information, channel members need to recognize that the effectiveness of communication strategies is likely to depend on other factors. As suggested in this research study, the nature of the information and the ability and personality of the receiver can influence the impact of strategic uses of information on information overload. It is crucial that when managers apply communication strategies to consider these factors. Summarizing information seems to be effective only for unusual tasks, delaying can be harmful for receivers with low absorptive capacity, and creating ambiguity appears to be detrimental for receivers who are highly risk adverse. Knowing the receivers and the nature of the task appears to be crucial for effective communication to minimize information overload.

The applications of some strategic uses of information appear to be very tricky. The results suggest that a moderate use of delaying, prioritizing, and creating ambiguity can lead to the lowest level of information overload. Yet, a low or high degree of these three strategies can increase information overload. The relationships of delaying, prioritizing, and creating ambiguity with information overload are non-linear. When managers strategically wait until the receivers are less occupied to share information, managers need to be aware of whether they have accumulated too much information and/or waited too long to share that information. Similarly, when managers are trying to divide information into small chunks and communicate one piece of information at a time to allow for more attention on the shared information, they should be cautious that dividing information too much or too little can be counterproductive. In addition, when managers are trying to convey task information ambiguously to give receivers room for

creativity, they should apply the strategy in care. Information that is too specific or too ambiguous can backfire and lead to more information overload.

The findings provide clues that practices performed by companies for more desirable communication outcomes may not be effective at all. The results show that delaying the delivery of information until the channel member is not busy may backfire. Channel members may feel that they are not in the loop and feel anxious that they do not possess all the available information. The practices of No Email Day or Quiet Time for some companies and other similar strategies may increase information overload. Other strategies that are commonly applied in business communication, such as using encouraging words and avoiding jargon, appear to make no difference in assisting information processing and minimizing information overload. Channel members should pay close attention to and critically evaluate the outcomes of the communication practices that they have employed.

### **Limitations**

The results of this study are subject to several limitations. First, the data is reported by a single informant, which is only one side of the dyad. The results are thus limited to the point of view of the receivers. It is possible that receivers are not aware of or cannot detect the strategic uses of information employed by senders. More disputably, receivers may not have knowledge about the intentions of the senders behind the strategic uses of information. Additional insights can be gained by collecting data from the sales manager, who represents the other side of the relationship. Collection of dyadic data from sales manager and salespeople was considerably challenging. One difficulty is that it is hard to locate pairs of sales managers and salespeople who are both willing to participate. Another challenge is that the design of a dyadic survey cannot

promise complete anonymity to respondents and so most panel services do not support such data collection.

The second limitation of this study is that the survey responses are based on respondents recalling their managers' communications of work tasks. Research has suggested that questions based on retrospective recall can be problematic (MacKenzie & Podsakoff, 2012). To address this issue, several steps were taken. First, respondents were asked to recall the most recent task, for which the instructions of the managers about the task should still be vivid in their memories. Second, the survey began with multiple questions about the details of the work task to help respondents recall the event and instructions before answering questions related to strategic uses of information. One way to eliminate the potential recall bias is to employ experimental design in future study. Different levels of strategic uses of information can be manipulated and the responses and performances of receivers can be measured.

Third, the study only focuses on the effect of communication strategies at a single period of time. Communication strategies of a sales manager may have a long-term or cumulative effect on the performance of the salespeople. However, this study focuses only on the outcomes of one specific work task. A cross-sectional study appears to be sufficient because the reported tasks are often carried out immediately or within a short period after the instructions are communicated by the managers. Additional insights from a longitudinal design may be limited in this case.

Also, this study only focuses on the relationships between sales managers and salespeople. The results and interpretations from this study may only be applicable to the sales context. The proposed conceptual model, however, is believed to be relevant to other types of channel relationships. Future research will be fruitful in examining the model in different channel contexts.

Some of the measurement items in this study appears to be problematic. Specifically, items for information overload and conflict as well as shared understanding and compliance lack discriminant validity based on the criteria outlined in (Fornell & Larcker, 1981). To address this issue, an alternative model was developed and analyzed. The results of the alternative model are almost identical to that of the hypothesized model, reflecting that measurement items do not affect the interpretations of the results of the hypothesized model. Nonetheless, one should be aware of the measurement issues when interpreting the results.

Lastly, the findings of this study may not be directly comparable with previous research. While this study focuses on communication of a work task, current research often examines information sharing as a general behavior over a period of time. For example, Mohr et al. (1996) asked respondents to report on information sharing activities for a typical four-week period. Because the scopes of the communication activities are different, it appears to be inappropriate, if not impossible, to compare the findings of this study with previous research. For example, the frequency of information sharing, which is a key dimension of channels communication, focuses on the general information volume shared with receivers. While leveling proposed here also focuses on the volume of information, the report of information volume focuses on a specific task. Frequent information sharing may involve the communication of multiple tasks, which may or may not be summarized. Thus, frequent sharing of information does not necessarily mean a low degree of leveling.

### **Future Research Directions**

This study provides several avenues that are fruitful for future research. First, future research should explore strategies to reduce information overload. Research should investigate strategies besides the proposed five strategic uses of information in this paper. The literature

review in Chapter Two has revealed some other strategic ways to deliver information. For example, research has argued that standardization of information can potentially enhance information comprehension because information is organized in a pre-determined framework (Eppler & Mengis, 2008). Also, relating information with a story, analogy, or previous event can help receivers to make a quick connection between the new information and the current knowledge, which enhances comprehension (Harris & Nelson, 2008). Future research should investigate how other types of strategic uses of information may affect information overload. The results would provide significant contributions to both theories and practice. This study has shown that information overload has detrimental effects on channel outcomes. While information overload has been a growing problem with the advance of communication technology, the issue is often neglected in channel management because conventional wisdom suggests that more information exchange leads to more desirable outcomes. The investigation of other strategic uses of information will enhance the current understanding of information sharing and provide practical solutions for information overload.

Second, future research should continue to explore the conditional factors that could affect the impacts of strategic uses of information. As shown in the results of the SEM analysis and post hoc study, the task nature and a receiver's ability and personality can change the strength of the strategic uses of information. This suggests that the effectiveness of the shared information on performance of channel member is contingent on other factors. Some strategies are only effective under certain situations. For example, leveling can reduce information overload only when the task is non-routine. Other moderating factors should be explored to further understand the null effects and unexpected positive effects of strategic uses of information.



One of the moderating factors that future research can examine is the relationship between senders and receivers. The relationship length may have weakened the effect of adjusting. Purposely applying vocabulary that matches the receiver's knowledge and background may only be useful to assist comprehension at the early stage of a relationship. As the relationship progresses, senders and receivers may share similar knowledge and experience, so adjusting may no longer be effective to enhance comprehension. Another relational factor is the perceived trustworthiness of the sender. Strategic uses of information may be viewed as manipulations of information and negatively perceived by the receivers. When receivers do not think that their senders are trustworthy, strategic uses of information may hurt, instead of improve, information processing. In addition, the effects of strategic uses of information may be largely undermined when receivers perceive the senders as neither credible nor knowledgeable about the subject matter. In this case, receivers may selectively filter out the shared information. Furthermore, the perception of information quality may be the basis for effective communication. Strategic uses of information may be able to attenuate information overload only when the information is perceived as relevant and timely.

Another moderating factor that future research should explore is the medium that is used to convey the task information. Various media can be employed to communicate information, such as face-to-face conversation, phone meetings, teleconferencing, written memos or reports, and electronic emails. Media richness theory suggests that some types of media are more effective than the others for communicating messages of varying degrees of complexity and richness (Carlson & Zmud, 1999; Daft & Lengel, 1986). For example, face-to-face meetings and conversations allow more complicated messages to be transferred than written reports. Media choice can affect how well the receiver can interpret the information and how likely

miscommunication occurs (Carlson & Zmud, 1999). The medium that a sender uses to convey information may also affect the effectiveness of strategic uses of information on receiver comprehension. For example, leveling may be more effective when information is communicated through a low media richness channel.

In addition, future research should test the boundary of information sharing. The findings of this study suggest that information overload hurts channel outcomes, showing that more information is not always better. Due to cognitive limitation, information sharing in marketing channels may only be beneficial up to a certain point and any further exchange of information may be harmful to performance. Another reason is that too much information sharing may lead to the “dark side” of a close relationship, where receivers know the senders so well that receivers know exactly how to cut corners without the senders knowing. Future research may examine how channel outcomes vary as the amount of shared information increases. A non-linear relationship between information volume and channel performance is expected. The initial increase in communication may enhance performance but may become detrimental after a certain threshold. Also, the impact of information sharing may be contingent on situational factors. The exploration of the conditional factors will greatly advance the understanding of communication in marketing channels. Future research can contribute to the literature by delineating various elements that may influence the effectiveness of communication.

Third, the strong correlations between information overload and compliance as well as shared understanding and compliance are perplexing and need to be investigated. The item descriptions of these constructs appear to read very differently. Future research needs to investigate whether the strong correlations between these two pairs of constructs are systematically related to the demographic differences of respondents. As reported in the

structural analysis, industry type has a significant impact on the information overload. The strong correlations between constructs may be related to particular type of industry. Besides industry type, the strong correlations may be associated with the products that the respondents offer and/or position of the respondents. One way to detect this systematic bias is to split respondents into multiple groups based on their demographics and compare the correlations of problematic pairs of constructs among groups. This will provide information about why these well-established measurement items are so strongly correlated.

Fourth, competing models should be examined in future research. As described in the SEM results, the SRMR value of the model is higher than the recommended cutoff, reflecting that the model does not fit the data perfectly well. The modification indices suggest that the addition of direct paths from strategic uses of information to shared understanding would greatly improve the fit between the data and model. This suggestion seems to be theoretically sound. When senders employ strategic uses of information, receivers are more likely to successfully comprehend the information, which should lead to a higher shared understanding between senders and receivers. A competing model should be developed where six more relationships between strategic uses of information and shared understanding are created. The competing models can then be compared with the original hypothesized model using a chi-square difference test to determine which theoretical model can better explain the data.

Also, the use of different research methods can enhance our understanding on the effectiveness of strategic uses of information on information overload. One research approach is to apply qualitative study. Qualitative method may give insight on the null results and unanticipated positive effects of strategic uses of information. Specifically, interviews can be conducted with salespeople. Salespeople may be asked with open questions about possible

reasons of why delaying and prioritizing may intensify information overload while the other strategic uses of information do not affect information overload. This potentially informs other moderating or mediating mechanisms that are not included in the conceptual model. Another research approach is through dyadic study or experimental design. As mentioned in the limitations section, receivers may not be aware of the communication strategies employed by the senders. The employment of dyadic study or experimental design would eliminate this concern. These research methods provide more confidence in the causality of the sender's communication on the receiver's information processing and behaviors.

Furthermore, the proposed strategic uses of information may be used in combination instead of alone. These combinations may have differential effects on the receiver's information processing and subsequent behaviors. Two approaches are proposed to examine the combinations of strategic uses of information. First, cluster analysis can be employed to detect the underlying patterns of the strategic uses of information. For example, a high level of leveling may be associated with a high level of creating ambiguity but a low level of delaying. Observations with similar communication patterns can be grouped together. A categorical variable for group membership can be created and employed as the predictor for information overload. The cluster analysis may provide evidence of the common strategies of communication as well as the effectiveness of each combination of strategic uses of information. Second, strategic uses of information may have interaction effects between each other. For example, leveling may change the effectiveness of delaying. Future research may focus on the moderating effect of reshaping. Reshaping is different from the other strategies because it influences the emotions and feelings of receivers. Reshaping may strengthen or weaken the effects of the other strategic uses of information on information overload.

Lastly, future research may utilize the research tool developed in this study, the measurement items for strategic uses of information, to explore the antecedents and consequences of these communication strategies. In this study, the constructs for strategic uses of information are formally conceptualized and the measurement items for these constructs are developed through a series of pretests. While there are discussions in the literature about how the amount, timing, and characteristics of information may enhance information processing and lead to desirable outcomes, little research examines these arguments empirically. Future research may take advantage of the development of the measurement items and explore arguments that have yet to be empirically tested in the literature.

In this chapter, the findings in Chapter Six were discussed. Post hoc analyses were conducted to provide explanations on some of the unexpected results. Theoretical and managerial implications of this dissertation were discussed. The chapter also covered the limitations of this research and outlined future research directions for future studies on information sharing in marketing channels. In the last chapter, the contributions of the research will be reviewed and an extensive summary will be presented.

## **CHAPTER 8**

### **CONCLUSIONS**

This chapter will highlight the contributions of this dissertation. The chapter will end with an extensive summary of the dissertation.

#### **Contributions**

This research advances the knowledge of information sharing by integrating the paradigms of organizational communication and marketing channels research. The theoretical framework of this study is grounded on the normative perspective of organizational communication literature. Hypotheses are developed drawing on theories of information sharing and processing from both organizational communication and marketing channels literature. The theoretical perspectives of organizational communication are utilized to understanding communication in the context of marketing channels. The examination of organizational communication research provides divergent perspectives on the notion of effective information sharing. For example, research in marketing channel has advocated timely sharing of information as the key for desirable performance (e.g., Anderson & Narus, 1990). In contrast, organizational communication literature proposes that the time to deliver information should be determined by the availability of the receivers (e.g. Huber, 1982). It is argued that sharing information immediately may not be an effective approach if the receiver is busy. Senders should withhold information until the receiver has the time to pay attention to the information. This perspective from organizational communication is almost opposite from that of marketing channels. Also, the introduction of literatures from other disciplines permits more dimensions of information sharing to be examined. For information content, marketing channels research often focuses on the coerciveness of information and rarely considers other dimensions. Theories from other

disciplines inform additional ways to change the content of information which might affect comprehension. Reshaping, which is considering receiver anxiety and utilizing encouraging words in communication, is developed based on theories from the psychology literature. Creating ambiguity, where senders purposely create ambiguous information to give receivers flexibility to complete the task, is drawn from organizational communication and economics literatures. By incorporating perspectives from other disciplines, this research provides a different perspective on effective information sharing and potentially a more holistic picture on communication in marketing channels.

Also, this study revises the current understanding of communication in marketing channels by introducing information overload, providing solutions for the issue, and considering the impacts of the problem. Information overload is becoming an increasing problem at the work place. With advances in technology, managers often have more information than they can possibly process. Information sharing then becomes counter-productive rather than constructive. Current research on marketing channels fails to account for the cognitive limitations of managers when examining the effects of information sharing. The common view of information sharing in marketing channels is that information sharing has a positive linear relationship with channel performance. Without addressing the mental resources of receivers and the potential information overload issue, the understanding of communication in the literature is incomplete. Drawing from the organizational communication literature, this research provides a theoretical framework to explain how and why too much information sharing can be harmful to performance. Specifically, the study focuses on the information processing and mental resources of receivers. When receivers do not have sufficient mental resources to process information, information overload happens. As shown in the findings, when information overload increases, shared

understanding between senders and receivers diminishes, leading to less desirable channel outcomes. This study suggests the potential problems of information sharing, painting a more realistic and complete picture of communication in marketing channels. This research advocates that the consideration of cognitive limitations and information overload of receivers is necessary to achieve effective communication.

This research identifies conditions that change the relationships between different characteristics of information and the receiver's comprehension of information. Strategic uses of information describe the modification of information characteristics, including the volume, timing, and content of information, to assist information processing. These strategic ways to communicate information are expected to enhance information processing and diminish information overload. However, the findings point to a different direction. Both delaying and prioritizing have a positive effect on information overload. The other strategic uses of information have no impact on information overload. The results are puzzling because the relationships of information characteristics on comprehension are drawn on established theoretical arguments in the organizational communication literature. The post hoc analyses of this research reveal that the strength of the relationships between strategic uses of information and information overload are contingent on other factors. The findings show that the nature of the task and the characteristics of receivers can change the effectiveness of strategic uses of information. For instance, leveling information is only effective in reducing information overload when the task is non-routine; whereas creating ambiguity increases information overload when receivers are highly risk averse. The results suggest that the influences of information characteristics on information processing and information overload are not cut and dried as the literature has suggested. The characteristics of tasks and the personality and ability



of receivers should be considered in formulating effective communication strategies to achieve desirable channel outcomes.

Lastly, this research has developed measurement items for different strategic uses of information that will be useful for future research in both organizational communication and marketing channels research. While the effects of various information characteristics on information processing have been widely proposed in the literature, most of these studies are theoretical and those that examine the relationships empirically often apply experimental design. The characteristics of information are usually manipulated rather than measured in the experiments. Very little research employs survey methods to measure different information characteristics in communication. This study is the first to develop such measurements. Substantial amounts of effort and care has been put to develop the measurement items to capture the modification of information volume, timing, and content. The development process closely follows the procedures that are described in the literature (e.g., Churchill, 1979). Through the employment of both qualitative and quantitative approaches, the measurement items have been developed, purified, and revised multiple times. The results from the exploratory factor analysis and confirmatory factor analysis suggest that the newly developed measurement items are unidimensional, reliable, and valid. These measurement items can be a useful tool for future research to explore the different information characteristic and communication strategies. The presence of developed measurement items make the application of survey design easier, which encourages future research to use surveys. More importantly, the use of surveys allows the collection of data from real world environments outside the laboratory, which grants a layer of external validity to the theoretical arguments. Future research can have greater confidence about

whether or not the proposed arguments about information characteristics can indeed be observed in real-life situations outside the laboratory setting.

### **Summary**

This paper focuses on the issue of information overload in the context of marketing channels. The topic is motivated by a growing number of books and business journals reporting on the problem of information overload. These books and articles suggest that nowadays workers often have more information than they can process. Too much information can become counter-productive and there is a need to solve this problem to achieve effective communication. The point of view of these recent journals and books presents a very different perspective than what the marketing channels literature has been proposing.

In marketing channels research, the conventional wisdom is that information sharing has a positive linear effect on channel performance. This neglects the fact that managers have cognitive limitations. When the mental resources required to comprehend information exceed the mental resources available to the receivers, receivers may choose to ignore the information or try to process the information but miss out important details or simply forget the information later. The cognitive limitations of managers highlight that a more strategic way to share information is needed. One important consideration is whether receivers have the mental resources to process information.

This paper proposes strategic uses of information. Strategic uses of information represent the alteration of information content, volume, and timing to help receivers to process information. Five specific strategies are advocated including leveling, queuing, reshaping, adjusting, and creating ambiguity. Leveling is the summarization of information while keeping all the meanings in the message. Queuing is the sharing information during off-hours or in

piecemeal. Reshaping is the modification of information based on the receiver's feeling of anxiousness, including the instillation of confidence to receivers. Adjusting is the usage of vocabulary and terminology that match with the receiver's backgrounds so information can be easily understood. Lastly, creating ambiguity is the formation of information that allows for more than one interpretation to give receivers flexibility. Strategic uses of information are expected to alleviate information overload by reducing the required mental resources to process the information or delivering information at the time receivers have more available mental resources.

Absorptive capacity of a receiver is proposed to change the negative effect of strategic uses of information on information overload. The argument is that people who have higher absorptive capacity are less sensitive to strategic uses of information, meaning that the strategies are less critical in assisting these receivers to comprehend information and reduce information overload. Strategic uses of information are expected to have stronger negative effects on information overload when receivers have low absorptive capacity.

The consequences of information overload are examined in this paper. When information overload is attenuated, receivers are more likely to sufficiently comprehend the information, resulting in a higher level of shared understanding. Increased shared understanding will minimize the perceptual differences of the tasks between senders and receivers. The expectations of the senders of what and how tasks should be completed are well understood by the receivers. All else equal, an increase in shared understanding will lead to increases in coordination and compliance as well as a decrease in conflict.

The theoretical arguments of the above hypotheses are grounded in the normative perspective of the organizational communication literature. This perspective views

communication as a tool to control the activities and behaviors of a receiver. A sender's shared information has a direct impact on the receiver's responses to the information. A causal relationship can therefore be drawn from the sender's communication to the receiver's performance. This paper posits that the modification of the volume, timing, and/or content of the information by the sender can change the receiver's degree of information overload and performance.

Measurement items are developed for strategic uses of information. While these communication strategies have been widely discussed in organizational communication and marketing channels literatures, there are no established measurement items. Following the procedures described by Churchill (1979), the newly developed measurement items have gone through a cycle of development, analysis, purification, and revision. Specifically, the measurement items have been qualitatively examined through expert reviews, the Q-sort method, and interviews with managers. The items have also been pretested quantitatively with three online survey studies. The results suggest that the two dimensions of queuing, delaying and prioritizing, are represented by two different constructs and sets of measurement items. The measurement items demonstrate validity and reliability based on the outcomes from exploratory factor analysis and confirmatory factor analysis.

Data were collected from salespeople through Qualtrics to empirically test the hypotheses. A total of 263 salespeople responded the survey. A respondent was asked to recall the most recent event where his/her sales manager had asked the respondent to perform a task. Respondents then described the details of the tasks and answered questions with those tasks in mind. After the elimination of multivariate outliers, observations of 244 salespeople were included in the measurement model analysis. One concern that arises in the measurement model

is that some items do not pass the discriminant validity test outlined by Fornell and Larcker (1981), even though the items passed the requirement for discriminant validity described by Anderson and Gerbing (1988). Besides this issue, the measurement model shows that the items are unidimensional, valid, and reliability.

Structural equation modeling (SEM) is employed to test the model. SEM is chosen because it allows for the simultaneous estimation of the entire conceptual model and accounts for measurement errors. The results suggest that both delaying and prioritizing increase information overload, contradicting the hypothesized negative relationships. Other strategic uses of information have no impact on information overload. Receivers with higher absorptive capacity are less likely to perceive information overload. Against expectations, delaying increases, rather than decreases, information overload for receivers with lower absorptive capacity. For the consequences of information overload, information overload reduces shared understanding between senders and receivers. The decreased shared understanding then reduces coordination and compliance, while increasing conflict.

The results demonstrate the detrimental effects of information overload. Information overload can lead to poor channel outcomes. The results pose a different picture to the understanding of information sharing in marketing channels research. More information sharing is not necessarily better. The unexpected significant effects of delaying and prioritizing appear to suggest that the control of timing of information may be counter-productive. Delaying and prioritizing may increase information overload because receivers feel like they are on a tighter time schedule to complete the task when information is delayed or prioritized.

The ability of the receiver is an important factor for predicting information overload. Receivers who are better at integrating and utilizing new information are less likely to feel

overloaded with information. This highlights the importance of considering the characteristics of the receiver in communication. The moderating effect of absorptive capacity, however, goes against expectation. Receivers with lower absorptive capacity are more likely to perceive information overload when delaying is employed.

Because the effects of strategic uses of information diverge from expectations, post hoc analyses are conducted to provide explanations for the null results. The post hoc analyses focus on two elements: the moderating effects of the conditional factors and the non-linear effects of strategic uses of information. For the moderation effects, it is proposed that leveling and reshaping may only be useful to alleviate information overload for non-routine tasks because the strategies cannot enhance comprehension when the tasks are usual or easy to achieve. One may also argue that creating ambiguity is ineffective in reducing information overload for a receiver who is highly risk averse because he/she does not feel comfortable filling in information. For the non-linear effects, it is possible that moderate application of strategic uses of information may be helpful in reducing information overload but extreme uses of the strategies may be harmful.

Two regression equations are estimated where one has moderation terms and the other has non-linear terms regressing against information overload. As expected, the results suggest that leveling can reduce information overload only when the task is non-routine. Also, creating ambiguity can intensify information overload when the receiver is highly risk averse. Task routineness however does not affect the effect of reshaping on information overload. Non-linear effects are also observed. Delaying, prioritizing, and creating ambiguity have a U-shaped relationship with information overload. The findings suggest that the moderate uses of the strategies are the optimal level to reduce information overload.

In sum, the findings suggest that more information sharing is not always better. Information overload can be detrimental to channel outcomes by undermining the shared understanding between sender and receiver. Strategic uses of information, which are the modification of information volume, content, and/or timing by senders, are proposed to enhance receiver comprehension and reduce information overload. The results show that the effectiveness of these communication strategies is contingent on other factors, including the nature of the task and the characteristics of the receiver. Non-linear relationships are also found between some strategic uses of information and information overload, suggesting that moderate uses of the strategies can minimize information overload.

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## Appendix A

### PRETEST SURVEY DESIGN

#### Sender Survey

##### Cover Letter

Dear Participant,

This is a research study being undertaken by Pui Ying Tong, a PhD Candidate in Marketing, in partial completion of a dissertation chaired by James Brown, Kmart Corporation Chair in Marketing, and Jody Crosno, Associate Professor of Marketing, at West Virginia University. This is a professional research study being undertaken to gain a better understanding of organizational behavior.

You will need approximately 5 minutes to complete the study. You must be 18 years of age or older to participate. You must have had working experience within the last two years. The survey requires that you have had experience teaching someone at work and being asked to complete a task at work.

We are only interested in your responses and you will in no way be identified in this study. Your participation is *voluntary* and you can choose to stop participating at any time. There will be no penalty if you choose not to participate. You do not have to answer every question.

IRB acknowledgment for this study is on file.

Thank you for your help!

James Brown  
Kmart Corporation Chair in Marketing  
Marketing Department  
West Virginia University

Jody Crosno  
Associate Professor  
Marketing Department  
West Virginia University

Pui Ying Tong  
Ph. D. Candidate  
Marketing Department  
West Virginia University

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##### Read Carefully Warning

**Please read the questions carefully. If you fail to read the questions carefully, you will be bumped out of the survey and you will not be compensated.**

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##### Recall Events

**Please recall the *most recent* time when you taught someone how to do something *at work*. Then, write down the details below:**

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The name of the person I taught is:

I taught  $\{q://QID2/ChoiceTextEntryValue\}$  to:

briefly describe the task here

I taught  $\{q://QID2/ChoiceTextEntryValue\}$  the task \_\_\_\_\_ ago.

years

months

days

For this task, I taught  $\{q://QID2/ChoiceTextEntryValue\}$  for:

days

hours

minutes

**1. Strategic Use of Information**

Please recall the conversations that you had with  $\{q://QID2/ChoiceTextEntryValue\}$  about the task that you have just described. Think about the instructions you gave in this conversation about how that task should be done. Please answer the following questions about the instructions that you gave to  $\{q://QID2/ChoiceTextEntryValue\}$  to teach him/her about the task that you described above.

Please indicate the extent to which you agree with the following statements.

