

Customer Participation in Service Conversations
- An Investigation of the Dynamics of Service Context

by

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ABSTRACT

In this research, I focus on service conversations in professional services. For most Business-to-Business or Business-to-Consumer professional services, the service conversation is an important part of the service experience and is critical to solutions co-creation as well as customer satisfaction. In this research, I examine service conversation sequences at the micro-level and explore two important research questions: (1) how do I explain the dynamics of moment-by-moment Customer Participation in Service Conversations (CPSC)? and (2) how do the temporal and process dynamics of CPSC relate to customer satisfaction and solution compliance? From a dynamic context perspective, I develop a conceptual framework that explains the co-existence of stable and dynamic customer participation behavior in a service conversation. I conduct a series of lab experiments and an observation study of online conversations between 173 customers and 52 doctors to empirically validate the conceptual framework. This research demonstrates that at any given moment, customers manage their information sharing and interaction control based on their mental representation of the context complexity. Although the context-behavior relationships are stable, the service conversation context is dynamic. The service provider's behavior can constantly change and introduce new context cues. When the context changes so does the CPSC behavior. Finally, this research shows that to improve customer satisfaction, customer perceived service quality, and customer solution compliance, service providers should focus on helping customers reduce their perceived context complexity as early as possible, by providing information and educating customers. This research makes important theoretical and managerial contributions. Theoretically, it defines and develops measures of service context

complexity in terms of its psychological features. It develops a conceptual framework to explain the temporal dynamics of CPSC on multi-dimensions. Empirically, this research adopts a phase-based sequence analysis approach and uses a negative bi-nominal model to examine the temporal process effect of the service conversation on service outcomes. Managerially, the research findings provide firms important and actionable guidelines to manage conversation-based professional services.

DEDICATION

To my loving fiancé and my best friend Alexander Böhler, who has always stood by me and supported me throughout the entire doctoral program.

To my parents, my aunt, and my grandparents for their unwavering love, support and encouragement throughout my life.

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Chapter 1

INTRODUCTION

Encouraging customers to participate in business processes and co-create value has become one of the key strategic focuses for businesses today. For marketing academics, the concept of customer participation also represents the frontier of marketing research. From the overarching conceptual framework of Service-Dominant Logic (Vargo and Lusch 2004) to decades of research on customer participation in business-to-consumer (B2C) areas (e.g., Bendapudi and Leone 2003, Chan, Yim, and Lam 2010) and customer solutions in business-to-business(B2B) areas (e.g., Tuli, Kohli, and Bharadwaj 2007), we see a trend of an increasing focus on creating an interactive environment where customers and firms continuously interact with each other, co-creating value and customer experiences (Prahalad and Ramaswamy 2004; Vargo and Lusch 2004, 2008, Zeithaml, Bitner, and Gremler 2009; Grönroos 2011).

Customer Participations in Context

The idea of customers and firms, joining together, mutually informing each other, and comprising a large interactive system is central to the notion of context. In Latin, context (*contextus*) means “a joining together” (Duranti and Goodwin 1992). Context has always been an important component of the research on customer participation. For decades, researchers have treated customer participation as a focal entity and examined its variation and its effect on service outcomes across multiple industries and activity-based situations (e.g., customers assemble their own furniture, or complete a legal documents themselves, rather than letting a lawyer to do it). Diverse efforts are made to find evidence to support the consistency of customer participation phenomena across

contexts, in particular as it relates to outcomes of customer participation. However, research on customer participation in multiple contexts has resulted in a “Customer Participation Paradox”. That is, while conceptual research and some empirical studies argue for the benefits of customer participation for customers and firms, other empirical research in different industries or activity-based situations reports mixed or even contradictory findings (e.g., Chan, Yim, and lam 2010).

The “Customer Participation Paradox” suggests the need to re-examine the notion of context and the construct of customer participation. Drawing from the context perspective across disciplines, I explore the ways in which context is socially constituted, interactively sustained, and time-bound. Perceived context, rather than a description of an industry or an activity, lies in individual’s moment-by-moment mental representation of the world. By conceptualizing context as it is perceived by the customer, and analyzing customer participation behaviors in this encoded context, I find the consistencies that characterize customer participation behaviors. At the same time, by recognizing customers’ ability to mediate the impact of context by creating personal meaning through cognitive reappraisal, I allow customer participation to be dynamic. That is, when the mental representation of the context changes, so does the behavior. In short, customer participation is not static, pre-determined or one party’s will or performance. Nor is it chaotic or random, creating arbitrary service outcomes. Instead, customer participation exhibits a set of stable or consistent patterns contingent on individuals’ mental representation of the context. When context evolves, customer participation becomes a dynamic process constructed out of context, and emerging from moment-by-moment interaction with the context.

Dimensions of Service Context

Central to the context perspective across disciplines, is the idea that context should be analyzed in an interactively constituted fashion (Duranti and Goodwin 1992). Therefore, quantifying an exhaustive list of contexts that influence customer participation invites continuous research. The context perspective calls for researchers to focus on not objective contexts (e.g., a specific service industry or the situation of building furniture), but rather on how customers attend to and organize the perception of their participation behaviors and the context that they are navigating through (Duranti and Goodwin 1992). Context exists in the mind. Mind guides behavior. Behavior then becomes context guiding the mind.

Taking, as a point of departure, the analysis of the context effect on customer participation, I review the marketing literature and context perspective research across disciplines. I summarize the following dimensions of context to be noted:

Physical Environment (Servicescape). Bitner (1990) developed a comprehensive conceptual framework of Servicescape, where a mix of environmental features (e.g., temperature, air, noise, music, odor, layout, equipment, signage, artifact etc) influence the internal response and behaviors of both customers and service providers, as well as service outcomes (e.g., Rust and Oliver 1994). Recent research by Berger and Fitzsimons (2008) further demonstrated that environmental cues can be dynamically processed by consumers. More frequent exposure to perceptually- or conceptually related environment cues will influence consumption evaluation and consumer choice.

Embodied Context. Human bodies and behaviors are context resources for framing and organizing behaviors (Duranti and Goodwin 1992). In the communication

literature, research finds that interactive parties' spatial orientation or posture enable both to project and negotiate what is about to happen (Kendon 1992). Participants in face-to-face conversations can also use each other's nonverbal display to frame the talk of the moment and project future events (Duranti and Goodwin 1992). Furthermore, synchronizing the nonverbal actions between interactive parties can increase rapport, liking and prosocial behaviors. Synchrony of body movements can promote the perceptual and motor skills necessary for success in collaboration, consequently improving the results of coordinated tasks (Valdesolo, Ouyang and Desteno 2010, Valdesolo and Desteno 2011). Here, the emerging theory on embodiment cognition (e.g. Clark 2008) provides a rich field of future research on embodied customer participation.

Extended Context. Besides immediate and local contextual resources, context can extend over time, and can be influenced by factors at group, organizational or cultural levels. In marketing, there is rich research to investigate extended context factors. For example, Bolton and Lemon (1999) showed service usage changes over time, particularly through the lens of the fairness or "equity" of the exchange over time, affecting customers' later usage of services. In business-to-business (B2B) contexts, customers' pursuit of a service contract upgrade conditional on contract renewal is influenced by factors at the company level (i.e., decision-makers' perceptions of the relationship with the supplier), and factors at the user level (i.e., contract-level experiences), as well as interactions between the individual contract level and the company level (Bolton, Lemon, and Verhoef 2008).

Language or Conversational Context. Finally, language or conversational context is one of most important and most frequently studied contextual resources. I will elaborate on this in the following sections.

Customer Participation in Service Conversation

“One of the most pervasive social activities that human beings engage in is talk” (page 1, Duranti and Goodwin 1992). Conversational interaction plays an even more important role when the business world is moving toward the trend of increasingly interactive and customer value co-creation. In-depth research on service conversations can provide us rich details about how customer participation or value co-creation is unfolded as an interactive, sustained, and time-bound process.

Conversational interactions are particularly important for professional services. In Business- to-Business services, such as IT consulting and support services (e.g., IBM), management consulting or advertising agencies (e.g., McKinsey or BBDO), clients convey their needs through conversations. Service providers establish better relationships with clients, as well as demonstrate their specific knowledge and skills in conversations. In Business-to-Consumer interpersonal professional services, such as healthcare, financial, or legal services, a few minutes of customer–service provider conversation may determine or significantly change an individual’s health or every-day life. A service conversation—the conversational interactions in a service—identifies problems and co-creates solutions.

From a context perspective, a service conversation both invokes context and provides context for ongoing conversations, consequently making certain service

outcomes possible. In a knowledge-intensive and high-interdependent professional service conversation, both the customer and the service provider are facing the tasks of understanding and displaying understanding to each other, building upon each other's information and constructing something new, and finally reaching a shared agreement or coming up with a solution. Therefore, studying customer participation in a service conversation gives us an ideal lens to put customer participation in context and treat customer participation as a dyadic and dynamic process.

Most importantly, analyzing service conversations opens up new research methods to study the moment-by-moment dynamics of customer participation. To move along the conversation, both the customer and the service provider have to play their roles and co-create the experience for each other. Each of the customer's or the service provider's conversational speech at any given moment demonstrates what sense they make out of the conversation -- their mental representation of the service context (Duranti and Goodwin 1992). Thus, by analyzing the micro-level sequences of service conversations, we are able to obtain more detailed and moment-by-moment information about how the customer or the service provider interprets the context of conversational interaction they are engaged in. A service conversation allows us to go beyond the traditional method of examining a retrospective, one-time point and summary self-report. Instead, it allows us to truly operationalize customer participation as a dynamic process.

Recent marketing research has given increasing attention to conversation studies through videotapes and third party observation. Through analyzing customer-service provider conversational interactions, research has investigated customers' brand-code

switching (Schau, Dellande and Gilly 2007), and service provider-customer (anti)complementary interactions (i.e., dominant-submissive or agreeable-quarrelsome) (Ma and Dubé 2011). However, these studies have focused on standardized, script-based, and relatively short service conversational encounters (e.g., fast-food drive-through, dining services). I expect that conversations in professional services, characterized by high dyadic involvement and richer contents, will further extend our understanding of the dynamics of customer participation behaviors.

Service Conversations as Evolving Social Interactions

Research across disciplines of psychology, anthropology and communication, has developed rich theories and methodologies on the conversational interactions between parents and children, family members, or romantic partners (Butler 2011). These theories and methodologies provide us strong foundations to continue the research on service conversation. However, most of these conversations are non-commercial and non-transactional, and happen over a relative long period of time between well-acquainted partners. Important questions remain: will the same conversation dynamics exist when a service conversation happens between two less acquainted parties (the customer and the service provider), each party bearing their own agendas? Will a service conversation between a customer and a service provider be any different from child-mother or husband-wife conversations, when conversations are oriented towards a solution with a financial value attached and happen in a shorter time frame?

A service conversation, as one form of customer–service provider interaction, has deep research foundations in marketing. Customer-service provider interactions have been the key research venue in marketing, especially relationship marketing, sales management and service marketing (Price and Arnould 1999). While some research endorses the idea that generic social relationships such as friendship, reciprocal self-disclosure are applicable to commercial service encounters (Price and Arnould 1999), some research distinguishes functional or transactional motivated interaction behaviors from socially motivated behaviors (Bendapudi and Berry 1997, Goodwin and Gremler 1996; Reynolds and Beatty 1998). Although the debate concerning interaction continues, the emergence of new communication technology begs new questions: how do customers participate in conversations through new technology channels? How does a service conversation continue and deliver even better results, in absence of rich face-to-face multisensory and social presence, through telephone, internet, or artificial intelligence?

Overview of Dissertation

This dissertation represents the first effort of re-conceptualizing context and customer participation behaviors. Particularly, I focus on conversation-based interpersonal professional services, which feature knowledge-intensive, high contact, and high degrees of interdependence (Chan, Yim and Lam 2010; Auh et al 2007; Lovelock and Young 1979; Sharma and Patterson 2000). I argue that when the service conversation is concerned with creating high intellectual content, the service process and outcomes become more dynamic. The customer and the service provider must be highly responsive to each other during the service conversation. This allows both parties to utilize each other's information and knowledge to achieve their goals. The service conversation

becomes essential for effective execution of these joint efforts and directly mediates the service process and outcomes.

In this dissertation, I examine service conversations at the micro-level. I adopt a context perspective and develop an integrated dynamic model to investigate the moment-by-moment temporal conversation process and its influence on customer evaluations and outcomes of the service. This dissertation aims to answer two important questions: (1) How do we explain the variability of customer participation in service conversations (CPSC)? (2) How do the dynamics of customer participation in service conversations (CPSC) relate to customer evaluations and outcomes of the service?

This dissertation aims to make the following contributions to both marketing theory and empirical research. First, this research directly addresses the “Customer Participation Paradox” in evident prior research and includes perceived context effects in explaining customer participation behaviors and their related service outcomes. I conceptualize service context in terms of its psychological features, rather than a mere description of a service industry or an activity. Drawing from complexity theory, interactionist theories and the context principle, I articulate particular psychological properties of the context. I define service context complexity as customer-perceived uncertainty and multiplicity of service process and outcomes. By doing so, I can better generalize the research findings from one context to another across or within service industries, as long as it contains similar psychological context features.

Second, this research recognizes two fundamental features of customer participation specific to professional service conversations: (1) multiple dimensions of customer participation behaviors in a service conversation, and (2) adaptability of customer participation in a service conversation over a temporal horizon. Prior research has generally defined customer participation behaviors from an information-sharing perspective (e.g., how much information the customer shared during the service process) (Chan, Yim, and Lam 2010), or as the customer's binary decision to undertake certain clearly defined activities (Bendapudi and Leone 2003). Over the temporal horizon, most extant research assumes that characteristics of the dyadic interaction are stable and time-invariant given pre-determined roles or scripts (Solomon et al 1985) or the principle of complementarity (Ma and Dubé 2011). Drawing from the context principle, relational communication literature, and marketing literature, I develop a conceptual framework to explain the co-existence of stability and dynamics of customer conversational participation behaviors. In this research, I extend the conceptualization of customer participation behaviors to both cognitive (information-sharing) and relational (interactional control) dimensions. I incorporate the concept of stability and dynamics by first looking for stable relationships between context and behavior patterns, and then allowing service conversation context to be dynamic. I conceptualize customer participation behavior as a series of context-dependent events that evolve over time. Specifically, customer participation in a service conversation emerges from the context of the interaction process, and at a given time, constitutes new context cues and influences the subsequent conversation. Therefore, by examining the conversational behavior transitions over a temporal horizon, this research is able to link the dynamics of the

service conversation process to service outcomes (customer satisfaction and solution compliance).

Finally, this research empirically tests the theoretical framework in lab experiments, in simulated financial and healthcare service conversations (Pilot Study, Study 1, Study 3 and Study 4), and in an unobtrusive observation study based on online doctor-customer conversations in healthcare services (Study 2). I use a negative binomial model (Wedel, Desarbo, and Ramaswamy 1993, Danaher 2007) to model the temporal dynamics in conversation processes, and I use a generalized linear mixed model to model the final service outcome (i.e., customer satisfaction and solution compliance). Prior research on dyadic interaction has been hindered by limitations in behavior measures and methodology (Ma and Dubé 2011). Most extant research has focused on modeling the behavior of either the service provider or the customer. Researchers usually measure customer participation based on each party's summary behavioral report (i.e. how much information a customer shared, or how significantly certain interaction patterns overall prevail in the interaction process). Although summary behavior measures are important and stable but fail to capture the temporal dynamics during interaction processes and their impact on service outcomes. In Study 2, I code the natural dyadic online conversations between 173 customers and 52 doctors. Furthermore, this research adopts the phase-based sequence analysis approach to study how often and in what temporal order certain dyadic behavior patterns occur (Bakeman & Qurea 2011, Zimmermann, Del Piccolo and Finest 2007). From a dyadic perspective, both the negative binomial model and generalized linear mixed model enable us to

accommodate the nested data structure (173 customers are nested within 52 doctors). I model the random effect at the service provider level, and the fixed effect at the customer level. As far as the author is aware, this is the first article that empirically examines the temporal dynamics of the service conversation processes from a dyadic perspective, and it is the first to demonstrate its effect on service outcomes.

The rest of this dissertation is organized in the following way: in Chapter 2, I develop a conceptual framework to study customer participation in service conversations (CPSC) and its related service outcomes. I first define the key constructs in the model: service context complexity and customer participation in service conversations (CPSC). Then, I develop hypotheses that 1) explain the co-existence of stable and dynamic customer participation in service conversations, 2) examine how the temporal dynamics of the service conversation process influence service outcomes. In Chapter 3, I conduct two scenario-based experiments (Pilot Study and Study 1) to validate the key constructs and test the hypotheses regarding the stable relationship between service context complexity and CPSC behaviors. In Chapter 4, I conduct an observational study (Study 2) of online conversations between 173 customers and 52 doctors to empirically test the temporal dynamics of CPSC behaviors and the related service outcomes. In Chapter 5, I stimulate different conversational patterns in a financial service setting and replicate the hypotheses testing in more controlled experimental settings (Study 3 and Study 4). Finally, in Chapter 6, I summarize the overall research and discuss its theoretical and managerial implications.

Chapter 2

CONCEPTUAL FRAMEWORK AND HYPOTHESES

A Customer Participation Paradox

Conceptually, the context view of customer participation is not new. It is rooted in the overarching premise that service value co-creation is fundamentally interactional (Vargo and Lusch 2004, 2008; Grönroos, 2011). Any service process is a continuous process in which customers are interactively involved (Vargo and Lusch 2004; Zeithaml, Bitner, and Gremler 2009). Success of service outcomes relies on how well firms can develop an environment of interactive experience and how the individual customer chooses to interact with this environment (Prahalad and Ramaswamy 2004; Vargo and Lusch 2004, 2008; Grönroos, 2011).

To develop a conceptual framework that captures the dynamics of a conversation-based interaction process, I draw on meta-theory of the “context principle” from social and cognitive psychology (e.g., Mesquita, Barrett and Smith 2010; Mischel and Shoda 1995, 1998; Mischel 2004; Smith and Semin 2004). The central theme of the context principle is that behavior is contextually determined and process-oriented; both cognition and behaviors inherently emerge from moment-by-moment interaction with the physical and social environment, rather than proceeding in an autonomous, rule-based, and invariant fashion (Mesquita, Barrett, and Smith 2010). For example, both the customer and the service provider may be assumed to have scripts specifying what actions to perform or what questions to ask during a service encounter. However, no matter how elaborate and clear their scripts are, they would be far from sufficient to completely

predetermine the conversation and create a novel solution. The context principle recognizes the variability of social interaction and the adaptability of human behavior emerging from continual sensory motor interaction with the world (Smith and Semin 2004). It offers us a new perspective for studying customer participation behaviors and related service outcomes.

Customer participation has been conceptualized as the extent to which customers take on certain activities during the service process (e.g., assembling furniture from IKEA, self-booking hotel or airplane tickets, or writing legal documents) or provide information or suggestions for service solutions (Auh et al. 2007; Bettencourt 1997; Hsieh, Yen, and Chin 2004; Chan, Yim and Lam 2010). Research on customer participation in multiple contexts has resulted in a “Customer Participation Paradox”. That is, although the conceptual research and some empirical studies have demonstrated the positive effects of customer participation on service outcomes, some other empirical studies found that customer participation has mixed effects or even negative effects on service outcomes. Early conceptual research promoted the economic and productivity benefits of customer participation for both firms and customers (e.g., Lovelock and Young 1979; Mills and Morris 1986). In contrast, later empirical research found that customer participation tends to positively improve service quality and customer satisfaction (Chan, Yim and Lam 2010), but has a mixed impact on customer retention (Ennew and Binks 1999). It can even lead to employee dissatisfaction and job stress (Hsieh, Yen, and Chin 2004; Auh et al 2007; Chan, Yim and Lam 2010). Research on self-service technologies has found that customers’ propensity to do-it-themselves is not

fully explained by monetary and convenience incentives (Meuter and Bitner 1998). Instead, perceived control of the technology is the important determinant of the adoption (Bateson 1985). Meuter et al. (2005) demonstrate that consumer readiness, consisting of role clarity, motivation, and ability, are key mediators between the established adoption constructs (innovation characteristics and individual differences) and the trial of self-service technologies.

In sum, diverse research efforts have been made to find evidence to support the consistency of customer participation phenomena across contexts, yet the empirical results have been controversial. We still do not have a clear perspective concerning the pros and the cons of customer participation. The inconclusive findings about customer participation call for further investigation of the notion of context and customer participation in context.

Context Features and Mental Representations

The “Customer Participation Paradox” invites us to re-examine the concept of context. An in-depth review of the extant literature reveals that empirical studies of customer participation have typically ignored context effects because researchers usually examine one or two service industries (e.g., financial service, restaurant service). In doing so, they assume that variation of results across industries can be treated as noise and error of measurement (Mischel and Shoda 2010). However, the customer participation paradox reveals that customer participation is a not a context-free phenomenon. Moreover, conceptualizing and analyzing context effects should not stop at

a nominal level. Service contexts are often explained as industry contexts (e.g., financial services, healthcare services, retail), or mere descriptions of service activities (e.g., the customer drafts a legal document or the lawyer drafts a legal document). It is easy to overlook the fact that within the same service industry, a customer may behave differently due to different cognitive or affective reactions to the immediate context. For example, in a financial service context, setting up a retirement plan may be more engaging than opening a new bank account. Conversely, across seemingly different service industries, customers may behave very similarly due to an everyday psychological state (e.g., a quick restaurant service and a routine bank transaction). In sum, to improve the generalizability of customer participation behaviors and to enhance customer participation theories, research is required to go beyond nominal descriptions of context and conceptualize the context in terms of features and related individual mental representations. Once the service context features to which a customer is responding are identified, generalization to other service contexts that contain similar features becomes possible, even if the service industries are completely different.

Drawing from the context perspective across disciplines, I explore the ways in which context is socially constituted, interactively sustained, and time-bound. Context, rather than a description of an industry or an activity, lies in an individual's moment-by-moment mental representation of the world. Through including context as it is perceived by the customer, and analyzing customer participation behavior in this encoded context, I can determine the consistencies that characterize the customer participation behaviors. At the same time, by recognizing customers' ability to mediate the impact of context by

creating their meaning through cognitive reappraisal, I allow customer participation to be dynamic. That is, when the mental representation of the context changes, so does the behavior. In short, customer participation is not static, pre-determined, or one party's will or performance, nor is it chaotic or random, creating arbitrary service outcomes. Instead, customer participation exhibits a set of stable or consistent patterns contingent on an individual's mental representation of the context. When the context evolves, customer participation becomes a dynamic process, emerging from moment-by-moment interaction with the context.

Dynamic Customer Participation in Service Conversations

Recognizing the dynamics of customer participation in context, I look for more powerful methodological tools to delineate the micro-level, moment-by-moment interactions. Most prior research measures customer participation based on customers' summary self-report of how many activities they undertook or how much information they provided during an average service encounter. Reliance on such general and overall behavior measures may introduce arbitrary variation as different participants select different service incidents to anchor the question and give the answer, though they may be nominally within the same service industry (Mischel and Shoda 2010). Furthermore, summary behavioral measures deny researchers the opportunity to systematically investigate the moment-by-moment interaction dynamics and the evolving process effects on service outcomes (Smith and Semin 2004).

Service conversations in knowledge-intensive and interdependent professional services give us an ideal lens to put customer participation in context and treat customer participation as a dyadic and dynamic process. Most importantly, analyzing service conversations opens up new research methods to study moment-by-moment dynamics of customer participation. From a context perspective, a service conversation both invokes context and provides context for ongoing conversations, consequently making certain service outcomes possible. In a professional service conversation, both the customer and the service provider are facing the tasks of understanding and displaying understanding to each other, building upon each other's information and constructing something new, and finally reaching a shared agreement or coming up with a solution. To move along the conversation, both the customer and the service provider have to play their roles and co-create the experience with each other. Each of the customer's or the service provider's conversational speech at any given moment demonstrates what sense they make of the conversation—their mental representation of the service context (Duranti and Goodwin 1992). Thus, analyzing sequences of service conversations at the micro-level, I am able to obtain more detailed and moment-by-moment information about how the customers or the service providers interpret the context of conversational interactions in which they are engaged. A service conversation allows us to go beyond the traditional method of retrospective and summary self-report. Instead, it allows us to truly operationalize customer participation as a dynamic process.

Recent marketing research has given increasing attention to conversation studies through videotapes or third-party observation and coding. Research has investigated

customers' brand-code switching (Schau, Dellande, and Gilly 2007), or service provider-customer (anti)complementary interactions (i.e. dominant-submissive or agreeable-quarrelsome) (Ma & Dubé 2011) by analyzing customer-service provider conversational interactions. However, these studies have focused on standardized, script-based and simple service conversational encounters (e.g., fast-food drive-through, dining services). I expect that conversations in professional services, characterized by high dyadic involvement and richer contents, will further extend our understanding of the dynamics of customer participation behaviors.

In sum, the investigation of the customer participation in professional service conversations calls for dynamic modeling of adaptive and temporal communication behaviors at both the conceptual and operational levels. Drawing from the core idea of the context principle (the situated cognition and person), I developed a conceptual framework to recognize two fundamental features of customer participation in professional services: (a) multi-dimensional customer participation in service conversations, and the (b) adaptability of customer participation in service conversations over a temporal horizon.

