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**MANAGING THE TENSION BETWEEN STANDARDIZATION AND
CUSTOMIZATION IN IT-ENABLED SERVICE PROVISIONING:**

A SENSEMAKING PERSPECTIVE

BY

Mark O. Lewis

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree

Of

Doctor of Philosophy

In the Robinson College of Business

Of

Georgia State University

GEORGIA STATE UNIVERSITY
ROBINSON COLLEGE OF BUSINESS
2008

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ACCEPTANCE

This dissertation was prepared under the direction *Mark O. Lewis's* Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Doctoral of Philosophy in Business Administration in the Robinson College of Business of Georgia State University.

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super mom, you are it. I found it interesting that you never really asked about my work throughout this process, other than to inquire when I was going to be finished! However, I realized that earning a PhD really did not mean that much to you. I only discovered this after becoming a parent myself and realizing that my number one goal for Ariail is to live a happy and successful life. But, success and happiness will be on her terms, not mine. That is the model you have set for us, Mom. That is why you never seemed overly impressed or concerned with a degree, but always interested in whether or not I was happy and enjoying my life. I am sure there will be many more bumps and challenges along the way, but I sure don't have any complaints at this point. Thanks, Mom... for everything. Also, Megan and Steven, thanks so much for your support, too. Bubba, I will never forget the time we met at OK Café because I was broke, or the many hockey games you paid for because I could hardly afford to eat. I will get you back one day, I promise.

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ABSTRACT

MANAGING THE TENSION BETWEEN STANDARDIZATION AND CUSTOMIZATION IN IT-ENABLED SERVICE PROVISIONING:

A SENSEMAKING PERSPECTIVE

BY

Mark O. Lewis

August 8th, 2008

Committee Chair: *Dr. Arun Rai and Dr. Lars Mathiassen*

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The outsourcing literature has offered a plethora of perspectives and models for understanding decision determinants and outcomes of outsourcing of business processes. While past studies have contributed significantly to scholarly research in this area, there are an insufficient number of studies that are provider centric. Consequently, there is a need to understand how service providers address a core challenge: to achieve scalable growth by developing standardized offerings that can be sufficiently customized to meet the unique demands of individual customers.

This study explores how patterns of collective action within and between a provider and two of their largest customers relate to the tension between standardization and customization of information technology (IT)-enabled service provisioning. Specifically, it investigates the relationship between such behavioral patterns and the development of an enterprise architecture designed to address the tension between standardization and customization. A socio-cognitive sensemaking framework consisting

of six core properties provides the analytical lens through which the relationship is investigated.

The study adopts an interpretive case study methodology guided by the assumption that distinct dimensions of the social world exist, but understanding them comes from inter-subjective interaction between researcher and subject. The approach adopts a combination of literal and theoretical replication strategies (Yin 1994) to help identify similarities and dissimilarities during cross case comparison. Data were collected from semi-structured interviews, direct observations, participant observations, and analysis of documentation and archival records.

Our findings suggest that localized action at the expense of global coordination exacerbates the tension between standardization and customization. Furthermore, attempts to address the tension through the logics of spatial and temporal separation proved largely ineffective, as these initiatives put added pressure on the sensemaking processes responsible for guiding collective action. Our findings further suggest that a paradigm modification might be useful for service providers, where they shift their focus from reducing equivocality to improving their internal ability to respond to it. The results of this study contribute to a large body of outsourcing literature that has too often neglected a provider centric perspective. By uncovering key factors that exacerbate the tension within and between organizations, and providing practical methods for addressing them, this study also offers valuable insight for practicing managers.

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CHAPTER 1: INTRODUCTION

1.1 THE OUTSOURCING ARENA

How and why patterns of collective action relate to the tension between standardization and customization in Information Technology (IT)-enabled service provisioning is the subject of this study. This first chapter begins with a discussion of trends, stages, and outcomes of outsourcing and continues with an illumination of the inherent challenges service providers face as they seek to satisfy many unique customers. The chapter concludes by presenting the focus of the study.