When I taught  $\{q://QID2/ChoiceTextEntryValue\}$  how to do the task,

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I presented the instructions in a concise manner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I waited to share task information until $\{q://QID2/ChoiceTextEntryValue\}$ could focus on that task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I attempted to tailor my communication so $\$(q://QID2/ChoiceTextEntryValue)$ would not feel overly stressed about performing the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I provided the more important task information first.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tried to use terminology that $\$(q://QID2/ChoiceTextEntryValue)$ would be familiar with.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I gave instructions that could be interpreted in multiple ways to give $\$(q://QID2/ChoiceTextEntryValue)$ more flexibility.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I presented a summarized version of the instructions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tried to tailor my communication so $\$(q://QID2/ChoiceTextEntryValue)$ would not feel too anxious about carrying out the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The instructions that I gave were subject to $\$(q://QID2/ChoiceTextEntryValue)$ 's interpretation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**If there are any questions above that are confusing, please copy and paste them below. If none, please skip this question.**

## 2. Strategic Use of Information

**Please indicate the extent to which you agree with the following statements.**

**When I taught  $\$(q://QID2/ChoiceTextEntryValue)$  how to do the task,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I provided $\$(q://QID2/ChoiceTextEntryValue)$ with only the task information needed to perform the stage of the task being worked on.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I withheld the instructions until $\$(q://QID2/ChoiceTextEntryValue)$ could devote more attention to them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
For this question, click the "Somewhat Disagree" button.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I condensed the instructions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tried to adapt the instructions based on $\$(q://QID2/ChoiceTextEntryValue)$ 's work experience.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I presented the instructions to $\$(q://QID2/ChoiceTextEntryValue)$ in a succinct way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I left some room for $\$(q://QID2/ChoiceTextEntryValue)$ to interpret the instructions as $\$(q://QID2/ChoiceTextEntryValue)$ saw fit.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I left the instructions open to $\$(q://QID2/ChoiceTextEntryValue)$ 's interpretation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I attempted to word the instructions in a way that $\$(q://QID2/ChoiceTextEntryValue)$ could understand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I aimed to adapt the instructions to minimize $\$(q://QID2/ChoiceTextEntryValue)$ 's worries about performing the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**If there are any questions above that are confusing, please copy and paste them below. If none, please skip this question.**

### 3. Strategic Use of Information

**Please indicate the extent to which you agree with the following statements.**

**When I taught  $\$(q://QID2/ChoiceTextEntryValue)$  how to do the task,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I communicated the instructions in order of their relative importance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I left some room for $\$(q://QID2/ChoiceTextEntryValue)$ to interpret the instructions as $\$(q://QID2/ChoiceTextEntryValue)$ saw best.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I shortened the instructions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I communicated the instructions in a sequence so $\$(q://QID2/ChoiceTextEntryValue)$ could focus on one part of the task at a time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I attempted to tailor the instructions to $\$(q://QID2/ChoiceTextEntryValue)$ 's background.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I delayed giving the instructions until $\$(q://QID2/ChoiceTextEntryValue)$ had the time to learn that task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tried to modify my communication so $\$(q://QID2/ChoiceTextEntryValue)$ would not lose confidence in his/her ability to complete the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The task information that I communicated is up for $\$(q://QID2/ChoiceTextEntryValue)$ 's interpretation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do not click an answer for this question (i.e., leave this question blank).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**If there are any questions above that are confusing, please copy and paste them below. If none, please skip this question.**

#### 4. Strategic Use of Information

**Please indicate the extent to which you agree with the following statements.**

**When I taught  $\$(q://QID2/ChoiceTextEntryValue)$  how to do that task,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I simplified the content of the instructions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I strived to adapt my teaching style so $\$(q://QID2/ChoiceTextEntryValue)$ would not feel too discouraged in performing the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I left the instructions open to $\$(q://QID2/ChoiceTextEntryValue)$ 's interpretation for completing the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I gave instructions that could be interpreted in different ways to give $\$(q://QID2/ChoiceTextEntryValue)$ room for creativity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tried to use language that would make sense to $\$(q://QID2/ChoiceTextEntryValue)$ .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prioritized the information so that $\$(q://QID2/ChoiceTextEntryValue)$ only had to focus on one part of the instructions at a time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I attempted to alter my communication so $\$(q://QID2/ChoiceTextEntryValue)$ would not be overly nervous about completing the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I postponed giving the instructions until $\$(q://QID2/ChoiceTextEntryValue)$ could more fully allocate his/her time to that task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**If there are any questions above that are confusing, please copy and paste them below. If none, please skip this question.**

**Control**

**How often do you show someone how to perform a task at work?**

Never	Almost never	A few times a year	Once a month	Once a week	Once a day	More than once a day
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**How often do you give instructions at work?**

Never	Almost never	A few times a year	Once a month	Once a week	Once a day	More than once a day
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**How often do you show \${q://QID2/ChoiceTextEntryValue} how to perform a task at work?**

---

- Never      Almost never      A few times a year      Once a month      Once a week      Once a day      More than once a day
- 

**How often do you give instructions to \${q://QID2/ChoiceTextEntryValue} at work?**

---

- Never      Almost never      A few times a year      Once a month      Once a week      Once a day      More than once a day
- 

### **General information**

---

**In this last section of the survey, we would like to gather some general information about you.**

---

### **Gender**

---

- Male
- Female

**Please check the category below that best describes your age.**

---

- |  |   |
|--|---|
| <input type="radio"/> 17 years and under | <input type="radio"/> 45 to 49 years    |
| <input type="radio"/> 18 to 24 years     | <input type="radio"/> 50 to 54 years    |
| <input type="radio"/> 25 to 29 years     | <input type="radio"/> 55 to 59 years    |
| <input type="radio"/> 30 to 34 years     | <input type="radio"/> 60 to 64 years    |
| <input type="radio"/> 35 to 39 years     | <input type="radio"/> 65 years and over |
| <input type="radio"/> 40 to 44 years     |   |

**Please check the highest level of education that you have completed.**

---

- Completed 8th Grade.
- High School Graduate (or Equivalent).
- Some College.
- Associate's Degree.
- Bachelor's Degree.
- Graduate Or Professional Degree.

**What is your occupation? Please check the one that best applies.**

---

- Student
- Blue-collar
- White-collar
- Homemaker/Househusband

- Unemployed
- Managerial
- Professional
- Retired

**General Comment**

---

**Before you finish this survey, do you have any comments about the survey? (Optional)**

---

## Receiver Survey

### Cover Letter

Dear Participant,

This is a research study being undertaken by Pui Ying Tong, a PhD Candidate in Marketing, in partial completion of a dissertation chaired by James Brown, Kmart Corporation Chair in Marketing, and Jody Crosno, Associate Professor of Marketing, at West Virginia University. This is a professional research study being undertaken to gain a better understanding of organizational behavior.

You will need approximately 5 minutes to complete the study. You must be 18 years of age or older to participate. You must have had working experience within the last two years. The survey requires that you have had experience teaching someone at work and being asked to complete a task at work.

We are only interested in your responses and you will in no way be identified in this study. Your participation is *voluntary* and you can choose to stop participating at any time. There will be no penalty if you choose not to participate. You do not have to answer every question.

IRB acknowledgment for this study is on file.

Thank you for your help!

James Brown  
Kmart Corporation Chair in Marketing  
Marketing Department  
West Virginia University

Jody Crosno  
Associate Professor  
Marketing Department  
West Virginia University

Pui Ying Tong  
Ph. D. Candidate  
Marketing Department  
West Virginia University

---

### Read Carefully Warning

**Please read the questions carefully. If you fail to read the questions carefully, you will be bumped out of the survey and you will not be compensated.**

---

### Recall Event

**Please recall the most recent time that you *were asked* to complete a task at work. Then, write down the details below:**

---

The name of the person who gave the task is:

**\$(q://QID2/ChoiceTextEntryValue)** asked me to

briefly describe the task here

**\$(q://QID2/ChoiceTextEntryValue)** asked me to complete the task \_\_\_\_\_ ago.

years

months

days

**\$(q://QID2/ChoiceTextEntryValue)** spent \_\_\_\_\_ giving out instructions and explaining the task.

days

hours

minutes

Shared Understanding

**Please recall the conversations that you had with \$(q://QID2/ChoiceTextEntryValue) about the task that you have just described. Think about the information you received in this conversation about how that task should be done. Please answer the following questions about the task instructions that you received from \$(q://QID2/ChoiceTextEntryValue).**

**Please indicate the extent to which you agree with the following statements.**

**When \$(q://QID2/ChoiceTextEntryValue) asked me to complete that task,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
\$(q://QID2/ChoiceTextEntryValue) and I seemed to have a common view regarding the prioritization of the task,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I believed that $\{q://QID2/ChoiceTextEntryValue\}$ and I had a shared understanding of how to complete the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
$\{q://QID2/ChoiceTextEntryValue\}$ and I appeared to have the same definition of the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
$\{q://QID2/ChoiceTextEntryValue\}$ and I appeared to have a shared understanding of my role in completing the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
$\{q://QID2/ChoiceTextEntryValue\}$ and I seemed to have a common understanding of the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**If there are any questions above that are confusing, please copy and paste them below. If none, please skip this question.**

**Information Overload 1**

**Please indicate the extent to which you agree with the following statements.**

**Regarding the directions that  $\{q://QID2/ChoiceTextEntryValue\}$  communicated,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I felt that I received too much task information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The vast amount of instructions that I had to follow had caused me to make mistakes when completing the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that the amount of task information I received interfered with how well the task could be accomplished.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had more information than I could possibly handle to complete the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The amount of task information that I had to process caused me to make mistakes in completing the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
The amount of task information that needed to complete the task made me feel overloaded.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do not click an answer for this question (i.e. leave this question blank).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I received too much information to complete my task efficiently.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**If there are any questions above that are confusing, please copy and paste them below. If none, please skip this question.**

**Information overload 2**

**Please indicate the extent to which you agree with the following statements.**

**Regarding the directions that  $\{q://QID2/ChoiceTextEntryValue\}$  communicated,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
For this question, click the "Somewhat Disagree" button.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The volume of instructions that I was provided with was frustrating.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The amount of information I received was more than I could manage.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt frustrated because of the excessive amount of instructions that I was given.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I received more information about the task than I could efficiently use.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I made mistakes while completing the task because $\{q://QID2/ChoiceTextEntryValue\}$ gave me too many instructions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt overloaded with the amount of instructions that I received.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**If there are any questions above that are confusing, please copy and paste them below. If none, please skip this question.**

**Absorptive Capacity**

**Please indicate the extent to which you agree with the following statements.**

**In general, when I receive instructions about a task,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I have a strong ability to understand the task information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am good at comprehending the task-related instructions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can apply the instructions successfully.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am competent enough to understand the instructions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can perform the task well with the given instructions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**If there are any questions above that are confusing, please copy and paste them below. If none, please skip this question.**

**Control**

**How often do you receive instructions at work?**

Never    
  Almost never    
  A few times a year    
  Once a month    
  Once a week    
  Once a day    
  More than once a day

**How often does someone ask you to do a task at work?**

Never    
  Almost never    
  A few times a year    
  Once a month    
  Once a week    
  Once a day    
  More than once a day





**How often do you receive instructions from \${q://QID2/ChoiceTextEntryValue}?**

---

- Never       Almost never       A few times a year       Once a month       Once a week       Once a day       More than once a day

**How often does \${q://QID2/ChoiceTextEntryValue} ask you to do a task?**

---

- Never       Almost never       A few times a year       Once a month       Once a week       Once a day       More than once a day

**General information**

---

**In this last section of the survey, we would like to gather some general information about you.**

---

**Gender**

---

- Male  
 Female

**Please check the category below that best describes your age.**

---

- |  |   |
|--|---|
| <input type="radio"/> 17 years and under | <input type="radio"/> 45 to 49 years    |
| <input type="radio"/> 18 to 24 years     | <input type="radio"/> 50 to 54 years    |
| <input type="radio"/> 25 to 29 years     | <input type="radio"/> 55 to 59 years    |
| <input type="radio"/> 30 to 34 years     | <input type="radio"/> 60 to 64 years    |
| <input type="radio"/> 35 to 39 years     | <input type="radio"/> 65 years and over |
| <input type="radio"/> 40 to 44 years     |   |

**Please check the highest level of education that you have completed.**

---

- Completed 8th Grade.  
 High School Graduate (or Equivalent).  
 Some College.  
 Associate's Degree.  
 Bachelor's Degree.  
 Graduate Or Professional Degree.

**What is your occupation? Please check the one that best applies.**

---

- Student
- Blue-collar
- White-collar
- Homemaker/Househusband

- Unemployed
- Managerial
- Professional
- Retired

**End of survey general comment**

**Before you finish this survey, do you have any comments about the survey? (Optional)**

---

## **Appendix B**

### **RESULTS FOR ITEM GENERATION AND PRETEST**

**Table B.1 Q-sort Method Results**

<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Correct Responses</b>
<b>Leveling</b>		
Leveling1	I presented a summarized version of the instructions.	9
Leveling2	I condensed the instructions.	9
Leveling3 <sup>d</sup>	I only provided the information needed to complete the task.	4
Leveling4	I shortened the instructions.	8
Leveling5	I simplified content of the instructions. ( <i>Adapted from Barley et al., 2012</i> )	7
Leveling6	I presented the instructions in a concise manner. ( <i>Adapted from Agnihotri et al., 2009</i> )	9
Leveling7	I presented the instructions to (First name) in a succinct way.	9
Leveling8 <sup>d</sup>	I communicated the essence of the task rather than every detail about it.	6
<b>Queuing</b>		
Queuing_Delay1	I delayed giving the instructions until (First name) had the time to learn that task.	11
Queuing_Delay2	I postponed giving the instructions until (First name) could more fully allocate his/her time to that task.	11
Queuing_Delay3	I waited to share task information until (First name) could focus on that task.	9
Queuing_Delay4	I withheld the instructions until (First name) could devote more attention to them.	11
Queuing_Prioritize1	I communicated the instructions in order of their relative importance.	10
Queuing_Prioritize2 <sup>d</sup>	I divided the instructions into smaller pieces in order to provide one piece of the instructions at a time	7
Queuing_Prioritize3	I prioritized the information so that (First name) only had to focus on one part of the instructions at a time.	9
Queuing_Prioritize4	I provided the more important task information first.	10
Queuing_Prioritize5	I provided (First name) with only the task information needed to perform the stage of the task being worked on.	7
Queuing_Prioritize6	I communicated the instructions in a sequence so (First name) could focus on one part of the task at a time.	10

<sup>d</sup> denotes items that are dropped. Correct responses is the number of respondents who classify the items to the construct as expected.

(Continue) Table B.1 Q-sort Method Results

Construct/Indicators	Measurement Items	Correct Responses
<b>Reshaping</b>		
Reshaping1	I attempted to alter my communication so (First name) would not be overly nervous about completing the task.	10
Reshaping2	I tried to tailor my communication so (First name) would not feel too anxious about carrying out the task.	10
Reshaping3	I aimed to adapt the instructions to minimize (First name)'s worry about performing the task.	11
Reshaping4	I tried to modify my communication so (First name) would not lose confidence in his/her ability to complete the task.	9
Reshaping5	I strived to adapt my teaching style so (First name) would not feel too discouraged in performing the task.	9
Reshaping6	I attempted to tailor my communication so (First name) would not feel overly stressed about performing the task.	10
<b>Adjusting</b>		
Adjusting1	I tried to adapt the instructions based on (First name)'s work experience. <i>(Adapted from Reid et al., 2002)</i>	11
Adjusting2 <sup>d</sup>	I tried to communicate the instructions in a vocabulary that (First name) would understand.	6
Adjusting3	I attempted to tailor the instructions to (First name)'s background.	11
Adjusting4	I tried to use language that would make sense to (First name). <i>(Adapted from Maltz, 2000)</i>	10
Adjusting5	I tried to use terminology that (First name) would be familiar with. <i>(Adapted from Ahearne et al., 2007)</i>	11
Adjusting6	I attempted to word the instructions in a way that (First name) could understand.	10

(Continue) Table B.1 Q-sort Method Results

Construct/Indicators	Measurement Items	Correct Responses
<b>Creating Ambiguity</b>		
Creating_Ambiguity1	The task information that I communicated is up for (First name)'s interpretation.	11
Creating_Ambiguity2	I left the instructions open to (First name)'s interpretation for completing the task.	8
Creating_Ambiguity3	I gave instructions that could be interpreted in multiple ways to give (First name) more flexibility.	11
Creating_Ambiguity4	I left some room for (First name) to interpret the instructions so that (First name) saw fit.	10
Creating_Ambiguity5	I left some room for (First name) to interpret the instructions as (First name) saw best.	10
Creating_Ambiguity6	I gave instructions that could be interpreted in different ways to give (First name) room for creativity.	10
Creating_Ambiguity7	The instructions that I gave was subject to (First name)'s interpretation.	10
Creating_Ambiguity8	I left the instructions open to (First name)'s interpretation.	10
<b>Information Overload</b>		
Information_Overload1	I received more information about the task than I could efficiently use.	10
Information_Overload2	I felt that the amount of task information I received interfered with how well the task could be accomplished.	7
Information_Overload3	I had more information than I could possibly handle to complete the task.	11
Information_Overload4	I felt overloaded with the amount of instructions that I received.	11
Information_Overload5	I felt that I received too much task information.	11
Information_Overload6	I received too much information to complete my task efficiently.	11
Information_Overload7	The amount of information I received was more than I could manage.	11
Information_Overload_Error1	The amount of task information that I had to process caused me to make mistakes in completing the task. <i>(Adapted from Hunter &amp; Goebel, 2008)</i>	10
Information_Overload_Error2	The vast amount of instructions that I had to follow had caused me to make mistakes when completing the task. <i>(Adapted from Hunter &amp; Goebel, 2008)</i>	11

(Continue) Table B.1 Q-sort Method Results

Construct/Indicators	Measurement Items	Correct Responses
<b>(Cont.) Information Overload</b>		
Information_Overload_Error3	I made mistakes while completing the task because (First Name) gave me too many instructions. <i>(Adapted from Hunter &amp; Goebel, 2008)</i>	10
Information_Overload_Affective1	The volume of instructions that I was provided with was frustrating. <i>(Adapted from Hunter &amp; Goebel, 2008)</i>	10
Information_Overload_Affective2	The amount of task information that needed to complete the task made me feel overloaded. <i>(Adapted from Hunter &amp; Goebel, 2008)</i>	10
Information_Overload_Affective3	I felt frustrated because of the excessive amount of instructions that I was given. <i>(Adapted from Hunter &amp; Goebel, 2008)</i>	11
<b>Shared Understanding</b>		
Shared_Understanding1	I believed that (First name) and I had a shared understanding of how to complete the task.	10
Shared_Understanding2	(First name) and I appeared to have the same definition of the task. <i>(Adapted from Hinds &amp; Weisband, 2003)</i>	10
Shared_Understanding3	(First name) and I seemed to have a common view regarding the prioritization of the task. <i>(Adapted from Preston et al., 2006)</i>	9
Shared_Understanding4	(First name) and I appeared to have a shared understanding of my role in completing the task. <i>(Adapted from Preston et al., 2006)</i>	11
Shared_Understanding5 <sup>d</sup>	I knew what (First name) wanted me to accomplish.	7
Shared_Understanding6	(First name) and I seemed to have a common understanding of the task.	9

**(Continue) Table B.1 Q-sort Method Results**

<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Correct Responses</b>
<b>Absorptive Capacity</b>		
Absorptive_Capacity1	I have a strong ability to understand the task information. <i>(Adapted from Lane et al., 2001)</i>	8
Absorptive_Capacity2	I am good at comprehending the task-related instructions. <i>(Adapted from Lane et al., 2001)</i>	9
Absorptive_Capacity3	I can perform the task well with the given instructions. <i>(Adapted from Park et al., 2007)</i>	10
Absorptive_Capacity4	I can apply the instructions successfully. <i>(Adapted from Lane et al., 2001)</i>	8
Absorptive_Capacity5	I am competent enough to understand the instructions. <i>(Adapted from Szulanski, 1996)</i>	9



**Table B.2 Descriptive Statistics for Sender Survey in Pretest One**

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Leveling</b>							
Leveling1	I presented a summarized version of the instructions.	4.85	1.64	-0.82	0.15	-0.23	0.31
Leveling2	I condensed the instructions.	4.29	1.58	-0.23	0.15	-0.88	0.31
Leveling4	I shortened the instructions.	3.70	1.61	0.15	0.15	-0.95	0.31
Leveling5	I simplified the content of the instructions.	4.50	1.55	-0.33	0.15	-0.95	0.31
Leveling6 <sup>lg</sup>	I presented the instructions in a concise manner.	0.28	0.19	-0.06	0.15	-0.49	0.31
Leveling7	I presented the instructions to (First name) in a succinct way.	5.33	1.18	-0.91	0.15	1.02	0.31
<b>Queuing</b>							
Queuing_Delay1	I delayed giving the instructions until (First name) had the time to learn that task.	4.31	1.65	-0.21	0.15	-1.08	0.31
Queuing_Delay2	I postponed giving the instructions until (First name) could more fully allocate his/her time to that task.	4.38	1.70	-0.23	0.15	-1.16	0.31
Queuing_Delay3	I waited to share task information until (First name) could focus on that task.	5.47	1.17	-0.96	0.15	0.85	0.31
Queuing_Delay4	I withheld the instructions until (First name) could devote more attention to them.	3.49	1.71	0.27	0.15	-1.00	0.31
Queuing_Prioritize1	I communicated the instructions in order of their relative importance.	5.47	1.22	-0.98	0.15	1.04	0.31
Queuing_Prioritize3	I prioritized the information so that (First name) only had to focus on one part of the instructions at a time.	5.26	1.30	-0.76	0.15	0.09	0.31

<sup>lg</sup> denotes item that is log transformed.

(Continue) Table B.2 Descriptive Statistics for Sender Survey in Pretest One

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>(Cont.) Queuing</b>							
Queuing_Prioritize4 <sup>lg</sup>	I provided the more important task information first.	0.31	0.22	0.08	0.15	-0.61	0.31
Queuing_Prioritize5	I provided (First name) with only the task information needed to perform the stage of the task being worked on.	4.85	1.49	-0.69	0.15	-0.31	0.31
Queuing_Prioritize6	I communicated the instructions in a sequence so (First name) could focus on one part of the task at a time.	5.50	1.16	-0.96	0.15	0.93	0.31
<b>Reshaping</b>							
Reshaping1 <sup>lg</sup>	I attempted to alter my communication so (First name) would not be overly nervous about completing the task.	0.38	0.22	-0.04	0.15	-0.28	0.31
Reshaping2 <sup>lg</sup>	I tried to tailor my communication so (First name) would not feel too anxious about carrying out the task.	0.27	0.20	0.11	0.15	-0.52	0.31
Reshaping3 <sup>lg</sup>	I aimed to adapt the instructions to minimize (First name)'s worries about performing the task.	0.36	0.21	-0.11	0.15	-0.29	0.31
Reshaping4	I tried to modify my communication so (First name) would not lose confidence in his/her ability to complete the task.	5.29	1.35	-1.12	0.15	1.31	0.31

(Continue) Table B.2 Descriptive Statistics for Sender Survey in Pretest One

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>(Cont.) Queuing</b>							
Reshaping5 <sup>lg</sup>	I strived to adapt my teaching style so (First name) would not feel too discouraged in performing the task.	0.36	0.22	-0.10	0.15	-0.46	0.31
Reshaping6 <sup>lg</sup>	I attempted to tailor my communication so (First name) would not feel overly stressed about performing the task.	0.28	0.20	-0.01	0.15	-0.62	0.31
<b>Adjusting</b>							
Adjusting1	I tried to adapt the instructions based on (First name)'s work experience.	5.27	1.35	-1.08	0.15	0.88	0.31
Adjusting3	I attempted to tailor the instructions to (First name)'s background.	4.99	1.50	-0.91	0.15	0.12	0.31
Adjusting4 <sup>lg</sup>	I tried to use language that would make sense to (First name).	0.28	0.18	-0.09	0.15	-0.33	0.31
Adjusting5	I tried to use terminology that (First name) would be familiar with.	5.99	0.83	-1.04	0.15	1.83	0.31
Adjusting6 <sup>lg</sup>	I attempted to word the instructions in a way that (First name) could understand.	0.25	0.19	0.05	0.15	-0.56	0.31

(Continue) Table B.2 Descriptive Statistics for Sender Survey in Pretest One

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Creating Ambiguity</b>							
Creating_Ambiguity1	The task information that I communicated is up for (First name)'s interpretation.	3.34	1.69	0.34	0.15	-1.06	0.31
Creating_Ambiguity2	I left the instructions open to (First name)'s interpretation for completing the task.	3.26	1.67	0.45	0.15	-0.92	0.31
Creating_Ambiguity3	I gave instructions that could be interpreted in multiple ways to give (First name) more flexibility.	3.79	1.81	0.15	0.15	-1.24	0.31
Creating_Ambiguity4	I left some room for (First name) to interpret the instructions as (First name) saw fit.	3.62	1.73	0.18	0.15	-1.10	0.31
Creating_Ambiguity5	I left some room for (First name) to interpret the instructions as (First name) saw best.	3.66	1.73	0.14	0.16	-1.12	0.31
Creating_Ambiguity6	I gave instructions that could be interpreted in different ways to give (First name) room for creativity.	3.37	1.77	0.40	0.15	-1.05	0.31
Creating_Ambiguity7	The instructions that I gave were subject to (First name)'s interpretation	3.43	1.68	0.39	0.15	-0.90	0.31
Creating_Ambiguity8	I left the instructions open to (First name)'s interpretation.	3.08	1.55	0.54	0.15	-0.63	0.31

**Table B.3 Descriptive Statistics for Receiver Survey in Pretest One**

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Information Overload</b>							
Information_Overload1 <sup>lg</sup>	I received more information about the task than I could efficiently use.	0.22	0.23	0.67	0.15	-0.47	0.30
Information_Overload2 <sup>lg</sup>	I felt that the amount of task information I received interfered with how well the task could be accomplished.	0.24	0.25	0.64	0.15	-0.61	0.30
Information_Overload3 <sup>lg</sup>	I had more information than I could possibly handle to complete the task.	0.23	0.23	0.64	0.15	-0.45	0.30
Information_Overload4 <sup>lg</sup>	I felt overloaded with the amount of instructions that I received.	0.20	0.22	0.76	0.15	-0.24	0.30
Information_Overload5 <sup>lg</sup>	I felt that I received too much task information.	0.22	0.22	0.63	0.15	-0.34	0.30
Information_Overload6 <sup>lg</sup>	I received too much information to complete my task efficiently.	0.20	0.22	0.81	0.15	0.01	0.30
Information_Overload7 <sup>lg</sup>	The amount of information I received was more than I could manage.	0.19	0.22	0.83	0.15	-0.07	0.30
Information_Overload_Error1 <sup>lg</sup>	The amount of task information that I had to process caused me to make mistakes in completing the task.	0.21	0.22	0.70	0.15	-0.39	0.30
Information_Overload_Error2 <sup>lg</sup>	The vast amount of instructions that I had to follow had caused me to make mistakes when completing the task.	0.19	0.22	0.87	0.15	0.01	0.30

<sup>lg</sup> denotes item that is log transformed.