Multi-Dimensions of Customer Participation in Service Conversations. Both communications and marketing research have recognized the content and relational control aspects of the conversational communication process. In the marketing literature, interaction content and style have been the main building blocks of research on salesperson-customer interaction (Sheth 1976; Williams, Spiro, and Fine 1990), frontline service employee-customer interaction (Hartline and Ferrell 1996; Ma & Dubé 2011),

and online agent-customer interaction (Köhler et al 2011). Furthermore, research on interpersonal communication, family or marriage counseling, and employee--manager interaction have developed systematic approaches to analyzing communication processes at both the content and relational levels (Bateson 1958; Millar and Roger 1976; Watson, 1982). It has been recognized across disciplines that the content level of communication is more semantic and serves to report information, while the relationship level refers to the control aspects of the information exchange. At a given moment, the dyadic control pattern reflects the impact of one person's behavior on that of the other (Watzlawick, Beavin, & Jackson, 1967). Three different interaction control directions have been defined based on Bateson's (1958) categorization of communication. *Dominant Control* refers to an attempt to dominate or assert definitional rights. *Submissive Control* refers to an attempt to be submissive or accept the other's definition of the relationship. *Parallel Control* refers to an attempt to be equivalent or a non-demanding, non-accepting leveling movement (Watson, 1982). In sum, to truly delineate the dynamic effect of a communication mediated interaction process in the context of interpersonal professional services, I simultaneously capture both the content and interaction control aspects of dyadic communication processes.

Adaptability of Customer Participation over a Temporal Horizon. The second fundamental characteristic of communication interaction processes is adaptability (reciprocity) over a temporal horizon. Reciprocity is reflected in the dyadic adaptive behaviors over time, involving the exchange of information. For example, for a customer, the process of opening a checking account at a bank may be as simple and

straightforward as he/she expects. However, if a service provider mentions alternative services, the course of the conversation may change drastically. If the customer is willing to hear more, the interaction may become a dynamic and time-consuming exploration of new services. If the customer immediately rejects the proposal, the conversation may be very short and simple. It is also possible that the customer gives a neutral response, which gives the service provider a chance to interpret the message and pursue the sales approach in the next step. Thus, one person's previous action impacts the other's subsequent behavior over time. Communication allows the customer and the service provider to keep a constant check on the shared reality of what to talk about. Over time, the communication develops a sequentially organized structure. The service provider and the customer may choose to talk about the new information at the beginning, in the middle, or at the end of the conversation. When a model captures the adaptability and sequential structure over time, it can yield important insight beyond traditional one-time point models or summary behavioral measures (Mason, Conrey, and Smith 2007).

To look for the empirical evidence of the temporal adaptability of customer participation behavior during a service conversation, I develop a conceptual framework to allow the co-existence of both stable and dynamic characteristics of customer participation behaviors from two perspectives (Mischel and Shoda 2010). First, I look for the existence of a set of stable relationship between service context and behaviors, relationships that govern customer participation in service conversations (Mischel and Shoda 2010). Customer participation behaviors are influenced by customers' mental representations of the service context. When the context changes, so does the customer

participation behavior. I conceptualize customer participation as a dynamic system. It is path-dependent during a service conversation, and undergoes changes over time as a function of past interaction characteristics (e.g., Butler 2011; Gottman, Swanson and Swanson 2002; Steenbeek and van Geert 2005). In sum, customer participation in a service conversation is not static or time-invariant, nor is it chaotic or random. The context – behavior rules are stable, whereas the service conversation context is dynamic.

First, the concept of meaningful and stable contextualized behavior patterns or rules have been well-documented in prior literature (Mischel and Shoda 2010). The early research on social norms (Turner et al., 1987) and the service research on service scripts (Solomon et al 1985) validate the idea that people regularly follow what they expect to be appropriate to guide their behaviors. Service context reflects internalized beliefs and an individual's interpretation or mental representation of the context (Smith and Semin 2010, Mischel and Shoda 2010). When customers' perceived service context changes, customers will adjust their behaviors to adapt to the new emerging contexts. As dynamic as they are, customer participation always follows a set of stable and normalized rules of between the contexts and the behavior. Therefore, focusing on psychological, rather than nominal, features of contexts enables us to view customer participation not as strict implementation of a pre-determined "read out" or of pre-scripted behaviors. Instead, customer participation is a process of real-time construction and adaption to the evolving context constructed by the sequences of the communicative conversation process itself.

Second, to investigate the temporal dynamics of customer participation during service conversations and their impact on service outcomes, it is important to recognize

that another person, namely the service provider, constitutes a critical and salient aspect of the context. The service provider's behaviors can sustain the customer's previously perceived context, but he can also signal a new context, changing the customer's perception and participation behaviors. Highly intellectual and knowledge-intensive professional services require that both the customer and the service provider actively respond to each other and build on each other's knowledge to co-create a solution out of the conversation. Thus, in a dynamic service conversation, the customer's initial participation patterns serve as the new context, influencing the customer's subsequent participation behavior. The initial participation behavior patterns that confirm one type of context will reinforce customer perceptions of the same type of the context. In turn, at a later stage of the service conversation, behavior patterns that are consistent with those at the initial stage are encouraged, whereas the emergence of other behavior patterns plausible under other contexts are constrained. In this way, although contextualized behavior patterns are stable, the customer participation behavior varies depending on the evolving conversation context and the customer's continuous behavior adaptation over time. A service conversation can make a simple problem more complicated. It can also make a complicated problem simpler. By empirically demonstrating the temporal and sequential characteristics of custom participation behaviors, I aim to validate the conceptual ideas of interactivity and reciprocity of customer value co-creation (Vargo and Lusch 2008).

In the conceptual model, I first look for stable relationships between context and customer participation behaviors. According to the context principle and interdependency

theories, the stable and meaningful context-behavior relationships reflect both people's expectation of interaction behaviors, as well as the early stage of actual communication, as social norms (Smith and Semin 2010, Mischel and Shoda 2010, Rusbult and Van Lange 2003). Then, I focus on the micro-level and the temporal sequences of a dyadic conversation process to detect the context dynamics as to how the customer's conversational participation varies and how the dynamic conversation process consequently influences service outcomes. Next, I will define the key constructs in the conceptual model. Then, I will develop the hypotheses of this research.

Definitions of Key Constructs

A Service Conversation. Conversations, or verbal interactions, are the building blocks of social interactions (Duranti and Goodwin 1992). Customer participation in a service encounter is of no exception. In this research, I treat a dyadic conversational interaction as the unit of study to investigate customer participation behaviors and its related service outcomes. I define a service conversation as a verbal interaction between a customer and a service provider within one discrete service encounter. It can be a conversation between a doctor and a patient to diagnose a medical problem during a physician visit. It can also be a conversation between a customer and a financial advisor to discuss an investment plan over a phone call.

Service Context Complexity. As stated previously, I recognize the importance of conceptualizing the psychological features of service context, going beyond a typical service industry or activity definition of context. Complexity theory provides a good

theoretical foundation for defining service conversational context. The concept of service complexity was first proposed by Mill and Margulies (1980). It refers to the heterogeneity and range of activities based on the critical interactions between the service employee and the customer. Mills and Morris (1986) developed three levels of service complexity: maintenance-interactive/low complexity (e.g., banks, retail), task-interactive/moderate complexity (e.g., legal, engineering), and personal-interactive/high complexity (e.g., healthcare, education). However, this early typology of service complexity typology was still bound by industry type.

To extend the service context concept from service industries to customer psychological features, I draw upon the complexity theory from management and organization research. Complexity has been a central construct in organization research since the 1960s (Anderson 1999). A complex system refers a system made up of a set of interdependent parts that have many interactions and exhibit nonlinear behavior (Thompson 1967; Simon 1996). Lewin, Parker and Birute (1998) suggests that modeling complex systems or environments involves identifying agent characteristics, the dimensions of relationships among the agents, and the figures of merit that govern their co-evolution. According to complexity theory, co-created service, especially professional services, can be a typical complex system. This system represents an evolution of expanded organization by including the customer as a “partial employee” (Mills and Morris 1986). In such a complex system, customers and employees are key interaction agents, and their co-evolution is the process of co-creating value/services. Service context possesses the three key characteristics of a complex system: (1) it is primarily a

psychological experience, (2) it involves an interaction between task and person, and (3) it is a function of objective characteristics. Moreover, as in any complex system, services vary in terms of: (1) multiple potential paths, (2) multiple desired outcomes, (3 and 4) uncertain or probabilistic links among paths and outcomes (e.g., Campbell 1988; Schroder, Driver and Steufert 1967).

Synthesizing complexity theory and the service literature, I define service context complexity as a customer's perception of the extent to which a service involves multiple steps/interactions in the service process, multiple outcome/solutions, and the uncertainty about the service process and outcomes (e.g., Thompson 1967; Simon 1996; Mills and Morris 1986; Campbell 1988; Schroder, Driver and Steufert 1967). In line with this research, I conceptualize service context complexity as a customer's moment-by-moment state of mind rather than an accumulated attitude. I will develop and validate the measures of service context complexity in the following empirical studies.

Customer Participation in Service Conversations: Information Sharing and Interaction Control. Recognizing conversational communication as the core vehicle of customer participation, I conceptualize customer participation behaviors on two dimensions: information sharing and interaction control. First, I adapt the extant customer participation items and define customer information sharing in a service conversation as the extent to which a customer provides or shares information, makes suggestions, and becomes involved during the service process (Auh et al. 2007; Bettencourt 1997; Bolton and Saxena-Iyer 2009; Hsieh, Yen, and Chin 2004; Chan, Yim and Lam 2010). I conceptualize a customer's interaction control on three dimensions: Dominant Control,

Submissive Control, or Parallel Control (Roger and Farace 1975, Watson1982, Rogers and Escudero 2004). I define customer interaction control during a service conversation as the type of control a customer expresses with an attempt to dominate or assert the proposal (Dominant Control); be submissive or accept the service provider's proposal (Submissive Control), or be non-demanding, non-accepting and equal to the service provider (Parallel Control).

The interpersonal communication literature has developed detailed guidelines to operationalize the three types of control based on the combined control-defining nature of grammatical forms and response mode of dyadic conversations (Roger and Farace 1975, Watson1982, Rogers and Escudero 2004). Dominant control is presented by nonsupport responses (including questions demanding an answer), instructions, orders, disconfirmation, and topic changes. Submissive control is represented by all support response (i.e., answering or questions) to continue the conversation, or non-complete phrases that seek others to take control. Finally parallel control includes questions or answers that are extensions of the previous message, aiming to carry an interaction along with minimized effort aimed at controlling the relationship.

CPSC and Its Related Service Outcomes. Interdependency theory and the context principle theories suggest that any communicative interaction process creates outcomes at (1) a “cold” cognitive level; and (2) a “hot” affective level (Mischel and Shoda 2010, Rusbult and Van Lange 2003). Specific to professional services, the process of a service conversation not only generates information and in the end a service solution, it also continuously influences customer moment-by-moment emotional reactions, and

continuously changes the customer's expectations and perceptions. According to customer satisfaction and service quality literature, the customer can hardly rely on objective measures for products (e.g., durability, number of defects) to evaluate services (Crosby 1979; Garvin 1983). It is especially true for knowledge-intensive professional services where technical aspects of service are hard for customers to assess (Sower et al 2001). Customer evaluations of the service, particularly customer satisfaction and customer perceived service quality, stem from the discrepancy between customers' expectations and perceptions (e.g., Oliver 1980; Parasuraman, Zeithaml, and Berry 1988). Therefore, in this research, I focus on the service outcomes in terms of customer's subjective evaluations of the service.

Interdependency Theory argues that the interactive nature of communication not only sustains (vs. constrains) planned behaviors over time, but also makes certain interaction behaviors and outcomes available (vs. unavailable) (Kelley 1984; Kelley et al 2002; Rusbult and Van Lange 2003). Marketing research has shown that customer satisfaction and solution compliance are greatly influenced by customers' emotional experience during the service process (Dubé 2003; Dellande, Gilly, and Graham 2004). Hence, I argue that for conversation-based professional services, customer evaluations of the service, such as customer satisfaction, service quality and solution compliance, closely relate to the dynamics of the service conversation process. Here, I focus on examining the customer's immediate evaluations of a specific service conversation encounter, rather than a global or an over-time measure of service quality or customer satisfaction.

Having defined the key constructs in the conceptual framework, I now turn to develop the hypotheses on the stable relationship between context and customer participation behaviors, and the temporal dynamics of a service conversation process and its effect on customer evaluations of the service.

Stable Contextualized Customer Participation Behavior Patterns

Service context complexity on information sharing. Based on the psychology theory of group judgment and decision-making, I expect that customers will have higher expectations of information-sharing in more complex service situations. Dual-process models of human thinking and decision making (Chaiken and Trope, 1999; Smith and DeCoster 2000) posit that individuals may solve problems or make decisions through heuristic processing of information or more deliberate information processing (Chaiken, 1987; Petty and Cacioppo 1986). The extent of information processing within a dyadic group depends on their perceived information sufficiency and well-learned prior associations. When a situation presents multiple alternatives, greater uncertainty and high interdependency, group members tend to have higher levels of information processing (De Dreu, Nijstad, and Van Knippenberg 2008).

Empirical studies in different service contexts have documented service context effects, although they have not been the focus of prior research. Research finds that when banks and small businesses are making lending decisions, information asymmetry creates problems in assessing requests for funds and pricing lines of credit (Stiglitz and Weiss

1981). In this circumstance, customers that experienced financial difficulties tend to be more willing to share information with the banker (Ennew and Binks 1999).

Service context complexity on interactional control. Consistent with Interactionists' view of three types of control (dominant, submissive, and parallel), psychology control literature has given increasing attention to the concept of secondary control. In contrast to traditional conceptualizations of control (primary control) where people alter the environment to meet their desires, secondary control, augments the primary control and involves an expansion of primary control. It involves behaviors of acceptance (accepting the existing situation) and adjusting (adapting oneself to the situation) (Morling and Evered 2006; Rothbaum, Weisz, and Snyder 1982). Research has shown that the concept of acceptance or adjusting (secondary control) is uniquely suited to research involving interpersonal relationships (Morling and Evered 2006). An act of (primary) control that satisfies the individual needs of one member of a dyad may very likely prohibit the other member of the dyad from meeting his or her individual needs (e.g., the husband's pursue of his own career growth may be at the cost of the wife's career). In interpersonal interaction, individuals often willingly give up control to others, or freely rely on them. By doing so, they also fulfill very important human needs — a need to belong or a need to relate (Ryan 1998). Empirical studies on secondary control have found that when people are under high uncertainty or when events are complex, accepting events and adjusting themselves to the situations act as psychological buffers for individuals. It can reduce negative emotions or even depression. Research on family relationships shows that one party's accommodative behavior (e.g., not fighting back

when one's partner says something rude, or changing oneself so as to solve the problem) leads to greater commitment, better couple functioning, and increases in relationship satisfaction (Rusbult et al.1998; Wheeler, Christensen, and Jacobson, 2001).

In the marketing literature, although research on dyadic control patterns from the service conversation perspective remains novel, new product development (NPD) research on customer self-design/customization provides us with good insights. Product customization allows consumers to exert control over shopping decisions, while research shows that benefits of customer empowerment have boundaries. Customers will not be interested in empowerment if they do not understand the products in the first place (Fuchs, Prandelli, and Schreier 2010). Choice overload in web-based self-customization, or difficulty from explicit trade-offs will defer the customer purchasing decision and hinder customer satisfaction (Iyengar and Lepper 2000; Dhar 1997; Valenzuela, Dhar, and Zettelmeyer 2010). Based on the above findings and control theories, I propose that when customers feel more uncertain and anticipate multiple services, procedures, or outcomes, they expect to exert less dominant control (primary control), and would be more likely to rely on control from the service provider.

Synthesizing the above arguments concerning the relationships among service context complexity, customer information sharing, and interaction control, I further argue that although the contextualized conversational behavior patterns bear multiple dimensions, at any given moment, a customer's conversational behavior plays out in an integrated fashion. That is, the customer will participate with intent to share more or less information through one of three types of interaction control: dominant, submissive or

parallel. Furthermore, according to the context principle and interdependency theory, social norms and internalized beliefs about the context-behavior relationships exist as part of people's expectations of behaviors (Smith and Semin 2010; Mischel and Shoda 2010, Rusbult and Van Lange 2003). Therefore, I propose that a customer's initial anticipation of the context complexity will strongly influence the customer's expectations of participation behaviors, specifically,

H1: When a customer perceives the service context to be more complex, he/she is more likely to share information in a service conversation.

H2: When a customer perceives the service context to be more complex, he/she is (a) less likely to assert dominant control, and (b) more likely to assert submissive control or (c) more likely to assert parallel control in a service conversation.

Temporal Dynamics of Customer Participation in Service Conversations

Social norms play an important role in influencing behaviors. However, when the actual interaction unfolds, the interaction at a later stage is more likely to be driven by the characteristics of early interaction than the individual's initial plans (Rusbult and Van Lange 2003). As the dyadic interaction continues and evolves over time, the characteristics of the previous interaction serve as more salient context cues, guiding the subsequent interaction behavior. Interdependency theory posits that early communication not only functions to exchange information, but also facilitates interacting individuals to predict each other's goals and motives, and to forecast the later interaction (Rusbult and Van Lange 2003). In other words, the early actual interactions generate certain

psychological features, and in turn guide the later interactions (Mischel and Shoda 2010; Rusbult and Van Lange 2003). Suppose a customer anticipates a higher level of service context complexity, and it turns out that the actual initial stage of communication (at T1) indeed involves greater customer information-sharing through submissive control (whereby the service provider leads the conversation by asking questions, and the customer follows by giving answers). Such actual interaction patterns, according to the stable context-behavior relationship, are more plausible when the service context is more complex. Therefore, such actual interactions at the initial stage are more likely to serve as more complex context cues and guide the behaviors at the later stage of the conversations (at T2). Based on this updated understanding of context cues, the customer is more likely to share information through submissive or parallel control, but is less likely to share information through dominant control. In contrast, a customer may anticipate a higher level of service context complexity; however, the initial stage of conversation (at T1) may turn out to be quite simple. The service provider does not control the conversation for long, keeping the customer in a position of submissive control. Rather, the service provider may quickly provide information and explanations to address the customer's initial concerns. Such actual interactions consistent with behavior patterns under a simple context, signals to the customer that the service conversation context is getting less complex. Therefore, at the later stage of the conversation (at T2), the customer is more likely to change behaviors to adapt to the simple context, sharing information through dominate control, such as asking questions and providing affirmative information to lead the conversations. Summarizing the above, I hypothesize:

H3: Customer participation behaviors at the initial stage of the service conversation serve as context cues and will influence customer participation in service conversations CPSC (behaviors and expectations) at the later stage of a service conversation.

Linking Dynamics of the Service Conversation to Customer Evaluations of the Service

To calibrate the customer-perceived service outcomes that emerge from the dynamic conversation process, I find that literature on interdependency theory, customer satisfaction, and service quality provides a strong theoretical basis. In the marketing literature, both customer satisfaction and perceived service quality have been postulated as relative measures by comparing customer prior expectation and perception of actual performance (e.g., Oliver 1980; Parasuraman, Zeithaml, and Berry 1988). The more the actual performance exceeds the customer's expectation, the greater the customer's satisfaction. In the context of conversation-based professional services, the continuous and adaptive characteristics of conversation make it hard to draw arbitrary dividing lines between expectations and actual behaviors. To this extent, the interdependency theory offers us new perspectives (for a review, see Rusbult and Van Lange 2003). Interdependency theory holds that when communication unfolds over time, it gives rise to a series of situation (context) selections as communication moves to a new context that differs from the previous one.

Based on the stable context-behavior relationships, the series of context transitions also accompanies a series of interaction behavior transitions (e.g., changing

the topic of conversation, or changing characteristics of sharing information from submissive interaction control to dominant interaction control (Rusbult and Van Lange 2004). Ultimately, they make certain interaction outcomes available (or unavailable) (Kelley 1984, Kelley et al. 2002). Therefore, I argue that the temporal structure and extent of interaction behavior transition provide a fair representation of the dynamic nature of the conversation process and a strong predictor of customer evaluations of the service.

I assume that a desirable professional service conversation would serve the purpose of continuously reducing customer perceived context complexity. That is, customers, who anticipate a higher level of complexity, would wish that the conversation with the service provider could help reduce their perceived level of complexity and lead them to a clear solution. According to customer satisfaction and service quality literature, the more the actual service performance exceeds the customer's expectation, the greater the customer's satisfaction (Oliver 1980; Parasuraman, Zeithaml, and Berry 1988). Therefore, the more the service conversation context evolves from a higher complexity level to a lower complexity level, and the greater the extent of a positive gap between the actual service and the customer's expectation, the more positively the customer would evaluate the service. In contrast, the more the service conversation context evolves from a lower complexity level to a higher complexity level, and the greater extent of a negative gap between actual service conversation and customer expectation, the less positively the customer would evaluate the service.

According to the stable context-behavior relationship, the context evolution from a higher to a lower complexity level accompanies the customer's participation behavior transition from information sharing through submissive or parallel interaction control to customer information sharing through dominant interaction control. Over the temporal horizon, the overall characteristics of the customer's participation behavior transition demonstrates what sense the customer makes of the conversation—the customer's mental representation of the evolving conversation context (Duranti and Goodwin 1992). For example, a customer may anticipate a more complex context and expect to share more information through submissive control. However, at the initial stage of the conversation, the service provider may shorten his dominant questioning and thereby discourage the customer's submissive information sharing. Rather, the service provider may give information and explanations to the customer much earlier, so that the customer quickly experiences reduced context complexity, and is more likely to transition from information sharing through submissive or parallel level control to dominant control in the subsequent conversation.

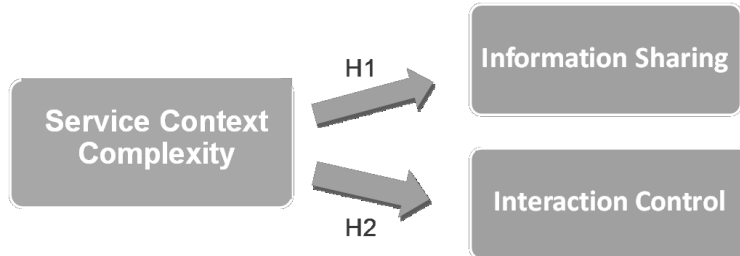
Marketing research on customer empowerment further demonstrates that the more the customer actively influences the decision-making process, the more likely he or she is to assume psychological ownership of such decision, which in turn increases the chance of customer compliance to solutions. Meanwhile, the experience of taking control also elicits customer positive feelings when they feel capable to do so (Agarwal and Ramaswami 1993; Hunton 1996; Barki and Hartwick 1994; Hui and Bateson 1991; Fuchs, Prandelli, and Schreier 2010). Synergizing the above, I hypothesize,

H4: Over a temporal horizon of a service conversation, the more the customer perceived service context complexity changes from a higher level to a lower level, the more positively the customer evaluates the service.

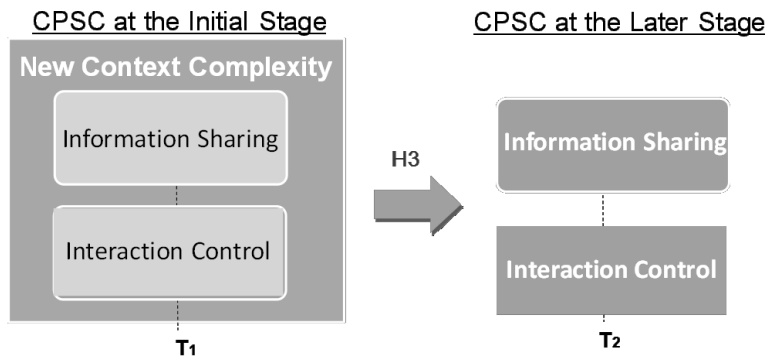
To empirically test the hypotheses (see Figure 2.1), a series of lab experiments and one observation study in health care and financial services were conducted. In a pilot study, a scale of service context complexity and prepared manipulation scenarios for experimental Study 1 were developed. A stable relationship between context and customer participation behaviors (H1 and H2abc) was validated by examining the expectation of participation behaviors in Study 1. In Study 2, the micro-level service conversation process was examined to explore its process dynamics (H3) and link its temporal dynamic nature to customer evolutions of the service (H4). In study 3 and Study 4, the hypotheses are replicated by different simulated patterns of a financial service conversation in more controlled experimental settings.

Figure 2.1 Conceptual Framework

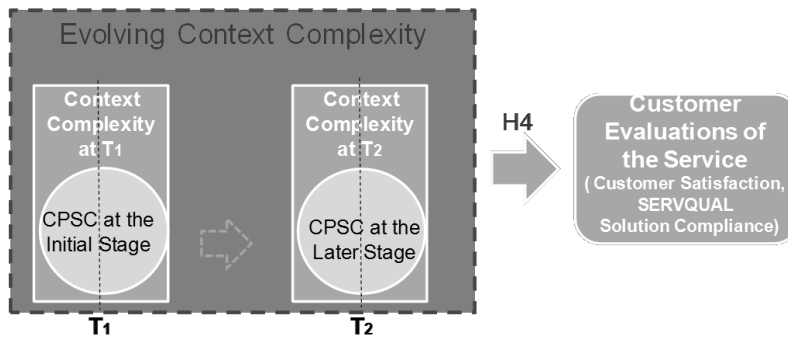
Stable Relationships between Context and Customer Participation Behaviors



Temporal Dynamics of CPSC in a Service Conversation



Impact of the Temporal Dynamics of Service Conversation on Service Outcomes



Chapter 3

STABLE CONTEXTUALIZED CUSTOMER PARTICIPATION BEHAVIORS

Pilot Study Overview

The Pilot Study has two goals: to develop a scale of service context complexity, and to construct experimental scenarios to represent low or high levels of service complexity in financial service and healthcare service settings.