1.1.1 Trends

As globalization and industrial uncertainties have continued to perpetuate hypercompetitive markets (Eisenhardt 1989; D'Aveni and MacMillan 1990), the ability to sense new opportunities and quickly adjust business processes to capture potential market value have become increasingly important performance capabilities (Brown and Tandon 1983; Christensen 1997). In such competitive environments, and as IT has continued to improve communication capabilities across organizational boundaries, firms have had to reevaluate their strategies for balancing the relative importance of speed, scope, and scale (Hagel and Singer 1999). Accordingly, intense competition has forced organizations to examine alternative ways to enhance and sustain their competitive advantage (Rai, Borah et al. 1996). Enabled by IT, firms have continued to outsource non-core business processes in an effort to improve their competitive positions through cost reductions and enhanced flexibility with respect to market responsiveness.

The appeal for outsourcing business processes is simple. Companies in volatile industries such as automotive, consumer goods, electronics, chemicals, high technologies, and pharmaceuticals want to reduce costs and enhance operational flexibility, enabling them to quickly respond to ever-changing market conditions. Consequently, more companies continue to seek such benefits from service providers. In general, outsourcing originated—and became increasingly popular— as a strategy to improve cost savings during a recessionary environment (Landis 2005). Forrester Research approximated that by 2015 up to 3.3 million US jobs and \$136 billion in earnings would be shifted to India, China, Pakistan, Russia, and Vietnam.

North American companies have not been the only organizations contributing to global spending on outsourcing. Europe has taken a central role as well and is soon expected to contribute nearly 25 percent to total global spending. According to Gartner Inc., in 2003, outsourcing generated global revenues of \$298.5 billion. In the last decade, the market for supply chain outsourcing— a specific type of BPO—has grown at a compounded annual rate of more than 10 percent (McKinsey and Company 2002). BPO has been defined as the management of one or more specific business processes or functions (e.g., procurement, accounting, human resources, asset or property management, transportation and logistics) by a third party together with the IT that supports the process or function (Halvey 1999). Today, in fact, supply chain outsourcing services have become a \$100 billion industry with substantial growth expected to continue over the next decade.

The prolific movement towards outsourcing signifies a new competitive dynamic

in which firms trade the benefits of internal control for the advantages of reduced operating costs, acquisition of best practices, increased scalability, transfer of risk, access to high caliber labor, and increased focus on their own core competencies (Landis 2005). From a client perspective, such advantages occur if the benefits resulting from outsourcing outweigh the coordination costs associated with managing relationships with service providers. Prior research suggests that after developing such outsourcing relationships, firms only enhanced their competitive position if the alliance moves away from developing the attributes characteristic of traditional market relationships (Dyer and Singh 1998). Thus, firms must transition from an exclusive and continual focus on increasing transactional efficiencies to leveraging relationships for sharing information and creating knowledge to respond more effectively in dynamic markets (Malhotra et al., 2004). Incidentally, firms have begun to adjust their strategies for managing outsourcing relationships, transitioning from contractual to more partnership-oriented relationships (Klepper 1995; Grover, Cheon et al. 1996).

1.1.2 Stages

Linder (2004) followed a “transaction” versus “strategic” categorization by distinguishing general outsourcing from transformational outsourcing. She defined outsourcing as the purchasing of ongoing services from an outside organization that a company could currently provide for themselves. In contrast, she defined transformational outsourcing as being very different from conventional outsourcing. A company engaged in transformational outsourcing would seek a rapid, sustainable, step-change improvement in enterprise-level performance. To further clarify her position,

Linder provided a vibrant illustration of what transformational outsourcing really meant:

Making a big impact on enterprise-level performance means changing the things that really matter. Companies undertake no end of minor change initiatives every day. They improve their staffs through training; they adjust compensation to more closely align with corporate goals; they focus resources on higher-growth markets. These activities are all useful, but not transformational. Their impacts are imperceptible at the bottom line except over a very long time. A transformational initiative, in contrast, can noticeably double a company's stock price, shift its market share, or drive its profitability (p. 30).

In an effort to describe an outsourcing continuum from a transaction to strategic (or transformational) orientation, Morgan (2003) developed a five staged evolutionary model. The model enabled specific outsourcing partnerships to be calibrated based on degree of process commoditization, inter-organizational complexity, and strategic usefulness. First, the embryonic stage represented partnerships that focused on ancillary activities and basic commodity-type offerings. Such activities were unlikely to represent strong possibilities for value enhancements, but they did provide areas of potential cost savings. Partnerships at this stage of the continuum were likely to be transaction oriented with little emphasis on relational investment. The second stage, developmental, was likely to result only after an organization that procured services experienced favorable outcomes during the embryonic stage. In this stage, various areas of supportive activities that were more central to business processes began to be outsourced and value began to be realized. Stage three, the consolidation and inter-linking outsourcing stage, occurred when the organization adopted an over-arching outsourcing strategy that was intended to coincide with its business level strategy. At this stage, outsourcing was looked upon as a key strategic enabler that required significant management focus to be leveraged for maximum advantage. Business Process Outsourcing (BPO) was the fourth stage and it was considered the highest level that was observed. Key process activities were