(Continue) Table B.3 Descriptive Statistics for Receiver Survey in Pretest One

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>(Cont.) Information Overload</b>							
Information_Overload_Error3 <sup>lg</sup>	I made mistakes while completing the task because (First name) gave me too many instructions.	0.17	0.21	0.91	0.15	-0.10	0.30
Information_Overload_Affective1 <sup>lg</sup>	The volume of instructions that I was provided with was frustrating.	0.21	0.23	0.72	0.15	-0.52	0.30
Information_Overload_Affective2 <sup>lg</sup>	The amount of task information that needed to complete the task made me feel overloaded.	0.23	0.24	0.73	0.15	-0.45	0.30
Information_Overload_Affective3 <sup>lg</sup>	I felt frustrated because of the excessive amount of instructions that I was given.	0.19	0.22	0.78	0.15	-0.35	0.30
<b>Shared Understanding</b>							
Shared_Understanding1	I believed that (First name) and I had a shared understanding of how to complete the task.	6.15	1.06	-1.92	0.15	4.75	0.30
Shared_Understanding2	(First name) and I appeared to have the same definition of the task.	6.23	0.95	-1.96	0.15	5.75	0.30
Shared_Understanding3	(First name) and I seemed to have a common view regarding the prioritization of the task.	6.09	1.08	-1.79	0.15	3.93	0.30
Shared_Understanding4	(First name) and I appeared to have a shared understanding of my role in completing the task.	6.26	0.95	-2.17	0.15	6.89	0.30
Shared_Understanding6	(First name) and I seemed to have a common understanding of the task.	6.22	0.96	-2.17	0.15	7.10	0.30

(Continue) Table B.3 Descriptive Statistics for Receiver Survey in Pretest One

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Absorptive Capacity</b>							
Absorptive_Capacity1	I have a strong ability to understand the task information.	6.27	0.84	-1.54	0.15	3.33	0.30
Absorptive_Capacity2	I am good at comprehending the task-related instructions.	6.28	0.81	-1.52	0.15	3.36	0.30
Absorptive_Capacity3	I can perform the task well with the given instructions.	6.32	0.77	-1.39	0.15	3.01	0.30
Absorptive_Capacity4	I can apply the instructions successfully.	6.35	0.77	-1.52	0.15	3.52	0.30
Absorptive_Capacity5	I am competent enough to understand the instructions.	6.36	0.77	-1.59	0.15	3.78	0.30

**Figure B.1 Scree Plot for Sender Survey in Pretest One**

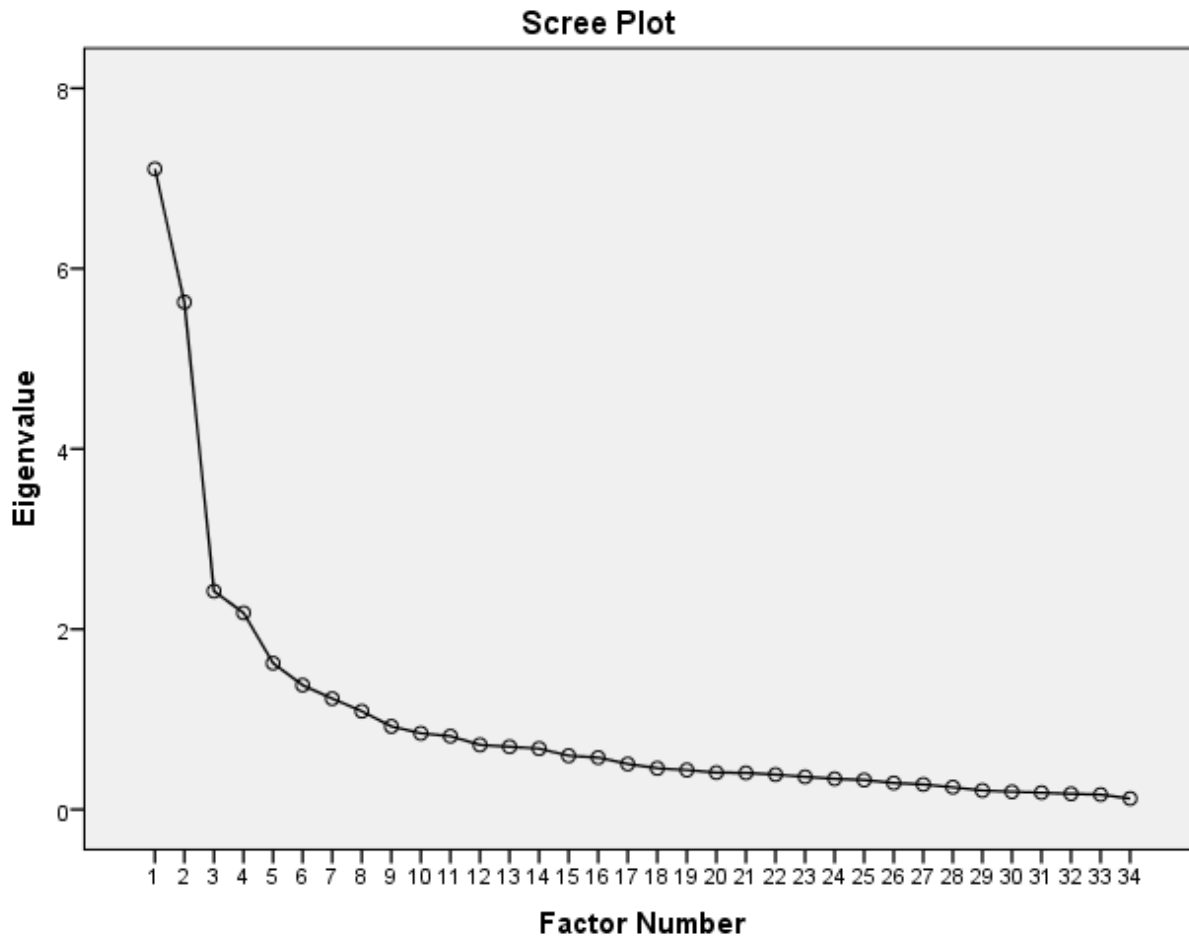
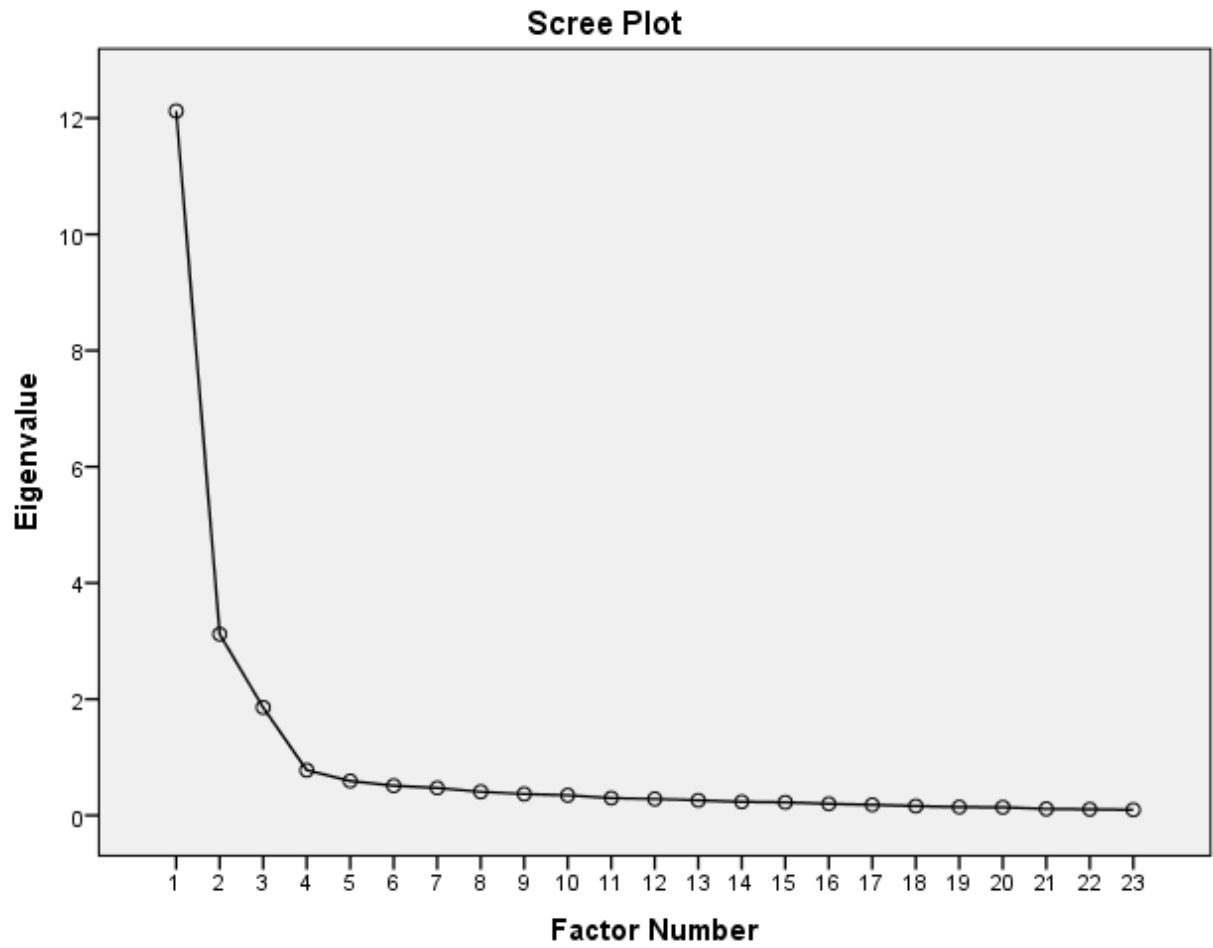




Figure B.2 Scree Plot for Receiver Survey in Pretest One



**Table B.4 EFA Results for Sender Survey in Pretest One**

Construct/Indicators	Measurement Items	Factors (% of Variance Explained)				
		1 (19.67%)	2 (15.24%)	3 (5.58%)	4 (4.91%)	5 (3.30%)
<b>Leveling</b>						
Leveling1	I presented a summarized version of the instructions.	0.135	0.012	-0.093	<b>0.516</b>	0.013
Leveling2	I condensed the instructions.	0.078	0.034	-0.057	<b>0.806</b>	-0.123
Leveling4	I shortened the instructions.	0.099	-0.056	0.048	<b>0.718</b>	-0.060
Leveling5	I simplified the content of the instructions.	0.030	0.035	0.134	<b>0.593</b>	0.153
Leveling6 <sup>d</sup>	I presented the instructions in a concise manner.	-0.148	-0.133	0.071	<b>0.129</b>	0.479
Leveling7 <sup>d</sup>	I presented the instructions to (First name) in a succinct way.	-0.238	-0.060	0.069	<b>0.267</b>	0.255
<b>Queuing</b>						
Queuing_Delay1	I delayed giving the instructions until (First name) had the time to learn that task.	-0.153	0.107	<b>0.784</b>	0.027	-0.189
Queuing_Delay2	I postponed giving the instructions until (First name) could more fully allocate his/her time to that task.	0.011	0.096	<b>0.738</b>	-0.037	-0.032
Queuing_Delay3	I waited to share task information until (First name) could focus on that task.	0.101	-0.042	<b>0.426</b>	0.019	0.274
Queuing_Delay4	I withheld the instructions until (First name) could devote more attention to them.	0.165	0.053	<b>0.454</b>	0.070	-0.186
Queuing_Prioritize1 <sup>d</sup>	I communicated the instructions in order of their relative importance.	0.012	0.106	<b>0.114</b>	0.122	0.326
Queuing_Prioritize3	I prioritized the information so that (First name) only had to focus on one part of the instructions at a time.	0.114	0.046	<b>0.496</b>	-0.050	0.437
Queuing_Prioritize4 <sup>d</sup>	I provided the more important task information first.	0.055	0.010	0.047	0.221	0.268
Queuing_Prioritize5	I provided (First name) with only the task information needed to perform the stage of the task being worked on.	0.027	-0.062	<b>0.374</b>	-0.014	0.273

<sup>d</sup> denotes items that are dropped due to low factor loading. Note: Factor solutions are suggested in boldface.

(Continue) Table B.4 EFA Results for Sender Survey in Pretest One

Construct/Indicators	Measurement Items	Factors				
		1	2	3	4	5
<b>(Cont.) Queuing</b>						
Queuing_Prioritize6	I communicated the instructions in a sequence so (First name) could focus on one part of the task at a time.	-0.028	0.050	<b>0.440</b>	-0.089	0.394
<b>Reshaping</b>						
Reshaping1	I attempted to alter my communication so (First name) would not be overly nervous about completing the task.	0.016	<b>0.685</b>	0.114	0.191	-0.143
Reshaping2	I tried to tailor my communication so (First name) would not feel too anxious about carrying out the task.	0.002	<b>0.697</b>	-0.049	-0.101	0.167
Reshaping3	I aimed to adapt the instructions to minimize (First name)'s worries about performing the task.	0.047	<b>0.667</b>	0.123	0.065	-0.008
Reshaping4	I tried to modify my communication so (First name) would not lose confidence in his/her ability to complete the task.	-0.029	<b>0.705</b>	0.076	0.055	-0.110
Reshaping5	I strived to adapt my teaching style so (First name) would not feel too discouraged in performing the task.	0.005	<b>0.800</b>	0.059	0.085	-0.007
Reshaping6	I attempted to tailor my communication so (First name) would not feel overly stressed about performing the task.	0.027	<b>0.607</b>	-0.002	-0.197	0.323
<b>Adjusting</b>						
Adjusting1 <sup>d</sup>	I tried to adapt the instructions based on (First name)'s work experience.	0.070	0.209	0.001	0.325	<b>0.045</b>
Adjusting3 <sup>d</sup>	I attempted to tailor the instructions to (First name)'s background.	0.028	0.296	-0.054	0.324	<b>0.045</b>
Adjusting4	I tried to use language that would make sense to (First name).	-0.091	0.394	-0.044	-0.003	<b>0.519</b>

(Continue) Table B.4 EFA Results for Sender Survey in Pretest One

Construct/Indicators	Measurement Items	Factors				
		1	2	3	4	5
<b>(Cont.) Adjusting</b>						
Adjusting5	I tried to use terminology that (First name) would be familiar with.	0.023	0.205	-0.034	-0.029	<b>0.486</b>
Adjusting6	I attempted to word the instructions in a way that (First name) could understand.	-0.145	0.366	-0.065	0.035	<b>0.595</b>
<b>Creating Ambiguity</b>						
Creating_Ambiguity1	The task information that I communicated is up for (First name)'s interpretation.	<b>0.795</b>	-0.031	-0.035	0.049	0.016
Creating_Ambiguity2	I left the instructions open to (First name)'s interpretation for completing the task.	<b>0.883</b>	-0.007	0.025	0.008	-0.004
Creating_Ambiguity3	I gave instructions that could be interpreted in multiple ways to give (First name) more flexibility.	<b>0.703</b>	-0.039	0.052	0.034	0.079
Creating_Ambiguity4	I left some room for (First name) to interpret the instructions as (First name) saw fit.	<b>0.794</b>	0.035	0.078	0.027	-0.067
Creating_Ambiguity5	I left some room for (First name) to interpret the instructions as (First name) saw best.	<b>0.899</b>	0.038	-0.012	-0.017	0.060
Creating_Ambiguity6	I gave instructions that could be interpreted in different ways to give (First name) room for creativity.	<b>0.787</b>	0.078	0.036	0.022	-0.077
Creating_Ambiguity7	The instructions that I gave were subject to (First name)'s interpretation	<b>0.726</b>	-0.044	-0.059	0.128	0.100
Creating_Ambiguity8	I left the instructions open to (First name)'s interpretation.	<b>0.797</b>	-0.042	-0.015	0.030	-0.070

**Table B.5 EFA Results for Receiver Survey in Pretest One**

Construct/Indicators	Measurement Items	Factors (% of Variance Explained)		
		1 (35.00%)	2 (18.10%)	3 (17.88%)
<b>Information Overload</b>				
Information_Overload1	I received more information about the task than I could efficiently use.	<b>0.771</b>	0.016	0.010
Information_Overload2	I felt that the amount of task information I received interfered with how well the task could be accomplished.	<b>0.555</b>	-0.161	-0.064
Information_Overload3	I had more information than I could possibly handle to complete the task.	<b>0.734</b>	0.063	-0.007
Information_Overload4	I felt overloaded with the amount of instructions that I received.	<b>0.820</b>	0.039	-0.048
Information_Overload5	I felt that I received too much task information.	<b>0.805</b>	0.059	-0.039
Information_Overload6	I received too much information to complete my task efficiently.	<b>0.781</b>	-0.023	0.009
Information_Overload7	The amount of information I received was more than I could manage.	<b>0.826</b>	0.016	-0.097
Information_Overload_Error1	The amount of task information that I had to process caused me to make mistakes in completing the task.	<b>0.754</b>	-0.031	-0.127
Information_Overload_Error2	The vast amount of instructions that I had to follow had caused me to make mistakes when completing the task.	<b>0.801</b>	-0.038	-0.074
Information_Overload_Error3	I made mistakes while completing the task because (First name) gave me too many instructions.	<b>0.720</b>	0.07	-0.215
Information_Overload_Affective1	The volume of instructions that I was provided with was frustrating.	<b>0.891</b>	-0.144	0.193
Information_Overload_Affective2	The amount of task information that needed to complete the task made me feel overloaded.	<b>0.830</b>	0.031	0.043

Note: Factor solutions are suggested in boldface.

(Continue) Table B.5 EFA Results for Receiver Survey in Pretest One

Construct/Indicators	Measurement Items	Factors		
		1	2	3
<b>(Cont.) Information Overload</b>				
Information_Overload_Affective3	I felt frustrated because of the excessive amount of instructions that I was given.	<b>0.877</b>	-0.036	0.066
<b>Shared Understanding</b>				
Shared_Understanding1	I believed that (First name) and I had a shared understanding of how to complete the task.	-0.015	<b>0.902</b>	0.013
Shared_Understanding2	(First name) and I appeared to have the same definition of the task.	0.048	<b>0.827</b>	0.122
Shared_Understanding3	(First name) and I seemed to have a common view regarding the prioritization of the task.	-0.041	<b>0.784</b>	0.005
Shared_Understanding4	(First name) and I appeared to have a shared understanding of my role in completing the task.	-0.038	<b>0.821</b>	0.051
Shared_Understanding6	(First name) and I seemed to have a common understanding of the task.	0.008	<b>0.955</b>	-0.060
<b>Absorptive Capacity</b>				
Absorptive_Capacity1	I have a strong ability to understand the task information.	-0.040	-0.062	<b>0.892</b>
Absorptive_Capacity2	I am good at comprehending the task-related instructions.	0.002	0.086	<b>0.859</b>
Absorptive_Capacity3	I can perform the task well with the given instructions.	-0.004	0.029	<b>0.821</b>
Absorptive_Capacity4	I can apply the instructions successfully.	-0.022	0.094	<b>0.845</b>
Absorptive_Capacity5	I am competent enough to understand the instructions.	-0.063	0.027	<b>0.851</b>

**Table B.6 Internal Consistency of Items in Sender Survey in Pretest One**

<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Cronbach's Alpha</b>	<b>Item-Total Correlation</b>
<b>Leveling</b>		0.777	
Leveling1	I presented a summarized version of the instructions.		0.415
Leveling2	I condensed the instructions.		0.678
Leveling4	I shortened the instructions.		0.664
Leveling5	I simplified the content of the instructions.		0.581
<b>Queuing</b>		0.767	
Queuing_Delay1	I delayed giving the instructions until (First name) had the time to learn that task.		0.583
Queuing_Delay2	I postponed giving the instructions until (First name) could more fully allocate his/her time to that task.		0.612
Queuing_Delay3	I waited to share task information until (First name) could focus on that task.		0.430
Queuing_Delay4	I withheld the instructions until (First name) could devote more attention to them.		0.352
Queuing_Prioritize3	I prioritized the information so that (First name) only had to focus on one part of the instructions at a time.		0.592
Queuing_Prioritize5	I provided (First name) with only the task information needed to perform the stage of the task being worked on.		0.403
Queuing_Prioritize6	I communicated the instructions in a sequence so (First name) could focus on one part of the task at a time.		0.502

(Continue) Table B.6 Internal Consistency of Items in Sender Survey in Pretest One

Construct/Indicators	Measurement Items	Cronbach's Alpha	Item-Total Correlation
<b>Reshaping</b>		0.864	
Reshaping1	I attempted to alter my communication so (First name) would not be overly nervous about completing the task.		0.701
Reshaping2	I tried to tailor my communication so (First name) would not feel too anxious about carrying out the task.		0.665
Reshaping3	I aimed to adapt the instructions to minimize (First name)'s worries about performing the task.		0.635
Reshaping4	I tried to modify my communication so (First name) would not lose confidence in his/her ability to complete the task.		0.620
Reshaping5	I strived to adapt my teaching style so (First name) would not feel too discouraged in performing the task.		0.761
Reshaping6	I attempted to tailor my communication so (First name) would not feel overly stressed about performing the task.		0.594
<b>Adjusting</b>		0.750	
Adjusting4	I tried to use language that would make sense to (First name).		0.678
Adjusting5	I tried to use terminology that (First name) would be familiar with.		0.433
Adjusting6	I attempted to word the instructions in a way that (First name) could understand.		0.639



**(Continue) Table B.6 Internal Consistency of Items in Sender Survey in Pretest One**

<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Cronbach's Alpha</b>	<b>Item-Total Correlation</b>
<b>Creating Ambiguity</b>		0.938	
Creating_Ambiguity1	The task information that I communicated is up for (First name)'s interpretation.		0.765
Creating_Ambiguity2	I left the instructions open to (First name)'s interpretation for completing the task.		0.851
Creating_Ambiguity3	I gave instructions that could be interpreted in multiple ways to give (First name) more flexibility.		0.686
Creating_Ambiguity4	I left some room for (First name) to interpret the instructions as (First name) saw fit.		0.796
Creating_Ambiguity5	I left some room for (First name) to interpret the instructions as (First name) saw best.		0.856
Creating_Ambiguity6	I gave instructions that could be interpreted in different ways to give (First name) room for creativity.		0.796
Creating_Ambiguity7	The instructions that I gave were subject to (First name)'s interpretation		0.708
Creating_Ambiguity8	I left the instructions open to (First name)'s interpretation.		0.789

**Table B.7 Internal Consistency of Items in Receiver Survey in Pretest One**

<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Cronbach's Alpha</b>	<b>Item-Total Correlation</b>
<b>Information Overload</b>		0.957	
Information_Overload1	I received more information about the task than I could efficiently use.		0.734
Information_Overload2	I felt that the amount of task information I received interfered with how well the task could be accomplished.		0.650
Information_Overload3	I had more information than I could possibly handle to complete the task.		0.697
Information_Overload4	I felt overloaded with the amount of instructions that I received.		0.810
Information_Overload5	I felt that I received too much task information.		0.787
Information_Overload6	I received too much information to complete my task efficiently.		0.770
Information_Overload7	The amount of information I received was more than I could manage.		0.856
Information_Overload_Error1	The amount of task information that I had to process caused me to make mistakes in completing the task.		0.833
Information_Overload_Error2	The vast amount of instructions that I had to follow had caused me to make mistakes when completing the task.		0.844
Information_Overload_Error3	I made mistakes while completing the task because (First name) gave me too many instructions.		0.798
Information_Overload_Affective1	The volume of instructions that I was provided with was frustrating.		0.808
Information_Overload_Affective2	The amount of task information that needed to complete the task made me feel overloaded.		0.774
Information_Overload_Affective3	I felt frustrated because of the excessive amount of instructions that I was given.		0.826

(Continue) Table B.7 Internal Consistency of Items in Receiver Survey in Pretest One

Construct/Indicators	Measurement Items	Cronbach's Alpha	Item-Total Correlation
<b>Shared Understanding</b>		0.941	
Shared_Understanding1	I believed that (First name) and I had a shared understanding of how to complete the task.		0.875
Shared_Understanding2	(First name) and I appeared to have the same definition of the task.		0.838
Shared_Understanding3	(First name) and I seemed to have a common view regarding the prioritization of the task.		0.784
Shared_Understanding4	(First name) and I appeared to have a shared understanding of my role in completing the task.		0.833
Shared_Understanding6	(First name) and I seemed to have a common understanding of the task.		0.879
<b>Absorptive Capacity</b>		0.948	0.849
Absorptive_Capacity1	I have a strong ability to understand the task information.		0.876
Absorptive_Capacity2	I am good at comprehending the task-related instructions.		0.811
Absorptive_Capacity3	I can perform the task well with the given instructions.		0.882
Absorptive_Capacity4	I can apply the instructions successfully.		0.872
Absorptive_Capacity5	I am competent enough to understand the instructions.		0.849

**Table B.8 CFA Results for Sender Survey in Pretest One**

<b>Overall Model Fit</b>			
$\chi^2_{(328)} = 599.86, p \leq .00; CFI = 0.925; RMSEA = .058; SRMR = .073$			
<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Std. Factor Loading*</b>	<b>Error Term</b>
<b>Leveling (AVE=0.49; CR=.79)</b>			
Leveling1 <sup>d</sup>	I presented a summarized version of the instructions.	0.471	0.778
Leveling2	I condensed the instructions.	0.795	0.367
Leveling4	I shortened the instructions.	0.795	0.369
Leveling5	I simplified the content of the instructions.	0.694	0.519
<b>Queuing (AVE=0.33; CR=.75)</b>			
Queuing_Delay1 <sup>d</sup>	I delayed giving the instructions until (First name) had the time to learn that task.	0.423	0.831
Queuing_Delay2 <sup>d</sup>	I postponed giving the instructions until (First name) could more fully allocate his/her time to that task.	0.478	0.771
Queuing_Delay3 <sup>d</sup>	I waited to share task information until (First name) could focus on that task.	0.486	0.764
Queuing_Delay4 <sup>d</sup>	I withheld the instructions until (First name) could devote more attention to them.	0.215	0.954
Queuing_Prioritize3	I prioritized the information so that (First name) only had to focus on one part of the instructions at a time.	0.870	0.243
Queuing_Prioritize5 <sup>d</sup>	I provided (First name) with only the task information needed to perform the stage of the task being worked on.	0.519	0.731
Queuing_Prioritize6	I communicated the instructions in a sequence so (First name) could focus on one part of the task at a time.	0.767	0.411

<sup>d</sup> denotes items that are dropped. \*All the factor loadings are statistically significant ( $p \leq .05$ ). Note: Based on modification index, the error terms of these indicators are set to be correlated: Queuing\_Delay1 & Queuing\_Delay2; Queuing\_Delay1 & Queuing\_Delay4; Queuing\_Delay4 & Queuing\_Delay2; Queuing\_Delay1 & Queuing\_Prioritize6; Queuing\_Delay2 & Queuing\_Prioritize3; Queuing\_Delay4 & Queuing\_Prioritize6; Queuing\_Prioritize6 & Queuing\_Prioritize3.