Pilot Study Method

Service Complexity – Scale Development. Drawing from complexity theory, I defined service context complexity as the extent to which a service incorporates multiple steps/interactions in the service process, multiple outcomes/solutions, and the uncertainty about the service processes and outcomes (e.g., Thompson 1967; Simon 1996; Mills and Morris 1986; Campbell 1988; Schroder, Driver, and Steufert 1967). I developed four items to tap multiplicity and uncertainty dimensions in either service processes or service outcomes. Participants (customers) evaluated all items on a 5-point scale anchored by “Strongly Disagree” (1) and “Strongly Agree” (5). For service multiplicity, the items are as follows: (1) “I would expect multiple steps/interactions during the upcoming service experience,” and (2) “I believe that there would be multiple potential service outcomes/solutions for this service.” For Uncertainty, the items are: (1) “I would be UNCERTAIN about the service process or exactly what will happen during the service process,” and (2) “I would be UNCERTAIN about the service outcome or exactly what I would get in the end.”

Scenario Manipulations. Both financial services and healthcare services settings were selected to test the hypotheses. For each type of service, I further developed two scenarios, depicting two distinct levels of context complexity. I expect that the complexity of service scenarios rather than the nominal service type is the defining feature that influences customer expectations by context. Each scenario consists of three parts: (a) background information as to why a customer is looking for a service; (b) manipulation of multiplicity and uncertainty of service process and outcome; and (c) the introduction of the service provider (professional vs. frontline) the customer is going to meet. The background part of the scenario is exactly the same for each service type. The description of service multiplicity and uncertainty varies by complexity levels. Finally, I randomly assigned different service providers (certified financial advisor or bank employee, nurse practitioner or doctor) to examine whether the differences in service provider level influence customer-perceived context complexity.

I expect context complexity and related customer participation behaviors to vary only by the manipulation of multiplicity and uncertainty. If the manipulations are validated, it will further demonstrate that the psychological features of context are better predictors to differentiate situations, and can more reliably predict and generalize behavioral performance than nominal industry settings. Finally, given college student participants, I aim to construct the scenarios to be similarly relevant and important. I asked for participants' evaluations of the "importance" and "relevance" of the overall service scenarios on a five-point Likert scale. These two items also help control for

service criticality and personal relevance in the scenario manipulation (Ostrom and Iacobucci 1995)

Procedure. 2 (Context Complexity: low vs. high) X 2 (Service Industry: financial service vs. healthcare service) X 2 (Service Provider: certified financial advisor/doctor vs. a bank employee/nurse practitioner) full factorial between-subject design was conducted in the Pilot Study. A total of 263 undergraduate students completed a paper-and-pencil questionnaire in exchange for marketing course credit. Each participant randomly received one of eight scenarios. They were asked to imagine themselves as the student in the scenario. After reading the scenario, participants provided ratings of service context complexity and two single-items, the “importance” and “relevance” of the overall service. Details of the eight scenarios are presented in Table 3.1.

Pilot Study Results

I first conducted exploratory factor analysis to verify the measurement of service context complexity. I use the method of principle axis factoring with a promax rotation to conduct factor analysis on four items of service context complexity. Free factor estimation showed that there are two distinct sub-factors: multiplicity and uncertainty. Table 3.2 shows the loading of the 4 items. Two sub-factors accounted for 68% of total variance and are virtually uncorrelated ($r = .02$). Cronbach alpha reliabilities for Multiplicity and Uncertainty are .72 and .89, respectively. The exploratory factor analysis gave strong support for the reliability of measurements.

I then performed ANOVA to test the manipulation of context complexity. A 2 (Context Complexity: low vs. high) X 2 (Service Industry: financial service vs. healthcare service) X 2 (Service Provider: certified financial advisor/doctor vs. a bank employee/nurse practitioner) ANOVA was performed on the average score of each 2-item sub-factor Multiplicity and Uncertainty. Results showed that high complex service scenarios received significantly higher scores on both Multiplicity ($M_{\text{high}} = 4.18$, $M_{\text{low}} = 2.93$, $F(1, 247) = 6.61$, $p < 0.05$) and Uncertainty ($M_{\text{high}} = 3.08$, $M_{\text{low}} = 2.77$, $F(1, 247) = 5.84$, $p < 0.05$). There are no significant differences in complexity across scenarios based on service industry, service provider type, or any interaction effects. The manipulations were successful (see Table 3.3).

I further tested the importance and relevance of the scenarios to a student population. Across conditions, “Importance” received average ratings ranging from 4.52 to 4.59 on a 5-point scale, and “Relevance” received average ratings ranging from 4.29 to 4.42. ANOVA results confirmed that the Importance and Relevance of the scenarios did not vary by factor of service complexity, service industry, service provider type were there any interaction effects.

Pilot Study Discussion

The Pilot Study found evidence of a reliable service context complexity scale. I posited two psychological dimensions of service context based on complexity theory. The first dimension is perceived multiplicity of service process or outcome. The second is customer uncertainty about the service process or outcome. The more multiplicity and

uncertainty, the more context complexity the customer perceives. The Pilot Study demonstrated that distinct service complexity levels can be independent of the Service Industry (financial or healthcare), the Service Provider (doctor or nurse, financial advisor or bank employee), and the Importance or Relevance of the services.

Although not statistically significant, The Pilot Study showed that students perceived slightly higher uncertainty in financial service scenarios. ($M_{\text{finance}} = 3.06$, $M_{\text{healthcare}} = 2.80$ $F(1, 247) = 2.91$, $p = .09$). Student interviews revealed that some students are unfamiliar with certified deposit (CD) services. In the following Study 1, I changed low complexity financial service scenarios from “opening a CD account” to “opening a savings account” to level off the differences between industries.

Study 1 Overview

Study 1 served as the formal testing of H1 and H2abc using the scenarios developed in the Pilot Study. I first developed scales to measure the information sharing and three types of interactional control of customer participation behavior. On the basis of multi-dimensional customer participation constructs, I investigated how service context complexity influences different dimensions of customer communicative interaction behaviors.

Study 1 Method

Information sharing and Interaction Control Scale Development. To measure customer expectation of information sharing, I adapted a five-item scale from the extant

customer participation measurements (Auh et al. 2007; Bettencourt 1997; Hsieh, Yen, and Chin 2004, Chan, Yim and Lam 2010). To measure three types of interaction control (dominance, submissive and parallel), I used Escudero and Rogers' (2004) relational control coding system as a guideline and added description of different types of control patterns to the extant items of information sharing. In interactionist literature, control coding systems have been widely applied in the communication, counseling psychology, and management literature. (Millar and Rogers 1976; Watson 1982; Escudero and Rogers 2004). Escudero and Rogers (2004) categorized each behavioral unit with a three-digit code, the first one for designating the speaker, the second for the grammatical form of the message (5 categories, including assertion, question, and talk-over), and the third for the response mode of the message relative to the previous message (10 categories, including support, extension, instruction, and topic change). Disagreement that disconfirms the previous statement is a movement toward gaining or dominant control of the exchange. A question that supports the previous statement is a movement toward yielding or submissive control. According to Escudero and Rogers' (2004) grammatical form of message and response mode, I generated twelve indicators of interactional control, four to five for each type of control (dominant, submissive and parallel). In total, I wrote an 18-item scale to measure customer expectation of Information Sharing and Interactional Control. Participants evaluated all randomly-ordered items on a 7-point scale anchored by "Strongly Disagree" (1) and "Strongly Agree" (7) (see Table 3.4).

Scenario Manipulations. Study 1 used almost the same scenarios and stimulus procedure as the Pilot Study except for two minor changes. I changed the scripts of

“opening a CD account” to “opening a savings account” in the low complexity scenario of financial services, and to improve the measurement sensitivity, I asked participants to evaluate all items based on a 7- point Likert scale, rather than the original 5- point Likert scale.

Procedure. A total of 202 undergraduate students completed a paper-and-pencil questionnaire in exchange for marketing course credit. After reading the scenario, participants rated their expectations on the 18-item customer participation scale. Then, they were asked the same questions related to context complexity, relevance, and importance of the scenario as in Study 1 as the manipulation check. Finally, the participants completed demographic questions including, gender, age, major of study, year of graduation (see Appendix A).

As I measure the control aspects of customer participation behavior, it is important to control for the personal trait-related Locus of Control (Valecha 1972), as well as culture-related Power Distance. Therefore, after participants complete some irrelevant tasks for 15 minutes, they were shown a one-page questionnaire saying “social scientists are interested in students’ views on certain life issues.” I designed this questionnaire to collect participants’ feedback on randomly ordered scales of Power Distance (Donthu and Yoo 1998) and Locus of Control (Valecha 1972)(See Appendix B).

Study 1 Results

I first conducted exploratory and confirmatory factor analysis to test the reliability and validity of the customer participation scale. Using the principle axis-factoring method with promax oblique factor rotation, I reduced the 18 items to 15 items. As expected, four sub-factors were freely estimated, including information sharing, dominant control, submissive control and parallel control. Items that did not load high on either factor (less than .60) were dropped. Table 3.4 shows the factor loading of the final 15 items and 3 items that were deleted. Cronbach alpha reliabilities for each sub-factor range from .76 to .90. The exploratory factor analysis gave strong support for the reliability of measurement. I further conducted confirmatory factor analysis to assess the overall model fit.

Four-factor model of customer expectation of participation. I conducted two confirmatory factor analyses to compare the four-factor model with a one-factor model of customer participation. I used EQS 6.1 to perform maximum likelihood robust estimation. In the four-factor model, I allowed four factors to correlate with each other. In the one-factor model, I set up all items loading on one general factor. The chi-square change ($\Delta\chi^2(1) = 419.72, p < .001$) reveals that the four-factor model fits the data better (see Table 3.5). This result confirms the multi-dimensional nature of the customer participation construct.

Evidence for convergent and discriminant validity. To verify that the four factors are distinct, I conducted four CFAs. In one CFA analysis, I allowed four constructs to

correlate ($\chi^2(84) = 173.02$). In the other three, I forced the four factors to be either perfectly correlated or completely orthogonal. The differences between the free correlated four-factor model and the three highly constrained models were all significant (see Table 3.5). The results suggest that information sharing, dominance, submission, and parallel controls are related but empirically distinct. Model comparisons demonstrate that a four-factor model of customer participation meets the criteria of convergent and discriminant validity.

Manipulation Check. I first examined whether the designed service scenario induced the intended level of context complexity. A 2 (Context Complexity: vs. low vs. high) X 2 (Service Industry: financial service vs. healthcare service) X 2 (Service Provider: certified financial advisor/doctor vs. a bank employee/nurse practitioner) ANOVA on the participants' response to the averaged the score of Multiplicity (Cronbach alpha = .81) and Uncertainty (Cronbach alpha = .86) was conducted (see Table 3.3). The results show a significant main effect of Service Context Complexity. Participants primed with high complexity scenarios perceived a higher level of service Multiplicity ($M_{\text{high}} = 5.55$, $M_{\text{low}} = 5.19$ $F(1, 201) = 6.55$, $p < .05$) and Uncertainty ($M_{\text{high}} = 4.24$, $M_{\text{low}} = 3.36$ $F(1, 201) = 18.16$, $p < .01$) than those primed with a low-level complexity scenario. This provides evidence that our manipulation was successful. Neither main effect of Industry or Service provider, nor interaction was significant on dimensions of Multiplicity and Uncertainty. Consistent with the Pilot Study, all the scenarios are rated highly relevant (ratings range from 6.27 to 6.38 on a 7-point scale across scenarios) and important (ratings range from 6.07 to 6.22 on a 7-point scale across scenarios) to the student

population. There is no significant main effects or interaction effects on importance and relevance ratings. These results gave us the confidence that the service context complexity manipulations were successful.

Hypotheses Testing. To test H1 and H2abc, I performed a 2 (Context Complexity: vs. low vs. high) X 2 (Service Industry: financial service vs. vs. healthcare service) X 2 (Service Provider: certified financial advisor/doctor vs. a bank employee/nurse practitioner) MANOVA on the averaged score of Information Sharing ($\alpha = .90$), Customer Dominant Control ($\alpha = .84$), Submissive Control ($\alpha = .76$), and Parallel Control ($\alpha = .79$). Participants across conditions did not differ by their demographic (see Table 3.6) characteristics (age, gender, major, year of graduation), or their average score of power distances ($\alpha = .67$) and locus of control ($\alpha = .76$).

Information Sharing. The results supported H1 with a significant main effect of service context complexity on information sharing. Participants primed with a high complexity scenario had higher expectations of sharing information than participants primed with low complexity scenarios ($M_{\text{high}} = 5.37$, $M_{\text{low}} = 4.97$ $F(1, 201) = 5.47$, $p < .05$). There is no main effect of Industry, Service Provider, or interaction effects.

Interactional Control. A separate ANOVA was performed on Dominant Control, Submissive Control, and Parallel Control. As predicted in H2a and H2c, there is a significant main effect of context complexity on customer expectation of Dominant Control and Parallel Control. Participants in low complexity scenarios expected a higher level of Dominant Control ($M_{\text{high}} = 4.18$, $M_{\text{low}} = 4.52$, $F(1, 201) = 5.5$, $p = .058$), but a

lower level of Parallel Control ($M_{\text{high}} = 5.13$, $M_{\text{low}} = 4.68$ $F(1, 201) = 7.10$, $p < .01$) than those in high complexity scenarios. Central to H2b, customer expectation of submissive control, I found an interaction effect of Service Industry and Context Complexity and a main effect of Service Industry on customer expectation of exhibiting submissive control. The main effect of Context Complexity is not significant ($F = 1.1$, ns). However, H2b is supported as it worked significantly in the financial service scenarios. In the financial service scenarios, participants in high complexity situations expected to be more submissive to service providers' control than those in low complexity situations ($M_{\text{high}} = 4.44$, $M_{\text{low}} = 3.90$ $F(1, 201) = 5.97$, $p < .05$). However, participants in healthcare service scenarios did not significantly differ in their expectation of exhibiting submissive control by context complexity. The main effect of Service Industry indicated that participants are less willing to be submissive to control in financial service scenarios than in healthcare scenarios ($M_{\text{financial service}} = 4.17$, $M_{\text{healthcare service}} = 4.79$ $F(1, 201) = 15.65$, $p < .01$). In conclusion, H2a and H2c were fully supported, and H2b was supported in the financial service scenarios (see Figure 3.1).

Study 1 Discussion

Study 1 verified that customer participation is a multi-dimensional construct, including both information sharing and interactional control. In addition, Study 1 provided support for the hypotheses that service context complexity influences customer expectation of participation behavior. The more complex the perceived situation, the more customers expect to share information with service providers, but the less they expect to dominantly control the interaction with the service provider. In other words, a

high level of uncertainty and multiplicity will make customers resort to secondary control.

Table 3.1

Description of the Scenarios for Pilot Study and Study 1

Please imagine that you are the student in the following scenario

Financial Service Scenarios

Background	You want to invest the money you have saved from part-time jobs during the first two years in college.
Service Context Complexity	Low Level: You are planning to set up a CD (Certificate Of Deposit) (Pilot Study)/a separate saving account (Study 1) with a higher interest rate than a normal checking account. High Level: You have no idea what kinds of investment products are available, and what are the pros and cons in terms of risk and return.
Service Provider	Low Level: You are going to meet with a certified financial advisor. High Level: You are going to meet with an employee at your bank branch.

Healthcare Service Scenarios

Background	You are going to a foreign country for a summer study-abroad program. It is in a remote location where you will have limited access to health care
Service Context Complexity	Low Level: You are planning to have a basic health check before going. High Level: You have no idea what you should do to protect your health during your trip or any of the potential consequence.
Service Provider	Low Level: You have an appointment with your doctor to discuss and find out what you should do. High Level: You have an appointment with a nurse practitioner for your check-up.

Table 3.2

Pilot Study and Study 1

Factor Loadings for the Two-Factor Model of Service Context Complexity

	Pilot Study (N= 263)		Study 1 (N= 202)	
	Factor 1: Multiplicity	Factor 2: Uncertainty	Factor 1: Multiplicity	Factor 2: Uncertainty
Multiplicity Items	Eigenvalues: 1.60, Cronbach α : .72		Eigenvalues: 1.58, Cronbach α : .76	
I would expect multiple steps/interactions during the upcoming service experience.	.73	-.01	.83	.05
I believe that there would be multiple potential service outcomes/solutions for this service.	.77	.04	.83	.08
Uncertainty Items	Eigenvalues: 1.13, Cronbach α : .89		Eigenvalues: 1.38, Cronbach α : .90	
I would be UNCERTAIN about the service process or exactly what will happen during the service process.	.05	.90	.12	.87
I would be UNCERTAIN about the service outcome or exactly what I would get in the end.	-.01	.88	.02	.87

Table 3.3 Pilot Study ANOVA Table of the Manipulation Check

Tests of Between-Subjects Effects

Dependent Variable: Complexity

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	31.80	13.00	2.45	2.95	.00
Intercept	1.13	1.00	1.13	1.36	.25
Locus of Control	.05	1.00	.05	.06	.81
Power Distance	.55	1.00	.55	.67	.41
Age	2.77	1.00	2.77	3.34	.07
Gender	.48	1.00	.48	.58	.45
Major	.06	1.00	.06	.07	.80
Year of Graduation	1.17	1.00	1.17	1.41	.24
Service Industry	4.49	1.00	4.49	5.42	.02
Context Complexity	18.20	1.00	18.20	21.96	.00
Service Provider	.12	1.00	.12	.14	.71
Service Industry * Context Complexity	2.26	1.00	2.26	2.73	.10
Service Industry * Service Provider	.16	1.00	.16	.19	.66
Context Complexity * Service Provider	.03	1.00	.03	.03	.86
Service Industry *Context Complexity * Service Provider	1.01	1.00	1.01	1.22	.27
Error	154.21	186.00	.83		
Total	4385.88	200.00			
Corrected Total	186.01	199.00			

Table 3.4 Study1

Factor Loadings for the Four-Factor Model of Customer Expectation of CPSC

	Study 1 (N= 202)			
	Factor 1: Information Sharing	Factor 2: Dominant Control	Factor 3: Submissive to Control	Factor 4: Parallel Control
Information Sharing Items	Eigenvalues: 4.27; Cronbach α : .90			
I expect that I would spend a lot of time sharing information about my needs and opinions with the service provider during the service process.	.81	-.07	.13	.38
I expect that I would put a lot of effort into expressing my personal needs to the service provider during the service process.	.84	-.06	.20	.46
I expect that I would provide a lot of my ideas to the service provider during the service process.	.74	.03	.21	.51
I expect that I would have a high level of participation in sharing information with the service provider in the service process.	.82	-.04	.20	.59
I would have a long conversation with the service provider to share information during the service process.	.83	-.07	.19	.57
Dominant Control Items	Eigenvalues: 2.29; Cronbach α : .84			
Rather than letting the service provider tell me what to do, I would assert my right to decide what to discuss during the service process.	.23	-.46	.83	.32
I would take control of what kind of information to share with the service provider during the service process.	.19	-.39	.89	.18
I would decide how much information to provide to the service provider.	.17	-.28	.69	.33
During the service process, If I come up with an idea, the service provider should focus on discussing it, rather than focusing on ideas he/she may think of.		Deleted		
Submissive to Control Items	Eigenvalues: 3.25; Cronbach α : .76			
During the service process, the service provider would tell me what is important to discuss and what is not.	.04	.75	-.27	.02
During the service process, it is unlikely that I would show any objection to a solution that the service provider suggests.	-.05	.60	-.30	-.05
During the discussion, the service provider would be the one who initiates the questions and I would listen and respond.	-.08	.63	-.31	-.06
I would mostly wait for the service provider to give me guidance first, so I know what to say and what to ask next.	-.04	.70	-.35	-.04
Parallel Control Items	Eigenvalues: 2.69; Cronbach α : .79			
The service provider and I would be equal partners in the conversation, providing equal amounts of needed information during the service process.	.38	.03	.22	.71
I would spend a lot of time with the service provider in exchanging thoughts/ideas during the service process.	.65	-.14	.24	.74
During the service process, the service provider and I would discuss and develop a solution reflecting input and ideas from both of us.	.54	-.10	.30	.81
Although the service provider is the professional, if I have different suggestions from what he/she recommends, the service provider should be willing to discuss my suggestions.		Deleted		
Although I am the customer, it is okay that the service provider persuades me to take a different solution, as long as we have discussed it and all my questions are answered.		Deleted		

Table 3.5**Study 1 Comparisons of Models**

	χ^2	df	$\Delta\chi^2$	p	CFI	RMSEA	90% Confidence Interval of RMSEA
One and four-factor models compared							
One- factor model	592.74	90			0.56	0.17	(.154, .180)
Four- factor model	173.02	84	419.7205	<.01	0.92	0.07	(.057, .088)
Four-factor model compared							
Free estimated factor correlation	173.02	84			0.92	0.07	(.057, .088)
Factor correlation constrained to 1.0	292.86	90	119.841	<.01	0.82	0.11	(.092, .119)
Factor correlation constrained to -1.0	718.69	90	545.6739	<.01	0.44	0.19	(.174, .199)
Factor correlation constrained to 0.0	306.10	90	133.0804	<.01	0.81	0.11	(.096, .123)

Figure 3.1 Study 1

Customer Expectation of Participation as A Function of Service Context Complexity

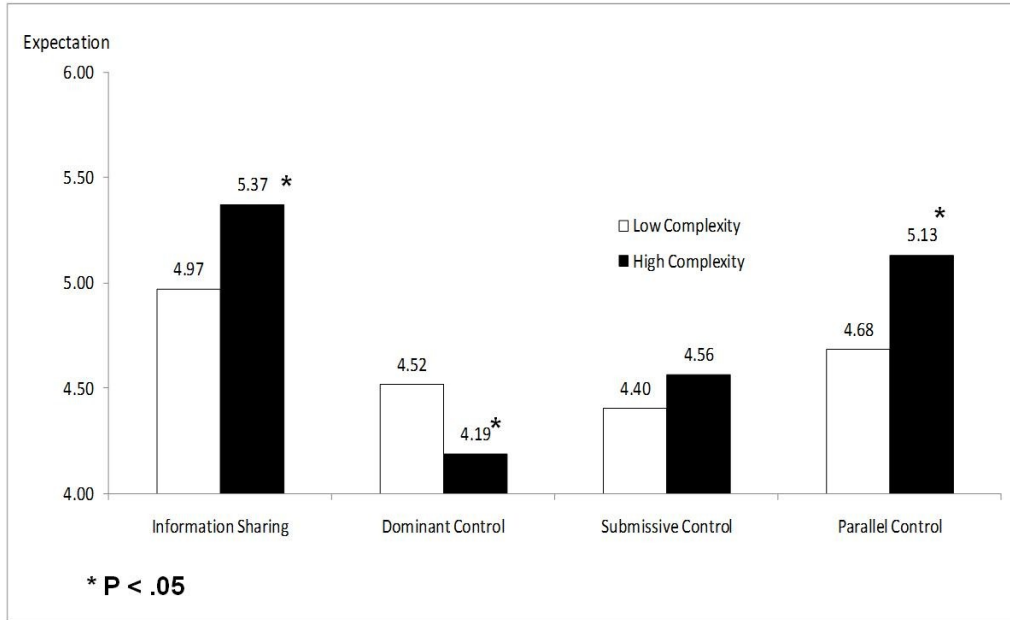


Table 3.6 Study 1 MANOVA Table

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Information Sharing	24.468 ^a	13	1.88	1.25	.25
	Dominant Control	59.051 ^b	13	4.54	3.12	.00
	Submissive Control	30.143 ^c	13	2.32	1.90	.03
	Parallel Control	26.140 ^d	13	2.01	1.42	.16
Intercept	Information Sharing	.33	1	.33	.22	.64
	Dominant Control	1.56	1	1.56	1.07	.30
	Submissive Control	.41	1	.41	.34	.56
	Parallel Control	5.11	1	5.11	3.60	.06
Power Distance	Information Sharing	1.84	1	1.84	1.22	.27
	Dominant Control	.20	1	.20	.14	.71
	Submissive Control	.66	1	.66	.54	.46
	Parallel Control	.56	1	.56	.39	.53
Locus of Control	Information Sharing	5.84	1	5.84	3.88	.05
	Dominant Control	3.91	1	3.91	2.69	.10
	Submissive Control	.45	1	.45	.37	.55
	Parallel Control	1.72	1	1.72	1.21	.27
Age	Information Sharing	.28	1	.28	.19	.67
	Dominant Control	.31	1	.31	.21	.64
	Submissive Control	1.19	1	1.19	.98	.32
	Parallel Control	1.85	1	1.85	1.30	.26
Gender	Information Sharing	.84	1	.84	.56	.46
	Dominant Control	8.99	1	8.99	6.18	.01
	Submissive Control	1.14	1	1.14	.93	.34
	Parallel Control	1.77	1	1.77	1.25	.27
Year of Graduation	Information Sharing	.30	1	.30	.20	.65
	Dominant Control	1.61	1	1.61	1.11	.29
	Submissive Control	.39	1	.39	.32	.57
	Parallel Control	5.19	1	5.19	3.65	.06
Major	Information Sharing	1.29	1	1.29	.86	.36
	Dominant Control	.70	1	.70	.48	.49
	Submissive Control	.14	1	.14	.11	.74
	Parallel Control	.67	1	.67	.47	.49

Table 3.6 Study 1 MANOVA Table (continued)

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Service Industry	Information Sharing	.02	1	.02	.01	.91
	Dominant Control	31.22	1	31.22	21.45	.00
	Submissive Control	18.61	1	18.61	15.23	.00
	Parallel Control	1.25	1	1.25	.88	.35
Context Complexity	Information Sharing	8.44	1	8.44	5.61	.02
	Dominant Control	6.64	1	6.64	4.56	.03
	Submissive Control	1.12	1	1.12	.92	.34
	Parallel Control	10.66	1	10.66	7.51	.01
Service Provider	Information Sharing	.83	1	.83	.55	.46
	Dominant Control	.90	1	.90	.62	.43
	Submissive Control	.39	1	.39	.32	.57
	Parallel Control	.05	1	.05	.03	.86
Service Industry * Context Complexity	Information Sharing	1.15	1	1.15	.76	.38
	Dominant Control	5.96	1	5.96	4.10	.04
	Submissive Control	6.05	1	6.05	4.95	.03
	Parallel Control	2.29	1	2.29	1.61	.21
Service Industry* Service Provider	Information Sharing	.59	1	.59	.39	.53
	Dominant Control	.39	1	.39	.27	.61
	Submissive Control	.27	1	.27	.22	.64
	Parallel Control	.36	1	.36	.25	.62
Context Complexity * Service Provider	Information Sharing	.21	1	.21	.14	.71
	Dominant Control	.45	1	.45	.31	.58
	Submissive Control	.22	1	.22	.18	.67
	Parallel Control	.25	1	.25	.17	.68
Service Industry * Context Complexity * Service Provider	Information Sharing	1.58	1	1.58	1.05	.31
	Dominant Control	1.77	1	1.77	1.22	.27
	Submissive Control	.00	1	.00	.00	.99
	Parallel Control	.21	1	.21	.15	.70
Error	Information Sharing	276.58	184	1.50		
	Dominant Control	267.74	184	1.46		
	Submissive Control	224.88	184	1.22		
	Parallel Control	261.22	184	1.42		
Total	Information Sharing	5584.48	198			
	Dominant Control	4114.44	198			
	Submissive Control	4212.94	198			
	Parallel Control	5036.11	198			
Corrected Total	Information Sharing	301.05	197			
	Dominant Control	326.79	197			
	Submissive Control	255.02	197			
	Parallel Control	287.36	197			

Chapter 4

TEMPORAL DYNAMICS OF CUSTOMER PARTICIPATION IN SERVICE CONVERSATIONS

Overview

The objective of Study 2 is to examine the context dynamics of the service conversation process through a direct observation study and analysis of conversation sequences. I aim to test how the initial stage of the service conversation influences customer participation at the later stage (H3), and how the temporal dynamics of the service conversation influence customer evaluations of the service (H4). In addition, I replicate the tests of H1 and H2 to see how customers' expectations of context complexity influence their actual participation behaviors at the initial stage of a service conversation. The actual customer participation behaviors at the initial stage of the service conversation give a fair account of the customer's expectations of participation behaviors (Rusbult and Van Lange 2003).