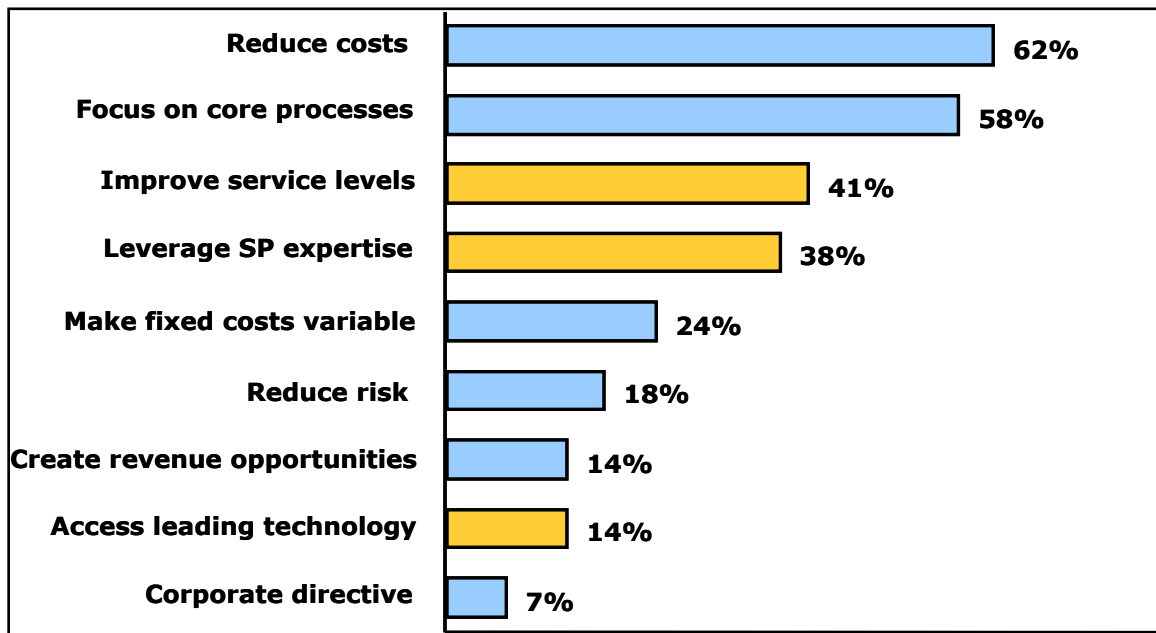
outsourced within the BPO stage, and full contractual responsibility was granted to the service provider. Beyond the BPO stage, other models came into play and were collectively described as custom-built frameworks for outsourcing. These models were less generic and were more typically unique to the contextual circumstances that an outsourcing organization experienced.

1.1.3 Outcomes

The anticipated benefits of outsourcing are often significant and frequently increase as an organization considers the potential value they might obtain as they move further along the outsourcing continuum. Nevertheless, at least until now, the consensus from managers and management researchers points to the unintended reality that many outsourcing partnerships simply do not result in the strategic advantages previously anticipated by the well-intentioned managers (Nam, Rajagopalan et al. 1996; Rai, Borah et al. 1996). According to Davenport (2005), “In the few broad studies of satisfaction with outsourcing, many companies—up to half in some studies—are dissatisfied with their outsourcing relationships” (p. 2). In an April 2005 study of the outsourcing market, Deloitte Consulting called for a change in the outsourcing market. According to their study:

The world’s largest companies have engaged in outsourcing for a variety of reasons: to reduce costs, expand capabilities, and increase flexibility (see exhibit 1 for additional drivers of outsourcing). However, contrary to the optimistic portrayal of outsourcing by vendors and the marketplace, outsourcing is an extraordinarily complex process and the anticipated benefits often fail to materialize.

Figure 1: Drivers of outsourcing



From “BPO: New Obstacles to Growth” in Senior Executives in North American Companies, January 2004, Saugatuck Technology.