(Continue) Table B.8 CFA Results for Sender Survey in Pretest One

Construct/Indicators	Measurement Items	Std. Factor Loading	Error Term
<b>Reshaping (AVE=0.48; CR=.85)</b>			
Reshaping1	I attempted to alter my communication so (First name) would not be overly nervous about completing the task.	0.725	0.475
Reshaping2 <sup>d</sup>	I tried to tailor my communication so (First name) would not feel too anxious about carrying out the task.	0.682	0.535
Reshaping3 <sup>d</sup>	I aimed to adapt the instructions to minimize (First name)'s worries about performing the task.	0.684	0.532
Reshaping4 <sup>d</sup>	I tried to modify my communication so (First name) would not lose confidence in his/her ability to complete the task.	0.688	0.827
Reshaping5	I strived to adapt my teaching style so (First name) would not feel too discouraged in performing the task.	0.840	0.294
Reshaping6	I attempted to tailor my communication so (First name) would not feel overly stressed about performing the task.	0.641	0.589
<b>Adjusting (AVE=0.36; CR=.58)</b>			
Adjusting4	I tried to use language that would make sense to (First name).	0.838	0.298
Adjusting5 <sup>d</sup>	I tried to use terminology that (First name) would be familiar with.	0.492	0.758
Adjusting6	I attempted to word the instructions in a way that (First name) could understand.	0.820	0.328

Note: Based on modification index, the error terms of these indicators are set to be correlated: Reshaping2& Reshaping6; Reshaping1& Reshaping5; Reshaping2& Reshaping5; Reshaping4& Reshaping6

**(Continue) Table B.8 CFA Results for Sender Survey in Pretest One**

<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Std. Factor Loading</b>	<b>Error Term</b>
<b>Creating Ambiguity (AVE=0.67; CR=.94)</b>			
Creating_Ambiguity1	The task information that I communicated is up for (First name)'s interpretation.	0.797	0.365
Creating_Ambiguity2	I left the instructions open to (First name)'s interpretation for completing the task.	0.894	0.201
Creating_Ambiguity3 <sup>d</sup>	I gave instructions that could be interpreted in multiple ways to give (First name) more flexibility.	0.692	0.521
Creating_Ambiguity4	I left some room for (First name) to interpret the instructions as (First name) saw fit.	0.824	0.321
Creating_Ambiguity5	I left some room for (First name) to interpret the instructions as (First name) saw best.	0.909	0.174
Creating_Ambiguity6	I gave instructions that could be interpreted in different ways to give (First name) room for creativity.	0.820	0.328
Creating_Ambiguity7 <sup>d</sup>	The instructions that I gave were subject to (First name)'s interpretation	0.735	0.460
Creating_Ambiguity8 <sup>d</sup>	I left the instructions open to (First name)'s interpretation.	0.841	0.292

**Table B.9 CFA Results for Receiver Survey in Pretest One**

<b>Overall Model Fit</b>				
$\chi^2_{(227)} = 708.96, p \leq .00; CFI = 0.918; RMSEA = .009; SRMR = .046$				
<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Std. Factor Loading*</b>	<b>Error Term</b>	
<b>Information Overload (AVE=0.65; CR=.96)</b>				
Information_Overload1 <sup>d</sup>	I received more information about the task than I could efficiently use.	0.756	0.428	
Information_Overload2 <sup>d</sup>	I felt that the amount of task information I received interfered with how well the task could be accomplished.	0.667	0.555	
Information_Overload3 <sup>d</sup>	I had more information than I could possibly handle to complete the task.	0.713	0.491	
Information_Overload4	I felt overloaded with the amount of instructions that I received.	0.826	0.318	
Information_Overload5 <sup>d</sup>	I felt that I received too much task information.	0.798	0.363	
Information_Overload6	I received too much information to complete my task efficiently.	0.786	0.383	
Information_Overload7	The amount of information I received was more than I could manage.	0.884	0.219	
Information_Overload_Error1	The amount of task information that I had to process caused me to make mistakes in completing the task.	0.847	0.282	
Information_Overload_Error2	The vast amount of instructions that I had to follow had caused me to make mistakes when completing the task.	0.865	0.252	
Information_Overload_Error3	I made mistakes while completing the task because (First name) gave me too many instructions.	0.836	0.301	
Information_Overload_Affective1	The volume of instructions that I was provided with was frustrating.	0.824	0.321	
Information_Overload_Affective2	The amount of task information that needed to complete the task made me feel overloaded.	0.784	0.385	
Information_Overload_Affective3	I felt frustrated because of the excessive amount of instructions that I was given.	0.841	0.292	

\*All the factor loadings are statistically significant ( $p \leq .05$ ).

(Continue) Table B.9 CFA Results for Receiver Survey in Pretest One

Construct/Indicators	Measurement Items	Std. Factor Loading	Error Term
<b>Shared Understanding (AVE=0.76; CR=.94)</b>			
Shared_Understanding1	I believed that (First name) and I had a shared understanding of how to complete the task.	0.920	0.153
Shared_Understanding2	(First name) and I appeared to have the same definition of the task.	0.869	0.244
Shared_Understanding3	(First name) and I seemed to have a common view regarding the prioritization of the task.	0.802	0.357
Shared_Understanding4	(First name) and I appeared to have a shared understanding of my role in completing the task.	0.859	0.263
Shared_Understanding6	(First name) and I seemed to have a common understanding of the task.	0.918	0.157
<b>Absorptive Capacity (AVE=0.79; CR=.95)</b>			
Absorptive_Capacity1	I have a strong ability to understand the task information.	0.868	0.246
Absorptive_Capacity2	I am good at comprehending the task-related instructions.	0.905	0.181
Absorptive_Capacity3	I can perform the task well with the given instructions.	0.832	0.307
Absorptive_Capacity4	I can apply the instructions successfully.	0.918	0.157
Absorptive_Capacity5	I am competent enough to understand the instructions.	0.908	0.176



**Table B.10 Squared Correlation between Constructs in Sender Survey in Pretest One**

<b>Construct</b>	<b>Leveling</b>	<b>Queuing</b>	<b>Reshaping</b>	<b>Adjusting</b>
<b>Queuing</b>	0.002			
<b>Reshaping</b>	0.072	0.154		
<b>Adjusting</b>	0.012	0.239	0.362	
<b>Creating Ambiguity</b>	0.155	0.002	0.010	0.037

**Table B.11 Squared Correlation between Constructs in Receiver Survey in Pretest One**

<b>Construct</b>	<b>Information Overload</b>	<b>Shared Understanding</b>
<b>Shared Understanding</b>	0.198	
<b>Absorptive Capacity</b>	0.419	0.290

**Table B.12 Descriptive Statistics for Pretest Two**

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Leveling</b>							
Leveling2	I condensed the instructions.	4.47	1.66	-0.40	0.14	-0.79	0.28
Leveling4	I shortened the instructions.	3.77	1.80	0.12	0.14	-1.20	0.28
Leveling5	I simplified the content of the instructions.	4.67	1.67	-0.55	0.14	-0.66	0.28
Leveling9	I focused on major issues/topics.	5.53	1.32	-1.22	0.14	1.44	0.28
Leveling10	I summarized the instructions.	5.35	1.42	-1.13	0.14	0.79	0.28
Leveling11	I gave the gist of the information.	4.65	1.73	-0.46	0.14	-0.91	0.28
Leveling12	I eliminated unnecessary detail from the instructions.	5.32	1.45	-1.04	0.14	0.66	0.28
Leveling13	I restricted my instructions to only the essential steps.	4.90	1.62	-0.67	0.14	-0.50	0.28
<b>Queuing - Delaying</b>							
Queuing_Delay5	I observed whether (First name) was busy at the moment.	5.39	1.60	-1.15	0.14	0.47	0.28
Queuing_Delay6	I considered whether I could have (First name)'s undivided attention.	5.01	1.77	-0.80	0.14	-0.53	0.28
Queuing_Delay7	I thought of whether (First name) had the time to listen to me.	5.05	1.79	-0.86	0.14	-0.45	0.28
Queuing_Delay8	I made sure I was not interrupting (First name) in the middle of something.	5.37	1.69	-1.18	0.14	0.39	0.28
Queuing_Delay9	I checked if (First name) was free at that time.	5.47	1.65	-1.36	0.14	0.91	0.28

(Continue) Table B.12 Descriptive Statistics for Pretest Two

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Queuing - Prioritizing</b>							
Queuing_Prioritize3	I prioritized the information so that (First name) only had to focus on one part of the instructions at a time.	4.91	1.70	-0.77	0.14	-0.38	0.28
Queuing_Prioritize6	I communicated the instructions in a sequence so (First name) could focus on one part of the task at a time.	4.90	1.73	-0.83	0.14	-0.30	0.28
Queuing_Prioritize7	I shared small pieces of the information so (First name) could absorb it better.	4.01	1.72	-0.09	0.14	-1.08	0.28
Queuing_Prioritize8	I communicated only part of information so (First name) could devote all his/her attention to that part of the information.	3.58	1.78	0.26	0.14	-1.04	0.28
Queuing_Prioritize9	I told (First name) a fraction of the information so (First name) could focus on that fraction of information.	3.23	1.85	0.60	0.14	-0.89	0.28
Queuing_Prioritize10	I delivered only part of the information so (First name) would be more likely to pay attention to that information.	3.36	1.70	0.41	0.14	-0.84	0.28

(Continue) Table B.12 Descriptive Statistics for Pretest Two

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Reshaping</b>							
Reshaping1	I attempted to alter my communication so (First name) would not be overly nervous about completing the task.	3.81	1.86	0.00	0.14	-1.21	0.28
Reshaping5	I strived to adapt my teaching style so (First name) would not feel too discouraged in performing the task.	4.56	1.78	-0.43	0.14	-0.81	0.28
Reshaping7	I tried my best to instill confidence in (First name) with my language.	4.90	1.69	-0.78	0.14	-0.21	0.28
Reshaping8	I reminded (First name) of his/her good qualities so (First name) felt empowered in completing the task.	4.18	1.97	-0.17	0.14	-1.31	0.28
Reshaping9	I said encouraging words to convince (First name) that he/she could achieve the task.	4.47	1.91	-0.36	0.14	-1.07	0.28
Reshaping10	I said things to uplift (First name)'s spirit so (First name) believed that he/she could achieve the task.	4.35	1.90	-0.29	0.14	-1.12	0.28
Reshaping11	I assured (First name) that he/she would do a great job so (First name) would not be anxious about his/her task performance.	4.79	1.91	-0.61	0.14	-0.88	0.28

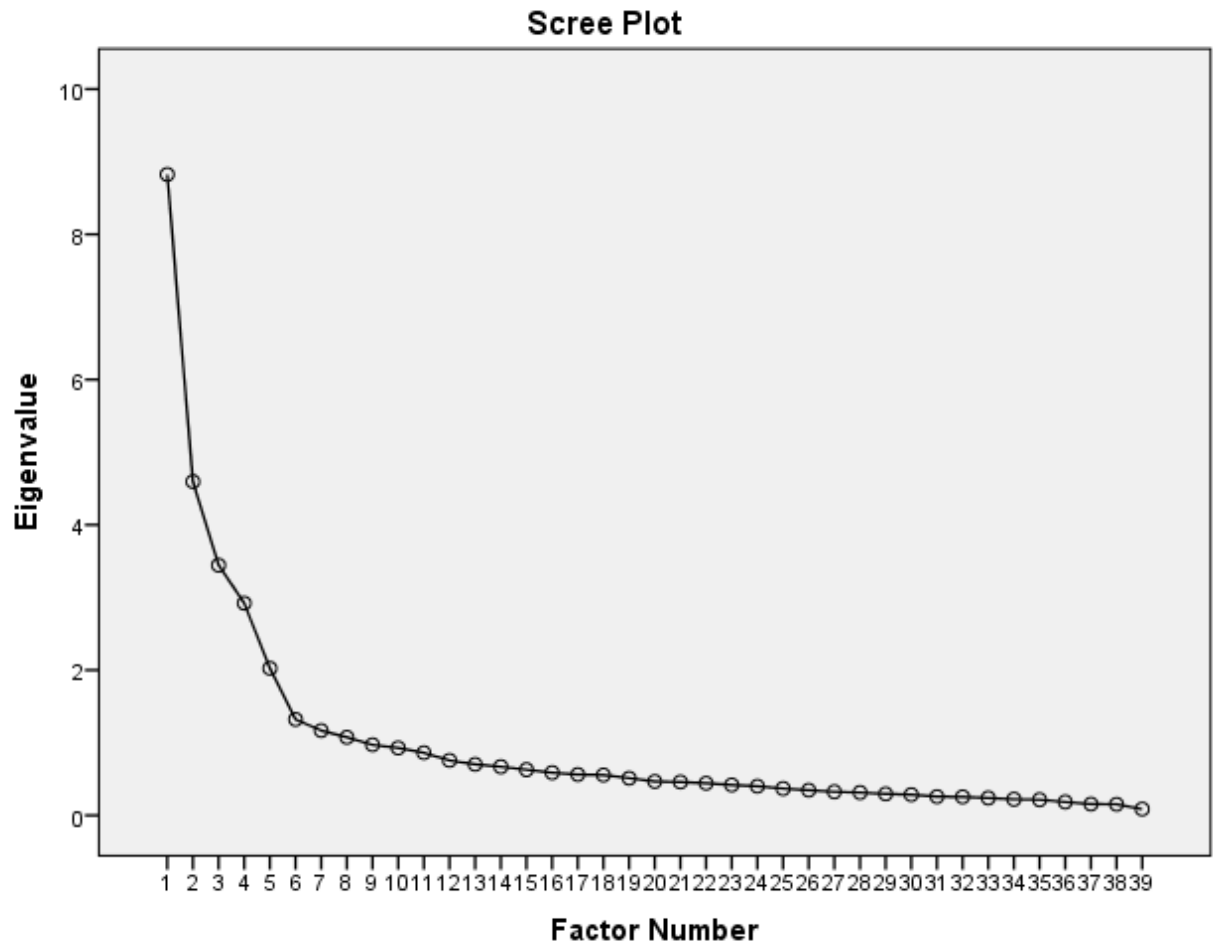
(Continue) Table B.12 Descriptive Statistics for Pretest Two

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Adjusting</b>							
Adjusting4	I tried to use language that would make sense to (First name).	5.93	1.11	-1.49	0.14	2.88	0.28
Adjusting6	I attempted to word the instructions in a way that (First name) could understand.	5.74	1.24	-1.32	0.14	1.71	0.28
Adjusting7	The depth of information I covered was consistent with (First name)'s level of knowledge.	6.16	0.91	-1.27	0.14	2.13	0.28
Adjusting8	The complexity of information I delivered depended on how novel the information was to (First name).	4.46	1.73	-0.41	0.14	-0.82	0.28
Adjusting9	The language I used matched with the language (First name) knew.	6.16	0.93	-1.48	0.14	3.03	0.28
Adjusting10	I would talk in layman's terms to (First name) if the information was new to him/her.	5.14	1.58	-0.93	0.14	0.13	0.28
Adjusting11	I considered (First name)'s experience and expertise before I decided how to describe the task to him/her.	5.82	1.35	-1.70	0.14	2.83	0.28
Adjusting12	I figured out how familiar (First name) was with the topic before I decided how to explain the task to him/her.	5.12	1.70	-0.98	0.14	0.00	0.28

(Continue) Table B.12 Descriptive Statistics for Pretest Two

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Reshaping</b>							
Creating_Ambiguity1	The task information that I communicated is up for (First name)'s interpretation.	3.59	1.87	0.22	0.14	-1.25	0.28
Creating_Ambiguity2	I left some room for (First name) to interpret the instructions as (First name) saw fit.	4.06	1.93	-0.14	0.14	-1.31	0.28
Creating_Ambiguity4	I left the instructions open to (First name)'s interpretation for completing the task.	3.62	1.91	0.17	0.14	-1.32	0.28
Creating_Ambiguity5	I left some room for (First name) to interpret the instructions as (First name) saw best.	4.51	1.93	-0.39	0.14	-1.16	0.28
Creating_Ambiguity6	I gave instructions that could be interpreted in different ways to give (First name) room for creativity.	3.29	1.94	0.48	0.14	-1.12	0.28

Figure B.3 Scree Plot for Pretest Two





**Table B.13 EFA Results for Pretest Two**

Construct/ Indicators	Measurement Items	Factors (% of Variance Explained)					
		1 (21.55%)	2 (10.67%)	3 (7.62%)	4 (6.42%)	5 (4.14%)	6 (2.15%)
<b>Leveling</b>							
Leveling2	I condensed the instructions.	-0.122	0.209	-0.028	-0.024	-0.054	<b>0.698</b>
Leveling4	I shortened the instructions.	-0.087	0.082	-0.182	0.086	0.089	<b>0.664</b>
Leveling5	I simplified the content of the instructions.	0.113	0.277	0.091	0.022	0.039	<b>0.515</b>
Leveling9 <sup>d</sup>	I focused on major issues/topics.	0.121	0.038	0.387	0.167	-0.138	<b>0.068</b>
Leveling10	I summarized the instructions.	0.115	-0.076	0.055	-0.033	0.070	<b>0.534</b>
Leveling11	I gave the gist of the information.	-0.053	-0.097	-0.059	0.230	0.018	<b>0.529</b>
Leveling12	I eliminated unnecessary detail from the instructions.	-0.065	0.065	0.202	-0.035	-0.074	<b>0.392</b>
Leveling13	I restricted my instructions to only the essential steps.	-0.195	0.262	0.147	-0.057	-0.131	<b>0.380</b>
<b>Queuing - Delaying</b>							
Queuing_Delay5	I observed whether (First name) was busy at the moment.	-0.063	-0.054	0.032	-0.021	<b>-0.817</b>	0.054
Queuing_Delay6	I considered whether I could have (First name)'s undivided attention.	0.126	0.042	-0.015	0.026	<b>-0.696</b>	0.030
Queuing_Delay7	I thought of whether (First name) had the time to listen to me.	0.080	0.064	-0.006	0.014	<b>-0.751</b>	-0.024
Queuing_Delay8	I made sure I was not interrupting (First name) in the middle of something.	-0.023	-0.042	-0.013	0.015	<b>-0.814</b>	-0.060
Queuing_Delay9	I checked if (First name) was free at that time.	-0.002	-0.076	-0.086	0.007	<b>-0.872</b>	-0.095

<sup>d</sup>denotes items that are dropped. Note: Factor solutions are suggested in boldface.

(Continue) Table B.13 EFA Results for Pretest Two

Construct/ Indicators	Measurement Items	Factors					
		1	2	3	4	5	6
<b>Queuing - Prioritizing</b>							
Queuing_Prioritize3 <sup>d</sup>	I prioritized the information so that (First name) only had to focus on one part of the instructions at a time.	0.295	<b>0.402</b>	0.069	-0.036	-0.027	0.077
Queuing_Prioritize6 <sup>d</sup>	I communicated the instructions in a sequence so (First name) could focus on one part of the task at a time.	0.301	<b>0.434</b>	0.025	-0.123	-0.055	-0.001
Queuing_Prioritize7	I shared small pieces of the information so (First name) could absorb it better.	0.082	<b>0.659</b>	0.016	0.056	-0.052	0.216
Queuing_Prioritize8	I communicated only part of information so (First name) could devote all his/her attention to that part of the information.	0.073	<b>0.614</b>	-0.060	0.169	0.052	0.152
Queuing_Prioritize9	I told (First name) a fraction of the information so (First name) could focus on that fraction of information.	0.031	<b>0.475</b>	-0.108	0.182	0.009	0.230
Queuing_Prioritize10	I delivered only part of the information so (First name) would be more likely to pay attention to that information.	0.018	<b>0.588</b>	-0.185	0.258	-0.009	0.091

(Continue) Table B.13 EFA Results for Pretest Two

Construct/ Indicators	Measurement Items	Factors					
		1	2	3	4	5	6
<b>Reshaping</b>							
Reshaping1 <sup>d</sup>	I attempted to alter my communication so (First name) would not be overly nervous about completing the task.	<b>0.422</b>	0.437	0.013	-0.045	0.095	-0.052
Reshaping5	I strived to adapt my teaching style so (First name) would not feel too discouraged in performing the task.	<b>0.488</b>	0.279	0.163	0.088	-0.129	-0.089
Reshaping7	I tried my best to instill confidence in (First name) with my language.	<b>0.781</b>	0.035	0.073	0.044	0.011	-0.044
Reshaping8	I reminded (First name) of his/her good qualities so (First name) felt empowered in completing the task.	<b>0.760</b>	0.002	-0.099	0.060	-0.140	0.060
Reshaping9	I said encouraging words to convince (First name) that he/she could achieve the task.	<b>0.884</b>	0.015	0.022	0.030	-0.041	-0.064
Reshaping10	I said things to uplift (First name)'s spirit so (First name) believed that he/she could achieve the task.	<b>0.870</b>	0.064	-0.059	0.065	-0.022	-0.047
Reshaping11	I assured (First name) that he/she would do a great job so (First name) would not be anxious about his/her task performance.	<b>0.801</b>	-0.080	-0.075	-0.013	-0.057	-0.021

(Continue) Table B.13 EFA Results for Pretest Two

Construct/ Indicators	Measurement Items	Factors					
		1	2	3	4	5	6
<b>Adjusting</b>							
Adjusting4	I tried to use language that would make sense to (First name).	-0.033	0.036	<b>0.764</b>	0.004	-0.027	-0.009
Adjusting6	I attempted to word the instructions in a way that (First name) could understand.	-0.021	0.153	<b>0.766</b>	0.085	-0.019	-0.171
Adjusting7	The depth of information I covered was consistent with (First name)'s level of knowledge.	0.032	-0.212	<b>0.606</b>	-0.050	-0.045	0.141
Adjusting8 <sup>d</sup>	The complexity of information I delivered depended on how novel the information was to (First name).	0.308	0.110	<b>0.086</b>	0.153	-0.074	0.035
Adjusting9	The language I used matched with the language (First name) knew.	0.051	-0.276	<b>0.694</b>	0.014	0.031	0.141
Adjusting10 <sup>d</sup>	I would talk in layman's terms to (First name) if the information was new to him/her.	-0.019	0.373	<b>0.372</b>	-0.162	-0.059	-0.050
Adjusting11 <sup>d</sup>	I considered (First name)'s experience and expertise before I decided how to describe the task to him/her.	0.356	-0.094	<b>0.252</b>	0.055	-0.081	0.102
Adjusting12 <sup>d</sup>	I figured out how familiar (First name) was with the topic before I decided how to explain the task to him/her.	0.376	0.100	<b>0.134</b>	-0.047	-0.266	0.015

(Continue) Table B.13 EFA Results for Pretest Two

Construct/ Indicators	Measurement Items	Factors					
		1	2	3	4	5	6
<b>Creating Ambiguity</b>							
Creating_Ambiguity1	The task information that I communicated is up for (First name)'s interpretation.	0.041	0.122	0.017	<b>0.764</b>	0.011	-0.096
Creating_Ambiguity2	I left some room for (First name) to interpret the instructions as (First name) saw fit.	0.010	-0.011	0.105	<b>0.867</b>	-0.012	0.011
Creating_Ambiguity4	I left the instructions open to (First name)'s interpretation for completing the task.	-0.109	-0.004	0.014	<b>0.895</b>	-0.032	-0.028
Creating_Ambiguity5	I left some room for (First name) to interpret the instructions as (First name) saw best.	0.081	-0.186	-0.015	<b>0.643</b>	-0.108	0.166
Creating_Ambiguity6	I gave instructions that could be interpreted in different ways to give (First name) room for creativity.	0.123	0.140	0.006	<b>0.695</b>	0.059	0.000

**Table B.14 Internal Consistency of Items in Pretest Two**

<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Cronbach's Alpha</b>	<b>Item-Total Correlation</b>
<b>Leveling</b>		0.783	
Leveling2	I condensed the instructions.		0.696
Leveling4	I shortened the instructions.		0.562
Leveling5	I simplified the content of the instructions.		0.569
Leveling10 <sup>d</sup>	I summarized the instructions.		0.448
Leveling11 <sup>d</sup>	I gave the gist of the information.		0.446
Leveling12 <sup>d</sup>	I eliminated unnecessary detail from the instructions.		0.386
Leveling13 <sup>d</sup>	I restricted my instructions to only the essential steps.		0.452
<b>Queuing - Delaying</b>		0.896	
Queuing_Delay5	I observed whether (First name) was busy at the moment.		0.743
Queuing_Delay6	I considered whether I could have (First name)'s undivided attention.		0.705
Queuing_Delay7	I thought of whether (First name) had the time to listen to me.		0.744
Queuing_Delay8	I made sure I was not interrupting (First name) in the middle of something.		0.758
Queuing_Delay9	I checked if (First name) was free at that time.		0.771
<b>Queuing - Prioritizing</b>		0.830	
Queuing_Prioritize7	I shared small pieces of the information so (First name) could absorb it better.		0.665
Queuing_Prioritize8	I communicated only part of information so (First name) could devote all his/her attention to that part of the information.		0.677
Queuing_Prioritize9	I told (First name) a fraction of the information so (First name) could focus on that fraction of information.		0.637
Queuing_Prioritize10	I delivered only part of the information so (First name) would be more likely to pay attention to that information.		0.644

<sup>d</sup>denotes items that are dropped.