Research Setting

The setting of this observation study was one of one of the largest healthcare online expert consulting services in the US. Through this website, customers voluntarily submit their medical questions to certified doctors, subsequently engaging in a conversation with a doctor to answer their questions. Online healthcare services have increasingly played an important role in revolutionizing the more than \$1 trillion healthcare industry in America. Recent research by Pew Internet & American Life

Project (www.pewinternet.org) showed fifty-two million adult Americans have turned to Internet sources to seek health information, including online doctor consultancy. With a typical actual physician's visit shrinking to less than 15 minutes, online doctor consultancy provides "health seekers" a more convenient channel to have more questions answered for both themselves and their family members or friends.

The real-time online chatting data between doctors and patients provides us an ideal observation window to investigate the communication-mediated interaction dynamics for high-contact interpersonal professional service conversations. To protect anonymity, the conversational data does not include any information regarding doctors' or patients' real name or any personally-identifying information.

Sample

I randomly sampled the real-time online conversations between 173 patients and 52 doctors. Adopting the discrete observational method (Howe, Dagne and Brown 2005), I partitioned each consultation chatting stream into discrete chatting sequences based on speech turns (when one person finishes the speech and hands over the conversation to the other) between the doctor and the patient (see Table 4.1). In total, I observed and analyzed 2386 sequences of online conversational speech turns. Of 173 customers in the sample, 69% are women, and 31% are men. Additionally, 79% of the customers were seeking a doctor's advice for themselves, while 21% were seeking advice for their family members or friends. The age range of the customers was from 19 to 86 years old (9% are below age 25, 31% are between age 26-35, 20% are between age 36-45, 31% are between

age 46-60, and 19% are age 61 and above). In Study 2, I limited the sampled conversations to the first-time customer-doctor encounter for general medical issues, not including any repeat customers consulting for follow-up problems. The 52 doctors are all certified doctors, holding medical doctor degrees (13% female, 87 % male). On average, 3 to 4 patients were coded for each doctor.

The Process of Online Health Care Consulting Services

Customers who want their healthcare problems diagnosed by the online expert go through three steps to complete the service. On the first webpage, the customers post an initial description of their problems and provide some basic information concerning their gender, age, or any additional information about what they have tried before. On the second webpage, the customers are required to pay a service charge according to the web-site suggested criteria based on the level of urgency of their inquiry and the level of detail desired in the answer. The service charge is payable only if the customer is satisfied with the doctor's consultation. In the sample, all customers have accepted the services and paid the service fees. On the second webpage, the patient can also select the online doctor with whom he or she wants to consult. In the sample, all the conversations are first-time customer-doctor encounters. Customers and patients did not know each other before the conversation. Finally, the customers are taken to a third webpage to begin the online conversation with the doctor. At the end of the conversation, the customer will click the "acceptance" button to accept the consultation, indicating the approval of the payment transaction, and concluding the consulting service.

Measures

In study 2, I adopted a communication phase-based sequence analysis to examine the temporal structure of the service conversation process. The phase-based sequence analysis allows researchers to study how often and in what order a defined stage occurs (Bakeman & Qurea 2011; Zimmermann, Del Piccolo, and Finset 2007). I recognize three key stages in doctor-patient conversations to map out three key stages in the conceptual framework. Stage I of the doctor-patient conversation corresponds to customer anticipation of the context complexity in the conceptual framework at T_0 . At this stage, patients give their initial statement of the problems for consultation. Stage II of doctor-patient conversation corresponds to the initial stage of the service conversation in the conceptual framework at T_1 . This stage begins with the start of the conversation and ends right before the doctor for the first time gives confirmative and instructive information about the service solution. In the data, Stage II is consistently characterized by a series of immediate speech turn-taking patterns of doctor asking questions and patient giving answers. I operationalize Stage II as the initial stage of the service conversation, as the conversation at this stage creates the initial solution information. When Stage II ends, the service conversation marches into the first interaction behavior transition, the doctor stops asking for information and begins conveying information. Finally, Stage III of the doctor-patient conversation corresponds to the later stage of the service conversation in the conceptual framework at T_2 . This stage starts with patient's initial response to the doctor's initial instruction and ends with either party exiting the conversation or a meta-social communication "You are welcome," "Have a nice day," "Take care," etc. In the

data, Stage III is characterized by a series of immediate speech turn-taking patterns of the customer verifying the doctor's initial instruction by providing additional information or asking more questions and the doctor giving answers or verification. Again, I operationalize Stage III as the later stage of the service conversation because it immediately follows the doctor's initial instruction about the solution and ends with new a behavior transition from solution related communication to meta-social communications.

Measure of customer anticipated context complexity. The measure of customer anticipated context complexity was based on the customer statements in Stage I (T₀) and their pre-paid service value. For the uncertainty dimension, I adapted the customer's initial uncertainty measures from psychology and medical literature as the extent to which, in the initial problem statement, there are a) explicit statements of uncertainty or worry, as well as statements about the seriousness of illness/problems, b) explicit statements referring to social or emotional problems. These statements can link symptoms/problems to life stress, report of emotional problems and depression, or contain somatic metaphors of mood (Maguire et al 1996; Salmon 2004; for a review, please see Zimmermann, Del Piccolo, and Finset 2007). To make the coding process more objective, I distinguished two levels at Stage I: low uncertainty where there is no explicit statement of any sort of uncertainty or emotional problems, or high uncertainty where there are explicit statements.

For the Multiplicity dimension of context complexity, I used the dollar amounts that customers pre-paid for the service as an approximate measure of their anticipation of

multiplicity. According to the website criteria, if the customer is low or medium on either or both “urgency” or “required level of details,” it is recommended that they pay \$15 to \$35. If the customer thinks his or her problems are high on either or both dimensions, they are expected to pay \$55 to \$75 or more. Given most of medical problems in the sample are chronic problem rather than medical emergency, I reason that the customer pre-paid service fee based on “required level of details” is a fair operationalization of the multiplicity dimension of service context complexity. I use \$55, the upper limit of website suggested payment amount for high levels of “urgency” and “required level of details”, as the cut-off point to differentiate between low level of multiplicity (paid \$15- \$55) and high level of multiplicity (\$56 or above).

Finally, I computed a composite score to measure customer anticipated context complexity by adding both the uncertainty and multiplicity scores. The composite score is a binary variable with two levels: the low level of complexity and the high level of complexity. If a customer is low on both dimensions of uncertainty and multiplicity, his or her anticipated context complexity will be coded as low. If a customer is high on either dimension of uncertainty or multiplicity, his or her anticipated context complexity will be coded as high. As a result, 29.5% of the customers in the sample have a relatively low level of anticipated complexity, and 70.5% of customers have a high level of anticipated complexity.

In the example (See Table 4.1), in the initial statement, the customer expressed the seriousness of the problem (i.e. “The pain is horrible worst then labor pains”), as well as his or her uncertainty (i.e. “What could in be and should I go to the ER my husband

says that I should just don't want to be waiting so long in a ER for something that could turn out to be absolutely nothing”). In addition, the customer paid \$55 for the online consultancy, expecting a higher level of multiplicity. Overall, as the customer had a higher level of uncertainty and multiplicity, I coded the customer anticipated context complexity as high in this example.

Measure of information sharing and interaction control. To capture the temporal dynamics of the service conversation process, I focused on examining two distinct communication stages: Stage II at T1 and Stage III at T2. Stage II (T1) as the initial stage of the service conversation is characterized by consistent interaction patterns of the doctor asking questions and the patient giving answers. Stage II ends right before the doctor gives the first instruction. Following the communication literature (Miller and Roger 1976; Escudero and Rogers 2004), when party A (the doctor) is trying to direct the flow of communication by asking questions and party B (the customer) is responding with informative answers, Party A is in position of dominant control and party B is in the position of submissive control. Therefore, the customer communicative participation at Stage II is customer information-sharing through submissive control. I measure the counts of speech turns between the doctor and the customer within Stage II to examine the extent of customer information sharing through submissive control. In the example (see Table 4. 1), the doctor’s question of “Hello, are you having any urinary symptoms?” was followed by customer’s reply “Been going more than usual”. Then, the doctor gave this first instruction “Whenever someone describes severe pain..., I would go to the ER to be checked out... Most people need narcotic pain medication for this.” Therefore,

Stage II (T1), the initial stage of the conversation, consists of sequential speech turns of doctor dominant -customer submissive information sharing.

Stage III (T2), immediately following the doctor's first instruction, is operationalized as the later stage of the communication. This stage is characterized by consistent interaction patterns of the patient asking questions or providing information and the doctor giving answers or giving verifications. Following the communication literature (Miller and Roger 1976; Escudero and Rogers 2004), the customer communicative pattern at Stage III is customer information-sharing through customer dominant control. I measure the counts of speech turns within Stage III to examine the extent of customer participation of information-sharing through dominant control. In the example (See Table 4.1), following the doctor's first instruction, the customer provided additional information (e.g., "the pain is pretty bad...I would describe as a stabbing pain ... Its actually worse than labor pains"). The doctor responded with confirmation (i.e. "That is exactly how people describe a kidney stone. I am sorry you feel so badly.") The customer also raised additional questions for verification (i.e. "Is it possible for them to pass on their own..and will this pain get worse if i stay home to try to pass it i can't imagine it getting any worse than this pain") and the doctor gave explanations (e.g., "Yes, depending on the size of the stone... it can cause obstruction of the tube that urine passes through which can lead to kidney damage."). Stage III (T2) ends when the customer for the first time proposes to exit the conversation, either initiating meta-communication of thanks or literally exit the online chatting website. In the example (see Table 4.1), the Stage III (T2) ended when the customer for the first time expressed thanks to exit the

conversation (i.e. “thank you so much for the advice it is very much appreciated”). In the example, from customer’s first response to the doctor’s instruction to the customer’s first proposal of exiting the conversation, there are nine speech turns of customer dominate-doctors submission information sharing at Stage III (T2)

Measure of the temporal dynamics of customer participation behavior. Given the natural temporal precedence of Stage II over Stage III and the consistent characteristics of customer participation behaviors at each stage, the temporal dynamics of customer participation behavior can be measured by computing the difference between the total counts of speech turns in Stage II and the total counts of speech turns in Stage III. That is, how the conversation, in terms of the conversation length (the total counts of the speech turns), evolves from doctor dominant-customer submissive information sharing to customer dominant-doctor submissive information sharing.

Based on the stable context-behavior relationship, the temporal behavior transition from customer information sharing through submissive control to customer information sharing through dominant control also represents the extent to which customer perceived service context evolves from a higher level to a lower level.

To measure the difference in the conversation length between Stage II and Stage III, I could compute either an absolute difference score or a relative score. To avoid the negative scores, I compute a relative score to measure the relative extent of behavioral transition from Stage I to Stage II. The relative ratio presents how CPSC transitions from information sharing through submissive control at the initial Stage I to information

sharing through dominant control at the later Stage II. At the same time, it represents the extent to which customer perceived service context complexity evolves from a higher level to a lower level. Given in some conversations, there are zero speech turns in either Stage II or Stage III, I add one count to each stage to all the data in the sample. In the example (see Table 4. 2), the relative ratio of the counts of speech turns between Stage II and Stage are three (two plus one) to ten (nine plus one).

When the relative speech turn ratio between Stage I and Stage II is equal to 1, it means that over time the customer shared an equal amount of information through submissive control and dominant control with the doctor. If the speech turn ratio of Stage II vs. Stage III is greater than 1, it indicates that over a temporal horizon, the customer shares more information through submissive control than through dominant control. That is, the customer does not experience significant context complexity reduction from a high level to a low level throughout the service conversation. Finally, if the ratio is less than 1 and greater than 0, it means that over time the customer shares more information through dominant control than through submissive control. The customer perceived context complexity has been successfully reduced from a higher level to a lower level through the service conversation.

Customer evaluations of the service. Customer evaluations of the service at the end of the service conversation were measured in the following two dimensions: 1) customer explicit expression of gratitude at the end of the conversation, and 2) customer explicit confirmation of their intent to comply with the doctor's instructions. If a conversation ended without either of these statements, the customer evaluations of the

service were coded as low (21% of the total). Otherwise, they were coded as high (79% of the total), indicating a more positive customer evaluation of the service. In the example (see Table 4.1), the customer's oral confirmation to go to "ER" (i.e., "Okay I think I will go to the ER then...") and explicit expression of gratitude (i.e., "thank you so much for the advice it is very much appreciated.") showed that the customer had a higher level of evaluations of the service outcomes.

Negative Binomial Models for Assessing the Context Dynamics of the Service

Conversation Process

To access the temporal dynamics of CPSC in a service conversation, I chose to use a negative binomial model to fit the data for the following reasons. First, CPSC behaviors, as the key dependent variable, are measured in terms of the total count of speech turns between the customer and the doctor at the initial (Stage II at T1) or the later stage (Stage III at T2) of the conversation. The count data structure follows a Poisson distribution. Furthermore, in the data, 173 customers are nested within 52 doctors, with each doctor talking to about 3 to 4 customers. To adjust for the correlations within each doctor, I used a negative binomial model to fit the data. I believe that the 52 doctors represent a random sample of a large doctor population. Therefore, the mean of the count of speech turns for each doctor is different. I expect there is a doctor random effect. The analyses were conducted by using SAS 9.1 PROC GEOMD.

First, I evaluated how the anticipated context complexity (Stage I at T0) influences CPSC at the initial stage of the service conversation (Stage II at T1) in equation (1)

$$(1) \log (\text{Initial Stage of CPSC}_{ij}) = \beta_0 + \beta_1 \text{ACC}_i + \beta_2 \text{Age}_i + \beta_3 \text{Gender}_i + \beta_4 \text{CT}_i + \gamma_j$$

where the Initial Stage of CP ij is the total count of speech turns of Stage II (customer submissive information sharing) that each customer i has with each doctor j . The parameter β_0 is the count when all explanatory variables are equal to zero and may not be interpreted in this situation. γ_j captures the random effect due to the variation among doctors. The parameter β_1 is a fixed effect that captures the effect of customer anticipated context complexity (ACC_i) on CPSC at the Initial Stage of the conversation, and the parameters β_2 , β_3 , and β_4 are fixed effects that capture effects of control variables on CPSC at the Initial Stage of the conversation, including customer age (Age_i), customer gender (Gender_i), and the type of consultation (CT_i).

Next, I assessed how CPSC at the initial stage of the conversation (Stage II at T1: customer submissive information sharing) influences CPSC at the later stage of the conversation (Stage III at T2: customer dominant information sharing) in equation (2)

$$(2) \log (\text{Later Stage of CPSC}_{ij}) = \beta_0 + \beta_1 \text{Initial Stage of CPSC}_i + \beta_2 \text{ACC}_i + \beta_3 \text{Age}_i + \beta_4 \text{Gender}_i + \beta_5 \text{CT}_i + \gamma_j$$

where the Initial Stage of CPSC ij is the total count of speech turns of Stage II (customer submissive information sharing) that each customer i has with each doctor j . The Later

Stage of CP ij is the total count of speech turns of Stage III (customer dominant information sharing) that each customer i has with each doctor j . The parameter β_0 is the counts when all explanatory variables are equal to zero and may not be interpreted in this situation. γ_j captures the random effect due to the variations among doctors. The parameter β_1 is a fixed effect that captures the effect of the Initial Stage of CPSC (Initial CPSC i) on the later stage of CPSC; the parameter β_2 captures the fixed effect of customer anticipated context complexity (ACC i) on the later stage of CPSC. The parameters β_3 , β_4 , and β_5 are fixed effects that capture effects of control variables on the Later Stage of CPSC, including customer age(Age i), customer gender(Gender i), and the type of consultation (CT i).

Results. The negative binomial model to estimate the Initial Stage of CPSC provided a good fit to the data (Person Chi-Square/DF = 0.81) (see Table 4.2). The first variable, Customer Anticipated Context Complexity, significantly and positively predicted the count of speech turns of at the initial stage of the conversation ($\beta = 0.605$, $p < 0.025$). This result demonstrated that controlling for the customer's age, gender, and the type of consultation (i.e. whether customers consult for themselves or for their family or friends), the more the customer anticipates the service context to be complex, the more likely he or she will share information through submissive control at the initial stage of the service conversation. The findings successfully replicate the testing of hypotheses (H1 and H2) that customers not only have expectations of their participation behaviors based on their anticipated context complexity, but also actually behave so at the initial stage of the conversation.

The negative binomial model to estimate the later stage of CPSC provided a good fit to the data (Person Chi-Square/DF = 1.14) (see Table 4.2). The first variable, the count of the speech turns at the Initial Stage of CPSC, significantly and negatively influenced the count of speech turns at the later stage of the conversation ($\beta = -0.062$, $p < 0.01$). This result demonstrated that controlling for customer anticipated context complexity, the customer's age, gender, and the type of consultation (i.e. whether customers consult for themselves or for their family or friends), the more the customer shares information through submissive control at the initial stage, the less likely he or she will transition to share information through dominant control at the later stage of the conversation. The findings support the hypotheses (H3) that CPSC at the initial stage of the conversation serves as a more salient context cue, updating customer perceived service context complexity and influencing CPSC at the later stage of the service conversation. The results also showed a significant effect of customer anticipated context complexity ($\beta = 0.303$, $p = 0.045$) and customer age ($\beta = -0.012$, $p < 0.01$) on CPSC at the later stage of the conversation. That means that when the customer anticipates a higher level of context complexity before the actual service conversation, he or she is more likely to share information through dominant control at the later stage of the conversation. Elder customers are less likely to share information through dominant control at the later stage of the conversation.

Modeling the Effect of the Temporal Dynamics of Customer Participation Behaviors on Customer Evaluations of the Service

Customer Evaluations of the Service. I distinguished between two levels of customer evaluations of service (low and high) by coding customers' explicit statements of gratitude and solution compliance. Given this dependent variable is a binary variable and the nested data structure (173 customers were nested within 52 doctors), I chose a generalized linear mixed model to fit the data. I used PROC GLIMMIX procedure in SAS 9.1 to determine which factors effectively influence customer evaluations of services. The GLIMMIX procedure enabled us to model the random effect at the doctor level, as well as the fixed effects at the customer level. I specified the model in equation (3),

$$(3) \log \left\{ \frac{\text{Positive Evaluation}}{1 - \text{Positive Evaluation}} \right\} = \beta_0 + \beta_1 \text{ECC}_i + \beta_2 \text{ACC}_i + \beta_3 \text{Age}_i + \beta_4 \text{Gender}_i + \beta_5 \text{CT}_i + \gamma_j,$$

where Positive Evaluation is a binary dependent variable. The parameter β_0 is the intercept corresponding to customer i . γ_j captures the random effect of doctor j . The parameter β_1 captures the fixed effect of CPSC behavior transition reflected by Evolving Context Complexity (ECC $_i$) on customer evaluations of the service. The parameters β_2 , β_3 , β_4 , and β_5 capture the fixed effects of control variables, including customer anticipated context complexity (ACC $_i$), age (Age $_i$), gender (Gender $_i$), and the type of consultation (CT $_i$). In the model, following Wolfinger's (1994) guidelines, I assumed the doctor level random effect γ has a normal distribution with mean 0 and variance matrix

G. The distribution of error ε is normal with a mean of 0 and a variance of R. Modeling with G-side effects, I specify the columns of the Z matrix and the structure of G.

Results. The generalized linear mixed model to estimate customer evaluations of the service provided a good fit to the data (Person Chi-Square/DF = 1.01) (see Table 4.3). The first independent variable, ECC/CPSC Behavior Transition, significantly predicted customer evaluations of the service ($\beta = -0.297$, $p < 0.02$). The result showed that the lower the ECC ratio, which indicates a greater extent of customer participation behavior transition from submissive information sharing to dominant information sharing, the more likely the customer exhibits positive evaluation. The finding supports the hypothesis (H4) that controlling for the customer's age, gender, doctor level random effect, and customer anticipated context complexity, the greater extent of CPSC behavior transition from submissive information sharing to dominant information sharing, which also means a greater extent of reduced context complexity, the more likely the service conversation leads to customer positive evaluation of the service.

To explore an interesting research question regarding how to balance service quality (e.g., customer satisfaction) and service productivity (e.g., the total service time), I ran a separate negative binomial model to fit the data (Person Chi-Square/DF = 1.17). In this model, I am interested to investigate how customer evaluations of the service (PositiveEval_i), evolving context complexity, anticipated context complexity, customer level characteristic factors, and doctor level random effect relate to the total service conversation turns, a proximate measure of service productivity (see Equation (4)). The results showed that CPSC behavioral transition from submissive information sharing to

dominant information sharing marginally influenced the total speech turns of the service conversation ($\beta = -0.052$, $p=0.068$). In addition, a positive customer evaluation did not predict a long service conversation ($\beta = 0.158$, nonsig). The results of Total Service Conversation Speech Turns Model in Table 4.3 suggested that customer positive evaluations do not necessarily come with the sacrifice of service productivity (e.g., service conversation time). Notably, the findings further confirm largely held social norms and beliefs that the more a customer anticipates a complex context, the more total service conversation turns are involved ($\beta = 0.224$, $p=0.01$), and the elder people are less likely to hold a longer conversation with the service provider ($\beta < -0.01$, $p<0.01$).

$$(4) \log(\text{Total Conversation Turns}_{ij}) = \beta_0 + \beta_1 \text{PositiveEval}_i + \beta_2 \text{CPTRSi} + \beta_3 \text{ACC}_i + \beta_4 \text{Age}_i + \beta_5 \text{Gender}_i + \beta_6 \text{CT}_i + \gamma_j.$$

Discussion

In Study 2, I employed an observation method to analyze online conversations and detect the temporal dynamics of CPSC behaviors and their influence on service evaluations. The observation method provides greater external validity for the hypothesized results. However, it also had its limitations in building strong construct validity and internal validity in delineating the causal relationship. In study 2, I measured customer satisfaction and solution compliance based on customer explicit statements of gratitude and confirmation of solution compliance at the end of the conversation. I believe that replicating the hypotheses testing through more controlled experimental methods can strengthen the construct validity and internal validity of the research.

Therefore, I designed Study 3 and Study 4, simulating a financial service conversation between a customer and a certified financial advisor (CFA). I developed different patterns of service conversation sequences to manipulate customer perception of evolving context complexity. Furthermore, I was able to obtain direct measures of customer expectations of CPSC behaviors, customer satisfaction, customer perceived service quality, and solution compliance.