To provide further evidence of difficulties organizations had with outsourcing, Deloitte analyzed the rising negative sentiment in the media, causal factors associated with failed outsourcing partnerships, and additional surveys from other research and consulting organizations that proved the overall sentiment on outsourcing was changing.

As referenced in the Deloitte study related to outsourcing in general, 30 percent more anti-outsourcing articles than pro-outsourcing editorials were published in 2004. Since 1996, 38 of 50 randomly selected outsourcing deals went bad, totaling more than \$25 billion USD, and resulted in litigation or termination. From this sample, 74 percent failed due to the inability of vendors to meet performance objectives and manage cost

overruns. Furthermore, of 33 deals for which the timing of the relationship was known, one third failed in year one, and over half were deemed unsuccessful within the first five years. Additionally, a Dun & Bradstreet survey showed that one fifth of outsourcing relationships failed in the first two years, and one half were dissolved in the first five years. A Diamond Cluster International survey polled executives to inquire into their outsourcing experiences and found that over three-fourths of all respondents had to terminate outsourcing relationships because of poor service, shifts in strategic direction, or costs. Similarly, a PA Consulting survey of 116 executives from Europe, North America, and Asia showed that over two-thirds of respondents reported benefits from outsourcing that were only “partially” realized or failed to be delivered at all. Of these executives, 17 considered bringing services back inside their organizations (see table 1 for summary of prior studies).

Table 1: Negative Trends in Outsourcing

Source	Year Published	Finding
Deloitte Consulting	2004	38 of 50 randomly selected deals went bad.
Dun and Bradstreet	2002	One fifth of outsourcing relationships fail in first two years
Diamond Cluster Intl	2003	4/5 th terminated outsourcing relationships
PA Consulting	2003	Two-thirds reported that benefits from outsourcing were only “partially” realized or failed to be delivered at all.

The consequences of such outsourcing failures—whether transaction or strategically oriented—are considerable, given that an organization could spend many hundreds of millions of dollars pursuing such initiatives. Though the theoretical benefits of outsourcing certainly exist, the possibility for high payoffs do not come decoupled from the high risks of failure.

1.2 PROVIDER CHALLENGES

1.2.1 Standardization vs. Customization

A shift from a transaction to a strategic orientation might be motivated by a firm seeking an outsourcing relationship with intentions greater than simply replacing an existing internal process with services provided by an external partner. Instead, a transition from a transaction to a strategic orientation might be provoked by a firm seeking a partnership to leverage the unique capabilities a service provider might possess, to transform instead of merely replace their existing internal processes. Such a transition has challenged outsourcing relationships as the shift towards more strategic orientations has not necessarily reduced the continual desire to improve transactional efficiency.

In addition to the continuous pressure placed on service providers to improve transactional efficiencies, the same organizations are increasingly tasked with providing specialized services as partnerships move from the embryonic to the BPO stage of the outsourcing continuum. Thus, service providers face an inherent tension between providing customized services at increasingly commoditized (or standardized) prices. Such paradoxical situations have been investigated in the organizational literature and researchers have offered multiple ways to address the involved tensions (Van de Ven, 1989).

For instance, in their seminal essay Poole and Van de Ven (1989) offered four modes for using paradox to build more internally consistent theory. As a first step they argued that one could do nothing, essentially accept the paradox, realize there is little that can be done to resolve it, and move on. As another approach, they recommend clarifying

levels of analysis through spatial separation. In such a case, “level distinctions such as part-whole, micro-macro, or individual –society have proven useful...as this approach assumes that one horn of the paradox operates at one level of analysis (e.g., macro), while the other horn operates at a different level (e.g., micro)” (p566). Their third approach for dealing with a paradox was through temporal separation. In this case, time is considered and used as a means of balancing opposing forces. For instance, one aspect of the paradox may hold ones attention at one point in time, while leaving the other aspect of the paradox to be dealt with at a later point in time. The fourth and final approach offered by Poole and Van de Ven (1989) was to introduce new means of addressing the paradox. For instance, when using this approach as a logic for designing a new enterprise, one might choose to create an entirely new enterprise architecture, made of distinctly new components, to resolve a particular paradoxical situation.