(Continue) Table B.14 Internal Consistency of Items in Pretest Two

Construct/Indicators	Measurement Items	Cronbach's Alpha	Item-Total Correlation
<b>Reshaping</b>		0.926	
Reshaping5	I strived to adapt my teaching style so (First name) would not feel too discouraged in performing the task.		0.644
Reshaping7	I tried my best to instill confidence in (First name) with my language.		0.797
Reshaping8	I reminded (First name) of his/her good qualities so (First name) felt empowered in completing the task.		0.758
Reshaping9	I said encouraging words to convince (First name) that he/she could achieve the task.		0.896
Reshaping10	I said things to uplift (First name)'s spirit so (First name) believed that he/she could achieve the task.		0.895
Reshaping11	I assured (First name) that he/she would do a great job so (First name) would not be anxious about his/her task performance.		0.734
<b>Adjusting</b>		0.796	
Adjusting4	I tried to use language that would make sense to (First name).		0.692
Adjusting6	I attempted to word the instructions in a way that (First name) could understand.		0.608
Adjusting7	The depth of information I covered was consistent with (First name)'s level of knowledge.		0.542
Adjusting9	The language I used matched with the language (First name) knew.		0.619

(Continue) Table B.14 Internal Consistency of Items in Pretest Two

Construct/Indicators	Measurement Items	Cronbach's Alpha	Item-Total Correlation
<b>Creating Ambiguity</b>		0.894	
Creating_Ambiguity1	The task information that I communicated is up for (First name)'s interpretation.		0.732
Creating_Ambiguity2	I left some room for (First name) to interpret the instructions as (First name) saw fit.		0.801
Creating_Ambiguity4	I left the instructions open to (First name)'s interpretation for completing the task.		0.805
Creating_Ambiguity5	I left some room for (First name) to interpret the instructions as (First name) saw best.		0.658
Creating_Ambiguity6	I gave instructions that could be interpreted in different ways to give (First name) room for creativity.		0.705



**Table B.15 CFA Results for Pretest Two**

<b>Overall Model Fit</b>			
$\chi^2_{(309)} = 691.12, p \leq .00; CFI = 0.96; RMSEA = .064; SRMR = .069$			
<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Std. Factor Loading*</b>	<b>Error Term</b>
<b>Leveling (AVE=0.51; CR=0.76)</b>			
Leveling2	I condensed the instructions.	0.78	0.40
Leveling4	I shortened the instructions.	0.68	0.54
Leveling5	I simplified the content of the instructions.	0.68	0.54
<b>Queuing - Delaying (AVE=0.64; CR=0.90)</b>			
Queuing_Delay5	I observed whether (First name) was busy at the moment.	0.79	0.38
Queuing_Delay6	I considered whether I could have (First name)'s undivided attention.	0.74	0.45
Queuing_Delay7	I thought of whether (First name) had the time to listen to me.	0.80	0.37
Queuing_Delay8	I made sure I was not interrupting (First name) in the middle of something.	0.82	0.33
Queuing_Delay9	I checked if (First name) was free at that time.	0.84	0.30
<b>Queuing – Prioritizing (AVE=0.55; CR=0.83)</b>			
Queuing_Prioritize7	I shared small pieces of the information so (First name) could absorb it better.	0.73	0.47
Queuing_Prioritize8	I communicated only part of information so (First name) could devote all his/her attention to that part of the information.	0.79	0.37
Queuing_Prioritize9	I told (First name) a fraction of the information so (First name) could focus on that fraction of information.	0.71	0.49
Queuing_Prioritize10	I delivered only part of the information so (First name) would be more likely to pay attention to that information.	0.74	0.45

\*All the factor loadings are statistically significant ( $p \leq .05$ ).

(Continue) Table B.15 CFA Results for Pretest Two

Construct/Indicators	Measurement Items	Std. Factor Loading*	Error Term
<b>Reshaping (AVE=0.70; CR=0.93)</b>			
Reshaping5	I strived to adapt my teaching style so (First name) would not feel too discouraged in performing the task.	0.68	0.54
Reshaping7	I tried my best to instill confidence in (First name) with my language.	0.82	0.32
Reshaping8	I reminded (First name) of his/her good qualities so (First name) felt empowered in completing the task.	0.80	0.35
Reshaping9	I said encouraging words to convince (First name) that he/she could achieve the task.	0.94	0.11
Reshaping10	I said things to uplift (First name)'s spirit so (First name) believed that he/she could achieve the task.	0.94	0.12
Reshaping11	I assured (First name) that he/she would do a great job so (First name) would not be anxious about his/her task performance.	0.96	0.43
<b>Adjusting (AVE=0.51; CR=0.80)</b>			
Adjusting4	I tried to use language that would make sense to (First name).	0.82	0.32
Adjusting6	I attempted to word the instructions in a way that (First name) could understand.	0.72	0.48
Adjusting7	The depth of information I covered was consistent with (First name)'s level of knowledge.	0.60	0.64
Adjusting9	The language I used matched with the language (First name) knew.	0.69	0.53
<b>Creating Ambiguity (AVE=0.63; CR=0.90)</b>			
Creating_Ambiguity1	The task information that I communicated is up for (First name)'s interpretation.	0.79	0.38
Creating_Ambiguity2	I left some room for (First name) to interpret the instructions as (First name) saw fit.	0.86	0.26
Creating_Ambiguity4	I left the instructions open to (First name)'s interpretation for completing the task.	0.85	0.27
Creating_Ambiguity5	I left some room for (First name) to interpret the instructions as (First name) saw best.	0.71	0.50
Creating_Ambiguity6	I gave instructions that could be interpreted in different ways to give (First name) room for creativity.	0.76	0.43

**Table B.16 Squared Correlation Between Constructs in Pretest Two**

<b>Construct</b>	<b>Leveling</b>	<b>Delaying</b>	<b>Prioritizing</b>	<b>Reshaping</b>	<b>Adjusting</b>
<b>Delaying</b>	0.002				
<b>Prioritizing</b>	0.372	0.004			
<b>Reshaping</b>	0.000	0.168	0.130		
<b>Adjusting</b>	0.006	0.116	0.002	0.048	
<b>Creating Ambiguity</b>	0.096	0.026	0.168	0.096	0.001

**Table B.17 Descriptive Statistics for Pretest Three**

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Leveling</b>							
Leveling2	I condensed the instructions.	4.90	1.69	-0.78	0.15	-0.35	0.31
Leveling4	I shortened the instructions.	4.37	1.76	-0.33	0.15	-1.03	0.31
Leveling5	I simplified the content of the instructions.	4.64	1.74	-0.58	0.15	-0.71	0.31
Leveling14	I kept my instructions concise.	5.65	1.26	-1.44	0.15	2.32	0.31
Leveling15	I avoided lengthy instructions.	5.12	1.69	-0.88	0.15	-0.15	0.31
Leveling16	I communicated the information with as few words as necessary.	4.87	1.69	-0.79	0.15	-0.35	0.31
<b>Queuing - Delaying</b>							
Queuing_Delay5	I observed whether (First name) was busy at the moment.	5.37	1.58	-1.20	0.15	0.53	0.31
Queuing_Delay6	I considered whether I could have (First name)'s undivided attention.	5.25	1.51	-0.99	0.15	0.21	0.31
Queuing_Delay7	I thought of whether (First name) had the time to listen to me.	5.11	1.67	-0.89	0.15	-0.22	0.31
Queuing_Delay8	I made sure I was not interrupting (First name) in the middle of something.	5.26	1.67	-1.01	0.15	-0.09	0.31
Queuing_Delay9	I checked if (First name) was free at that time.	5.35	1.66	-1.10	0.15	0.16	0.31

(Continue) Table B.17 Descriptive Statistics for Pretest Three

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Queuing - Prioritizing</b>							
Queuing_Prioritize7	I shared small pieces of the information so (First name) could absorb it better.	3.83	1.82	0.08	0.15	-1.15	0.31
Queuing_Prioritize8	I communicated only part of information so (First name) could devote all his/her attention to that part of the information.	3.42	1.83	0.42	0.15	-1.04	0.31
Queuing_Prioritize9	I told (First name) a fraction of the information so (First name) could focus on that fraction of information.	3.32	1.75	0.39	0.15	-0.99	0.31
Queuing_Prioritize10	I delivered only part of the information so (First name) would be more likely to pay attention to that information.	3.16	1.78	0.54	0.15	-0.91	0.31
Queuing_Prioritize11	I shared only a portion of the information so (First name) could work on that portion first.	3.32	1.82	0.42	0.15	-1.02	0.31
<b>Reshaping</b>							
Reshaping5	I strived to adapt my teaching style so (First name) would not feel too discouraged in performing the task.	4.58	1.76	-0.47	0.15	-0.77	0.31
Reshaping7	I tried my best to instill confidence in (First name) with my language.	5.55	1.37	-1.31	0.15	1.70	0.31
Reshaping8	I reminded (First name) of his/her good qualities so (First name) felt empowered in completing the task.	4.46	1.79	-0.35	0.15	-0.99	0.31

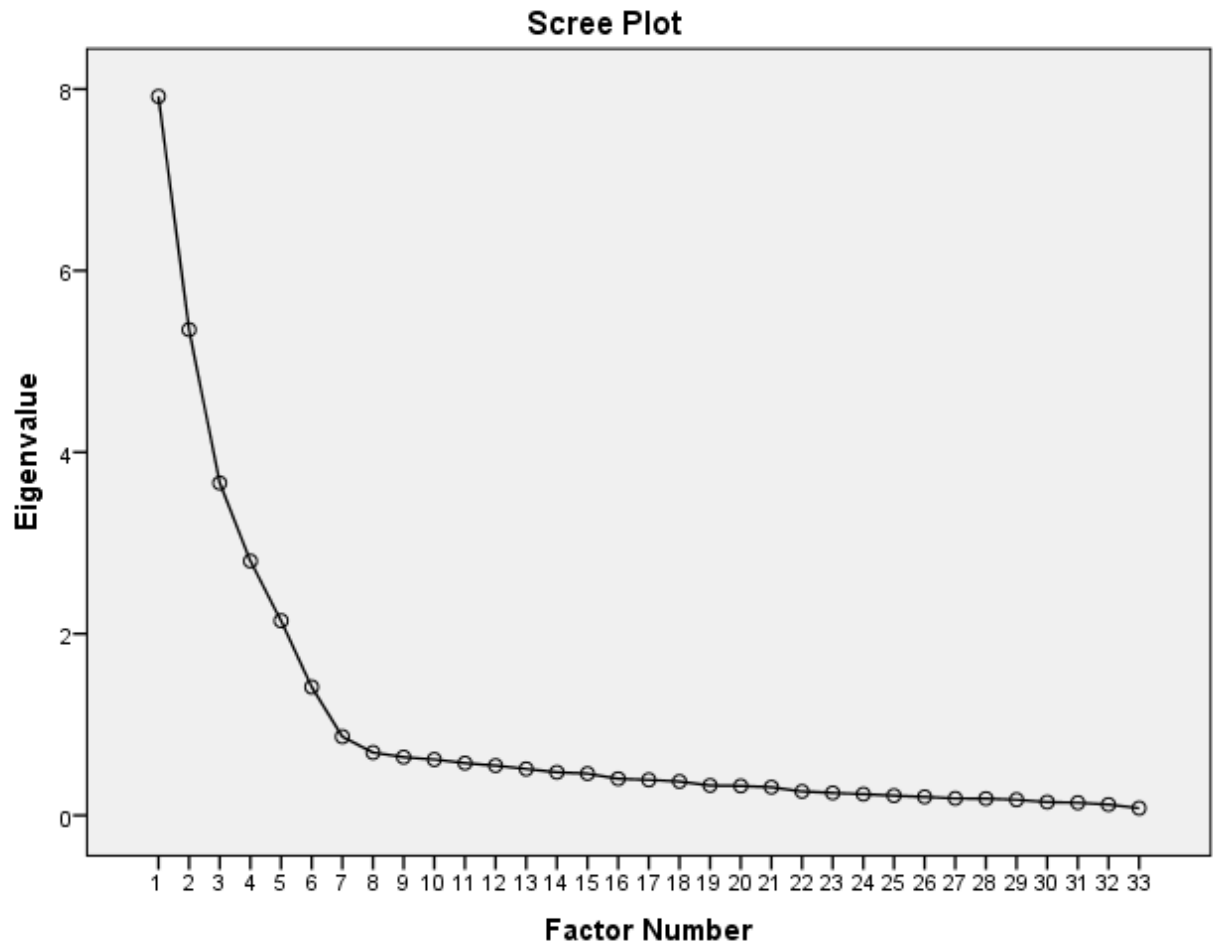
(Continue) Table B.17 Descriptive Statistics for Pretest Three

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>(Cont.) Reshaping</b>							
Reshaping9	I said encouraging words to convince (First name) that he/she could achieve the task.	4.78	1.71	-0.61	0.15	-0.61	0.31
Reshaping10	I said things to uplift (First name)'s spirit so (First name) believed that he/she could achieve the task.	4.62	1.71	-0.51	0.15	-0.69	0.31
Reshaping11	I assured (First name) that he/she would do a great job so (First name) would not be anxious about his/her task performance.	5.08	1.65	-0.79	0.15	-0.20	0.31
<b>Adjusting</b>							
Adjusting4	I tried to use language that would make sense to (First name).	6.20	0.85	-1.44	0.15	3.29	0.31
Adjusting6	I attempted to word the instructions in a way that (First name) could understand.	6.04	0.94	-1.20	0.15	1.92	0.31
Adjusting7	The depth of information I covered was consistent with (First name)'s level of knowledge.	5.93	0.93	-1.33	0.15	3.18	0.31
Adjusting9	The language I used matched with the language (First name) knew.	6.22	0.86	-1.95	0.15	7.48	0.31
Adjusting13	I used language that was familiar to (First name).	6.15	0.98	-2.24	0.15	7.87	0.31
Adjusting14	I chose language that (First name) could easily understand.	6.11	0.85	-1.67	0.15	5.51	0.31

(Continue) Table B.17 Descriptive Statistics for Pretest Three

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Creating Ambiguity</b>							
Creating_Ambiguity1	The task information that I communicated is up for (First name)'s interpretation.	3.69	1.90	0.22	0.15	-1.30	0.31
Creating_Ambiguity2	I left some room for (First name) to interpret the instructions as (First name) saw fit.	3.84	1.99	0.08	0.15	-1.42	0.31
Creating_Ambiguity4	I left the instructions open to (First name)'s interpretation for completing the task.	4.01	1.93	-0.07	0.15	-1.32	0.31
Creating_Ambiguity5	I left some room for (First name) to interpret the instructions as (First name) saw best.	4.00	1.92	-0.04	0.15	-1.35	0.31
Creating_Ambiguity6	I gave instructions that could be interpreted in different ways to give (First name) room for creativity.	3.44	1.84	0.32	0.15	-1.12	0.31

Figure B.4 Scree Plot for Pretest Three





**Table B.18 EFA Results for Pretest Three**

Construct/Indicators	Measurement Items	Factor (% of variance)					
		1 (23.11%)	2 (15.15%)	3 (9.97%)	4 (7.50%)	5 (5.53%)	6 (3.18%)
<b>Leveling</b>							
Leveling2	I condensed the instructions.	0.060	0.002	<b>0.702</b>	0.131	-0.131	0.071
Leveling4	I shortened the instructions.	0.163	-0.020	<b>0.764</b>	0.016	-0.018	0.018
Leveling5	I simplified the content of the instructions.	0.391	-0.051	<b>0.520</b>	0.049	0.006	0.115
Leveling14	I kept my instructions concise.	-0.002	0.185	<b>0.576</b>	-0.130	0.147	-0.030
Leveling15	I avoided lengthy instructions.	-0.134	-0.061	<b>0.771</b>	-0.010	-0.047	-0.064
Leveling16	I communicated the information with as few words as necessary.	0.136	-0.045	<b>0.689</b>	-0.065	-0.032	-0.113
<b>Queuing - Delaying</b>							
Queuing_Delay5	I observed whether (First name) was busy at the moment.	0.034	-0.051	0.039	<b>-0.921</b>	-0.005	-0.076
Queuing_Delay6	I considered whether I could have (First name)'s undivided attention.	-0.005	0.122	-0.058	<b>-0.589</b>	-0.072	0.169
Queuing_Delay7	I thought of whether (First name) had the time to listen to me.	-0.137	0.024	0.061	<b>-0.765</b>	-0.118	0.057
Queuing_Delay8	I made sure I was not interrupting (First name) in the middle of something.	0.014	-0.006	0.033	<b>-0.899</b>	0.060	-0.013
Queuing_Delay9	I checked if (First name) was free at that time.	0.091	-0.022	-0.077	<b>-0.919</b>	0.001	-0.004

Note: Factor solutions are suggested in boldface.

(Continue) Table B.18 EFA Results for Pretest Three

Construct/Indicators	Measurement Items	Factor					
		1	2	3	4	5	6
<b>Queuing - Prioritizing</b>							
Queuing_Prioritize7	I shared small pieces of the information so (First name) could absorb it better.	<b>0.704</b>	0.027	0.091	-0.053	-0.075	0.119
Queuing_Prioritize8	I communicated only part of information so (First name) could devote all his/her attention to that part of the information.	<b>0.914</b>	-0.002	-0.001	-0.007	-0.076	0.000
Queuing_Prioritize9	I told (First name) a fraction of the information so (First name) could focus on that fraction of information.	<b>0.716</b>	0.001	0.025	-0.016	-0.026	-0.007
Queuing_Prioritize10	I delivered only part of the information so (First name) would be more likely to pay attention to that information.	<b>0.780</b>	0.037	0.048	0.046	-0.072	-0.004
Queuing_Prioritize11	I shared only a portion of the information so (First name) could work on that portion first.	<b>0.871</b>	-0.027	0.009	-0.022	-0.070	-0.006
<b>Reshaping</b>							
Reshaping5	I strived to adapt my teaching style so (First name) would not feel too discouraged in performing the task.	0.085	-0.013	-0.052	-0.038	-0.032	<b>0.615</b>
Reshaping7	I tried my best to instill confidence in (First name) with my language.	-0.108	0.092	0.046	-0.023	-0.054	<b>0.624</b>
Reshaping8	I reminded (First name) of his/her good qualities so (First name) felt empowered in completing the task.	0.151	0.013	-0.093	0.012	-0.067	<b>0.791</b>

(Continue) Table B.18 EFA Results for Pretest Three

Construct/Indicators	Measurement Items	Factor					
		1	2	3	4	5	6
<b>(Cont.) Reshaping</b>							
Reshaping9	I said encouraging words to convince (First name) that he/she could achieve the task.	-0.026	0.011	-0.004	-0.006	0.046	<b>0.938</b>
Reshaping10	I said things to uplift (First name)'s spirit so (First name) believed that he/she could achieve the task.	-0.045	-0.063	0.013	-0.033	-0.024	<b>0.921</b>
Reshaping11	I assured (First name) that he/she would do a great job so (First name) would not be anxious about his/her task performance.	0.035	-0.025	-0.001	0.025	0.096	<b>0.901</b>
<b>Adjusting</b>							
Adjusting4	I tried to use language that would make sense to (First name).	0.012	<b>0.758</b>	-0.002	-0.041	0.029	0.006
Adjusting6	I attempted to word the instructions in a way that (First name) could understand.	-0.135	<b>0.570</b>	0.079	0.046	-0.179	-0.008
Adjusting7	The depth of information I covered was consistent with (First name)'s level of knowledge.	0.064	<b>0.690</b>	0.060	-0.050	0.030	0.143
Adjusting9	The language I used matched with the language (First name) knew.	0.021	<b>0.823</b>	-0.028	-0.005	0.034	0.001
Adjusting13	I used language that was familiar to (First name).	0.060	<b>0.838</b>	-0.058	-0.010	0.022	-0.052
Adjusting14	I chose language that (First name) could easily understand.	0.024	<b>0.849</b>	-0.050	0.003	0.090	-0.015

(Continue) Table B.18 EFA Results for Pretest Three

Construct/Indicators	Measurement Items	Factor					
		1	2	3	4	5	6
<b>Creating Ambiguity</b>							
Creating_Ambiguity1	The task information that I communicated is up for (First name)'s interpretation.	0.063	-0.012	0.025	-0.014	<b>-0.877</b>	0.026
Creating_Ambiguity2	I left some room for (First name) to interpret the instructions as (First name) saw fit.	0.082	-0.036	-0.027	-0.005	<b>-0.801</b>	-0.029
Creating_Ambiguity4	I left the instructions open to (First name)'s interpretation for completing the task.	0.038	0.043	0.008	0.021	<b>-0.934</b>	-0.036
Creating_Ambiguity5	I left some room for (First name) to interpret the instructions as (First name) saw best.	0.036	0.055	0.002	-0.046	<b>-0.914</b>	-0.010
Creating_Ambiguity6	I gave instructions that could be interpreted in different ways to give (First name) room for creativity.	0.011	-0.068	0.029	-0.078	<b>-0.778</b>	0.089

**Table B.19 Internal Consistency of Items in Pretest Three**

<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Cronbach's Alpha</b>	<b>Item-Total Correlation</b>
<b>Leveling</b>		0.862	
Leveling2	I condensed the instructions.		0.693
Leveling4	I shortened the instructions.		0.784
Leveling5	I simplified the content of the instructions.		0.626
Leveling14	I kept my instructions concise.		0.499
Leveling15	I avoided lengthy instructions.		0.634
Leveling16	I communicated the information with as few words as necessary.		0.702
<b>Queuing - Delaying</b>		0.918	
Queuing_Delay5	I observed whether (First name) was busy at the moment.		0.832
Queuing_Delay6	I considered whether I could have (First name)'s undivided attention.		0.654
Queuing_Delay7	I thought of whether (First name) had the time to listen to me.		0.779
Queuing_Delay8	I made sure I was not interrupting (First name) in the middle of something.		0.831
Queuing_Delay9	I checked if (First name) was free at that time.		0.859
<b>Queuing - Prioritizing</b>		0.927	
Queuing_Prioritize7	I shared small pieces of the information so (First name) could absorb it better.		0.771
Queuing_Prioritize8	I communicated only part of information so (First name) could devote all his/her attention to that part of the information.		0.904
Queuing_Prioritize9	I told (First name) a fraction of the information so (First name) could focus on that fraction of information.		0.710
Queuing_Prioritize10	I delivered only part of the information so (First name) would be more likely to pay attention to that information.		0.798
Queuing_Prioritize11	I shared only a portion of the information so (First name) could work on that portion first.		0.866

(Continue) Table B.19 Internal Consistency of Items in Pretest Three

Construct/Indicators	Measurement Items	Cronbach's Alpha	Item-Total Correlation
<b>Reshaping</b>		0.919	
Reshaping5	I strived to adapt my teaching style so (First name) would not feel too discouraged in performing the task.		0.637
Reshaping7	I tried my best to instill confidence in (First name) with my language.		0.608
Reshaping8	I reminded (First name) of his/her good qualities so (First name) felt empowered in completing the task.		0.808
Reshaping9	I said encouraging words to convince (First name) that he/she could achieve the task.		0.875
Reshaping10	I said things to uplift (First name)'s spirit so (First name) believed that he/she could achieve the task.		0.868
Reshaping11	I assured (First name) that he/she would do a great job so (First name) would not be anxious about his/her task performance.		0.831
<b>Adjusting</b>		0.883	
Adjusting4	I tried to use language that would make sense to (First name).		0.715
Adjusting6	I attempted to word the instructions in a way that (First name) could understand.		0.689
Adjusting7	The depth of information I covered was consistent with (First name)'s level of knowledge.		0.536
Adjusting9	The language I used matched with the language (First name) knew.		0.751
Adjusting13	I used language that was familiar to (First name).		0.757
Adjusting14	I chose language that (First name) could easily understand.		0.773

**(Continue) Table B.19 Internal Consistency of Items in Pretest Three**

<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Cronbach's Alpha</b>	<b>Item-Total Correlation</b>
<b>Creating Ambiguity</b>		0.950	
Creating_Ambiguity1	The task information that I communicated is up for (First name)'s interpretation.		0.900
Creating_Ambiguity2	I left some room for (First name) to interpret the instructions as (First name) saw fit.		0.808
Creating_Ambiguity4	I left the instructions open to (First name)'s interpretation for completing the task.		0.903
Creating_Ambiguity5	I left some room for (First name) to interpret the instructions as (First name) saw best.		0.899
Creating_Ambiguity6	I gave instructions that could be interpreted in different ways to give (First name) room for creativity.		0.804

**Table B.20 CFA Results for Pretest Three**

<b>Overall Model Fit</b>			
$\chi^2_{(480)} = 925.14, p \leq .00; CFI = 0.96; RMSEA = .060; SRMR = .070$			
<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Std. Factor Loading*</b>	<b>Error Term</b>
<b>Leveling (AVE=0.57; CR=0.87)</b>			
Leveling2	I condensed the instructions.	0.76	0.43
Leveling4	I shortened the instructions.	0.85	0.28
Leveling5	I simplified the content of the instructions.	0.74	0.45
Leveling14 <sup>d</sup>	I kept my instructions concise.	0.47	0.78
Leveling15	I avoided lengthy instructions.	0.67	0.55
Leveling16	I communicated the information with as few words as necessary.	0.76	0.43
<b>Queuing - Delaying (AVE=0.71; CR=0.92)</b>			
Queuing_Delay5	I observed whether (First name) was busy at the moment.	0.90	0.19
Queuing_Delay6	I considered whether I could have (First name)'s undivided attention.	0.68	0.54
Queuing_Delay7	I thought of whether (First name) had the time to listen to me.	0.79	0.37
Queuing_Delay8	I made sure I was not interrupting (First name) in the middle of something.	0.89	0.20
Queuing_Delay9	I checked if (First name) was free at that time.	0.92	0.15

<sup>d</sup> denotes items that are dropped. \* All standardized factor loadings are significant at  $p = .05$ .