Table 4.1 Study 2 Example of the Coding of Customer-Doctor Online Chatting

Customer/ Doctor	Online Chatting Scripts	Speech Turn Units	Key Interaction Phases
Customer Initial Statement:	I am a 34 yr old female who has been experiencing lower back pain on my left side which radiates into my lower stomach. The pain is horrible worst then labor pains . What could in be and should I go to the ER my husband says that I should just don't want to be waiting so long in a ER for something that could turn out to be absolutely nothing. (Pre-Paid Service Value: \$55)	1 Speech Turn Unit	Stage I: Customer Initial Statement of the Problem (1 Speech Turn)
Doctor:	Hello, are you having any urinary symptoms?	1 Speech Turn Unit	Stage II: Doctor Dominant- Customer Submissive
Customer :	Been going more than usual	1 Speech Turn Unit	Information Sharing (2 Speech Turns)
Doctor:	Whenever someone describes severe pain radiating from the back to the lower abdomen, it is suspicious for a kidney stone...I suspect this may be what you have. I would go to the ER to be checked out. They will do a urine test, an xray and possibly a CT scan if a stone is suspected as well as give you something for pain (once the diagnosis is made). Most people need narcotic pain medication for this. It is VERY painful.	1 Speech Turn Unit	1st Behavior Transition: Doctor Giving Initial Instruction (1 Speech Turn)
Customer :	the pain is pretty bad...I would describe as a stabbing pain...Its actually worse than labor pains	1 Speech Turn Unit	Stage III: Customer Dominant- Doctor Submissive Information Sharing
Doctor:	That is exactly how people describe a kidney stone. I am sorry you feel so badly. People find it hard to sit still also.	1 Speech Turn Unit	(9 Speech Turns)
Customer :	Is it possible for them to pass on their own..and will this pain get worse if i stay home to try to pass it i can't imagine it getting any worse than this pain	1 Speech Turn Unit	
Doctor:	Yes, depending on the size of the stone, they can pass on their own. If they are large, they will not pass. The pain can get worse (although I cannot imagine pain worse than labor pain). You can try taking ibuprofen to see if that helps at all. However, if you have a large stone that won't pass, it can cause obstruction of the tube that urine passes through which can lead to kidney damage. The ER can also give medication to help facilitate stone passage. I would consider going in for evaluation and treatment. Please feel free to ask any follow up questions you may have, I hope that you feel better, If you are satisfied with my help, please remember to click accept. Thank you!!	1 Speech Turn Unit	
Customer :	I am allergic to NSAIDS.. and I am noticing blood in my urine also	1 Speech Turn Unit	
Doctor:	Then you most likely have a stone or a kidney infection (with a kidney infection you would have fever). Kidney stones will cause blood so no cause for alarm. If you are allergic to NSAIDS you are most likely going to need narcotics...I do not think tylenol will work for this type of pain.	1 Speech Turn Unit	
Customer :	Okay I think I will go to the ER then...cause right now I am just pacing back and forth in pain and can't stand it much longer...if it should be a stone and it is to large to pass does that mean surgery?? I have already had 4 C sections and a hestectomy I would hate to have more surgery to my stomach	1 Speech Turn Unit	
Doctor:	No, surgery is not necessarily what would be necessary. In some cases, the stone can be broken up using a procedure called lithotripsy (it is non-invasive). Most people do not have stones that require surgery. I agree with going to the ER.	1 Speech Turn Unit	
Customer :	thank you so much for the advice it is very much appreciated	1 Speech Turn Unit	
Doctor:	You are very welcome, I hope that you get relief soon. Take good care.	1 Speech Turn Unit	Meta-Communication (1 Speech Turn)
Initial Service Complexity: high CP Behavior Transition: 3/10 Customer Satisfaction: high			

Table 4.2**Study 2 Models of Dynamics of the Service Conversation Process**

Initial Stage of CPSC

Variable	Parameter Estimate	Standard Error	Chi-Square	Pr > ChiSq
Anticipated Context Complexity	0.605	0.272	4.980	0.025
Customer Age	-0.006	0.068	0.850	0.356
Customer Gender	0.413	0.267	2.380	0.123
Consultation Type	0.609	0.410	2.210	0.137
Intercept	0.304	0.561	0.290	0.580

Later Stage of CPSC

Variable	Parameter Estimate	Standard Error	Chi-Square	Pr > ChiSq
Initial Stage of CPSC	-0.062	0.018	12.180	<0.01
Anticipated Context Complexity	0.303	0.152	3.990	0.045
Customer Age	-0.012	0.040	9.410	0.002
Customer Gender	0.140	0.154	0.830	0.260
Consultation Type	0.168	0.223	0.570	0.450
Intercept	2.440	0.300	66.000	<.0001

Table 4.3

Study 2 Modeling the Effects of Temporal Dynamics of CPSC on Customer Evolutions of the Service

Customer Evaluations of the Service				
Variable	Parameter Estimate	Standard Error	t Value	Pr > t
ECC/CPSC Behavior Transition	-0.297	0.1231	-2.41	0.018
Anticipated Context Complexity	0.450	0.472	0.950	0.342
Customer Age	-0.018	0.014	-1.350	0.180
Customer Gender	0.255	0.504	0.510	0.615
Consultation Type	0.449	0.730	0.610	0.541
Intercept	1.849	0.998	1.850	0.070

Total Service Conversation Speech Turns				
	Parameter Estimate	Standard Error	Chi-Square	Pr > ChiSq
Customer Positive Evaluations	0.158	0.217	2.1	0.147
ECC/CPSC Behavior Transition	-0.052	0.028	3.36	0.068
Anticipated Context Complexity	0.244	0.095	6.64	0.01
Customer Age	-0.008	0.003	10.88	0.001
Customer Gender	0.089	0.096	0.85	0.35
Consultation Type	0.239	0.145	2.7	0.1
Intercept	2.525	0.217	135.23	<.001

Chapter 5

LINKING DYNAMICS OF THE SERVICE CONVERSATION TO CUSTOMER EVALUATIONS OF THE SERVICE

Overview of Study 3 and Study 4

The objective of Study 3 and Study 4 is to replicate the testing of H3 and H4 in scenario-based controlled experiments. To maintain the continuity with Study 1 and improve the generalizability of the research, I chose financial service settings in both studies. In Study 1, I demonstrated that the professional level of the service provider did not influence customer anticipated context complexity. Therefore, in Study 3 and Study 4, I limited the service professional level to certified financial advisor (CFA) only.

Study 3 employed a 2 (Customer Anticipated Context Complexity low vs. high) x 2 (Customer Perceived Context Complexity at the Initial Stage low vs. high) random between subject design. The key dependent variables are customer expected participation behaviors at the later stage of the service conversation (i.e., information sharing and three types of interaction control (dominant, submissive, and parallel). Study 4 used a 2 (Customer Anticipated Context Complexity low vs. high) x 2 (Customer Perceived Context Complexity at the Initial Stage low vs. high) x 2 (Customer Perceived Context Complexity at the Later Stage low vs. high) random between subject design. The key dependent variables are customer satisfaction, customer perceived service quality (SERVQUAL), and customer solution compliance.

Service Conversation Manipulations

The manipulations in Study 3 and Study 4 were customer moment-by-moment perceived context complexity throughout a service conversation. Interdependency theory posits that customer perceived service context transition accompanies a series of interaction behavior transitions (Rusbult and Van Lange 2003). The findings of Study 1 further supported the idea that there is a stable relationship between customers' perceived context complexity and their moment-by-moment CPSC behaviors. When customers perceive the service context to be simple, they are more likely to share less information through dominant control. Whereas, when customers perceive the service context to be complex, they are more likely to share more information through submissive or parallel control. Based on both the theory and empirical findings, I manipulated customer perceived context complexity by varying the length and the control patterns of the scenario-based service conversations between a customer and CFA.

The participant was first asked to imagine him/herself as the customer in the same financial service scenarios as in Study 1 (high and low complexity scenarios). Then the participant would read the transcript of a telephone conversation between him/herself (the customer) and the CFA. Each service conversation consists of four stages: a) the greeting stage, b) the initial stage of a service conversation, c) the later stage of a service conversation, and d) CFA's final inquiry about whether the customer would like to follow the CFA's recommendation to set up a high yield savings account. As shown in Table 5.1, the conversations at the opening stage are the same for each condition, except that the customer's request is corresponding to the randomly assigned condition of customer

anticipated context complexity (low level “opening a savings account” vs. high level “have no idea about investment plan”). For both the initial and the later stage of a service conversation, I manipulated a low vs. a high level of customer perceived context complexity. In the condition of a low level of customer perceived context complexity, the conversation sequences consisted of 5-6 speech turns, in which the customer consistently asked questions (dominant control) and the CFA gave answers (submissive control). In the condition of a high level of customer perceived context complexity, the conversation sequences consisted of 13- 15 speech turns, in which the CFA consistently asked questions (dominant control) and the customer gave answers (submissive control).

Manipulation Check

I first conducted a formal pretest as a manipulation check. One hundred sixty one undergraduate students completed a web-based questionnaire in exchange for marketing course credits. The pretest used a 2 (Customer Anticipated Context Complexity low vs. high) x 2 (Customer Perceived Context Complexity at the Initial Stage low vs. high) x 2 (Customer Perceived Context Complexity at the Later Stage low vs. high) random between-subject design. On the first web page, participants were first asked to imagine themselves in a financial service scenario randomly assigned depicting either a low level or a high level of anticipated service context complexity. Then, participants were presented with a randomly assigned initial stage conversation manipulation. After reading the initial stage conversation scripts, participants rated their perceived context complexity on the same four 7-point items of service context complexity as in Study 1. Five additional single-item control variables were collected, including the “importance”,

“relevance” and “risk” of the service, as well as “the knowledge of the customer” and “the knowledge of the service provider”. After completing the ratings, participants proceeded to the second web page and read the later stage of the conversation manipulation. After reading the later stage conversation scripts, participants were asked to give their ratings on service context complexity and control variables as they did previously. Finally, participants moved on to the last web page and provided their demographic information (e.g., age, gender, and the total household income).

To conduct a manipulation check on customer perceived context complexity at the initial stage, I performed a 2 (Customer Anticipated Context Complexity low vs. high) x 2 (Customer Perceived Context Complexity low vs. high) ANOVA on participants’ average score of the 4-item measure of service context complexity after they read the initial stage of the conversation. I further controlled for participants’ age, gender and income in the model. Results showed that the 5-speech turns of customer asking questions and CFA giving answers induced a significantly lower level of customer perceived context complexity than the 15 speech turns of CFA asking questions and the customer answering ($M_{\text{low}} = 3.90$, $M_{\text{high}} = 4.25$, $F(1, 160) = 4.53$, $p < 0.05$). There is no significant difference based on customer anticipated context complexity or any interaction effects. ANOVA tests on all single-item control variables showed that there was no significant difference between conditions in terms of the importance, relevance, or risk of the service, nor did the manipulation influence the customer’s perception of his/her own or the CFA’s knowledge about the service. The manipulation of customer

perceived context complexity at the initial stage of the service conversation was successful.

To conduct a manipulation check on customer perceived context complexity at the later stage, I performed 2 (Customer Anticipated Context Complexity low vs. high) x 2 (Customer Initial Perceived Context Complexity low vs. high) x 2 (Customer Late Perceived Context Complexity low vs. high) ANOVA on the participants' average score of the 4-item measure of service context complexity after they read the later stage of the service conversation. I further controlled for participants' age, gender, income, as well as their ratings of the context complexity at the initial stage. Results showed that at the later stage of a conversation, 6 speech turns of customer asking questions and CFA giving answers induced a significantly lower level of customer perceived context complexity than 13 speech turns of CFA asking questions and customer answering ($M_{low} = 4.06$, $M_{high} = 4.54$, $F(1, 160) = 11.88$, $p < 0.05$). There was no main effect of customer anticipated context complexity or any interaction effects. There is a significant main effect of the conversation manipulation at the initial stage on customer perceived context complexity at the later stage. Participants who were exposed to a lower level of complexity manipulation at the initial stage reported a higher level of perceived context complexity at the later stage ($M_{low} = 4.48$, $M_{high} = 4.12$, $F(1, 160) = 6.22$, $p < 0.05$). However, this result does not influence the success of later stage manipulation, which is key to the hypotheses testing. Further ANOVA tests on all single-item control variables showed that there was no significant difference between conditions in terms of the importance, relevance, or risk of the service, nor did the manipulation influence the

customer's perception of the CFA's or their own knowledge about the service. The manipulation of customer perceived context complexity at the later stage of the service conversation was successful.

Findings from the pre-test established the evidence that varying the length of speech turns and the interaction control patterns can successfully manipulate customer perceived context complexity. Such manipulation further enables me to replicate the tests of H3 and H4 using more a controlled experimental method to strengthen the internal validity of the research.

Study 3 Method

The objective of Study 3 is to replicate the test of H3 that the initial stage of actual CPSC behaviors serves as a context cue and influences customer expectations of CPSC at the later stage of a service conversation. One hundred forty eight participants from an online panel of Amazon Mechanical Turk completed the web-based questionnaire and received 50 cents in payment. The random sample of online participants gave a fair representation of average financial services consumers in the US. Of 148 participants, 46% are women, and 55% are men. The participants' ages ranged from 18 to 65 years old (21% are between age 18-20, 27% are between 21-25, 19% are between age 26-30, 10% are between age 31-35, 11% are between age 36-40, 12% are between age 41-65). The total household income in the sample was evenly distributed. 12% of the participants was under US\$15,000, 26% was US\$15,000 – US\$35,000, 22% was US\$36,000-

US\$50,000, 20% was US\$51,000 - US\$75,000, 8% was US\$ 76,000- US\$100,000, 7% is above US\$100,000, and 5% did not provide the information.

Participants randomly received the one of four conditions of a 2 (Customer Anticipated Context Complexity low vs. high) x 2 (Customer Perceived Context Complexity at the Initial Stage of the Conversation low vs. high) random between-subjects design. Participants first read a financial service scenario that manipulated their anticipated context complexity. Then they were presented the scripts of an actual customer-CFA telephone conversation, which manipulated their perceived context complexity at the initial stage of a service conversation. After participants finished reading the conversation scripts, they were asked about their expectations of CPSC behaviors if the service conversation continues. At the end of the questionnaire, participants provided their rating of the believability and realism of the conversation on a 7-point scale, as well their demographic information (See Appendix C).

The main dependent variables are participants' reported expectations of their CPSC behaviors at the later stage of the service conversation. I used the exact fifteen 7-point items used in Study 1 (please see Table 3.4) to measure information sharing, dominant control, submissive control, and parallel control dimensions of CPSC behaviors. I assessed the validity of the service conversation on participants' average score of two 7-point items: 1) "How believable is this conversation to you, excluding the personal information used in the example?", 2) "How much does this conversation represent a REAL conversation you might have with a CFA, excluding the personal

information used in the example?”. Participants’ demographic information, including age, gender, and total household income, was used as control variables in the analysis.

Study 3 Results

First, I found that the conversation scripts received a rating of 5.33 out of 7 on the average score of believability and realism items. This gave us strong confidence to proceed to the hypotheses testing. To test H3, participants’ expectations of CPSC behaviors were submitted to 2 (customer anticipated context complexity low vs. high) x 2 (customer perceived context complexity at the initial stage low vs. high) ANOVA. The results in Table 5.2 showed that there was a main effect of customers’ initial perception of context complexity in a conversation on customers’ expectations of the control patterns of CPSC behaviors at the later stage. Specifically, when customers perceived a lower level of context complexity at the initial stage, they expected to exert more dominant control ($M_{low} = 4.95$, $M_{high} = 4.55$, $F(1, 140) = 4.66$, $p < 0.05$), but less submissive control ($M_{low} = 4.12$, $M_{high} = 4.83$, $F(1, 140) = 20.84$, $p < 0.01$), than when they perceived a higher level of context complexity (see Figure 5.1 and Figure 5.2). As I mainly manipulated the interaction control in terms of dominant or submissive control patterns, I did not find any difference between conditions in terms of customers’ expectation of parallel control. On the information sharing dimension of CPSC, I did not find any significant effect of customer perceived context complexity at the initial stage on customer expectation of information sharing at the later stage. However, there was a significant main effect of customer anticipated context complexity on customer expectation of information sharing at the later stage of the conversation. Consistent with

the findings in Study 1, customers expect to share less information when the anticipated context complexity is low than when it is high ($M_{\text{low}} = 4.41$, $M_{\text{high}} = 4.83$, $F(1, 140) = 4.31$, $p < 0.05$). The overall results demonstrated that although customers form an expectation of context complexity before the actual service conversation, how a conversation unfolds at the initial stage can change customers' perception of the context complexity, and hence significantly influence the control patterns of how customer share information. In sum, H3 was fully supported on the interaction control dimension of CPSC behaviors, but not on information sharing dimension.

Study 4 Method

By manipulating the initial stage of a service conversation, Study 3 demonstrated the dynamics of CPSC behaviors over a temporal horizon. In Study 4, I extended the manipulations to the later stage of the conversation and examined how the temporal characteristics of the evolving context complexity (ECC) influence service outcomes, including customer satisfaction, customer perceived service quality (SERVQUAL), and customer solution compliance. I used a 2 (Anticipated Context Complexity low vs. high) x 2 (Perceived Context Complexity at the Initial Stage low vs. high) x 2 (Perceived Context Complexity at the Later Stage low vs. high) random between-subjects. This design gives rise to four types of evolving context complexity (ECC): Low (Initial)-to-Low(Later), Low-to- High, High-to-Low, High-to-High.

Two hundred ninety six participants from an online panel of Amazon Mechanical Turk completed the web-based questionnaires and got paid 60 cents per questionnaire.

The demographic characteristics of the online participants were similar to Study 3 and well represented the average financial services consumers in the US (60% Male, 40% Female, Age ranges from 18 to 70 years old, total household income range from under US\$ 15K to above US\$ 150K).

Participants randomly received one of eight conditions of a 2 (Customer Anticipated Context Complexity: low vs. high) x 2 (Customer Perceived Context Complexity at the Initial Stage: low vs. high) x 2 (Customer Perceived Context Complexity at the Later Stage: low vs. high) random between-subjects design. In each condition, participants first read a financial service scenario that manipulated their anticipated context complexity. Then they were presented the full scripts of a customer-CFA conversation including both the initial and the later stage manipulations. Given H4 proposed that the temporal structure of the service conversation influences customer evaluations of the service outcomes, I designed all conversation manipulations to yield the same solution outcome. The consistent outcome is the CFA suggesting that the customer set up an 11-month high yield savings account. At the end of the service conversation, the CFA asked the customers across all conditions the same question: "based on your situation, I would recommend that you set up an 11-months high yield savings account. Would you like me to set it up for you now?" Participants first gave their response to the CFA's question. Then they rated the conversation on three 7-point scale for customer satisfaction, six 7-point items for customer perceived service quality, and a single-item measure of customer solution compliance (see Table 5.3). Same as in Study 3, the validity of the service conversation was assessed, and participants'

demographic information, including age, gender, and total household income were used as control variables in the analysis (See Appendix D).

Study 4 Results

The complete conversation scripts manipulation combining the initial stage and the later stage received an average rating of 5.28 out of 7 on believability and realism. This gave us strong confidence to proceed to the hypotheses testing. I first conducted a 2 (Customer Anticipated Context Complexity: low vs. high) x 2 (Customer Perceived Context Complexity: low vs. high) MANOVA on the average score of customer satisfaction and customer perceived service quality, as well as the score of the single-item customer solution compliance. The results showed that there was a significant main effect of customer perceived context complexity at the later stage on customer satisfaction ($M_{low} = 5.60$, $M_{high} = 4.53$, $F(1, 282) = 50.5$, $p < 0.01$), customer perceived service quality ($M_{low} = 5.78$, $M_{high} = 4.86$, $F(1, 282) = 49.12$, $p < 0.01$), and customer solution compliance ($M_{low} = 5.48$, $M_{high} = 4.24$, $F(1, 282) = 54.40$, $p < 0.01$). Customer evaluations of the service outcomes are much higher when customers perceive a low level of context complexity at the later stage than when they perceive a high level of context complexity at the later stage. For customer solution compliance, I also found a main effect of anticipated context complexity. That is, customers were more likely to follow CFA's recommendation when their anticipated context complexity is low than when it is high ($M_{low} = 5.21$, $M_{high} = 4.92$, $F(1, 282) = 16.89$, $p < 0.01$). I also found a significant initial stage x later stage interaction effect on customer perceived service quality ($F(1, 282) = 4.52$, $p < 0.05$). That is, when customer perceived context

complexity is low at the initial stage, a high level of context complexity at the later stage leads to a even lower level of customer perceived service quality than when customer perceived context complexity is high at the initial stage ($M_{\text{low-low}} = 5.81$, $M_{\text{low-high}} = 4.62$; $M_{\text{high-low}} = 5.74$ $M_{\text{high-high}} = 5.10$). In addition, I found that the simple effect of context complexity at the later stage on service quality was greater when customers perceived a low level of the context complexity at the initial stage ($M_{\text{low}} = 5.81$, $M_{\text{high}} = 4.61$, $F(1, 282) = 41.87$, $p < 0.01$) than when they perceived a high level context complexity at the initial stage ($M_{\text{low}} = 5.74$, $M_{\text{high}} = 5.10$, $F(1, 282) = 14.39$, $p < 0.01$). There was no other main effect or interaction effect on customer satisfaction, customer perceived service quality, and customer solution compliance (see Table 5.4).

Key to H4, I am interested in testing whether over a temporal horizon, customer perceived evolving context complexity (ECC) from a higher level to a lower level leads to more positive service outcomes. I conducted further contrast comparisons among four manipulated ECC conditions: Low-to-Low, Low-to-High, High-to-Low, High-to-Low. Customer anticipated context complexity was used as a control variable in the analysis. As shown in Figure 5.3, Figure 5.4 and Figure 5.5, the evolving context complexity (ECC) High-to-Low generated significantly higher levels of service outcomes, as to customer satisfaction ($M_{\text{ECC high-low}} = 5.62$, $M_{\text{ECC low-high}} = 4.47$, $M_{\text{ECC high-high}} = 4.60$, $p < 0.01$), customer perceived service quality ($M_{\text{ECC high-low}} = 5.74$, $M_{\text{ECC low-high}} = 4.61$, $M_{\text{ECC high-high}} = 5.10$, $p < 0.01$), and customer solution compliance ($M_{\text{ECC high-low}} = 5.44$, $M_{\text{ECC low-high}} = 4.08$, $M_{\text{ECC high-high}} = 4.39$, $p < 0.01$). The results showed that an ECC of Low-to Low, compared with an ECC of Low-to-High or an ECC of High-

to-High also led to a significant higher level of customer satisfaction ($M_{ECC\ low-low} = 5.58$, $M_{ECC\ low-high} = 4.47$, $M_{ECC\ high-high} = 4.60$, $p < 0.01$), customer perceived service quality ($M_{ECC\ low-low} = 5.82$, $M_{ECC\ low-high} = 4.61$, $M_{ECC\ high-high} = 5.10$, $p < 0.01$), and solution compliance ($M_{ECC\ low-low} = 5.53$, $M_{ECC\ low-high} = 4.61$, $M_{ECC\ high-high} = 5.10$, $p < 0.01$). There is no significant different in service outcomes between an ECC of Low-to Low and an ECC of High-to-Low. It is worth noticing that in a scenario that customer anticipated context complexity (ACC) is low (e.g., planning to open a savings account), better service outcomes coming from an ECC of Low-to-Low is not surprising. However, in a scenario when ACC is high (e.g., having no idea about the investment plan), an ECC of Low-to-Low led to better service outcomes providing strong support to the argument that better customer satisfaction, customer perceived service quality, and solution compliance rely on how a service conversation can quickly reduce customer perceived context complexity over a temporal horizon. The earlier such reduction happens, the better. Overall H4 was fully supported.

Apart from participants' self-reported single-item measure of customer solution compliance. I coded participant's final response to CFA's inquiry as to whether they would follow CFA's recommendation to set up a high-yield saving account immediately. I coded all the response into a binary behavioral compliance variable. All of the "Yes" answers were coded as Compliance, otherwise as Non-Compliance. I created three dummy variables to represent three different levels of ECC. The ECC of High-to Low was used as the reference group. A logistic regression analysis based on equation (4) below reached similar findings as the MANOVA test based on customers' self-reported

compliance measure. As shown in Table 5.5, compared with an ECC of High-to-Low-, an EEC of Low-to-High or an ECC of High-to-High significantly reduce customer solution compliance (β low-to-high = - .72, $p < 0.01$, β high-to-high = - 1.03, $p < 0.01$). There is no significant difference in solution compliance between conditions of ECC of Low-to-Low and ECC of High-to Low. In addition, customers were less likely to comply to the solution when their anticipated context complexity is high versus low (β ACC = - .52, $p < 0.05$). Higher income customers are less likely to comply to the solution (β Income = - .10, $p = 0.04$).

$$(4) \log \left\{ \frac{Compliance}{1-Compliance} \right\} = \beta_0 + \beta_1 ECC_{low-to-low} + \beta_2 ECC_{high-to-low} + \beta_3 ECC_{high-to-high} + \beta_4 ACC_i + \beta_5 Age_i + \beta_6 Gender_i + \beta_7 Income_i$$

Overall Discussion of Study 3 and Study 4

In Study 3 and Study 4, I used experimental methods and conversation scenarios to replicate Study 2's findings. The results supported H3 and H4 that the temporal characteristics of a service conversation matter for both CPSC behaviors and service outcomes. Study 3 demonstrated that despite a customer anticipated context complexity, the actual conversational interaction at the initial stage plays a stronger role in influencing CPSC behavior at the later stage, particularly in terms of the interaction control patterns. A successful CPSC behavior transition from more submissive control to more dominant control depends on whether the initial stage of the conversation and CPSC behaviors signal to the customer a low level of context complexity.