Despite the great insight generated by researchers like Poole and Van de Ven, service organizations charged with providing higher value added services still struggle with achieving dual objectives at the same time. Additionally, the pressures of profitability further intensify the paradoxical tension between standardization and customizations as it forces service providers to search continually for new customers while simultaneously deepening existing partnerships by offering specialized services to generate additional revenue. Unless innovations in enterprise design for service delivery are discovered, service providers will continue to struggle with balancing the tension to achieve scalable growth.

1.2.2 Service Delivery

To effectively address the tensions they face, providers must successfully manage the collective action of individuals and groups residing within and between their organization. This will help providers keep the actions of diverse stakeholders from falling into emergent patterns of disorder. Hence, providers must facilitate collective action to develop IT-enabled process capabilities that allow them to create economies of scale while simultaneously co-creating customized business innovations within individual customer relationships. In effect, such capabilities enable providers to offer services that align with the differentiated need of customers while not basing these service offerings on platforms of specific assets that are established for a given customer. Doing so allows providers to continue increasing revenue by attracting new customers while simultaneously improving profit margins through more efficient service provisioning. Failure to create these capabilities would constrain a provider by requiring them to “reinvent the wheel” as they continue to design customized processes for each unique customer. Such tailored processes for individual customers exasperate organizational complexity within the service organization and puts inherent pressure on its ability to maximize margins.

1.2.3 Socio-technical Systems

The provider’s IT-enabled process capabilities are in large part the result of organizational systems that are inherently socio-technical in nature. That is, they consist of both digital and social components. The digital components relate to the IT that is used to automate and coordinate particular aspects of service delivery. The social components

relate to the organizational culture, roles, and routines that guide individual behavior and help coordinate collective action. In a particular context, supply chain outsourcing, individuals use IT to facilitate their interaction and to automate work processes for one core purpose: moving physical, financial, and informational goods around the globe.

Within the context of supply chain outsourcing, defining the “types” of IT to be investigated is critical. However, because IT has become increasingly ubiquitous and integrated, developing clear boundaries around the technologies to be explored in an IT related study has not always been simple. For example, an event management system that sends electronic alerts to inventory managers could equally be described as a collaborative, internet based, and enterprise transformative technology. Nevertheless, some delineation is needed and useful. Therefore, for the purposes of this study, the digital components to be investigated have been represented in one broad category of IT systems: supply chain management systems (SCMS).

Companies such as Chrysler, Dell, Ford, and Wal-Mart have worked judiciously in recent years to derive the benefits of coordination and collaboration by using SCMS (Subramani 2004). SCMS help organizations coordinate the flow of physical, financial, and informational goods within and across organizations. When providers assist client organizations with their supply chain operations, they leverage a plethora of SCMS to coordinate work processes across organizational boundaries. For instance, if a supply chain provider had a customer that built personal computers, they might assist that client with the physical transportation of disk drives, memory, LCDs, and key boards to an assembly plant where the components are integrated into one computer system. Furthermore, they might assist that client organization with the transportation of the final

product to its intended customer destination while also managing warehousing and return logistics functions. SCMS provides the digital platform to assist in the coordination, collaboration, planning, and execution of physical, financial, and informational movement across the globe.

1.3 RESEARCH FOCUS

Sensemaking (Weick 1995; Weick 2001) has been defined as an ongoing socio-cognitive process that results from organizational actors seeking to interpret and control their environment (Weick 1993). It is concerned with how people and organizations construct meaning in their environment (Weick 1995). As a theoretical framework, sensemaking has been used extensively for studying individuals working together in social organizations. Emerging from the enactment theory of organizations (Weick 1979), it has been used widely by researchers investigating organizational communication (Weick 1983; Weick 1989; Manning 1992; Taylor 2000; Cooren 2004) issues related to general organizational management (Gioia 1991; Drazin 1999), and organizational decision making (Starbuck 1988; Bogner and Barr 2000). Researchers interested in organizational sensemaking focused on how, why, and with what effects active agents construct interpretations of organizational events (Huber and Daft 1987) and structure the unknown while seeking to create order (Weick 1995). Therefore, sensemaking is considered a socio-cognitive process whereby organizational actors work together to coordinate their collective action.