(Continue) Table B.20 CFA Results for Pretest Three

Construct/Indicators	Measurement Items	Std. Factor Loading*	Error Term
<b>Queuing – Prioritizing (AVE=0.72; CR=0.93)</b>			
Queuing_Prioritize7	I shared small pieces of the information so (First name) could absorb it better.	0.81	0.35
Queuing_Prioritize8	I communicated only part of information so (First name) could devote all his/her attention to that part of the information.	0.95	0.10
Queuing_Prioritize9	I told (First name) a fraction of the information so (First name) could focus on that fraction of information.	0.74	0.45
Queuing_Prioritize10	I delivered only part of the information so (First name) would be more likely to pay attention to that information.	0.81	0.34
Queuing_Prioritize11	I shared only a portion of the information so (First name) could work on that portion first.	0.91	0.18
<b>Reshaping (AVE=0.65; CR=0.91)</b>			
Reshaping5	I strived to adapt my teaching style so (First name) would not feel too discouraged in performing the task.	0.65	0.58
Reshaping7	I tried my best to instill confidence in (First name) with my language.	0.58	0.66
Reshaping8	I reminded (First name) of his/her good qualities so (First name) felt empowered in completing the task.	0.83	0.31
Reshaping9	I said encouraging words to convince (First name) that he/she could achieve the task.	0.94	0.12
Reshaping10	I said things to uplift (First name)'s spirit so (First name) believed that he/she could achieve the task.	0.91	0.16
Reshaping11	I assured (First name) that he/she would do a great job so (First name) would not be anxious about his/her task performance.	0.84	0.29

(Continue) Table B.20 CFA Results for Pretest Three

Construct/Indicators	Measurement Items	Std. Factor Loading*	Error Term
<b>Adjusting (AVE=0.55; CR=0.80)</b>			
Adjusting4	I tried to use language that would make sense to (First name).	0.80	0.36
Adjusting6	I attempted to word the instructions in a way that (First name) could understand.	0.73	0.47
Adjusting7	The depth of information I covered was consistent with (First name)'s level of knowledge.	0.57	0.67
Adjusting9	The language I used matched with the language (First name) knew.	0.83	0.31
Adjusting13	I used language that was familiar to (First name).	0.84	0.30
Adjusting14	I chose language that (First name) could easily understand.	0.85	0.28
<b>Creating Ambiguity (AVE=0.78; CR=0.95)</b>			
Creating_Ambiguity1	The task information that I communicated is up for (First name)'s interpretation.	0.92	0.15
Creating_Ambiguity2	I left some room for (First name) to interpret the instructions as (First name) saw fit.	0.83	0.31
Creating_Ambiguity4	I left the instructions open to (First name)'s interpretation for completing the task.	0.93	0.14
Creating_Ambiguity5	I left some room for (First name) to interpret the instructions as (First name) saw best.	0.94	0.12
Creating_Ambiguity6	I gave instructions that could be interpreted in different ways to give (First name) room for creativity.	0.80	0.36

**Table B.21 Squared Correlation Between Constructs in Pretest Three**

<b>Construct</b>	<b>Leveling</b>	<b>Delaying</b>	<b>Prioritizing</b>	<b>Reshaping</b>	<b>Adjusting</b>
<b>Delaying</b>	0.000				
<b>Prioritizing</b>	0.303	0.008			
<b>Reshaping</b>	0.005	0.096	0.084		
<b>Adjusting</b>	0.003	0.073	0.012	0.048	
<b>Creating Ambiguity</b>	0.130	0.023	0.314	0.058	0.005

## Appendix C

### MAIN STUDY SURVEY

#### Scener

#### Do you work in sales?

---

- Yes  
 No

#### Do you work under a sales manager?

---

- Yes, I work under a sales manager.  
 No, I do NOT work under a sales manager.

#### cover letter

Dear Participant,

This is a research study being undertaken by Pui Ying Tong, a Ph. D. Candidate in Marketing, in partial completion of a dissertation chaired by James Brown, Kmart Corporation Chair in Marketing and Jody Crosno, Associate Professor of Marketing at West Virginia University. This is a professional research study being undertaken to gain a better understanding of organizational behavior in sales settings.

You will need approximately 20 minutes to complete the study. You must be 18 years of age or older to participate. You must be working in sales and have a sales manager above you.

All the responses are confidential and will only be reported at an aggregated level. Your participation is *voluntary* and you can choose to stop participating at any time. There will be no penalty if you choose not to participate. You do not have to answer every question.

IRB approval is on record.

Thank you for your help!

Pui Ying Tong  
Ph. D. Candidate  
Marketing Department  
West Virginia University

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**Please read the questions carefully. Your thoughtful and honest responses are extremely important for this study. Your responses will contribute to the understanding and the knowledge of organizational behavior.**

**If you fail to read the questions carefully, you will be bumped out of the survey and you will not be compensated.**

---

Please recall the *most recent* time when your sales manager asked you to do something at work. Then, write down the details below:

---

The name of the sales manager was:

Type name here.

My sales manager asked me to:

Briefly describe the task here.

My sales manager asked me to complete that task \_\_\_\_\_ ago.

---

years   
months   
days

My sales manager spent \_\_\_\_\_ giving instructions and explaining that task.

---

days   
hours   
minutes

I took \_\_\_\_\_ to complete that task.

---

days   
hours   
minutes

### Strategic Uses of Information 1

Please recall the conversations that you had with my sales manager about that task. Think about the information you received in this conversation about how that task should be done.

Please answer the following questions about the task instructions that you had received from  $\{q://QID109/ChoiceTextEntryValue\}$ .

Please indicate the extent to which you agree with the following statements.

When  $\{q://QID109/ChoiceTextEntryValue\}$  asked me to complete that task,

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
$\{q://QID109/ChoiceTextEntryValue\}$ assured me that I would do a great job so I would not be anxious about my task performance,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The language $\{q://QID109/ChoiceTextEntryValue\}$ used matched with the language I knew,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
$\{q://QID109/ChoiceTextEntryValue\}$ told me a fraction of the information so I could focus on that fraction of information,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
$\{q://QID109/ChoiceTextEntryValue\}$ instilled confidence in me with his/her language,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
$\{q://QID109/ChoiceTextEntryValue\}$ condensed the instructions,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
$\{q://QID109/ChoiceTextEntryValue\}$ left the instructions open to my interpretation for completing the task,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
$\{q://QID109/ChoiceTextEntryValue\}$ avoided lengthy instructions,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When  $\{q://QID109/ChoiceTextEntryValue\}$  asked me to complete that task,

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
$\{q://QID109/ChoiceTextEntryValue\}$ shortened the instructions,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
$\{q://QID109/ChoiceTextEntryValue\}$ delivered only part of the information so I would be more likely to pay attention to that information,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
$\{q://QID109/ChoiceTextEntryValue\}$ left some room for me to interpret the instructions as I saw fit,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
$\{q://QID109/ChoiceTextEntryValue\}$ communicated the information with as few words as necessary,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
$\{q://QID109/ChoiceTextEntryValue\}$ reminded me of my good qualities so I felt empowered in completing the task,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
\$(q://QID109/ChoiceTextEntryValue) used language that was familiar to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) used language that would make sense to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Strategic Uses of Information 2

Please indicate the extent to which you agree with the following statements.

When \$(q://QID109/ChoiceTextEntryValue) asked me to complete that task,

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
\$(q://QID109/ChoiceTextEntryValue) shared only a portion of the information so I could work on that portion first.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) simplified the content of the instructions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) worded the instructions in a way that I could understand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) said encouraging words to convince me that I could achieve the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) chose language that I could easily understand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) left some room for me to interpret the instructions as I saw best.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For this question, click the "Somewhat Disagree" button.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) shared small pieces of the information so I could absorb it better.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When \$(q://QID109/ChoiceTextEntryValue) asked me to complete that task,

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
The depth of information \$(q://QID109/ChoiceTextEntryValue) covered was consistent with my level of knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
\$(q://QID109/ChoiceTextEntryValue) communicated only part of information so I could devote all my attention to that part of the information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) said things to uplift my spirit so I believed that I could achieve the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) gave instructions that could be interpreted in different ways to give me room for creativity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The task information that \$(q://QID109/ChoiceTextEntryValue) communicated was up for my interpretation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) adapted his/her teaching style so I would not feel too discouraged in performing the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) focused on the key points.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Queuing

**Please indicate the extent to which you agree with the following statements.**

**Before \$(q://QID109/ChoiceTextEntryValue) asked me to complete that task,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
\$(q://QID109/ChoiceTextEntryValue) thought of whether I had the time to listen to him/her.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) considered whether he/she could have my undivided attention.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) observed whether I was busy at the moment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) made sure he/she was not interrupting me in the middle of something.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) checked if I was free at that time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### outcome 1

**Please indicate the extent to which you agree with the following statements.**



**Regarding the task that \${q://QID109/ChoiceTextEntryValue} had asked me to complete,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I believed that \${q://QID109/ChoiceTextEntryValue} and I had a shared understanding of how to complete the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\${q://QID109/ChoiceTextEntryValue} and I had tension about how the task should be completed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\${q://QID109/ChoiceTextEntryValue} and I were synchronized completing the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My role was clear and planned.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I did not have adequate resources and material to execute the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt frustrated because of the excessive amount of instructions that I was given.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The amount of task information I received was more than I could manage.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Regarding the task that \${q://QID109/ChoiceTextEntryValue} had asked me to complete,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I did not receive enough support to complete the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My arguments with \${q://QID109/ChoiceTextEntryValue} about the task were very heated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\${q://QID109/ChoiceTextEntryValue} and I worked closely together to make sure that the task was properly done.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\${q://QID109/ChoiceTextEntryValue} and I appeared to have the same definition of the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I knew what my responsibilities were.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The amount of task information that I had to process caused me to make mistakes in completing the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**outcome 2**

**Please indicate the extent to which you agree with the following statements.**

**Regarding the task that \${q://QID109/ChoiceTextEntryValue} had asked me to complete,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
The vast amount of instructions that I had to follow had caused me to make mistakes when completing the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I knew exactly what was expected of me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I complied with \${q://QID109/ChoiceTextEntryValue} on the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I did not have enough time to get the job done.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\${q://QID109/ChoiceTextEntryValue} and I seemed to have a common view regarding the prioritization of the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For this question, click the "Agree" button.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\${q://QID109/ChoiceTextEntryValue} and I worked together to achieve synergies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Regarding the task that \${q://QID109/ChoiceTextEntryValue} had asked me to complete,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I made mistakes while completing the task because \${q://QID109/ChoiceTextEntryValue} gave me too many instructions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\${q://QID109/ChoiceTextEntryValue}'s instructions were clear as to what had to be done.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had to work under vague instructions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\${q://QID109/ChoiceTextEntryValue} and I appeared to have a shared understanding of my role in completing the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\${q://QID109/ChoiceTextEntryValue} and I argued about the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I followed \${q://QID109/ChoiceTextEntryValue}'s instructions about the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**outcome 3**

**Please indicate the extent to which you agree with the following statements.**

**Regarding the task that \${q://QID109/ChoiceTextEntryValue} communicated,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
The volume of instructions that I was provided with was frustrating.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt overloaded with the amount of instructions that I received.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\${q://QID109/ChoiceTextEntryValue} and I seemed to have a common understanding of the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\${q://QID109/ChoiceTextEntryValue} and I disagreed about how we could best achieve the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tried hard to carry out the task in the way that \${q://QID109/ChoiceTextEntryValue} wanted.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I knew how my performance was going to be evaluated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Regarding the task that \${q://QID109/ChoiceTextEntryValue} communicated,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I carefully followed the guidelines of the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had to bend rules or policies in order to complete the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I received too much task information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The amount of task information that needed to complete the task made me feel overloaded.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\${q://QID109/ChoiceTextEntryValue} made it difficult for me to complete the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\${q://QID109/ChoiceTextEntryValue} and I were well-coordinated on that task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**control1**

**Please indicate the extent to which you agree with the following statements.**

**Regarding the task that \${q://QID109/ChoiceTextEntryValue} had asked me to complete,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
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\$(q://QID109/ChoiceTextEntryValue) suggested compliance was in my best interest.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) provided information in a timely manner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The task was not something new.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The task was routine.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) gave important details about task information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) offered me something in exchange for compliance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There was a lot of two-way communication between me and \$(q://QID109/ChoiceTextEntryValue).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The task information from \$(q://QID109/ChoiceTextEntryValue) was objective.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Regarding the task that \$(q://QID109/ChoiceTextEntryValue) had asked me to complete,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
\$(q://QID109/ChoiceTextEntryValue) contended that compliance was a "win-win" situation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue)'s information about the task was well-timed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) suggested negative consequences if I didn't comply.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) had provided valid information about the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) provided the information that was necessary to complete the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had done something similar to this task before.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) provided a lot of feedback to me about the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**control2**

**Please indicate the extent to which you agree with the following statements.**

**Regarding the task that \$(q://QID109/ChoiceTextEntryValue) had asked me to complete,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
\$(q://QID109/ChoiceTextEntryValue) gave me information at just the right time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) and I had meaningful dialogues about the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) pulled rank and told me what to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The instructions provided by \$(q://QID109/ChoiceTextEntryValue) were accurate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) sent me relevant information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$(q://QID109/ChoiceTextEntryValue) told me that compliance was for my own good.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The task was not something out of the ordinary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**When \$(q://QID109/ChoiceTextEntryValue) evaluated my performance on the task,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
it was apparent that \$(q://QID109/ChoiceTextEntryValue) only looked at how I carried out the task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it was apparent that \$(q://QID109/ChoiceTextEntryValue) only looked at the tangible results.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I knew that \$(q://QID109/ChoiceTextEntryValue) put a lot of weight on the effort that I put into the job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understood that what \$(q://QID109/ChoiceTextEntryValue) cared about most was my input into the job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it was clear that what mattered to \$(q://QID109/ChoiceTextEntryValue) most was how I achieved the results.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it was clear that what mattered to \$(q://QID109/ChoiceTextEntryValue) most was the results I achieved.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I knew that \$(q://QID109/ChoiceTextEntryValue) put a lot of emphasis on the outcome of my effort.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understood that what \$(q://QID109/ChoiceTextEntryValue) cared about most was my output.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Regarding the task, how long did  $\{q://QID109/ChoiceTextEntryValue\}$  communicate about it in each of the following ways?**

**(Leave the box blank if you did not use the specified communication method.)**

	Days	Hours	Minutes
Memos (written)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Reports (written)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Fax (written)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Email (written)	<input type="text"/>	<input type="text"/>	<input type="text"/>
One-to-one meetings (face-to-face) (oral)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Group meetings (oral)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Face to face conversations (e.g., in the hall) (oral)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Phone conversations (oral)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Voice mail (oral)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Teleconferencing (oral)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Other: (please specify) <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**control 3**

**How long have you known  $\{q://QID109/ChoiceTextEntryValue\}$ ?**

years

months

**Please indicate the extent to which you agree with the following statements.**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
$\{q://QID109/ChoiceTextEntryValue\}$ and I have different goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
$\{q://QID109/ChoiceTextEntryValue\}$ and I have compatible goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
$\{q://QID109/ChoiceTextEntryValue\}$ is always honest in his/her dealings with me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
$\{q://QID109/ChoiceTextEntryValue\}$ and I share the same goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
$\{q://QID109/ChoiceTextEntryValue\}$ never tries to mislead me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
$\{q://QID109/ChoiceTextEntryValue\}$ and I support each other's objectives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
\$(q://QID109/ChoiceTextEntryValue) is someone I feel I can trust,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**How often do you receive instructions at work?**

Never	Almost never	A few times a year	Once a month	Once a week	Once a day	More than once a day
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**How often does someone ask you to do a task at work?**

Never	Almost never	A few times a year	Once a month	Once a week	Once a day	More than once a day
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**How often do you receive instructions from \$(q://QID109/ChoiceTextEntryValue)?**

Never	Almost never	A few times a year	Once a month	Once a week	Once a day	More than once a day
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**How often does \$(q://QID109/ChoiceTextEntryValue) ask you to do a task?**

Never	Almost never	A few times a year	Once a month	Once a week	Once a day	More than once a day
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**absorptive & risk**

**Please indicate the extent to which you agree with the following statements.**

**In general, when I receive instructions about a task,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
In general, I am good at comprehending task-related instructions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, I have a strong ability to understand task information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, I can perform tasks well with the given instructions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For this question, click the "Strongly Disagree" button,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can apply instructions successfully.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I am competent enough to understand instructions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**In general,**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I avoid situations at work that have uncertain outcomes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel nervous when I have to work under uncertainty.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not feel comfortable working on tasks that have few instructions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer situations at work that have foreseeable outcomes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not feel comfortable about taking chances at work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Company Control**

**What type of customers does your company serve?**

	Always	Most of the time	About half the time	Sometimes	Never
Individuals and households for personal use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business and non-profit organizations for their use or resale	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**What kinds of products does your company predominately sell?**

	Always	Most of the time	About half the time	Sometimes	Never
Durable goods (for example, machinery, computers, telecommunications devices, buildings, equipment)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nondurable goods (for example, paper, toner, lubricants, cleaning supplies)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Services (for example, technical support, consulting, transportation/delivery, back-office support)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Which industry is your company in?**

- Agriculture, Forestry, and Fishing
  Transportation and Warehousing
  Educational Services  
 Mining, Quarrying, and Oil and Gas



- |                                       |  |   |
|---------------------------------------|--|---|
| <input type="radio"/> Extraction      | <input type="radio"/> Information  | <input type="radio"/> Health Care and Social Assistance             |
| <input type="radio"/> Utilities       | <input type="radio"/> Finance and Insurance  | <input type="radio"/> Arts, Entertainment, and Recreation           |
| <input type="radio"/> Construction    | <input type="radio"/> Real Estate and Rental and Leasing                                       | <input type="radio"/> Accommodation and Food Services               |
| <input type="radio"/> Manufacturing   | <input type="radio"/> Professional, Scientific, and Technical Services                         | <input type="radio"/> Other Services (except Public Administration) |
| <input type="radio"/> Wholesale Trade | <input type="radio"/> Management of Companies and Enterprises                                  | <input type="radio"/> Public Administration                         |
| <input type="radio"/> Retail Trade    | <input type="radio"/> Administrative and Support and Waste Management and Remediation Services | <input type="radio"/> Other : (please specify) <input type="text"/> |

### How many employees are there in your company?

---

- |                                     |                                    |
|-------------------------------------|------------------------------------|
| <input type="radio"/> Fewer than 25 | <input type="radio"/> 100-199      |
| <input type="radio"/> 25-49         | <input type="radio"/> 200-499      |
| <input type="radio"/> 50-99         | <input type="radio"/> 500 and over |

### What is the annual sales revenue of your company?

---

- |  |   |
|--|---|
| <input type="radio"/> Less than \$ 1 million               | <input type="radio"/> \$10 million – less than \$50 million |
| <input type="radio"/> \$1 million – less than \$5 million  | <input type="radio"/> \$50 million and over                 |
| <input type="radio"/> \$5 million – less than \$10 million |   |

### Demographic

**In this last section of the survey, we would like to gather some general information about you.**

---

#### Gender

---

- Male
- Female

#### Please check the category below that best describes your age.

---

- |  |   |
|--|---|
| <input type="radio"/> 17 years and under | <input type="radio"/> 45 to 49 years    |
| <input type="radio"/> 18 to 24 years     | <input type="radio"/> 50 to 54 years    |
| <input type="radio"/> 25 to 29 years     | <input type="radio"/> 55 to 59 years    |
| <input type="radio"/> 30 to 34 years     | <input type="radio"/> 60 to 64 years    |
| <input type="radio"/> 35 to 39 years     | <input type="radio"/> 65 years and over |
| <input type="radio"/> 40 to 44 years     |   |

- Completed 8th Grade.
- High School Graduate (or Equivalent).
- Some College.
- Associate's Degree.
- Bachelor's Degree.
- Graduate Or Professional Degree.

**What is your job position?**

- Outside sales representative
- Account manager
- In-store sales representative
- Other: (please specify)

**On average, what percentage of your compensation is from the following?**

	0	10	20	30	40	50	60	70	80	90	100
Base Salary											
Commission											
Bonuses											
<b>Total:</b>											

**Before you finish this survey, do you have any comments about the survey? (Optional)**

**Appendix D**

**RESULTS FOR MAIN STUDY**

**Table D.1 Respondent Characteristics of the Main Study**

<b>Respondent Characteristics</b>		<b>Frequency</b>
<b>Gender</b>	Male	134
	Female	129
<b>Age</b>	18 to 24 years	37
	25 to 29 years	61
	30 to 34 years	48
	35 to 39 years	44
	40 to 44 years	23
	45 to 49 years	22
	50 to 54 years	11
	55 to 59 years	4
	60 to 64 years	9
65 years and over	4	
<b>Education</b>	High school graduate (or equivalent)	45
	Some college	56
	Associate's degree	35
	Bachelor's degree	96
	Graduate or Professional degree	30
<b>Position</b>	Outside sales representative	71
	Account Manager	66
	In-store sales representative	129
	Others	25

**Table D.2 Company Characteristics of Respondents of the Main Study**

<b>Company Characteristics of Respondents</b>		<b>Frequency</b>	
<b>Number of Employee</b>	Fewer than 25	19	
	25-49	29	
	50-99	29	
	100-199	44	
	200-499	38	
	500 and over	103	
<b>Annual Sales Revenue</b>	Less than \$ 1 million	26	
	\$1 million – less than \$5 million	63	
	\$5 million – less than \$10 million	38	
	\$10 million – less than \$50 million	61	
	\$50 million and over	74	
<b>Customer Served</b>	<u>Individuals and households</u>		
	Always	108	
	Most of the time	65	
	About half the time	37	
	Sometimes	34	
	Never	17	
	<u>Business and non-profit organizations</u>		
	Always	48	
	Most of the time	48	
	About half the time	51	
	Sometimes	68	
	Never	45	
	<b>Products</b>	<u>Durable goods</u>	
		Always	67
		Most of the time	38
About half the time		28	
Sometimes		35	
Never		90	
<u>Nondurable goods</u>			
Always		44	
Most of the time		33	
About half the time		39	
Sometimes		45	
Never		98	

**(Continue) Table D.2 Company Characteristics of Respondents of the Main Study**

<b>Company Characteristics of Respondents</b>		<b>Frequency</b>
<b>Product</b>	<u>Services</u>	
	Always	61
	Most of the time	52
	About half the time	29
	Sometimes	41
	Never	77
<b>Industry</b>		
	Agriculture, Forestry, and Fishing	2
	Mining, Quarrying, and Oil and Gas Extraction	1
	Utilities	4
	Construction	11
	Manufacturing	9
	Wholesale Trade	12
	Retail Trade	80
	Transportation and Warehousing	8
	Information	16
	Finance and Insurance	18
	Real Estate and Rental and Leasing	4
	Professional, Scientific, and Technical Services	14
	Management of Companies and Enterprises	8
	Administrative and Support and Waste Management and Remediation Services	4
	Educational Services	6
	Health Care and Social Assistance	12
	Arts, Entertainment, and Recreation	12
	Accommodation and Food Services	17
	Other Services (except Public Administration)	7
	Public Administration	1
	Others	17

**Table D.3 Descriptive Statistics for Main Study**

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Leveling</b>							
Leveling2	(First name) condensed the instructions.	5.41	1.35	-0.86	0.16	0.34	0.31
Leveling4	(First name) shortened the instructions.	5.09	1.52	-0.62	0.16	-0.28	0.31
Leveling5	(First name) simplified the content of the instructions.	5.33	1.41	-0.80	0.16	0.20	0.31
Leveling15	(First name) avoided lengthy instructions.	5.30	1.59	-1.06	0.16	0.46	0.31
Leveling16	(First name) communicated the information with as few words as necessary.	5.34	1.51	-0.79	0.16	-0.06	0.31
Leveling17	(First name) focused on the key points.	5.85	1.06	-1.14	0.16	1.68	0.31
<b>Queuing - Delaying</b>							
Queuing_Delay5	(First name) observed whether I was busy at the moment.	5.29	1.63	-0.91	0.16	-0.04	0.31
Queuing_Delay6	(First name) considered whether (First name) could have my undivided attention.	5.20	1.63	-0.81	0.16	-0.24	0.31
Queuing_Delay7	(First name) thought of whether I had the time to listen to him/her.	5.26	1.63	-0.83	0.16	-0.16	0.31
Queuing_Delay8	(First name) made sure he/she was not interrupting me in the middle of something.	5.29	1.72	-0.99	0.16	-0.05	0.31
Queuing_Delay9	(First name) checked if I was free at that time.	5.31	1.66	-1.06	0.16	0.18	0.31

(Continue) Table D.3 Descriptive Statistics for Main Study

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Queuing - Prioritizing</b>							
Queuing_Prioritize7	(First name) shared small pieces of the information so I could absorb it better.	4.80	1.74	-0.49	0.16	-0.81	0.31
Queuing_Prioritize8	(First name) communicated only part of information so I could devote all my attention to that part of the information.	4.65	1.74	-0.40	0.16	-0.73	0.31
Queuing_Prioritize9	(First name) told me a fraction of the information so I could focus on that fraction of information.	4.47	1.85	-0.26	0.16	-1.09	0.31
Queuing_Prioritize10	(First name) delivered only part of the information so I would be more likely to pay attention to that information.	4.50	1.79	-0.28	0.16	-0.99	0.31
Queuing_Prioritize11	(First name) shared only a portion of the information so I could work on that portion first.	4.48	1.80	-0.33	0.16	-1.01	0.31
<b>Reshaping</b>							
Reshaping5	(First name) adapted his/her teaching style so I would not feel too discouraged in performing the task.	5.18	1.55	-0.73	0.16	-0.15	0.31
Reshaping7	(First name) instilled confidence in me with his/her language.	5.75	1.23	-1.02	0.16	0.69	0.31
Reshaping8	(First name) reminded me of my good qualities so I felt empowered in completing the task.	5.47	1.52	-1.09	0.16	0.58	0.31