Study 4 linked the temporal dynamics of CPSC with customer satisfaction, customer perceived service quality, and customer solution compliance. The findings support the idea that what really matters to customer satisfaction, service quality and customer solution compliance is not how long the conversation goes, nor who is taking the control of the conversation. Rather, better service outcomes reflect how a service conversation can help reduce customer perceived context complexity from a higher level to a low level of context complexity and how early such reduction happens. In Study 4, to test H4 more rigorously, I artificially manipulated all possible scenarios of evolving context complexity, including an ECC of low- to- high. However, based on H3, an early stage characterized by a low level of context complexity is less likely to lead to a later stage of a high complexity in a natural conversation.

Table 5.1 Study 3 and Study 4:

Service Conversation Manipulations

<i>Please imagine that you are the student in the following financial service scenario</i>									
Background	You want to invest the money you have saved from part-time jobs during the first two years in college.								
Anticipated Context Complexity (ACC)	Low Level You are planning to set up a separate saving account with a higher interest rate than a normal checking account.								
	High Level You have no idea what kinds of investment products are available, and what are the pros and cons in terms of risk and return.								
a) The Greeting Stage	Low Level You are going to call a Certified Financial Advisor (CFA). Here is the transcript of the phone call conversation that you had with the CFA								
	High Level								
	<table border="0"> <tr> <td>CFA:</td> <td>"Thank you for calling. This is Chris, How may I help you?"</td> <td>CFA:</td> <td>"Thank you for calling. This is Chris, How may I help you?"</td> </tr> <tr> <td>Customer:</td> <td>"Hey, this is Pat, I am from Arizona. I've saved \$5,000 from some part-time jobs recently. I would like to invest my money, and want to set up a savings account with a higher interest rate."</td> <td>Customer:</td> <td>"Hey, this is Pat, I am from Arizona. I've saved \$5,000 from some part-time jobs recently. I would like to invest my money, and want to know what the options are."</td> </tr> </table>	CFA:	"Thank you for calling. This is Chris, How may I help you?"	CFA:	"Thank you for calling. This is Chris, How may I help you?"	Customer:	"Hey, this is Pat, I am from Arizona. I've saved \$5,000 from some part-time jobs recently. I would like to invest my money, and want to set up a savings account with a higher interest rate."	Customer:	"Hey, this is Pat, I am from Arizona. I've saved \$5,000 from some part-time jobs recently. I would like to invest my money, and want to know what the options are."
CFA:	"Thank you for calling. This is Chris, How may I help you?"	CFA:	"Thank you for calling. This is Chris, How may I help you?"						
Customer:	"Hey, this is Pat, I am from Arizona. I've saved \$5,000 from some part-time jobs recently. I would like to invest my money, and want to set up a savings account with a higher interest rate."	Customer:	"Hey, this is Pat, I am from Arizona. I've saved \$5,000 from some part-time jobs recently. I would like to invest my money, and want to know what the options are."						

b) The Initial Stage	Low Level	High Level
	<p>CFA: "Pat, I am glad to help. We now have an 11- month high yield savings account. It will give you an interest rate of 0.9% for a year."</p> <p>Customer: "Okay... So opening this account, is it free?"</p> <p>CFA: "Yes, it is completely free!"</p> <p>Customer: "If I need the money urgently, can I pull out the money earlier?"</p> <p>CFA: "Yes, for this type of high yield savings account, you can add and withdraw money as you wish. It is completely liquid."</p>	<p>CFA: "Pat, I am glad to help. I would like to first ask you a few questions about you intentions, so I can give you better advice. What do you do for a living?"</p> <p>Customer: "I am a marketing research analyst."</p> <p>CFA: "What is your annual salary?"</p> <p>Customer: "40K a year"</p> <p>CFA: "You've been working part-time. How many hours do you work per week?"</p> <p>Customer: "5 hours a week."</p> <p>CFA: "How much do you earn per hour for your part-time jobs?"</p> <p>Customer: "10 dollars"</p> <p>CFA: "The money you are considering investing, what would you be spending it for in the future, such as for education, buying a car or something else?"</p> <p>Customer: "Buying a new car, I guess"</p> <p>CFA: "In how many years would you put this money to work, 1 year, 5 years, 10 years, or more?"</p> <p>CFA: "In terms of tolerance for risk, on scale of 0 to 10, 0 will be no risk such as a savings account, 10 will be stock market where you could see price going up and down. What is your risk level where you could sleep well at night?"</p> <p>Customer: "Maybe 4 or 5, in the middle"</p> <p>CFA: "Okay, based on your situation, I would look for something more conservative.</p> <p>There are several options. There is a bond fund account, with no stocks, only bonds. Its annual return varies from 0.8% to 1.1%. Or a high yield savings account could be a good option. We now have an 11- month high yield savings account It will give you an interest rate of 0.9% for a year."</p>

Table 5.1 Study 3 and Study 4:

Service Conversation Manipulations (Continued)

c) The Later Stage	Low Level	High Level
	<p>Customer: "Okay, let me see... So do I need to maintain a minimum balance for this account?"</p> <p>CFA: "No, this 11- month high yield savings account has no minimum balance requirement and no inactivity fee. "</p> <p>Customer: "Is the money in this account insured?"</p> <p>CFA: "Yes. It is insured by the Federal Deposit Insurance Corporation to at least \$250,000, so that you can save with confidence."</p> <p>Customer: "Sounds great! If I want to gain a little higher interest rate, are there any other options?"</p> <p>CFA: "Well, if you set up any other types of investment accounts, you will have to pay a fixed fee per year. It will be at least \$60 per year, if your total account balance is under \$10,000."</p>	<p>Customer: "Okay, I understand ..."</p> <p>CFA: "Well, do you have student loans?"</p> <p>Customer: "Yes, I do."</p> <p>CFA : "Do you have an IRA retirement account yet?"</p> <p>Customer: "No."</p> <p>CFA: "Do you have any other big expenses coming in the next few years?"</p> <p>Customer: "I will probably have to pay my student loans."</p> <p>CFA: "Do you rent or do you pay a mortgage?"</p> <p>Customer: "I am paying rent."</p> <p>CFA: "How much is your rent per month?"</p> <p>Customer: "\$450 per month."</p> <p>CFA: "Okay, if you set up any other types of investment accounts, you will have to pay a fixed fee per year. It will be at least \$60 per year, if the the total balance of the account is under \$10,000. Having said that, would you be adding money to get to a \$10, 0000 balance very soon?"</p>
d) CFA's Final Inquiry	<p>CFA: "Based on your situation, I would recommend that you set up an 11-months high yield savings account. Would you like me to set it up for you now?"</p>	

Table 5.2 Study 3 MANOVA Table

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Information Sharing	10.792 ^a	6	1.799	1.423	.210
	Dominant Control	14.582 ^b	6	2.430	2.057	.062
	Submissive Control	26.469 ^c	6	4.412	5.566	.000
	Parallel Control	5.113 ^d	6	.852	.618	.716
Intercept	Information Sharing	158.067	1	158.067	125.073	.000
	Dominant Control	151.903	1	151.903	128.590	.000
	Submissive Control	231.556	1	231.556	292.179	.000
	Parallel Control	218.069	1	218.069	158.072	.000
Gender	Information Sharing	1.708	1	1.708	1.351	.247
	Dominant Control	.011	1	.011	.009	.925
	Submissive Control	.698	1	.698	.881	.350
	Parallel Control	.385	1	.385	.279	.598
Age	Information Sharing	1.840	1	1.840	1.456	.230
	Dominant Control	1.881	1	1.881	1.592	.209
	Submissive Control	7.625	1	7.625	9.622	.002
	Parallel Control	.815	1	.815	.591	.443
Income	Information Sharing	3.016	1	3.016	2.387	.125
	Dominant Control	5.459	1	5.459	4.621	.033
	Submissive Control	1.681	1	1.681	2.122	.148
	Parallel Control	3.427	1	3.427	2.484	.117

Table 5.2 Study 3 MANOVA Table (continued)

Tests of Between-Subjects Effects						
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Anticipated Context Complexity	Information Sharing	5.452	1	5.452	4.314	.040
	Dominant Control	1.141	1	1.141	.966	.327
	Submissive Control	1.924	1	1.924	2.428	.122
	Parallel Control	.322	1	.322	.234	.630
Initial Context Complexity	Information Sharing	.369	1	.369	.292	.590
	Dominant Control	5.507	1	5.507	4.662	.033
	Submissive Control	16.516	1	16.516	20.839	.000
	Parallel Control	.040	1	.040	.029	.866
Anticipated * Initial	Information Sharing	.192	1	.192	.152	.697
	Dominant Control	1.070	1	1.070	.906	.343
	Submissive Control	.290	1	.290	.366	.546
	Parallel Control	.179	1	.179	.130	.719
Error	Information Sharing	169.350	134	1.264		
	Dominant Control	158.294	134	1.181		
	Submissive Control	106.197	134	.793		
	Parallel Control	184.860	134	1.380		
Total	Information Sharing	3178.440	141			
	Dominant Control	3378.778	141			
	Submissive Control	2972.188	141			
	Parallel Control	3437.333	141			
Corrected Total	Information Sharing	180.142	140			
	Dominant Control	172.876	140			
	Submissive Control	132.666	140			
	Parallel Control	189.973	140			

Figure 5.1 Study 3

Customer Expectation of CPSC at the Later Stage of the Conversation as
A Function of Customer Anticipated Context Complexity

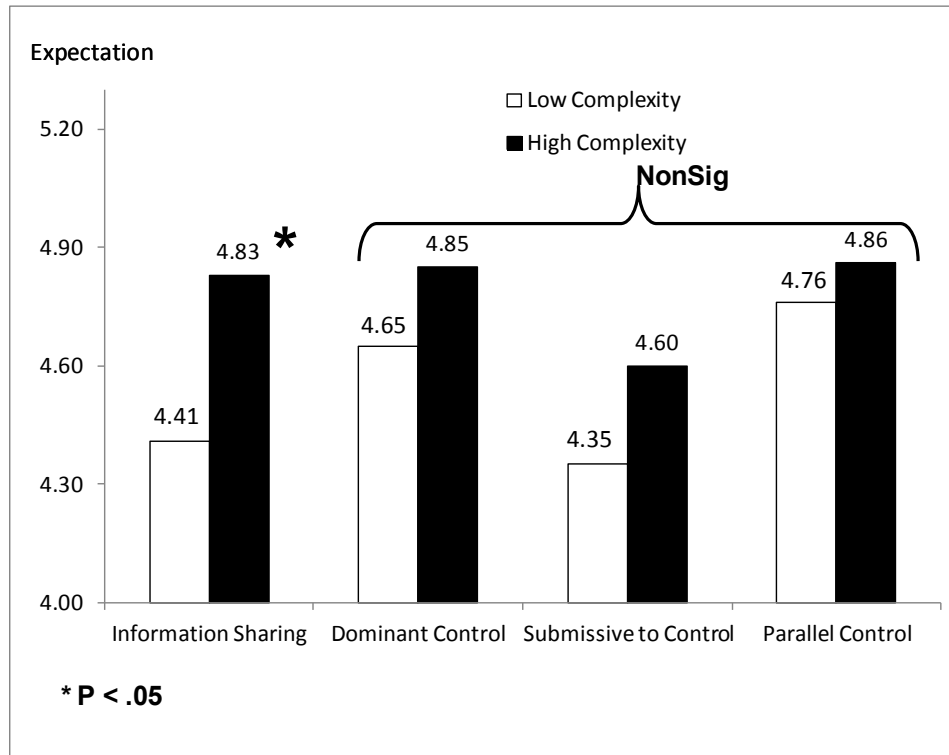


Figure 5.2 Study 3

Customer Expectation of CPSC at the Later Stage of the Conversation as a Function of Customer Perceived Context Complexity at the Initial Stage

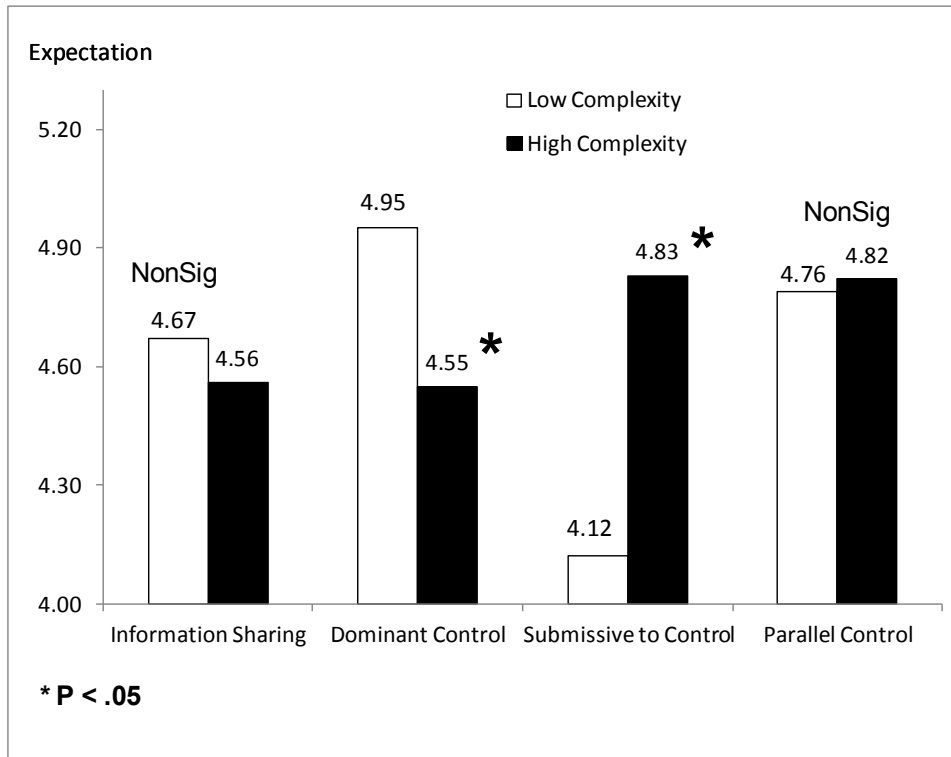


Table 5.3 Study 4 Measurements of Service Outcomes

<p>Customer Satisfaction (Adapted from Oliver and Swan 1989, Chan, Yim and Lam 2010, Price and Arnould 1999) Overall, I am satisfied with the service provided The service provider did a good job solving my problem. I am pleased with the service solution.</p>
<p>Service Quality (Adapted from Zeithaml, Parasuraman & Berry 1988, Bolton and Drew 1991) Overall Service Quality: How would you evaluate the overall service quality of this service? SERVQUAL: How would you evaluate this financial service in the following areas:</p> <p style="padding-left: 40px;">Reliability: The CFA performed the service dependably and accurately.</p> <p style="padding-left: 40px;">Assurance: The CFA was trustworthy in providing this service.</p> <p style="padding-left: 40px;">Tangibles: The explanation of CFA was clear and easy to understand.</p> <p style="padding-left: 40px;">Empathy: The CFA had the customer’s best interest at heart when providing this service.</p> <p style="padding-left: 40px;">Responsiveness: The CFA responded to the customer’s requests promptly.</p>
<p>Customer Solution Compliance (Self-developed Items) Behavioral Measure: If you were having the exact same conversation with the financial advisor, at this point, how would you respond to the financial advisor’s last question? Attitudinal Measures: How likely would you follow the financial advisor’s advice to manage your money?</p>

Table 5.4 Study 4 MANOVA Table

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Satisfaction	112.824	10	11.282	7.202	.000
	SERVQAUL	82.704	10	8.270	6.842	.000
	Compliance	184.463	10	18.446	9.275	.000
Intercept	Satisfaction	851.553	1	851.553	543.546	.000
	SERVQAUL	819.821	1	819.821	678.183	.000
	Compliance	827.640	1	827.640	416.147	.000
Gender	Satisfaction	4.152	1	4.152	2.650	.105
	SERVQAUL	1.823	1	1.823	1.508	.221
	Compliance	4.706	1	4.706	2.366	.125
Age	Satisfaction	18.818	1	18.818	12.012	.001
	SERVQAUL	7.200	1	7.200	5.956	.015
	Compliance	21.961	1	21.961	11.042	.001
Income	Satisfaction	7.232	1	7.232	4.616	.033
	SERVQAUL	3.241	1	3.241	2.681	.103
	Compliance	10.712	1	10.712	5.386	.021

Table 5.4 Study 4 MANOVA Table (continued)

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Anticipated	Satisfaction	5.707	1	5.707	3.643	.057
Context	SERVQAUL	3.478	1	3.478	2.877	.091
Complexity	Compliance	33.595	1	33.595	16.892	.000
Initial	Satisfaction	.432	1	.432	.276	.600
Context	SERVQAUL	2.873	1	2.873	2.377	.124
Complexity	Compliance	.716	1	.716	.360	.549
Later	Satisfaction	79.144	1	79.144	50.517	.000
Context	SERVQAUL	59.373	1	59.373	49.115	.000
Complexity	Compliance	108.182	1	108.182	54.395	.000
Anticipated * Initial	Satisfaction	.980	1	.980	.626	.430
	SERVQAUL	.913	1	.913	.755	.386
	Compliance	1.598	1	1.598	.804	.371
Anticipated * Later	Satisfaction	1.416	1	1.416	.904	.343
	SERVQAUL	.495	1	.495	.410	.523
	Compliance	7.044	1	7.044	3.542	.061
Initial * Later	Satisfaction	.118	1	.118	.075	.784
	SERVQAUL	5.460	1	5.460	4.516	.034
	Compliance	2.769	1	2.769	1.393	.239
Anticipated * Initial * Later	Satisfaction	.429	1	.429	.274	.601
	SERVQAUL	.161	1	.161	.133	.715
	Compliance	.283	1	.283	.142	.706
Error	Satisfaction	426.132	272	1.567		
	SERVQAUL	328.807	272	1.209		
	Compliance	540.958	272	1.989		
Total	Satisfaction	7835.667	283			
	SERVQAUL	8438.194	283			
	Compliance	7445.000	283			
Corrected Total	Satisfaction	538.956	282			
	SERVQAUL	411.511	282			
	Compliance	725.420	282			

Figure 5.3 Study 4

Customer Satisfaction as a Function of Evolving Context Complexity (ECC)

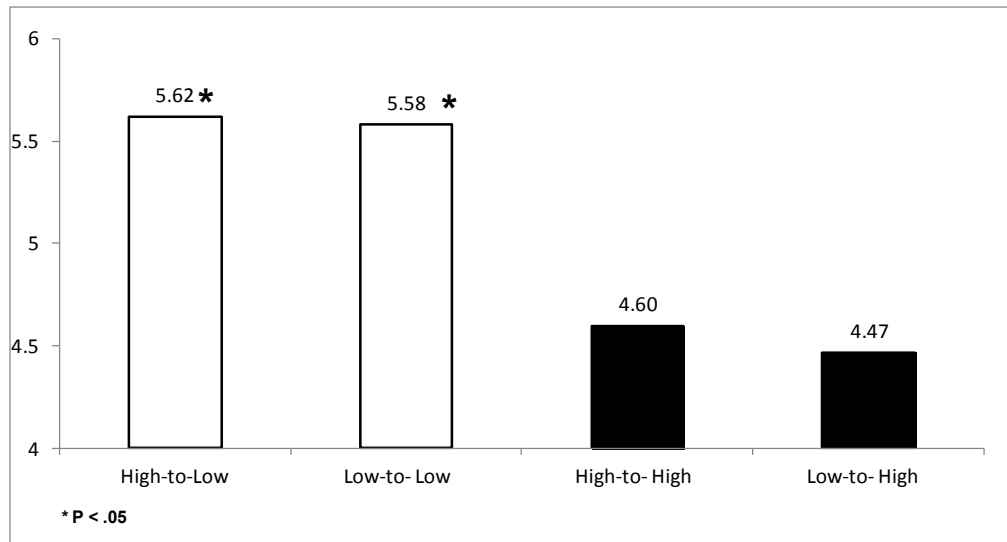


Figure 5.4 Study 4

SERVQUAL as a Function of Evolving Context Complexity (ECC)

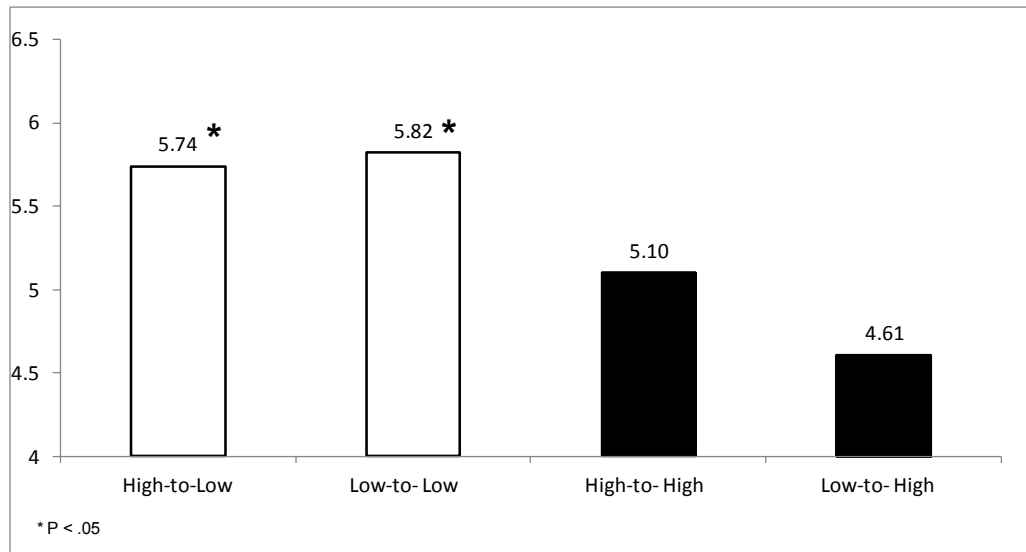


Figure 5.5 Study 4

Customer Solution Compliance as a Function of Evolving Context Complexity (ECC)

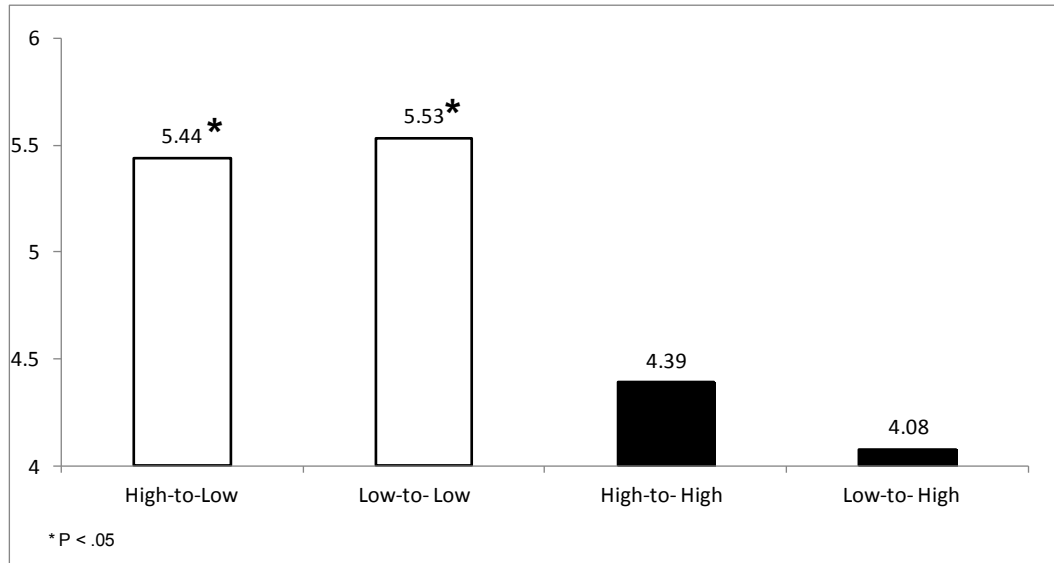


Table 5.5 Study 4

Customer Solution Compliance as a Function of Evolving Context Complexity (ECC)

Behavioral Compliance				
	Parameter Estimate	Standard Error	Chi-Square	Pr > ChiSq
ECC low-to-low	0.224	0.218	1.061	0.303
ECC low-to-high	-0.717	0.224	10.237	<.01
ECC high-to-high	-1.028	0.233	19.519	<.01
ACC	-0.523	0.161	10.548	0.001
Age	-0.010	0.008	1.450	0.229
Gender	0.017	0.175	0.010	0.923
Income	-0.102	0.049	4.364	0.037
Intercept	1.055	0.337	9.822	0.002
N	296			

Chapter 6

CONCLUSION

General Discussion

This research focuses on conversation-based professional services. It adopts a context perspective to explain the dynamics of customer participation behaviors and the related impact on service evaluations. I develop a conceptual model to integrate the stable and dynamic characteristics of customer participation behaviors in service conversations.

First, there is the existence of stable relationships between context and customer participation behavior. At any given moment of the service conversation, the more complex the customer perceives the service context to be, the more likely the customer will share information through submissive or parallel control; whereas, it is less likely that the customer will share information through dominant control. I empirically validate the stability and the consistency of such patterns at the points of customer expectation of participation behaviors, actual participation behaviors at the initial stage of the conversation, and the actual behaviors at the later stage of the conversation.