(Continue) Table D.3 Descriptive Statistics for Main Study

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>(Cont.) Reshaping</b>							
Reshaping9	(First name) said encouraging words to convince me that I could achieve the task.	5.52	1.49	-1.16	0.16	0.99	0.31
Reshaping10	(First name) said things to uplift my spirit so I believed that I could achieve the task.	5.50	1.40	-0.98	0.16	0.45	0.31
Reshaping11	(First name) assured me that I would do a great job so I would not be anxious about my task performance.	5.51	1.56	-1.17	0.16	0.71	0.31
<b>Adjusting</b>							
Adjusting4	(First name) used language that would make sense to me.	6.20	0.90	-1.32	0.16	2.36	0.31
Adjusting6	(First name) worded the instructions in a way that I could understand.	6.02	1.01	-1.28	0.16	1.92	0.31
Adjusting7	The depth of information (First name) covered was consistent with my level of knowledge.	6.01	1.05	-1.29	0.16	2.13	0.31
Adjusting9	The language (First name) used matched with the language I knew.	6.21	0.97	-1.42	0.16	2.31	0.31
Adjusting13	(First name) used language that was familiar to me.	6.14	0.99	-1.80	0.16	5.39	0.31
Adjusting14	(First name) chose language that I could easily understand.	6.14	0.92	-1.60	0.16	5.05	0.31

(Continue) Table D.3 Descriptive Statistics for Main Study

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Creating Ambiguity</b>							
Creating_Ambiguity1	The task information that (First name) communicated is up for my interpretation.	5.10	1.62	-0.88	0.16	0.07	0.31
Creating_Ambiguity2	(First name) left the instructions open to my interpretation for completing the task.	5.21	1.67	-0.98	0.16	0.13	0.31
Creating_Ambiguity4	(First name) left some room for me to interpret the instructions as I saw fit.	5.13	1.59	-0.85	0.16	0.14	0.31
Creating_Ambiguity5	(First name) left some room for me to interpret the instructions as I saw best.	5.22	1.59	-0.97	0.16	0.47	0.31
Creating_Ambiguity6	(First name) gave instructions that could be interpreted in different ways to give me room for creativity.	4.85	1.71	-0.61	0.16	-0.58	0.31

(Continue) Table D.3 Descriptive Statistics for Main Study

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Information Overload</b>							
Information_Overload4	I felt overloaded with the amount of instructions that I received.	2.84	2.05	0.81	0.16	-0.81	0.31
Information_Overload5	I felt that I received too much task information.	2.90	2.02	0.74	0.16	-0.88	0.31
Information_Overload7	The amount of information I received was more than I could manage.	3.33	2.15	0.48	0.16	-1.26	0.31
Information_Overload_Error1	The amount of task information that I had to process caused me to make mistakes in completing the task.	3.05	2.17	0.67	0.16	-1.07	0.31
Information_Overload_Error2	The vast amount of instructions that I had to follow had caused me to make mistakes when completing the task.	3.11	2.16	0.58	0.16	-1.20	0.31
Information_Overload_Error3	I made mistakes while completing the task because (First name) gave me too many instructions.	2.67	2.01	1.03	0.16	-0.31	0.31
Information_Overload_Affective1	The volume of instructions that I was provided with was frustrating.	2.81	2.04	0.83	0.16	-0.74	0.31
Information_Overload_Affective2	The amount of task information that needed to complete the task made me feel overloaded.	3.04	2.14	0.73	0.16	-0.94	0.31
Information_Overload_Affective3	I felt frustrated because of the excessive amount of instructions that I was given.	2.99	2.06	0.75	0.16	-0.90	0.31

(Continue) Table D.3 Descriptive Statistics for Main Study

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Shared Understanding</b>							
Shared_Understanding1	I believed that (First name) and I had a shared understanding of how to complete the task.	5.87	1.18	-1.44	0.16	2.54	0.31
Shared_Understanding2	(First name) and I appeared to have the same definition of the task.	5.84	1.23	-1.47	0.16	2.31	0.31
Shared_Understanding3	(First name) and I seemed to have a common view regarding the prioritization of the task.	5.79	1.21	-1.39	0.16	2.48	0.31
Shared_Understanding4	(First name) and I appeared to have a shared understanding of my role in completing the task.	6.04	1.05	-1.42	0.16	2.34	0.31
Shared_Understanding6	(First name) and I seemed to have a common understanding of the task.	5.97	1.15	-1.72	0.16	3.56	0.31
<b>Coordination</b>							
Coordination1	(First name) and I were well-coordinated on that task.	5.71	1.39	-1.36	0.16	1.62	0.31
Coordination2	(First name) and I were synchronized completing the task.	5.33	1.50	-1.02	0.16	0.60	0.31
Coordination3	(First name) and I worked closely together to make sure that the task was properly done.	5.05	1.78	-0.77	0.16	-0.48	0.31
Coordination4	(First name) and I worked together to achieve synergies.	5.33	1.63	-0.96	0.16	0.16	0.31

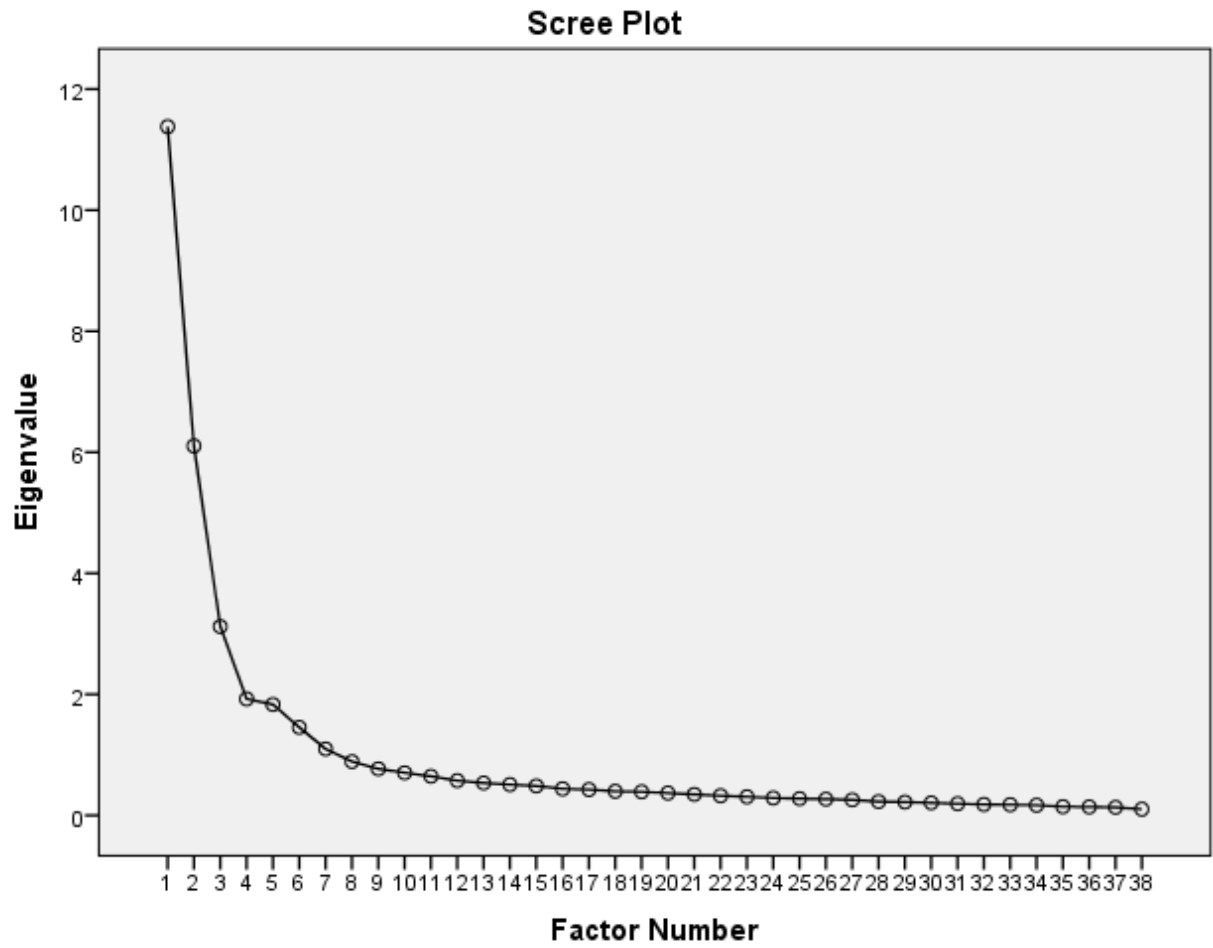
(Continue) Table D.3 Descriptive Statistics for Main Study

Construct/Indicators	Measurement Items	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
<b>Compliance</b>							
Compliance1	I complied with (First name) on the task.	5.95	1.13	-1.54	0.16	3.01	0.31
Compliance2	I followed (First name)'s instructions about the task.	6.11	0.99	-1.68	0.16	3.93	0.31
Compliance3	I tried hard to carry out the task in the way that (First name) wanted.	5.75	1.33	-1.53	0.16	2.54	0.31
Compliance4	I carefully followed the guidelines of the task.	5.88	1.06	-0.87	0.16	0.42	0.31
<b>Conflict</b>							
Conflict1	(First name) and I argued about the task.	2.46	2.00	1.22	0.16	0.04	0.31
Conflict2	(First name) and I disagreed about how we could best achieve the task.	2.98	2.11	0.68	0.16	-1.06	0.31
Conflict3	(First name) made it difficult for me to complete the task.	2.74	2.06	0.93	0.16	-0.58	0.31
Conflict4	(First name) and I had tension about how the task should be completed.	3.29	2.14	0.50	0.16	-1.26	0.31
Conflict5	My arguments with (First name) about the task were very heated.	2.55	2.12	1.13	0.16	-0.25	0.31

(Continue) Table D.3 Descriptive Statistics for Main Study

Construct/Indicators	Measurement Items			Skewness		Kurtosis	
		Mean	Std. Deviation	Statistic	Std. Error	Statistic	Std. Error
<b>Absorptive Capacity</b>							
Absorptive_Capacity1	I have a strong ability to understand the task information.	6.30	0.88	-2.02	0.16	6.76	0.31
Absorptive_Capacity2	I am good at comprehending the task-related instructions.	6.27	0.92	-2.21	0.16	7.43	0.31
Absorptive_Capacity3	I can perform the task well with the given instructions.	6.31	0.85	-2.02	0.16	7.47	0.31
Absorptive_Capacity4	I can apply the instructions successfully.	6.33	0.85	-1.89	0.16	5.62	0.31
Absorptive_Capacity5	I am competent enough to understand the instructions.	6.35	0.87	-1.69	0.16	3.69	0.31

Figure D.1 Scree Plot for Independent Variables in Main Study



**Table D.4 Correlations of Constructs in Main Study**

	1	2	3	4	5	6	7	8	9	10
1 Leveling	1.000									
2 Delaying	<b>0.356</b>	1.000								
3 Prioritizing	<b>0.552</b>	<b>0.257</b>	1.000							
4 Reshaping	<b>0.361</b>	<b>0.637</b>	<b>0.368</b>	1.000						
5 Adjusting	<b>0.419</b>	<b>0.419</b>	0.069	<b>0.512</b>	1.000					
6 Ambiguity	<b>0.472</b>	<b>0.290</b>	<b>0.626</b>	<b>0.330</b>	<b>0.161</b>	1.000				
7 Information Overload	<b>0.215</b>	<b>0.150</b>	<b>0.521</b>	0.114	<b>-0.207</b>	<b>0.337</b>	1.000			
8 Shared Understanding	<b>0.367</b>	<b>0.584</b>	0.100	<b>0.610</b>	<b>0.704</b>	<b>0.156</b>	<b>-0.150</b>	1.000		
9 Coordination	<b>0.344</b>	<b>0.633</b>	<b>0.279</b>	<b>0.707</b>	<b>0.483</b>	<b>0.265</b>	0.122	<b>0.699</b>	1.000	
10 Compliance	<b>0.354</b>	<b>0.504</b>	0.078	<b>0.476</b>	<b>0.685</b>	<b>0.157</b>	-0.078	<b>0.716</b>	<b>0.563</b>	1.000
11 Conflict	<b>0.133</b>	0.042	<b>0.450</b>	0.014	<b>-0.274</b>	<b>0.286</b>	<b>0.887</b>	<b>-0.228</b>	0.038	<b>-0.148</b>
12 Absorptive Capacity	<b>0.208</b>	<b>0.244</b>	-0.028	<b>0.300</b>	<b>0.592</b>	0.066	<b>-0.278</b>	<b>0.496</b>	<b>0.345</b>	<b>0.641</b>
13 Leveling*AC	0.000	0.022	-0.070	0.029	-0.035	-0.037	-0.057	-0.034	-0.033	-0.080
14 Delaying*AC	0.016	0.000	-0.058	0.068	0.063	-0.043	<b>-0.162</b>	-0.021	0.009	0.008
15 Prioritizing*AC	-0.110	-0.039	0.000	-0.049	-0.074	0.025	-0.046	-0.075	<b>-0.153</b>	-0.097
16 Reshaping*AC	-0.032	0.031	-0.071	0.000	-0.017	-0.127	-0.117	-0.006	-0.026	-0.027
17 Adjusting*AC	0.025	0.122	-0.058	0.108	0.000	-0.084	-0.083	0.073	0.125	0.022
18 Ambiguity*AC	-0.101	-0.067	-0.068	<b>-0.155</b>	<b>-0.156</b>	0.000	-0.096	<b>-0.132</b>	<b>-0.224</b>	-0.072

Note: Correlations that are statistically significant are in bold ( $p \leq .05$ ).



**(Continue) Table D.4 Correlations of Constructs in Main Study**

	11	12	13	14	15	16	17	18
11 Conflict	1.000							
12 Absorptive Capacity	<b>-0.247</b>	1.000						
13 Leveling*AC	-0.121	0.000	1.000					
14 Delaying*AC	<b>-0.200</b>	0.000	<b>0.442</b>	1.000				
15 Prioritizing*AC	-0.111	0.000	<b>0.612</b>	<b>0.249</b>	1.000			
16 Reshaping*AC	-0.120	0.000	<b>0.500</b>	<b>0.677</b>	<b>0.396</b>	1.000		
17 Adjusting*AC	-0.093	0.000	<b>0.614</b>	<b>0.496</b>	<b>0.238</b>	<b>0.627</b>	1.000	
18 Ambiguity*AC	-0.118	0.000	<b>0.449</b>	<b>0.250</b>	<b>0.618</b>	<b>0.354</b>	<b>0.380</b>	1.000

**Table D.5 EFA Results for Independent Variables in Main Study**

Construct/Indicators	Measurement Items	Factor (% of variance)						
		1 (29.95%)	2 (16.06%)	3 (8.21%)	4 (5.06%)	5 (4.82%)	6 (3.83%)	7 (2.89%)
<b>Leveling</b>								
Leveling2	I condensed the instructions.	-0.018	0.045	-0.045	0.031	<b>0.583</b>	0.136	-0.090
Leveling4	I shortened the instructions.	0.051	0.076	0.014	0.057	<b>0.856</b>	-0.069	0.136
Leveling5	I simplified the content of the instructions.	0.103	0.222	0.017	0.021	<b>0.408</b>	0.148	-0.102
Leveling15	I avoided lengthy instructions.	-0.040	0.017	0.010	0.003	<b>0.517</b>	-0.006	-0.020
Leveling16	I communicated the information with as few words as necessary.	-0.126	0.200	0.087	0.093	<b>0.388</b>	0.101	-0.225
Leveling17 <sup>d</sup>	(First name) focused on the key points.	-0.085	0.210	0.044	0.047	<b>-0.061</b>	0.259	-0.470
<b>Queuing - Delaying</b>								
Queuing_Delay5	I observed whether (First name) was busy at the moment.	-0.029	-0.057	-0.017	-0.002	0.016	<b>0.946</b>	-0.025
Queuing_Delay6	I considered whether I could have (First name)'s undivided attention.	0.103	0.023	0.016	0.016	0.062	<b>0.719</b>	0.007
Queuing_Delay7	I thought of whether (First name) had the time to listen to me.	0.141	-0.069	-0.041	0.125	0.062	<b>0.764</b>	0.022
Queuing_Delay8	I made sure I was not interrupting (First name) in the middle of something.	0.057	0.026	0.112	-0.029	0.012	<b>0.815</b>	0.068
Queuing_Delay9	I checked if (First name) was free at that time.	0.016	-0.030	0.021	-0.019	-0.036	<b>0.852</b>	-0.030

Note: Factor solutions are suggested in boldface.

<sup>d</sup> denotes items that are dropped.

(Continue) Table D.5 EFA Results for Independent Variables in Main Study

Construct/Indicators	Measurement Items	Factor						
		1	2	3	4	5	6	7
<b>Queuing - Prioritizing</b>								
Queuing_Prioritize7	I shared small pieces of the information so (First name) could absorb it better.	0.144	<b>0.615</b>	-0.011	0.105	0.065	0.018	-0.030
Queuing_Prioritize8	I communicated only part of information so (First name) could devote all his/her attention to that part of the information.	0.071	<b>0.797</b>	0.009	0.011	0.094	-0.004	0.112
Queuing_Prioritize9	I told (First name) a fraction of the information so (First name) could focus on that fraction of information.	-0.037	<b>0.681</b>	-0.020	0.170	0.037	0.052	0.037
Queuing_Prioritize10	I delivered only part of the information so (First name) would be more likely to pay attention to that information.	-0.040	<b>0.777</b>	-0.021	-0.002	0.160	-0.061	0.014
Queuing_Prioritize11	I shared only a portion of the information so (First name) could work on that portion first.	0.042	<b>0.882</b>	-0.012	-0.011	0.020	-0.063	-0.027
<b>Reshaping</b>								
Reshaping5	I strived to adapt my teaching style so (First name) would not feel too discouraged in performing the task.	<b>0.478</b>	0.317	-0.129	0.071	-0.018	0.149	-0.155
Reshaping7	I tried my best to instill confidence in (First name) with my language.	<b>0.507</b>	-0.042	-0.107	-0.012	0.117	0.117	-0.308
Reshaping8	I reminded (First name) of his/her good qualities so (First name) felt empowered in completing the task.	<b>0.853</b>	0.039	0.054	0.048	-0.021	-0.022	0.016

(Continue) Table D.5 EFA Results for Independent Variables in Main Study

Construct/Indicators	Measurement Items	Factor						
		1	2	3	4	5	6	7
<b>(Cont.) Reshaping</b>								
Reshaping9	I said encouraging words to convince (First name) that he/she could achieve the task.	0.885	-0.037	0.050	-0.009	0.003	0.030	0.021
Reshaping10	I said things to uplift (First name)'s spirit so (First name) believed that he/she could achieve the task.	0.776	0.085	0.043	0.012	-0.071	0.081	-0.063
Reshaping11	I assured (First name) that he/she would do a great job so (First name) would not be anxious about his/her task performance.	0.725	0.007	0.077	-0.021	0.013	0.143	0.032
<b>Adjusting</b>								
Adjusting4	I tried to use language that would make sense to (First name).	0.080	-0.045	0.121	0.125	0.033	-0.122	<b>-0.740</b>
Adjusting6	I attempted to word the instructions in a way that (First name) could understand.	0.051	0.005	0.105	-0.096	0.033	0.077	<b>-0.587</b>
Adjusting7	The depth of information I covered was consistent with (First name)'s level of knowledge.	-0.039	0.040	0.066	0.023	-0.091	0.083	<b>-0.650</b>
Adjusting9	The language I used matched with the language (First name) knew.	0.148	-0.084	0.055	-0.063	0.204	-0.045	<b>-0.584</b>
Adjusting13	I used language that was familiar to (First name).	0.112	-0.124	0.096	0.047	0.097	-0.082	<b>-0.629</b>
Adjusting14	I chose language that (First name) could easily understand.	0.093	-0.071	0.150	-0.029	0.101	0.088	<b>-0.551</b>

(Continue) Table D.5 EFA Results for Independent Variables in Main Study

Construct/Indicators	Measurement Items	Factor						
		1	2	3	4	5	6	7
<b>Creating Ambiguity</b>								
Creating_Ambiguity1	The task information that I communicated is up for (First name)'s interpretation.	-0.009	0.330	0.082	<b>0.685</b>	-0.075	0.048	0.080
Creating_Ambiguity2	I left some room for (First name) to interpret the instructions as (First name) saw fit.	0.048	-0.027	0.050	<b>0.811</b>	0.090	-0.089	0.075
Creating_Ambiguity4	I left the instructions open to (First name)'s interpretation for completing the task.	-0.060	-0.086	-0.092	<b>0.903</b>	0.048	0.064	-0.064
Creating_Ambiguity5	I left some room for (First name) to interpret the instructions as (First name) saw best.	-0.016	-0.015	0.025	<b>0.844</b>	-0.005	0.056	-0.042
Creating_Ambiguity6	I gave instructions that could be interpreted in different ways to give (First name) room for creativity.	0.184	0.299	-0.046	<b>0.592</b>	-0.040	0.002	-0.098
<b>Absorptive Capacity</b>								
Absorptive_Capacity1	I have a strong ability to understand the task information.	-0.022	-0.031	<b>0.672</b>	-0.048	-0.010	0.062	-0.165
Absorptive_Capacity2	I am good at comprehending the task-related instructions.	0.006	-0.052	<b>0.842</b>	0.027	0.020	0.045	0.039
Absorptive_Capacity3	I can perform the task well with the given instructions.	0.019	0.078	<b>0.843</b>	-0.039	-0.036	-0.034	-0.019
Absorptive_Capacity4	I can apply the instructions successfully.	0.014	-0.016	<b>0.775</b>	0.028	0.031	0.017	0.023
Absorptive_Capacity5	I am competent enough to understand the instructions.	0.032	-0.005	<b>0.742</b>	0.020	-0.014	-0.022	-0.068

**Table D.6 Internal Consistency of Items for Independent Variables in Main Study**

<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Cronbach's Alpha</b>	<b>Item-Total Correlation</b>
<b>Leveling</b>		0.784	
Leveling2	I condensed the instructions.		0.585
Leveling4	I shortened the instructions.		0.671
Leveling5	I simplified the content of the instructions.		0.549
Leveling15 <sup>d</sup>	I avoided lengthy instructions.		0.441
Leveling16	I communicated the information with as few words as necessary.		0.563
<b>Queuing - Delaying</b>		0.927	
Queuing_Delay5	I observed whether (First name) was busy at the moment.		0.851
Queuing_Delay6	I considered whether I could have (First name)'s undivided attention.		0.759
Queuing_Delay7	I thought of whether (First name) had the time to listen to me.		0.793
Queuing_Delay8	I made sure I was not interrupting (First name) in the middle of something.		0.811
Queuing_Delay9	I checked if (First name) was free at that time.		0.827
<b>Queuing - Prioritizing</b>		0.909	
Queuing_Prioritize7	I shared small pieces of the information so (First name) could absorb it better.		0.707
Queuing_Prioritize8	I communicated only part of information so (First name) could devote all his/her attention to that part of the information.		0.787
Queuing_Prioritize9	I told (First name) a fraction of the information so (First name) could focus on that fraction of information.		0.741
Queuing_Prioritize10	I delivered only part of the information so (First name) would be more likely to pay attention to that information.		0.779
Queuing_Prioritize11	I shared only a portion of the information so (First name) could work on that portion first.		0.835

<sup>d</sup> denotes items that are dropped.

**(Continue) Table D.6 Internal Consistency of Items for Independent Variables in Main Study**

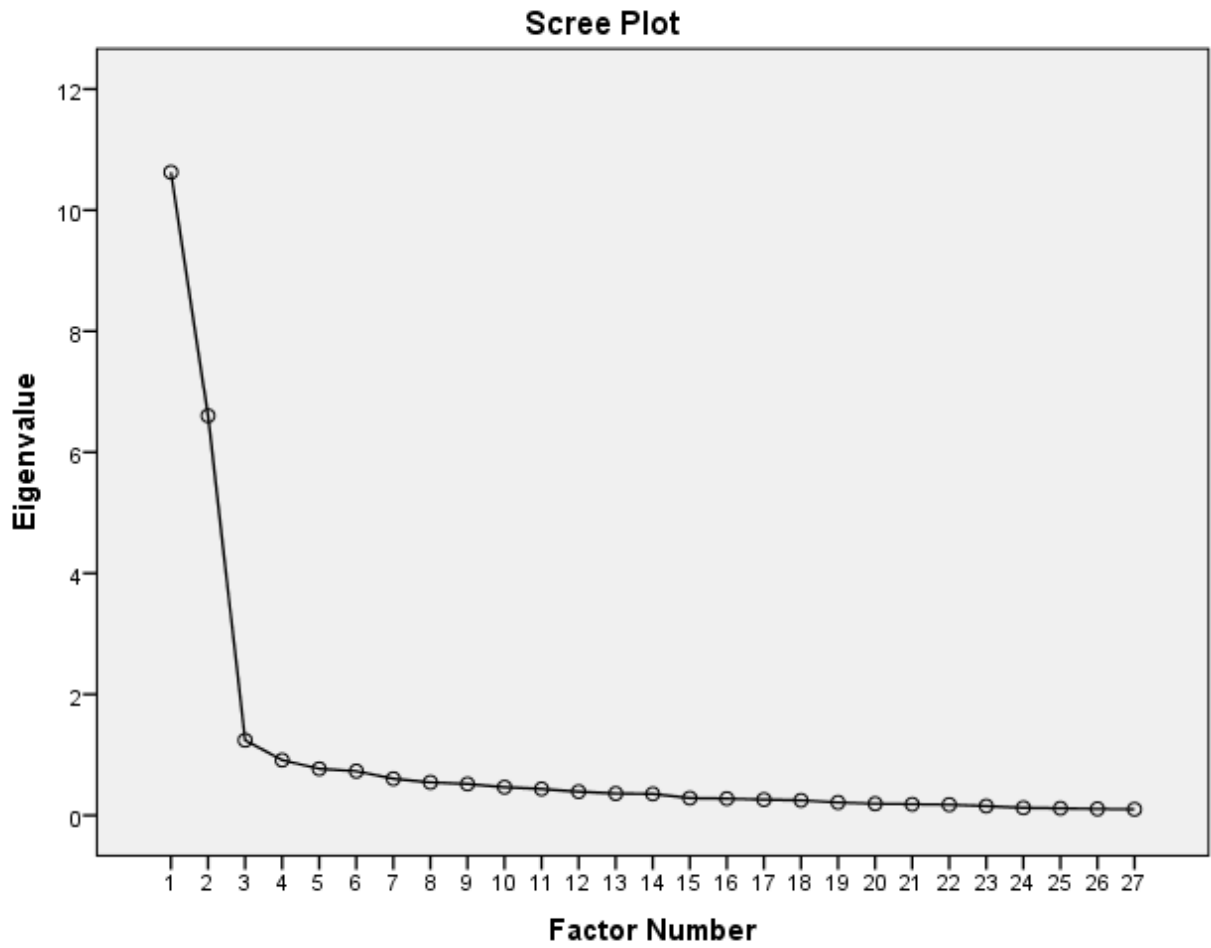
<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Cronbach's Alpha</b>	<b>Item-Total Correlation</b>
<b>Reshaping</b>		0.910	
Reshaping5	I strived to adapt my teaching style so (First name) would not feel too discouraged in performing the task.		0.649
Reshaping7	I tried my best to instill confidence in (First name) with my language.		0.666
Reshaping8	I reminded (First name) of his/her good qualities so (First name) felt empowered in completing the task.		0.802
Reshaping9	I said encouraging words to convince (First name) that he/she could achieve the task.		0.815
Reshaping10	I said things to uplift (First name)'s spirit so (First name) believed that he/she could achieve the task.		0.831
Reshaping11	I assured (First name) that he/she would do a great job so (First name) would not be anxious about his/her task performance.		0.754
<b>Adjusting</b>		0.882	
Adjusting4	I tried to use language that would make sense to (First name).		0.780
Adjusting6	I attempted to word the instructions in a way that (First name) could understand.		0.691
Adjusting7	The depth of information I covered was consistent with (First name)'s level of knowledge.		0.613
Adjusting9	The language I used matched with the language (First name) knew.		0.686
Adjusting13	I used language that was familiar to (First name).		0.671
Adjusting14	I chose language that (First name) could easily understand.		0.741

(Continue) Table D.6 Internal Consistency of Items for Independent Variables in Main Study

Construct/Indicators	Measurement Items	Cronbach's Alpha	Item-Total Correlation
<b>Creating Ambiguity</b>		0.912	
Creating_Ambiguity1	The task information that I communicated is up for (First name)'s interpretation.		0.804
Creating_Ambiguity2	I left some room for (First name) to interpret the instructions as (First name) saw fit.		0.736
Creating_Ambiguity4	I left the instructions open to (First name)'s interpretation for completing the task.		0.811
Creating_Ambiguity5	I left some room for (First name) to interpret the instructions as (First name) saw best.		0.777
Creating_Ambiguity6	I gave instructions that could be interpreted in different ways to give (First name) room for creativity.		0.755
<b>Absorptive Capacity</b>		0.910	
Absorptive_Capacity1	I have a strong ability to understand the task information.		0.760
Absorptive_Capacity2	I am good at comprehending the task-related instructions.		0.808
Absorptive_Capacity3	I can perform the task well with the given instructions.		0.792
Absorptive_Capacity4	I can apply the instructions successfully.		0.759
Absorptive_Capacity5	I am competent enough to understand the instructions.		0.739



**Figure D.2 Scree Plot for dependent Variables in Main Study**



**Table D.7 EFA Results for dependent Variables in Main Study**

Construct/Indicators	Measurement Items	Factors (% of Variance Explained)		
		1 (39.36%)	2 (24.46%)	3 (4.60%)
<b>Information Overload</b>				
Information_Overload4	I felt overloaded with the amount of instructions that I received.	<b>0.877</b>	0.074	0.018
Information_Overload5	I felt that I received too much task information.	<b>0.888</b>	0.026	-0.037
Information_Overload7	The amount of information I received was more than I could manage.	<b>0.770</b>	-0.116	-0.201
Information_Overload_Error1	The amount of task information that I had to process caused me to make mistakes in completing the task.	<b>0.811</b>	-0.070	-0.172
Information_Overload_Error2	The vast amount of instructions that I had to follow had caused me to make mistakes when completing the task.	<b>0.794</b>	-0.106	-0.150
Information_Overload_Error3	I made mistakes while completing the task because (First name) gave me too many instructions.	<b>0.895</b>	0.058	-0.035
Information_Overload_Affective1	The volume of instructions that I was provided with was frustrating.	<b>0.920</b>	0.115	0.124
Information_Overload_Affective2	The amount of task information that needed to complete the task made me feel overloaded.	<b>0.876</b>	0.079	0.029
Information_Overload_Affective3	I felt frustrated because of the excessive amount of instructions that I was given.	<b>0.813</b>	-0.053	-0.029

Note: Factor solutions are suggested in boldface.

(Continue) Table D.7 EFA Results for dependent Variables in Main Study

Construct/Indicators	Measurement Items	Factors		
		1	2	3
<b>Shared Understanding</b>				
Shared_Understanding1	I believed that (First name) and I had a shared understanding of how to complete the task.	-0.103	<b>0.453</b>	-0.372
Shared_Understanding2	(First name) and I appeared to have the same definition of the task.	-0.109	<b>0.513</b>	-0.302
Shared_Understanding3	(First name) and I seemed to have a common view regarding the prioritization of the task.	-0.100	<b>0.550</b>	-0.339
Shared_Understanding4	(First name) and I appeared to have a shared understanding of my role in completing the task.	-0.112	<b>0.601</b>	-0.258
Shared_Understanding6	(First name) and I seemed to have a common understanding of the task.	-0.071	<b>0.695</b>	-0.093
<b>Coordination</b>				
Coordination1	(First name) and I were well-coordinated on that task.	-0.040	-0.062	<b>0.892</b>
Coordination2	(First name) and I were synchronized completing the task.	0.002	0.086	<b>0.859</b>
Coordination3	(First name) and I worked closely together to make sure that the task was properly done.	-0.004	0.029	<b>0.821</b>
Coordination4	(First name) and I worked together to achieve synergies.	-0.022	0.094	<b>0.845</b>

(Continue) Table D.7 EFA Results for dependent Variables in Main Study

Construct/Indicators	Measurement Items	Factors (% of Variance Explained)		
		1 (39.36%)	2 (24.46%)	3 (4.60%)
<b>Compliance</b>				
Compliance1	I complied with (First name) on the task.	0.006	<b>0.547</b>	-0.016
Compliance2	I followed (First name)'s instructions about the task.	-0.075	<b>0.631</b>	-0.141
Compliance3	I tried hard to carry out the task in the way that (First name) wanted.	0.081	<b>0.554</b>	0.141
Compliance4	I carefully followed the guidelines of the task.	-0.010	<b>0.489</b>	-0.312
<b>Conflict</b>				
Conflict1	(First name) and I argued about the task.	<b>0.856</b>	0.004	0.017
Conflict2	(First name) and I disagreed about how we could best achieve the task.	<b>0.861</b>	0.041	0.157
Conflict3	(First name) made it difficult for me to complete the task.	<b>0.864</b>	0.073	0.211
Conflict4	(First name) and I had tension about how the task should be completed.	<b>0.756</b>	-0.094	-0.100
Conflict5	My arguments with (First name) about the task were very heated.	<b>0.831</b>	-0.074	-0.043

**Table D.8 Internal Consistency of Items for Dependent Variables in Main Study**

<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Cronbach's Alpha</b>	<b>Item-Total Correlation</b>
<b>Information Overload</b>		0.958	
Information_Overload4	I felt overloaded with the amount of instructions that I received.		0.844
Information_Overload5	I felt that I received too much task information.		0.870
Information_Overload7	The amount of information I received was more than I could manage.		0.777
Information_Overload_Error1	The amount of task information that I had to process caused me to make mistakes in completing the task.		0.808
Information_Overload_Error2	The vast amount of instructions that I had to follow had caused me to make mistakes when completing the task.		0.800
Information_Overload_Error3	I made mistakes while completing the task because (First name) gave me too many instructions.		0.847
Information_Overload_Affective1	The volume of instructions that I was provided with was frustrating.		0.859
Information_Overload_Affective2	The amount of task information that needed to complete the task made me feel overloaded.		0.853
Information_Overload_Affective3	I felt frustrated because of the excessive amount of instructions that I was given.		0.787
<b>Shared Understanding</b>		0.881	
Shared_Understanding1	I believed that (First name) and I had a shared understanding of how to complete the task.		0.698
Shared_Understanding2	(First name) and I appeared to have the same definition of the task.		0.712
Shared_Understanding3	(First name) and I seemed to have a common view regarding the prioritization of the task.		0.745
Shared_Understanding4	(First name) and I appeared to have a shared understanding of my role in completing the task.		0.757

<sup>d</sup> denotes items that are dropped.

(Continue) Table D.8 Internal Consistency of Items for Dependent Variables in Main Study

Construct/Indicators	Measurement Items	Cronbach's Alpha	Item-Total Correlation
<b>(Cont.) Shared Understanding</b>			
Shared_Understanding6	(First name) and I seemed to have a common understanding of the task.		0.669
<b>Coordination</b>		0.881	0.752
Coordination1	(First name) and I were well-coordinated on that task.		0.712
Coordination2	(First name) and I were synchronized completing the task.		0.737
Coordination3	(First name) and I worked closely together to make sure that the task was properly done.		0.798
Coordination4	(First name) and I worked together to achieve synergies.		0.752
<b>Compliance</b>		0.726	
Compliance1	I complied with (First name) on the task.		0.471
Compliance2	I followed (First name)'s instructions about the task.		0.637
Compliance3 <sup>d</sup>	I tried hard to carry out the task in the way that (First name) wanted.		0.406
Compliance4	I carefully followed the guidelines of the task.		0.540
<b>Conflict</b>		0.922	
Conflict1	(First name) and I argued about the task.		0.837
Conflict2	(First name) and I disagreed about how we could best achieve the task.		0.784
Conflict3	(First name) made it difficult for me to complete the task.		0.820
Conflict4	(First name) and I had tension about how the task should be completed.		0.721
Conflict5	My arguments with (First name) about the task were very heated.		0.830

**Table D.9 Inter-item Correlations between Information Overload and Conflict**

	IO4	IO5	IO7	IOE1	IOE2	IOE3	IOA1	IOA2	IOA3	Cf1	Cf2	Cf3	Cf4	Cf5
Information_Overload4 (IO4)	1.000													
Information_Overload5 (IO5)	0.812	1.000												
Information_Overload7 (IO7)	0.620	0.686	1.000											
Information_Overload_Error1 (IOE1)	0.664	0.757	0.699	1.000										
Information_Overload_Error2 (IOE2)	0.610	0.682	0.718	0.730	1.000									
Information_Overload_Error3 (IOE3)	0.790	0.747	0.626	0.689	0.691	1.000								
Information_Overload_Affective1 (IOA1)	0.819	0.801	0.613	0.693	0.681	0.815	1.000							
Information_Overload_Affective2 (IOA2)	0.807	0.793	0.633	0.721	0.698	0.778	0.774	1.000						
Information_Overload_Affective3 (IOA3)	0.669	0.657	0.738	0.637	0.686	0.683	0.684	0.644	1.000					
Conflict1 (Cf1)	0.711	0.685	0.620	0.617	0.628	0.837	0.753	0.695	0.641	1.000				
Conflict2 (Cf2)	0.753	0.702	0.548	0.638	0.620	0.725	0.778	0.716	0.580	0.725	1.000			
Conflict3 (Cf3)	0.705	0.679	0.538	0.642	0.619	0.716	0.772	0.738	0.635	0.737	0.743	1.000		
Conflict4 (Cf4)	0.579	0.579	0.666	0.651	0.637	0.589	0.621	0.551	0.698	0.626	0.623	0.610	1.000	
Conflict5 (Cf5)	0.668	0.659	0.626	0.725	0.669	0.754	0.695	0.663	0.705	0.783	0.672	0.760	0.694	1.000

Note: All the item correlations reported above are statistically significant ( $p \leq .05$ ).

**Table D.10 Inter-item Correlations between Shared Understanding and Compliance**

	SU1	SU2	SU3	SU4	SU6	Cp1	Cp2	Cp4
Shared_Understanding1 (SU1)	1.000							
Shared_Understanding2 (SU2)	0.612	1.000						
Shared_Understanding3 (SU3)	0.584	0.651	1.000					
Shared_Understanding4 (SU4)	0.604	0.612	0.679	1.000				
Shared_Understanding6 (SU6)	0.564	0.530	0.587	0.608	1.000			
Compliance1 (Cp1)	0.370	0.356	0.374	0.418	0.355	1.000		
Compliance2 (Cp2)	0.483	0.525	0.559	0.598	0.547	0.503	1.000	
Compliance4 (Cp4)	0.561	0.490	0.547	0.506	0.529	0.362	0.563	1.000

Note: All the item correlations reported above are statistically significant ( $p \leq .05$ ).



**Table D.11 CFA Results for Independent Variables in Main Study**

<b>Overall Model Fit</b>			
$\chi^2_{(573)} = 1022.03, p \leq .00; CFI = 0.97; RMSEA = .058; SRMR = .069$			
<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Std. Factor Loading*</b>	<b>Error Term</b>
<b>Leveling (AVE=0.49; CR=0.79)</b>			
Leveling2	I condensed the instructions.	0.68	0.54
Leveling4	I shortened the instructions.	0.74	0.46
Leveling5	I simplified the content of the instructions.	0.70	0.52
Leveling15 <sup>d</sup>	I avoided lengthy instructions.	0.48	0.77
Leveling16	I communicated the information with as few words as necessary.	0.69	0.52
<b>Queuing - Delaying (AVE=0.75; CR=0.94)</b>			
Queuing_Delay5	I observed whether (First name) was busy at the moment.	0.90	0.20
Queuing_Delay6	I considered whether I could have (First name)'s undivided attention.	0.79	0.38
Queuing_Delay7	I thought of whether (First name) had the time to listen to me.	0.83	0.3
Queuing_Delay8	I made sure I was not interrupting (First name) in the middle of something.	0.85	0.28
Queuing_Delay9	I checked if (First name) was free at that time.	0.87	0.24

<sup>d</sup> denotes items that are dropped. \* All standardized factor loadings are significant at  $p = .05$ .

(Continue) Table D.11 CFA Results for Independent Variables in Main Study

Construct/Indicators	Measurement Items	Std. Factor Loading*	Error Term
<b>Queuing – Prioritizing (AVE=0.72; CR=0.93)</b>			
Queuing_Prioritize7	I shared small pieces of the information so (First name) could absorb it better.	0.76	0.43
Queuing_Prioritize8	I communicated only part of information so (First name) could devote all his/her attention to that part of the information.	0.83	0.31
Queuing_Prioritize9	I told (First name) a fraction of the information so (First name) could focus on that fraction of information.	0.78	0.39
Queuing_Prioritize10	I delivered only part of the information so (First name) would be more likely to pay attention to that information.	0.83	0.31
Queuing_Prioritize11	I shared only a portion of the information so (First name) could work on that portion first.	0.86	0.25
<b>Reshaping (AVE=0.64; CR=0.91)</b>			
Reshaping5	I strived to adapt my teaching style so (First name) would not feel too discouraged in performing the task.	0.70	0.51
Reshaping7	I tried my best to instill confidence in (First name) with my language.	0.73	0.46
Reshaping8	I reminded (First name) of his/her good qualities so (First name) felt empowered in completing the task.	0.81	0.34
Reshaping9	I said encouraging words to convince (First name) that he/she could achieve the task.	0.88	0.23
Reshaping10	I said things to uplift (First name)'s spirit so (First name) believed that he/she could achieve the task.	0.88	0.23
Reshaping11	I assured (First name) that he/she would do a great job so (First name) would not be anxious about his/her task performance.	0.79	0.37

(Continue) Table D.11 CFA Results for Independent Variables in Main Study

Construct/Indicators	Measurement Items	Std. Factor Loading*	Error Term
<b>Adjusting (AVE=0.59; CR=0.89)</b>			
Adjusting4	I tried to use language that would make sense to (First name).	0.85	0.29
Adjusting6	I attempted to word the instructions in a way that (First name) could understand.	0.75	0.44
Adjusting7	The depth of information I covered was consistent with (First name)'s level of knowledge.	0.67	0.54
Adjusting9	The language I used matched with the language (First name) knew.	0.75	0.44
Adjusting13	I used language that was familiar to (First name).	0.71	0.49
Adjusting14	I chose language that (First name) could easily understand.	0.85	0.29
<b>Creating Ambiguity (AVE=0.68; CR=0.91)</b>			
Creating_Ambiguity1	The task information that I communicated is up for (First name)'s interpretation.	0.86	0.27
Creating_Ambiguity2	I left some room for (First name) to interpret the instructions as (First name) saw fit.	0.78	0.39
Creating_Ambiguity4	I left the instructions open to (First name)'s interpretation for completing the task.	0.86	0.26
Creating_Ambiguity5	I left some room for (First name) to interpret the instructions as (First name) saw best.	0.81	0.34
Creating_Ambiguity6	I gave instructions that could be interpreted in different ways to give (First name) room for creativity.	0.81	0.35
<b>Absorptive Capacity (AVE=0.63; CR=0.91)</b>			
Absorptive_Capacity1	I have a strong ability to understand the task information.	0.82	0.32
Absorptive_Capacity2	I am good at comprehending the task-related instructions.	0.86	0.27
Absorptive_Capacity3	I can perform the task well with the given instructions.	0.83	0.30
Absorptive_Capacity4	I can apply the instructions successfully.	0.81	0.34
Absorptive_Capacity5	I am competent enough to understand the instructions.	0.79	0.38

**Table D.12 Squared Correlation Between Independent Variables in Main Study**

<b>Construct</b>	<b>Leveling</b>	<b>Delaying</b>	<b>Prioritizing</b>	<b>Reshaping</b>	<b>Adjusting</b>	<b>Creating Ambiguity</b>
<b>Delaying</b>	0.160					
<b>Prioritizing</b>	0.410	0.068				
<b>Reshaping</b>	0.144	0.422	0.129			
<b>Adjusting</b>	0.240	0.212	0.012	0.324		
<b>Creating Ambiguity</b>	0.292	0.096	0.436	0.102	0.044	
<b>Absorptive Capacity</b>	0.053	0.073	0.000	0.123	0.423	0.005

**Table D.13 CFA Results for Dependent Variables in Main Study**

<b>Overall Model Fit</b>				
$\chi^2_{(314)} = 900.58, p \leq .00; CFI = 0.96; RMSEA = .094; SRMR = .059$				
<b>Construct/Indicators</b>	<b>Measurement Items</b>	<b>Std. Factor Loading*</b>	<b>Error Term</b>	
<b>Information Overload (AVE=0.71; CR=.96)</b>				
Information_Overload4	I felt overloaded with the amount of instructions that I received.	0.88	0.23	
Information_Overload6	I received too much information to complete my task efficiently.	0.88	0.23	
Information_Overload7	The amount of information I received was more than I could manage.	0.75	0.43	
Information_Overload_Error1	The amount of task information that I had to process caused me to make mistakes in completing the task.	0.83	0.31	
Information_Overload_Error2	The vast amount of instructions that I had to follow had caused me to make mistakes when completing the task.	0.79	0.37	
Information_Overload_Error3	I made mistakes while completing the task because (First name) gave me too many instructions.	0.89	0.21	
Information_Overload_Affective1	The volume of instructions that I was provided with was frustrating.	0.89	0.20	
Information_Overload_Affective2	The amount of task information that needed to complete the task made me feel overloaded.	0.89	0.21	
Information_Overload_Affective3	I felt frustrated because of the excessive amount of instructions that I was given.	0.78	0.39	
<b>Shared Understanding (AVE=0.60; CR=.88)</b>				
Shared_Understanding1	I believed that (First name) and I had a shared understanding of how to complete the task.	0.75	0.43	
Shared_Understanding2	(First name) and I appeared to have the same definition of the task.	0.77	0.41	
Shared_Understanding3	(First name) and I seemed to have a common view regarding the prioritization of the task.	0.83	0.32	

\* all standardized factor loadings are significant at  $p = .05$ .

(Continue) Table D.13 CFA Results for Dependent Variables in Main Study

Construct/Indicators	Measurement Items	Std. Factor Loading	Error Term
<b>(Cont.) Shared Understanding</b>			
Shared_Understanding4	(First name) and I appeared to have a shared understanding of my role in completing the task.	0.80	0.35
Shared_Understanding6	(First name) and I seemed to have a common understanding of the task.	0.73	0.47
<b>Coordination (AVE=0.67; CR=.89)</b>			
Coordination1	(First name) and I were well-coordinated on that task.	0.86	0.27
Coordination2	(First name) and I were synchronized completing the task.	0.78	0.39
Coordination3	(First name) and I worked closely together to make sure that the task was properly done.	0.79	0.38
Coordination4	(First name) and I worked together to achieve synergies.	0.85	0.28
<b>Compliance (AVE=0.50; CR=.74)</b>			
Compliance1	I complied with (First name) on the task.	0.57	0.67
Compliance2	I followed (First name)'s instructions about the task.	0.77	0.40
Compliance4	I carefully followed the guidelines of the task.	0.75	0.44
<b>Conflict (AVE=0.64; CR=.92)</b>			
Conflict1	(First name) and I argued about the task.	0.86	0.26
Conflict2	(First name) and I disagreed about how we could best achieve the task.	0.84	0.30
Conflict3	(First name) made it difficult for me to complete the task.	0.87	0.25
Conflict4	(First name) and I had tension about how the task should be completed.	0.74	0.45
Conflict5	My arguments with (First name) about the task were very heated.	0.86	0.26

**Table D.14 Squared Correlation Between Dependent Variables in Main Study**

<b>Construct</b>	<b>Information Overload</b>	<b>Shared Understanding</b>	<b>Coordination</b>	<b>Compliance</b>
<b>Shared Understanding</b>	0.023			
<b>Coordination</b>	0.010	0.656		
<b>Compliance</b>	0.010	0.774	0.533	
<b>Conflict</b>	0.883	0.063	0.000	0.029

**Table D.15 The Phi Matrix in Main Study**

	1	2	3	4	5	6	7	8
1 Leveling	1.00							
2 Delaying	<b>0.43</b>	1.00						
3 Prioritizing	<b>0.65</b>	<b>0.25</b>	1.00					
4 Reshaping	<b>0.41</b>	<b>0.66</b>	<b>0.35</b>	1.00				
5 Adjusting	<b>0.52</b>	<b>0.47</b>	0.08	<b>0.56</b>	1.00			
6 Creating Ambiguity	<b>0.56</b>	<b>0.31</b>	<b>0.68</b>	<b>0.33</b>	<b>0.18</b>	1.00		
7 Absorptive Capacity (AC)	<b>0.25</b>	<b>0.26</b>	-0.04	<b>0.34</b>	<b>0.65</b>	0.06	1.00	
8 LevelingxAC	0.00	0.02	-0.05	0.03	-0.03	-0.02	0.00	<b>0.40</b>
9 DelayingxAC	0.02	0.00	-0.06	0.06	0.06	-0.02	0.00	<b>0.24</b>
10 PrioritizingxAC	-0.10	-0.03	0.00	-0.04	-0.05	0.03	0.00	<b>0.30</b>
11 ReshapingxAC	-0.02	0.02	-0.05	0.00	-0.02	-0.09	0.00	<b>0.24</b>
12 AdjustingxAC	0.03	0.09	-0.05	0.08	0.00	-0.05	0.00	<b>0.28</b>
13 AmbiguityxAC	-0.08	-0.04	-0.05	<b>-0.11</b>	<b>-0.10</b>	0.00	0.00	<b>0.20</b>
14 No. of Employee	<b>-0.30</b>	<b>-0.22</b>	-0.16	<b>-0.22</b>	0.03	-0.18	-0.04	-0.01
15 Annual Revenue	<b>-0.27</b>	<b>-0.18</b>	-0.17	-0.15	0.09	-0.14	0.00	0.00
16 Durable Good	<b>-0.42</b>	<b>-0.35</b>	<b>-0.47</b>	<b>-0.31</b>	-0.09	<b>-0.25</b>	-0.11	-0.01
17 Non-durable Good	<b>-0.27</b>	<b>-0.33</b>	<b>-0.39</b>	<b>-0.34</b>	-0.05	<b>-0.37</b>	0.02	-0.06
18 Services	-0.18	-0.14	<b>-0.32</b>	-0.03	0.20	-0.23	0.05	0.01
19 Gender	-0.04	-0.01	<b>-0.09</b>	0.00	<b>0.08</b>	0.02	0.04	0.03

Statistically significant phi is bolded ( $p \leq .05$ ).



**(Continue) Table D.15 The Phi Matrix of Main Study**

	9	10	11	12	13	14	15	16	17	18	19
9 DelayingxAC	<b>0.68</b>										
10 PrioritizingxAC	<b>0.16</b>	<b>0.53</b>									
11 ReshapingxAC	<b>0.41</b>	<b>0.21</b>	<b>0.50</b>								
12 AdjustingxAC	<b>0.29</b>	<b>0.13</b>	<b>0.32</b>	<b>0.49</b>							
13 AmbiguityxAC	<b>0.14</b>	<b>0.32</b>	<b>0.17</b>	<b>0.18</b>	<b>0.44</b>						
14 No. of Employee	0.12	0.06	0.04	-0.05	0.08	<b>2.81</b>					
15 Annual Revenue	0.00	-0.01	0.03	<b>-0.16</b>	-0.07	<b>1.45</b>	<b>1.93</b>				
16 Durable Good	-0.09	0.04	0.01	-0.10	0.08	0.25	0.19	<b>2.74</b>			
17 Non-durable Good	-0.02	-0.06	0.02	-0.07	-0.02	0.24	<b>0.28</b>	<b>0.87</b>	<b>2.26</b>		
18 Services	0.04	-0.01	-0.03	0.00	-0.02	0.30	0.22	0.25	<b>0.38</b>	<b>2.50</b>	
19 Gender	<b>0.06</b>	<b>0.05</b>	0.03	0.02	<b>0.05</b>	<b>0.12</b>	0.04	<b>0.19</b>	<b>0.11</b>	<b>0.10</b>	<b>0.25</b>

**Table D.16 The Psi Matrix of Main Study**

	1	2	3	4	5
1 Information Overload	<b>0.51</b>				
2 Shared understanding		<b>0.98</b>			
3 Coordination			<b>0.34</b>		
4 Compliance				<b>0.19</b>	
5 Conflict					<b>0.95</b>

Statistically significant psi is bolded ( $p \leq .05$ ).