Although customer participation behaviors are stably contextualized, the service conversation itself is dynamic. When the customer perceives context changes as reflected in the conversation, anticipated customer participation behavior changes accordingly. Thus, customer participation in a service conversation is dynamic, evolving, and adaptive over a temporal horizon. The initial stage of actual conversational participation becomes the new and updated context for the later customer participation behaviors. At the initial

stage of conversation, the more the customer participates in terms of information-sharing through submissive interaction control, the more likely such participation process signals to the customer that the context is more complex. Therefore, at the later stage of the service conversation, the customer is less likely to transition to information sharing through dominant interaction control, but is more likely to continue to share information through submissive control.

Most importantly, the transition of the customer participation behavior demonstrates the extent of the evolving context complexity during the service conversation. Furthermore, it directly influences customer positive evaluations of the service, including customer satisfaction, perception of service quality, and solution compliance. I find that the more customer participation behaviors transition from information-sharing through submissive control to information-sharing through dominant control (e.g., from high to low complexity), the more likely the service conversation ends with customer satisfaction, better perception of service quality, and solution compliance.

Theoretical Implications

Accounting for Psychological Features of Service Context in Explaining Customer Participation Behaviors. Traditional approaches usually equate service context to service industry. However, efforts to generalize the customer participation phenomenon across different industries result in a “Customer Participation Paradox”(e.g., Lovelock and Young 1979; Mills and Morris 1986; Hsieh, Yen, and Chin 2004; Auh et al 2007; Chan, Yim and Lam 2010). That is, the search for consistency across different

service industries reveals more variation in customer participation behaviors, as well as mixed impacts on service evaluations (e.g., customer satisfaction). Using service industries as service contexts may be valid, yet the nominal description of the service industry does not tell which specific industry characteristics are responsible for the variation of customer participation behaviors or the related service outcomes (Mischel and Shoda 2010). This research defines service context in terms of its psychological features, and explains the variations of customer participation behaviors through dynamic context effects.

I draw from complexity theory and define service context as a customer's perception of service context complexity at any given moment of the service conversation. I articulate the defining properties of service context complexity as customer perceived uncertainty and multiplicity of service process and outcomes, at any moment of the conversation. By doing so, I achieve better generalization on customer participation from one context to another, as long as it contains similar psychological context complexity features. Customer participation behaviors and their impact on service evaluations can be the same across different service industries and can be different within the same industry, depending on context complexity.

Stable Context-Behavior Relationships and Temporal Dynamics of Service Conversation Context. Prior research defines customer participation as either a customer's decision to undertake certain discrete and independent tasks (e.g., customers build furniture themselves or customers book a hotel themselves) (e.g., Bendapudi and Leone (2003), or as a customer's one-time point and summary behavioral report as to

how much information he or she shares with the service provider (e.g., Chan, Yim and Lam 2010). Such conceptualizations help researchers to make stable and general predictions about customer participation behavior. However, they may also introduce arbitrary variations, when customer participation behavior is measured based on summary self-reporting. Furthermore, such an approach denies researchers the opportunity to systematically examine the dynamics of the interaction process.

This research draws on theories from the context principle and relational communication literature (Mischel and Shoda 1995, 2010; Escudero and Rogers 2004). I develop an integrated model to explain the co-existence of stable and dynamic characteristics of customer participation behaviors. I recognize two fundamental features of customer participation behaviors in conversation-based professional services: 1) multiple dimensions of customer participation in service conversations, and 2) the adaptability of customer participation in service conversations over a temporal horizon. I conceptualize both information sharing (cognitive) and interactional control (relational) aspects of customer participation behaviors. I demonstrate that both dimensions are critical and non-redundant. Most importantly, at any given moment, customer perceived context complexity simultaneously gives rise to a unique behavioral combination of information-sharing and interaction control. When the customer perceives the service context to be more complex, he or she is more likely to anticipate sharing more information through submissive or parallel control. In contrast, when the customer perceives service context to be less complex, he or she is more likely to anticipate sharing information through dominant control.

The immediate relationships between context and customer participation behavior are stable, whereas the service conversation context is dynamic. The service conversation allows the customer and the service provider to keep a constant check on a shared reality. When the conversation context changes, so does the behavior. Hence, customer participation is dynamic, adaptive and evolving over a temporal horizon. I demonstrate that the actual customer participation behavior patterns at the initial stage of communication serve as an updated context cue. When actual initial behaviors are consistent with those behavior patterns plausible in a more complex context, it signals the more complex context cues to the customer. Therefore, at the later stage of the service conversation, the customer is more likely to exhibit participation behaviors consistent with a more complex context.

Temporal Dynamics of CPSC Matter to Service Outcomes. Service process and outcome are fundamentally interdependent (Solomon et al.1985; Ma and Dubé 2011). Ma and Dubé (2011) examine what kind of interdependency exists between the process and the outcomes in the frontline service encounter. This research further demonstrates that for how interdependency happens matters to service outcomes in professional services. Controlling for the information of a service solution, what really influences service outcomes in terms of customer satisfaction, customer perceived service quality, and customer solution compliance is not how long the service conversation goes, who asks more questions, or who is taking control of the conversation. Rather, customer satisfaction, customer perceived service quality and solution compliance rely on how quickly the service conversation evolves to reduce customer perceived context

complexity. The earlier the service provider helps the customer reduce his or her perception of context complexity, the more likely the customer transitions CPSC behaviors from submissive information sharing to dominant information sharing at the later stage of the service conversation, consequently the better the customer satisfaction, perceived service quality, and solution compliance.

Methodological Contributions

The empirical validations of this research are novel in several aspects. First, this research tests the conceptual model through both lab experiments and an observation study of online conversations between 173 patients and 52 doctors. Both methods enable us to incorporate the perceptual measures, along with actual behavioral measures to validate our hypotheses. Second, to empirically capture the interactive dynamics of the service conversation, I adopt the phase-based sequence analysis approach to study how often and in what temporal order certain dyadic behavior patterns occur (Bakeman & Qurea 2011, Zimmermann, Piccolo and Finest 2007). I use a negative bi-nominal model to estimate the temporal dynamics of the service conversation process (i.e., characteristics of behavior patterns at T_1 affect the characteristics of behavioral patterns at T_2) and a generalized linear mixed model to estimate the process effect on final service outcomes. Finally, from a dyadic interaction perspective, both the negative binominal model and the generalized linear mixed model enable us to account for the random effects of the service providers.

Managerial Implications

The research findings on contextualized customer participation behavior patterns, the temporal dynamics of customer participation, as well as the impact of process dynamics on service outcomes provide managers important and actionable guidelines to manage communication-mediated professional services.

Psychological Features of Context are Manageable. Focusing on psychological features of contexts and delineating their impact on information sharing and interactional control aspects of customer participation enables managers to strategically design a desirable level of customer participation behaviors and at the same time improve the customer experience.

Customer perceived uncertainty and multiplicity at a given moment are manageable. To promote (or constrain) customer participation during the service conversation, managers can utilize various communication or servicescape context cues to amplify (or minimize) the customer-perceived uncertainty or multiplicity in the service process and outcomes. For example, up front, the service provider can verbally emphasize (or downplay) the uncertainty of the services, or lay out multiple options at the beginning of the communication. According to the stable context-behavior relationship, the customer will be more (or less) likely to engage in participation. Service firms can also subtly manipulate servicescape or environment cues to leverage the desired level of customer participation. For example, firms can provide a longer or shorter checklist to influence customer perception of a more or less complex service. Brand managers can

even name their services or brands with metaphorically more or less complex names to influence customer perception. A financial service plan named “MiFID” will be more likely to be registered as a more complex service than a financial plan named “The Simple Dollar”.

Having strategically designed the desired level of customer participation, firms can further improve the customer experience following the stable context-customer participation behavior relationship. The research findings show that in a more complex service context (i.e., a complex health care diagnosis), customers are more likely to participate and share information through submissive interaction control. This reminds the service provider to take more initiative during the service conversation, helping customers offset the uncertainty and improve their experience. On the other hand, when a service context is designed to be less complex, or is evolving to be less complex, service providers should learn to adapt to customers’ dominant interaction control during the service conversation.

How a Service Conversation Unfolds Influences Customer Evaluations of the Service? “Americans want more time with their doctors, but what hasn't sunk in is the importance of using the time you have with your doctor wisely," says Carolyn Clancy, the director of the Federal Agency for Healthcare Research and Quality (Landro 2011). To encourage customer participation, many healthcare institutions have been adopting the convention of providing patients with a pre-determined list of questions whenever they see a doctor, nurse, or pharmacist (i.e., 1 What is my main problem? 2 What do I need to do? 3 Why is it important for me to do this?). This research demonstrates the temporal

dynamics of the service conversation process and its impact on service outcomes. These findings provide health institutions, and even the broader areas of professional services organizations, concrete suggestions for how to temporally coordinate service conversations between dyadic parties as to: when to ask questions, who should take the initiative to make it happen, and how this distinction matter?

This research suggests that although people have internalized or stable contextualized behavioral patterns, the service conversation context is dynamic. Therefore, to encourage customer participation in conversation-based professional services, firms need to understand how to coordinate the temporal process of the service conversation by doing more than just providing pre-determined questions and hoping customers follow. This research suggests that the initial stage of actual customer participation patterns sets the tone for the later stage. To encourage customer participation, the service provider should not only ask questions, but also provide information as early as possible. This practice helps reduce customer-perceived context complexity and encourages customer participation to transition from submissive information to dominant information sharing earlier in the conversation.

Most importantly, customer satisfaction or service solution compliance is not about who asks more questions, or who takes the most dominant control of the conversation. Rather, customer satisfaction and solution compliance are highly influenced by how the service conversation process temporally helps reduce customer perceived complexity. The greater the extent of complexity reduction, the more significantly the customer will transform from submissive information-sharing to

dominant information-sharing. Consequently, the customer is more likely to experience satisfaction and to comply with service solutions. In sum, “sharing your professional knowledge earlier with the customers” is the key predetermined rule for most professional service providers.

Limitations

Customer evaluations of service outcomes are important constructs in this research. I use mixed methods of scenario-based experiments and an observations study to measure customer evaluations through customer self-report(Study 1, Study 3 and Study 4) and customer oral confirmation (Study 2) as the proxy of customer satisfaction and solution compliance measure. The combined results provide strong support for the construct validity and internal validity of the overall research, whereas, each study has its limitations.

All the empirical tests are conducted in the context of non-audio conversations, including online chatting, and reading telephone conversation scripts. The non-audio conversation context helps us well control for the influences of speed rate, speech tone, accent, or even non-verbal cues on customer perceived context complexity. Consistent results over multiple studies demonstrate the strong effects of information sharing and interaction control dimensions of communication on customer perceived context complexity. However, the research results cannot rule out the potential effects of other dimensions of communication (i.e., speed rate, speech tone, accent, or non-verbal cues), which are not central to our hypotheses in this research.

Future Research

There are several avenues for future research. First, I conducted the research focusing on dyadic communications. Service conversations can extend to multiple parties. This notion is especially true for B2B professional services, where a project team from each company is involved in co-creating solutions. Future research can further investigate the dynamics of interactions playing out among multiple parties. Within-team interaction and across-team interaction may have different influences on service outcomes. Second, in the empirical observation study, I rely on online service conversation transcripts as the basis for analysis of the interaction dynamics. Future research can use audio or video tape recordings to obtain more qualitative descriptions of the face-to-face interaction or computer mediated video interaction process. Finally, this research uses explicit customer statements at the end of the service conversation as the proximate measures of customer satisfaction and solution compliance. Future research can add in longitudinal actual behavioral measures of customer compliance and direct measures of customer satisfaction. These over-time behavioral measures can help to investigate the link between micro-level service conversation dynamics and global level measures of service quality, SERVQUAL (Parasuraman, Zeithaml, and Berry 1988)

REFERENCES

- Agarwal, Sanjeev. and Sridhar N. Ramaswami (1993), "Affective Organizational Commitment of Salespeople: An Expanded Model," *Journal of Personal Selling & Sales Management*, 13 (2), 49–70.
- Anderson, Philip (1999), "Seven Levers for Guiding the Evolving Enterprise," in *The Biology of Business: Decoding the Natural Laws of Enterprise*, John Clippinger, ed. Jossey-Bass, San Francisco.
- Auh, Seigyoung, Simon J. Bell, Colin S. McLeod, and Eric Shih (2007), "Co-Production and Customer Loyalty in Financial Services," *Journal of Retailing*, 83 (3), 359–70.
- Bakeman, Roger and Vicenç Quera. (2011), *Sequential Analysis and Observational Methods for the Behavioral Sciences*. Cambridge: Cambridge University Press.
- Bateson, Gregory. (1958), *Naven*. Stanford, Cal.: Stanford University Press.
- Bateson, John E.G. (1985), "Self-Service Consumer: An Exploratory Study," *Journal of Retailing*, 61 (3), 49–76.
- Barki, Henri and Jon Hartwick (1994), "Measuring User Participation, User Involvement, and User Attitude," *MIS Quarterly*, 18 (1), 59–82.
- Bendapudi, Neeli and Leonard L. Berry (1997), "Customers' Motivations for Maintaining Relationships with Service Providers," *Journal of Retailing*, 73 (1), 15–37.
- and Robert P. Leone (2003), "Psychological Implications of Customer Participation in Coproduction," *Journal of Marketing*, 67 (January), 14–28.
- Berger, Jonah and Gaven Fitzsimons (2008), "Dogs on the Street, Pumas on Your Feet: How Cues in the Environment Influence Product Evaluation and Choice," *Journal of Marketing Research*, 45 (1), 1-14.
- Bettencourt, Lance A. (1997), "Customer Voluntary Performance: Customers as Partners in Service Delivery," *Journal of Retailing*, 73 (3), 383–406.
- Bitner, Mary Jo (1990), "Evaluating Service Encounters: The Effects of Physical Surrounding and Employee Responses," *Journal of Marketing*, 54 (2), 69-81.
- Bolton, Ruth N. and Katherine N. Lemon (1999), "A Dynamic Model of Customers' Usage of Services: Usage as an Antecedent and Consequence of Satisfaction," *Journal of Marketing Research*, 36 (May): 171–186.
- and Shruti Saxena-Iyer (2009), "Interactive Services: A Framework, Synthesis and Research Direction," *Journal of Interactive Marketing*, 23 (1), 91–104.

- Butler, Emily A. (2011), "Temporal Interpersonal Emotion Systems: The "TIES" That Form Relationships," *Personality and Social Psychology Review*, 15, 367-393.
- Campbell, Donald J. (1988), "Task Complexity and Strategy Development: A Review and Conceptual Analysis," *Academy of Management Review*, 13: 40-52.
- Chaiken, Shelly. (1987), "The Heuristic Model of Persuasion," in *Social influence: The Ontariosymposium* M. P. Zanna, J. M. Olson, & C. P. Herman eds. Hillsdale, NJ: Lawrence Erlbaum, Vol. 5, pp. 3-39.
- , and Yaacov Trope. Eds (1999), *Dual-Process Theories in Social Psychology*. New York: Guilford.
- Chan, Kimmy Wa, Chi Kin Yim, and Simon S.K. Lam (2010), "Is Customer Participation in Value Creation a Double-Edged Sword? Evidence from Professional Financial Services Across Cultures," *Journal of Marketing*, May, 48-64.
- Clark, Andy (2008), "Pressing the Flesh: A Tension in the Study of the Embodied, Embedded Mind?" *Philosophy and Phenomenological Research*, 76(1), 37-59.
- Crosby, Philip B. (1979), *Quality Is Free*. McGraw-Hill, New York, NY.
- Danaher, Peter J. (2007), "Modeling Page Views Across Multiple Websites with an Application to Internet Reach and Frequency Prediction," *Marketing Science*, 26 (3), 422-37.
- De Dreu, Carsten KW, Bernard A. Nijstad, and Daan van Knippenberg.(2008). "Motivated Information Processing in Group Judgment and Decision Making," *Personality and Social Psychology Review*, 12, 22- 49.
- Dellande, Stephanie, Mary C. Gilly, and John L. Graham (2004), "Gaining Compliance and Losing Weight: The Role of the Service Provider in Health Care Services," *Journal of Marketing*, 68 (July), 78-91.
- Dhar, Ravi (1997), "Consumer Preference for a No-Choice Option," *Journal of Consumer Research*, 24 (September), 215-31.
- Donthu, Naveen and Bonghee Yoo (1998), "Cultural Influence on Service Quality Expectations," *Journal of Service Research*, 1(November), 178-85.
- Dubé, Laurette. (2003), "What's missing from patient-centered care?" *Marketing Health Services*, Vol. 23:1, pp. 30-36.
- Duranti, A. and Goodwin, C. eds. (1992), *Rethinking Context*. Cambridge: Cambridge University Press.

- Ennew, Christine T. and Martin R. Binks (1999), "Impact of Participative Service Relationships on Quality, Satisfaction, and Retention: An Exploratory Study," *Journal of Business Research*, 46 (2), 121–32.
- Escudero, V., and L. E Rogers (2004), "Analyzing Relational Communication," in *Relational Communication: An Interactional Perspective to the Study of Process and Form*, L. E Rogers and V. Escudero eds. Mahweh, NJ: Lawrence Erlbaum Associates, 51–79.
- Fuchs, Christoph, Emanuela Prandelli, and Martin Schreier (2010), "The Psychological Effects of Empowerment Strategies on Consumers' Product Demand," *Journal of Marketing*, Vol. 74 Issue 1, p65-79.
- Garvin, David A. (1983), "Quality on the Line," *Harvard Business Review* (September-October): 64-75.
- Goodwin, Cathy and Dwayne D. Gremler (1996), "Friendship Over the Counter: How Social Aspects of Service Encounters Influence Consumer Service Loyalty," in *Advances in Services Marketing and Management*, Vol. 5, Teresa A. Swartz, David E. Bowen, and Stephen W. Brown, eds. Greenwich, CT: JAI Press, 247-82.
- Gottman, John, Catherine Swanson, and Kristin Swanson (2002), "A General Systems Theory of Marriage: Nonlinear Difference Equation Modeling of Marital Interaction," *Personality and Social Psychology Review*, 6, 326–340.
- Grönroos, Christian (2011), "Value co-creation in service logic: A critical analysis," *Marketing Theory*, Vol. 11, No.3, pp. 279–301.
- Hartline, Michael D. and O.C. Ferrell (1996), "The Management of Customer-Contact Service Employees: An Empirical Investigation," *Journal of Marketing*, 60 (October), 52–70.
- Howe, George W., Getachew Dagne, and C. Hendricks Brown. (2005), "Multilevel Methods for Modeling Observed Sequences of Family Interaction," *Journal of Family Psychology*, 19:72–85.
- Hsieh, An T., Chang H.Yen, and Ko C. Chin (2004), "Participative Customers as Partial Employees and Service Provider Workload," *International Journal of Service Industry Management*, 15 (2), 187–99.
- Hui, Michael K. and John E.G. Bateson (1991), "Perceived Control and the Effects of Crowding and Consumer Choice on the Service Experience," *Journal of Consumer Research*, 18 (September), 174–84.
- Hunton, James E. (1996), "User Participation in Defining System Interface Requirements: An Issue of Procedural Justice," *Journal of Information Systems*, 10 (1), 27–47.

- Iyengar, Sheena S. and Mark R. Lepper (2000), “When Choice Is Demotivating: Can One Desire Too Much of a Good Thing?” *Journal of Personality and Social Psychology*, 79 (6), 995–1006.
- Kelley, Scott W., Steven J. Skinner and James H. Donnelly (1992), “Organizational Socialization of Service Customers,” *Journal of Business Research*, 25, 197–214.
- Kelley, Harold H. (1984), “The Theoretical Description of Interdependence by Means of Transition Lists,” *Journal of Personality and Social Psychology*. 47:956–82.
- , JG Holmes, NL Kerr, HT Reis, CE Rusbult, and PAM Van Lange,(2002), *An Atlas of Interpersonal Situations*. New York: Cambridge Univ. Press.
- Kendon, Adam (1992), “13 The Negotiation of Context in Face-to-Face Interaction”, *Rethinking Context: Language as an Interactive Phenomenon*, 11, 323.
- Köhler Clemens F., Rohm Andrew J., Ruyter, Ko de, and Wetzels, Martin (2011), “Return on Interactivity: The Impact of Online Agents on Newcomer Adjustment,” *Journal of Marketing*, Volume 75, Issue 2, 93-108.
- Landro, Laura (2011), “Questions for Better Care” (accessed September 20, 2011), [available at <http://online.wsj.com>].
- Lewin, Roger, Theresa Parker, and Birute Regine. (1998), “Complexity Theory and The Organization: Beyond the Metaphor,” *Complexity* 3 (4) 36-40.
- Lovelock, Christopher H., and Robert F. Young (1979), “Look to Consumers to Increase Productivity,” *Harvard Business Review*, 57 (May–June), 168–78.
- Ma, Zhenfeng and Laurette Dubé (2011), “Process and Outcome Interdependency in Frontline Service Encounters,” *Journal of Marketing*, 75(3): 83-98.
- Maguire, P., K. Booth, C. Elliot, and B. Jones (1996), “Helping Health Professionals Involved in Cancer Care Acquire Interviewing Skills—The Impact of Workshops,” *European Journal of Cancer*, 32, 1457–1459.
- Mason, Winter A., Frederica R. Conrey, and Eliot R. Smith (2007). “Situating Social Influence Processes: Dynamic, Multidirectional Flows of Influence within Social Networks,” *Personality and Social Psychology Review*, 11, 279-300.
- Mesquita, Batja, Lisa Feldman Barrett, and Eliot R Smith eds. (2010), *The Mind in Context*. New York: Guilford.
- Meuter, Matthew L. and Mary Jo Bitner (1998), “Self-Service Technologies: Extending Service Frameworks and Identifying Issues for Research,” in *AMA Winter Educators’ Conference: Marketing Theory and Applications*, Dhruv Grewal and Cornelia Pechman, eds. Chicago: American Marketing Association,12–19.

- , ——, Amy L. Ostrom, and Stephen W. Brown (2005), “Choosing Among Alternative Service Delivery Modes: An Investigation of Customer Trial of Self-service Technologies,” *Journal of Marketing*, 69(2), 61–83.
- Millar, Frank E., and L. Edna Rogers (1976), “A Relational Approach to Interpersonal Communication” in *Exploration in Interpersonal Communication*, G.R.Miller ed. Beverly Hills, CA: Sage ,87-104.
- Mills, Peter K. and James H. Morris (1986), “Clients as ‘Partial’ Employees of Service Organizations: Role Development in Client Participation,” *Academy of Management Review*, 11 (4), 726–35.
- Mills, P. and N. Margulies (1980), “Toward a core typology of service organizations,” *Academy of Management Review*, 5, 255-266.
- Mischel, Walter. (2004), “Toward an Integrative Science of the Person,” *Annual Review of Psychology*, 55, 1–22.
- and Yuichi Shoda (1995), “A Cognitive–Affective System Theory of Personality: Reconceptualizing Situations, Dispositions, Dynamics, and Invariance in Personality Structure,” *Psychological Review*, 102, 246–268.
- and —— (1998), “Reconciling Processing Dynamics and Personality Dispositions,” *Annual Review of Psychology*, 49, 229–258.
- and —— (2010), “The Situated Person,” in *The Mind in Context*, B. Mesquita and L. F. Barrett, eds. New York, NY, Guilford, 149-173.
- Morling, Beth, and Sharrilyn Evered (2006), “Secondary Control Reviewed and Defined,” *Psychological Bulletin*, 132, 269-296.
- Oliver, Richard L. (1980), “A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions,” *Journal of Marketing Research*, 17 (November): 460–469.
- Ostrom, Amy and Dawn Iacobucci (1995), “Consumer Tradeoffs and the Evaluation of Services,” *Journal of Marketing*, 59 (January),17-28.
- Parasuraman, A., Valarie A. Zeithaml, and Leonard L. Berry (1988), “SERVQUAL: A Multiple-Item Scale for Measuring Customer Perceptions of Service Quality,” *Journal of Retailing*, 64 (Spring), 12–40.
- Petty Richard E. and John T. Cacioppo, (1986), “The Elaboration Likelihood Model of Persuasion,” in *Advances in Experimental Social Psychology*, L. Berkowitz ed. New York: Academic Press, Vol. 19, pp. 123-205.
- Prahalad, Coimbatore Krishna, and Venkat Ramaswamy (2004), “Co-creating Unique Value with Customers,” *Strategy & Leadership*, 32(3), 4-9.

- Price, Linda L. and Eric J. Arnould (1999). Commercial friendships: service provider—client relationships in context. *Journal of Marketing*, 63 (4), 38-56.
- Reynolds, Kristy E. and Sharon E. Beatty (1999), "Customer Benefits and Company Consequences of Customer-Salesperson Relationships in Retailing," *Journal of Retailing*, 75 (1), 11-32.
- Rogers, L. Edna and Richard V. Farace (1975), "Analysis of Relational Communication in Dyads: New Measurement Procedures," *Human Communication Research*, 1, 222-239.
- and Valentín Escudero (2004). "Theoretical foundations". In L. E. Rogers & V. Escudero (Eds.), *Relational communication: An interactional perspective to the study of process and form* (pp. 3–22). London, England: Erlbaum.
- Rothbaum, Fred, John R. Weisz, and Samuel S. Snyder (1982). "Changing the World and Changing the Self: A Two Process Model of Perceived Control," *Journal of Personality and Social Psychology*, 42, 5–37.
- Rusbult, Caryl E., Victor L. Bissonnette, Ximena B. Arriaga, Chante L. Cox, and T. N. Bradbury (1998), "Accommodation Processes During the Early Years of Marriage", in *The Developmental Course of Marital Dysfunction*, T. N. Bradbury ed. New York: Cambridge University Press, 74–113.
- Rust, Roland T. and Richard L. Oliver (1994), *Service quality: New Directions in Theory and Practice*. California: Sage Publications.
- Ryan, Richard M (1998), "Commentary: Human Psychological Needs and the Issues of Volition, Control, and Outcome Focus", in *Motivation and Self-Regulation across the Life Span: Life-Span Perspectives on Motivation and Control*, J. Heckhausen, & C. S. Dweck, eds. New York: Cambridge University Press, 114–133.
- Salmon, Peter, Christopher F. Dowrick, Adele Ring, and Gerry M. Humphris (2004), "Voiced But Unheard Agendas: Qualitative Analysis of the Psychosocial Cues That Patients with Unexplained Symptoms Present to General Practitioners," *British Journal of General Practice*, 54, 171–176.
- Schau, Hope and Mary C. Gilly (1998). "Drive-Thru Service Encounters: An Examination of Social Conventions," *European Advances in Consumer Research*, 3, 170–175.
- , Stephanie Dellande, and Mary C. Gilly (2007). "The Impact of Code Switching on Service Encounters," *Journal of Retailing*, 83 (1) 65–78.
- Schroder, Harold M., Michael J. Driver, and Siegfried Streufert (1967), *Human Information Processing: Individuals and Groups Functioning in Complex Social Situations*. New York: Holt, Rinehart and Winston, 1967.

- Sharma, Neeru and Paul G. Patterson (1999), "The Impact of Communication Effectiveness and Service Quality on Relationship Commitment in Consumer, Professional Services," *Journal of Services Marketing*, 13 (2), 151–70.
- Sheth, Jagdish (1976), "Buyer–Seller Interaction: A Conceptual Framework," in *Advances in Consumer Research*, Vol. 3, Beverlee B. Anderson, ed. Cincinnati: Association for Consumer Research, 382–86.
- Simon, Herbert Alexander (1996). *The Sciences of the Artificial*, 3rd ed. MIT Press, Cambridge, MA.
- Smith, Eliot R., and Jamie DeCoster (2000), "Dual-Process Models in Social and Cognitive Psychology: Conceptual Integration and Links to Underlying Memory Systems," *Personality and Social Psychology Review*, 4, 108-131.
- and Elizabeth C. Collins (2010), "Situated Cognition," in *The mind in context* B. Mesquita & L. F. Barrett, eds. New York, NY, Guilford, 126-145.
- and Gün R. Semin (2004). "Socially Situated Cognition: Cognition in Its Social Context," *Advances in Experimental Social Psychology*, 36, 53–117.
- Solomon, Michael R., Carol Surprenant, John A. Czepiel, and Evelyn G. Gutman (1985), "A Role Theory Perspective on Dyadic Interactions: The Service Encounter," *Journal of Marketing*, 49 (Winter), 99–111.
- Sower, Victor, JoAnn Duffy, William Kilbourne, Gerald Kohers, and Phyllis Jones (2001), "The Dimensions of Service Quality for Hospitals: Development and Use of the KQCAH Scale," *Health Care Management Review*, 2:47–59.
- Steenbeek, Henderien, and Paul van Geert (2005), "A Dynamic Systems Model of Dyadic Interactions during Play of Two Children. *European Journal of Developmental Psychology*, 2, 105–145.
- Stiglitz, Joseph E., and Andrew Weiss (1981), "Credit Rationing in Markets with Imperfect Information," *American Economic Review*, 71 393–410.
- Thompson, James D (1967), *Organizations in Action*, McGraw-Hill, New York.
- Turner, John C., Michael A. Hogg, Penelope J. Oakes, Steve D. Reicher, and Margaret S. Wetherell (1987), *Rediscovering the Social Group*. Oxford, England: Blackwell.
- Valdesolo, Piercarlo, Jennifer Ouyang, and David DeSteno (2010), "The Rhythm of Joint Action: Synchrony Promotes Cooperative Ability", *Journal of Experimental Social Psychology*, 46(4), 693-695.
- and David DeSteno (2011), "Synchrony and the Social Tuning of Compassion", *Emotion-APA*, 11(2), 262.

- Valecha, Gopal K. (1972), "Construct Validation of Internal-External Locus of Control as Measured by an Abbreviated 11-Item IE Scale," Unpublished Doctoral Dissertation, Psychology Department, The Ohio State University, Columbus, OH 43210.
- Valenzuela, Ana, Ravi Dhar, and Florian Zettelmeyer (2009) "Contingent Response to Self Customization Procedures: Implications for Decision Satisfaction and Choice," *Journal of Marketing Research* 46 (6), 754-763.
- Vargo, Stephen L (2009), "Toward a Transcending Conceptualization of Relationship: A Service-Dominant Logic Perspective," *Journal of Business & Industrial Marketing*, 24(5/6), 373-379.
- and Robert F. Lusch (2004), "Evolving to a New Dominant Logic for Marketing," *Journal of Marketing*, 68 (January), 1-17.
- and — (2008), "Why 'service'?" *Journal of the Academy of Marketing Science*, 36(1), 25-38.
- Watson, Kathleen M (1982), "A Methodology for the Study of Organizational Behavior at the Interpersonal Level of Analysis," *Academy of Management Review*, 7: 392-402.
- Watzlawick, Paul, J. H. Beavin, and D. D. Jackson (1967), *Pragmatics of Human Communication: A Study of Interaction Patterns, Pathologies, and Paradoxes*. New York: Norton, 1967.
- Wedel, Michel, Wayne S. DeSarbo, Jan Roelf Bult, and Venkatram Ramaswamy (1993), "A Latent Class Poisson Regression Model for Heterogeneous Count Data," *Journal of Applied Econometrics*, 8, 397-411.
- Weisz, J. R., Rothbaum, F. M., and T. C. Blackburn (1984), "Standing Out and Standing In: The Psychology of Control in America and Japan," *American Psychologist*, 39, 955-969.
- Williams, Kaylene C., Rosann L. Spiro, and Leslie M. Fine (1990), "The Customer-Salesperson Dyad: An Interaction/Communication Model and Review," *Journal of Personal Selling & Sales Management*, 10 (3), 29-43.
- Wheeler, Jennifer G., Andrew Christensen, and Neil S. Jacobson (2001). "Couple Distress" in *Clinical Handbook of Psychological Disorders*, D. H. Barlow ed. New York: Guilford Press, 2nd ed. 609-630.
- Wolfinger, Russell D (1994), *GLIMMIX: a SAS MACRO for Fitting Generalized Linear Mixed Models*. Cary, NC SAS Institute.
- Zeithaml, Valarie A., Mary Jo Bitner, and Dwayne D. Gremler (2009), *Services*

Marketing: Integrating Customer Focus Across the Firm. New York: McGraw-Hill/Irwin.

Zimmermann C, Lidia Del Piccolo, and Arnstein Finset (2007), "Cues and Concerns by Patients in Medical Consultations: A Literature Review," *Psychological Bulletin*, 133:438–63.

APPENDIX A

STUDY 1: ONLINE EXPERIMENT QUESTIONNAIRE

Your last 4 digits of ASU ID:

ASU W.P. Carey School of Business Marketing Department is conducting research on customer experiences in certain service situations. Participation is voluntary and you may choose to withdraw from the study at any time. Thank you for your participation! 11

Directions:

Please imagine that you are the student in the following scenario and give your feedback.

Scenario I:

*You want to invest the money you have saved from part-time jobs during the first two years in college. **You are planning to set up a separate saving account with a higher interest rate than a normal checking account.** You are going to meet with a **certified financial advisor.***

Please imagine you are the student in the scenario. How would you EXPECT to behave in this situation?

I expect that I would spend a lot of time sharing information about my needs and opinions with the service provider during the service process.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree
I expect that I would put a lot of effort into expressing my personal needs to the service provider during the service process.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree
I expect that I would provide a lot of my ideas to the service provider during the service process.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree
I expect that I would have a high level of participation in sharing information with the service provider in the service process.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree
I would have a long conversation with the service provider to share information during the service process.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree

As a student in the context of this scenario, you would EXPECT that ...

Rather than letting the service provider tell me what to do, I would assert my right to decide what to discuss during the service process.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree
I would take control of what kind of information to share with the service provider during the service process.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree
The service provider and I would be equal partners in the conversation, providing equal amounts of needed information during the service process.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree
During the service process, the service provider would tell me what is important to discuss and what is not.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree

During the service process, it is unlikely that I would show any objection to a solution that the service provider suggests.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree
I would spend a lot of time with the service provider in exchanging thoughts/ideas during the service process .	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree

As a student in the context of this scenario, you would EXPECT that ...

During the service process, the service provider and I would discuss and develop a solution reflecting input and ideas from both of us.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree
I would decide how much information to provide to the service provider.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree
Although the service provider is the professional, if I have different suggestions from what he/she recommends, the service provider should be willing to discuss my suggestions.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree
During the discussion, the service provider would be the one who initiates the questions and I would listen and respond.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree
Although I am the customer, it is okay that the service provider persuades me to take a different solution, as long as we have discussed it and all my questions are answered.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree
I would mostly wait for the service provider to give me guidance first, so I know what to say and what to ask next.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree
During the service process, If I come up with an idea, the service provider should focus on discussing it, rather than focusing on ideas he/she may think of.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree

Please imagine you are the student in the scenario. What would be your feedback on the following questions as if you were that student?

I would expect multiple steps/interactions during the upcoming service experience.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree
I believe that there would be multiple potential service outcomes/solutions for this service.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree
I would be UNCERTAIN about the service process or exactly what will happen during the service process.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree

I would be UNCERTAIN about the service outcome or exactly what I would get in the end.	Strong Disagree 1 2 3 4 5 6 7 Strongly Agree
--	--

In the context of this scenario, how would you rate the Overall Service in terms of?

Importance	Not Important 1 2 3 4 5 6 7 Very Important
Complexity	Not Complex 1 2 3 4 5 6 7 Very Complex
Uncertainty	Not Uncertain 1 2 3 4 5 6 7 Very Uncertain
Relevance	Not Relevant 1 2 3 4 5 6 7 Very Relevant

In the context of this scenario, how would you rate the Service Provider in terms of?

Superior	Not Superior 1 2 3 4 5 6 7 Very Superior
Decisive	Not Decisive 1 2 3 4 5 6 7 Very Decisive
Expertise	Low Expertise 1 2 3 4 5 6 7 High Expertise
Credentials	Low Credentials 1 2 3 4 5 6 7 High Credentials
Respectful	Not Respectful 1 2 3 4 5 6 7 Very Respectful
Subordinate	Not Subordinate 1 2 3 4 5 6 7 Very Subordinate

As the student in this scenario, how would you rate your level of knowledge about this service?

Very Little Knowledge 1 2 3 4 5 High Level of Knowledge

As the student in this scenario, what level of knowledge would you expect the service provider to have about this service?

Very Little Knowledge 1 2 3 4 5 High Level of Knowledge

Please provide the following information

Age: _____ years old

Gender: _____Male _____Female

Major:

Current Year of Study: Freshman Sophomore Junior Senior Other

Graduation Year:

If you are international student, please indicate the country you come from:

Thank you for your time and feedback! 😊 The survey is now complete.

APPENDIX B

STUDY 1: A SURVEY ON LOCUS OF CONTROL AND POWER DISTANCE

Your last 4 digits of ASU ID:

Social scientists are interested in students' views on certain life issues. Please evaluate how much you agree with the following statements.

	(Strongly Disagree)				(Strongly Agree)		
1. People in higher positions should make most decisions without consulting people in lower positions.	1	2	3	4	5	6	7
2. People in higher positions should not ask the opinions of people in lower positions too frequently	1	2	3	4	5	6	7
3. People in higher positions should avoid social interaction with people in lower positions	1	2	3	4	5	6	7
4. People in lower positions should not disagree with decisions by people in higher positions	1	2	3	4	5	6	7
5. My success depends on whether I am lucky enough to be in the right place at the right time.	1	2	3	4	5	6	7
6. To a great extent my life is controlled by accidental happenings.	1	2	3	4	5	6	7
7. When I get what I want, it is usually because I am lucky.	1	2	3	4	5	6	7
8. My life is determined by my own actions.	1	2	3	4	5	6	7
9. When I get what I want, it is usually because I worked hard for it	1	2	3	4	5	6	7
10. It is not wise for me to plan too far ahead, because things turn out to be a matter of bad fortune.	1	2	3	4	5	6	7
11. Whether or not I am successful in life depends mostly on my ability	1	2	3	4	5	6	7
12. I feel that what happens in my life is mostly determined by people in powerful positions.	1	2	3	4	5	6	7
13. I feel in control of my life.	1	2	3	4	5	6	7
14. Success in business is mostly a matter of luck.	1	2	3	4	5	6	7

APPENDIX C

STUDY 3: ONLINE EXPERIMENT QUESTIONNAIRE

ASU W.P. Carey School of Business Marketing Department is conducting research on customer experiences in certain service situations. Participation is voluntary and you may choose to withdraw from the study at any time. Thank you for your participation!



Directions:

Please imagine that you are the customer in the following scenario and give your feedback.

Scenario :

You want to invest **\$5,000** you have saved from part-time jobs recently.

You **have no idea** what kinds of investment products are available, and what the pros and cons are in terms of risk and return.

You are going to call a Certified Financial Advisor (CFA).

Here is the transcript of the phone call conversation that you had with the CFA

CFA: "Thank you for calling. This is Chris, How may I help you? "

Customer: "Hey, this is Pat, I am from Arizona.
I've saved \$5,000 from some part-time jobs recently.
I would like to invest my money, and want to know what the options are.

CFA: "Pat, I am glad to help. We now have an 11- month high yield savings account.
It will give you an interest rate of 0.9% for a year."

Customer: "Okay... So opening this account, is it free?"

CFA: "Yes, it is completely free."

Customer: "If I need the money urgently, can I pull out the money earlier?"

CFA: "Yes, for this type of high yield savings account,
you can add and withdraw money as you wish. It is completely liquid."

If the conversation continues, what would you EXPECT to happen NEXT?

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
I expect that I would spend a lot of time sharing information about my needs and opinions with the service provider.								
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I expect that I would put a lot of effort into expressing my personal needs to the service provider.								
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I expect that I would provide a lot of my ideas to the service provider.								
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I expect that I would have a high level of participation in sharing information with the service provider in the service process.								
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would have a long conversation with the service provider to share information.								
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If the conversation continues, what would you EXPECT to happen NEXT?

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
Rather than letting the service provider tell me what to do, I would assert my right to decide what to discuss.								
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would take control of what kind of information to share with the service provider.								
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The service provider and I would be equal partners, providing equal amounts of needed information.								
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The service provider would tell me what is important to discuss and what is not.								
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is unlikely that I would show any objection to a solution that the service provider suggests.								
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If the conversation continues, what would you EXPECT to happen NEXT?

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
The service provider and I would spend time in exchanging thoughts/ideas with each other.								
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The service provider and I would discuss and develop a solution reflecting input and ideas from both of us.								
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would decide how much information to provide to the service provider.								
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The service provider would be the one who initiates the questions and I would listen and respond.								
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would mostly wait for the service provider to give me guidance first, so I know what to say and what to ask next.								
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you were having the exact same conversation with the CFA,
 how would you response to the CFA ?

Please answer "B" for this question (data quality check):

A

B

C

D

E



If you were having the exact same conversation with the financial adviser,
 how do you feel about the conversation so far?

	Strongly Disagree						Strongly Agree
	1	2	3	4	5	6	7
Overall, I am satisfied with the service provided	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The service provider did a good job solving my problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am pleased with the service solution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you were having the exact same conversation with the financial adviser, how would you evaluate this financial service so far in terms of

	Strongly Disagree 1	2	3	4	5	6	Strongly Agree 7
Reliability: The CFA performed the service dependably and accurately.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assurance: The CFA was trustworthy in providing this service.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tangibles: The explanations from the CFA were clear and easy to understand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Empathy: The CFA had my best interest at heart when providing this service.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responsiveness: The CFA responded to my requests promptly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you were the customer in this conversation, how would you evaluate the overall service quality of this service?

Very Bad 1	2	3	4	5	6	7 Very Good
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you were having the exact same conversation with the financial advisor, at this point, how do you feel about the conversation?

Strongly Disagree 1	2	3	4	5	6	Strongly Agree 7
I feel there are multiple steps/interactions during the service conversation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that there would be multiple potential service outcomes/solutions out of this service conversation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am UNCERTAIN about this service conversation or exactly what will happen during the service conversation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am UNCERTAIN about the service outcome or exactly what I would get in the end.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you were having the exact same conversation with the financial advisor, at this point, how would you rate the Overall Service so far?

The Importance of the service to me	Not Important 1	2	3	4	5	6	Very Important 7
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Complexity of the service based on the conversation so far	Not Complex 1	2	3	4	5	6	Very Complex 7
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Uncertainty of the service based on the conversation so far	Not Uncertain 1	2	3	4	5	6	Very Uncertain 7
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Relevance of this service scenario to me	Not Relevant 1	2	3	4	5	6	Very Relevant 7
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Level of Risk Involved in the service	Not Risky 1	2	3	4	5	6	Very Risky 7
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
The CFA has provided detailed information as I desired	Not Much 1	2	3	4	5	6	Very Much 7
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How do you rate your OWN level of knowledge about this service?	Very Little Knowledge 1	2	3	4	5	6	A Lot of Knowledge 7
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How do you rate the CFA' s level of knowledge about this service?	Very Little Knowledge 1	2	3	4	5	6	A Lot of Knowledge 7
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How do you rate the CFA' s Expertise on this service?	Very Little Expertise 1	2	3	4	5	6	A lot of Expertise 7
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How believable is this conversation to you, excluding the personal information used in the example?

Not at all 1	2	3	4	5	6	Very Much 7
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much does this conversation represent a REAL conversation you might have with a CFA, excluding the personal information used in the example?

Not at all 1	2	3	4	5	6	Very Much 7
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Thank you very much for your participation! Please provide the following information at the end of the survey.

What is your sex?

- Male
- Female
- prefer not to answer

How old are you?

Please select "D" for this question (data quality check).

- A
- B
- C
- D
- E

What is your profession?

What is your race?

- White
- Hispanic
- Black or African American
- American Indian or Alaska Native
- Asian
- Biracial / Multiracial
- Other

Have you ever taken this study, or a similar study before? If yes, please describe what it was like.

- Yes (what was it like?)

- No

Which category best describes your total household income? (in US \$)

- Under \$15,000
- \$15,000 to under \$35,000
- \$35,000 to under \$50,000
- \$50,000 to under \$75,000
- \$75,000 to under \$100,000
- \$100,000 to under \$150,000
- \$150,000 or more
- prefer not to answer

How many studies or online assignments have you completed today?

What do you think this study was about?

We are always interested in your thoughts and perceptions of our studies. Do you have any comments for the researchers? Any parts that were confusing or unclear?



Thank you for participating in this survey. You did not pass the two data quality checks that were embedded in this survey as questions and therefore will not receive your confirmation code. Thank you for your time.



APPENDIX D

STUDY 4 ONLINE EXPERIMENT QUESTIONNAIRE

ASU W.P. Carey School of Business Marketing Department is conducting research on customer experiences in certain service situations. Participation is voluntary and you may choose to withdraw from the study at any time. Thank you for your participation!



Directions:

Please imagine that you are the customer in the following scenario and give your feedback.

Scenario :

You want to invest **\$5,000** you have saved from some part-time jobs recently.
You are planning to set up **a separate savings account** with a higher interest rate than a normal checking account.

You are going to call a Certified Financial Advisor (CFA).
Here is the transcript of the phone call conversation that you had with the CFA

CFA: "Thank you for calling. This is Chris, How may I help you? "

Customer: "Hey, this is Pat, I am from Arizona.
I've saved \$5,000 from some part-time jobs recently.
I would like to invest my money, and want to set up a savings account with a higher interest rate."

CFA: "Pat, I am glad to help. We now have an 11- month high yield savings account.
It will give you an interest rate of 0.9% for a year."

Customer: "Okay... So opening this account, is it free?"

CFA: "Yes, it is completely free."

Customer: "If I need the money urgently, can I pull out the money earlier?"

CFA: "Yes, for this type of high yield savings account,
you can add and withdraw money as you wish. It is completely liquid."

Customer: "Okay, let me see... So do I need to maintain a minimum balance for this account?"

CFA: "No, this 11- month high yield savings account has no minimum balance requirement and no inactivity fee."

Customer: "Is the money in this account insured?"

CFA: "Yes. It is insured by the Federal Deposit Insurance Corporation to at least \$250,000, so that you can save with confidence."

Customer: "Sounds great! If I want to gain a little higher interest rate, are there any other options?"

CFA: "Well, if you set up any other types of investment accounts, you will have to pay a fixed fee per year. It will be at least \$60 per year, if your total account balance is under \$10,000."

CFA: "Based on your situation, I would recommend that you set up an 11-months high yield savings account.

Would you like me to set it up for you now?"

If you were having the exact same conversation with the CFA, how would you answer this question ?

If you were having the exact same conversation with the financial adviser, how do you feel about the conversation so far?

	Strongly Disagree						Strongly Agree
	1	2	3	4	5	6	7
Overall, I am satisfied with the service provided	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The service provider did a good job solving my problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am pleased with the service solution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you were having the exact same conversation with the financial adviser, how would you evaluate this financial service so far in terms of

	Strongly Disagree						Strongly Agree
	1	2	3	4	5	6	7
Reliability: The CFA performed the service dependably and accurately.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assurance: The CFA was trustworthy in providing this service.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tangibles: The explanations from the CFA were clear and easy to understand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Empathy: The CFA had my best interest at heart when providing this service.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responsiveness: The CFA responded to my requests promptly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you were the customer in this conversation, how would you evaluate the overall service quality of this service?

Very Bad	1	2	3	4	5	6	7 Very Good
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you were the customer in this conversation, how likely would you be to follow the financial advisor's advice ?

Unlikely	1	2	3	4	5	6	7 Very Likely
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Why?

Please answer "B" for this question (data quality check):

A	B	C	D	E
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



If you were having the exact same conversation with the financial advisor, at this point, how do you feel about the conversation?

	1 Strongly Disagree	2	3	4	5	6	7 Strongly Agree
I feel there are multiple steps/interactions during the service conversation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that there would be multiple potential service outcomes/solutions out of this service conversation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am UNCERTAIN about this service conversation or exactly what will happen during the service conversation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am UNCERTAIN about the service outcome or exactly what I would get in the end.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you were having the exact same conversation with the financial advisor, at this point, how would you rate the Overall Service so far?

	Not Important 1	2	3	4	5	6	Very Important 7
The Importance of the service to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Complexity of the service based on the conversation so far	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Uncertainty of the service based on the conversation so far	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Relevance of this service scenario to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Level of Risk Involved in the service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The CFA has provided detailed information as I desired	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How do you rate your OWN level of knowledge about this service?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How do you rate the CFA's level of knowledge about this service?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How do you rate the CFA's Expertise on this service?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How believable is this conversation to you, excluding the personal information used in the example?

Not at all 1 2 3 4 5 6 Very Much 7

How much does this conversation represent a REAL conversation you might have with a CFA, excluding the personal information used in the example?

Not at all 1 2 3 4 5 6 Very Much 7

>>



Thank you very much for your participation! Please provide the following information at the end of the survey.

What is your sex?

- Male
- Female
- prefer not to answer

How old are you?

Please select "D" for this question (data quality check).

A B C D E

What is your profession?

What is your race?

- White
- Hispanic
- Black or African American
- American Indian or Alaska Native
- Asian
- Biracial / Multiracial
- Other

Have you ever taken this study, or a similar study before? If yes, please describe what it was like.

- Yes (what was it like?)

- No

Which category best describes your total household income? (in US \$)

- Under \$15,000
- \$15,000 to under \$35,000
- \$35,000 to under \$50,000
- \$50,000 to under \$75,000
- \$75,000 to under \$100,000
- \$100,000 to under \$150,000
- \$150,000 or more
- prefer not to answer

How many studies or online assignments have you completed today?

What do you think this study was about?

We are always interested in your thoughts and perceptions of our studies. Do you have any comments for the researchers? Any parts that were confusing or unclear?

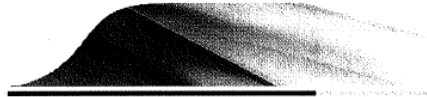


Thank you for participating in this survey. You did not pass the two data quality checks that were embedded in this survey as questions and therefore will not receive your confirmation code. Thank you for your time.



APPENDIX E

IRB EXEMPT APPROVAL FOR STUDY 1, STUDY 3, AND STUDY 4



Office of Research Integrity and Assurance

To: M Bitner
BAC

From:  Mark Roosa, Chair
Soc Beh IRB

Date: 10/15/2010

Committee Action: **Exemption Granted**

IRB Action Date: 10/15/2010

IRB Protocol #: 1010005586

Study Title: Customer Participation in Context

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(2) .

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.

APPENDIX F

IRB EXEMPT APPROVAL FOR STUDY 2



Office of Research Integrity and Assurance

To: M Bitner
BAC

From: *for* Mark Roosa, Chair *PR*
Soc Beh IRB

Date: 01/28/2013

Committee Action: Exemption Granted

IRB Action Date: 01/28/2013

IRB Protocol #: 1301008743

Study Title: Online Service Conversations

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(2).

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.