Sensemaking is important in this study for three reasons. First, individuals working within service organizations must interact inter-subjectively with people residing

inside and outside their organization continuously to coordinate, customize, and execute work processes during service delivery. Second, because sensemaking is a “way station on the road to a consensually constructed, coordinated system of action” (Taylor and Van Every, 2000, p. 275), adopting it as an analytical lens will provide deep insight into how individuals construct meanings that inform and constrain identity and action (Mills 2003). Third, sensemaking “is viewed as a significant process of organizing” (Weick 2005), and, consequently, it is an especially useful analytical lens for exploring collective action within the context of a service provider and key strategic customer partnerships. Fourth, as referenced in Weick et al. (2005), reading, writing, conversing, and editing are fundamental actions that serve as the media through which the invisible hand of institutions shape conduct (Gioia, Thomas et al. 1994); and since these actions effectively described a core aspect of sensemaking, using such a lens could provide profound insight into the phenomenon under investigation.

Though the challenges for outsourcing providers are abundant and the detrimental outcomes are increasingly so, there are a surprisingly few studies that adopt a provider centric perspective, that are process oriented, and that leverage a socio-cognitive sensemaking lens to investigate collective action within and between firms. This study took advantage of these multiple perspectives to explore how service providers address the challenge of provisioning services to many unique customers. Furthermore, it explored the formation of inter-firm governance mechanisms and the dynamics of relational investments, as both factors relate to the provider’s ability to balance the tension between standardization and customization. Within the last decade, most

academic studies related to business process outsourcing have focused on understanding determinants of decision making, outsourcing process control, and performance outcomes (Jiang 2004). Therefore, to contribute to research on outsourcing this study has been designed to investigate the following research question from the perspective of a service provider and by adopting a socio-cognitive sensemaking lens:

Research Question:

How and why does collective action (within and between firms) relate to the tension between standardization and customization in IT-enabled service provisioning?

1.4 CHAPTER SUMMARY

This chapter began with a discussion of trends, stages, and outcomes of business process outsourcing and continued with an explication of the inherent challenges service providers face as they seek to satisfy many unique customers. The chapter concluded with a discussion pertaining to the socio-cognitive process of sensemaking and how it relates to the focus of this study. The study continues in chapter 2 with a more comprehensive presentation of extant process outsourcing literature and a further illumination of the existing limitations in our understanding as well as the positioning of this study to address the specified gaps. Chapter 3 provides an in-depth overview of sensemaking, the socio-cognitive framework that was used as an interpretive lens to guide this study. Chapter 4 discusses the research methodology that was used to investigate the research question. Chapter 5 presents the results from the study. Finally, chapter 6 concludes with a discussion of the theoretical contributions, practical

implications, limitations, and suggestions for future research.

CHAPTER 2: REVIEW OF LITERATURE

Outsourcing is a term often used interchangeably with other words such as “subcontracting” and “contracting out” (Domberger 1998). It is a term used to reference a practice in which one organization uses the services of an outside company or professional to manage a function or process previously performed inside the boundaries of a client company (Gupta 1995). Information services outsourcing is perhaps the most extensively researched type of outsourcing to date, and it has evolved rapidly in the last fifteen years (Dibbern et al. 2004, p. 11). The outsourcing of information services began as a result of Ross Perot and his company Electronic Data Systems (EDS) in 1963 (Dibbern, Goles et al. 2004). Since that time, outsourcing has continued to evolve as a strategic option for companies choosing to focus on their core competencies. Interestingly, there does not appear to be any slow-down in the outsourcing of information services, as suggested by the expected market growth rate of more than 19% in 2004 (Dibbern, Goles et al. 2004).

In addition to a continued focus on information services outsourcing, recent studies have begun to focus more specifically on business process outsourcing. According to Dibbern et al. (2004) it “refers to an outsourcing relationship where a third party provider is responsible for performing an entire business function for the client organization” (11). Since process outsourcing research is still in its infancy compared to information services outsourcing, and since it is largely an extension of information services outsourcing, prior research on the latter will provide a useful foundation upon

which this study has been built. In fact, researchers that have done exhaustive reviews of extant outsourcing research suggest that novel types and aspects of outsourcing such as application service provisioning, business process outsourcing, and offshore outsourcing would be better off by ‘standing on the shoulders’ of the extensive research that has already occurred in information services outsourcing (Dibbern et al., 2004) Following their guidance, this study leverages prior work related to information services outsourcing. In doing so we use prior work to deepen our understanding of the phenomenon under investigation while also using it as a means for identifying a gap for which this study contributes.

Accordingly, in this chapter a summary of information services outsourcing literature will be presented by drawing largely from the work of Dibbern et al. (2004). Though other surveys of outsourcing literature exist, theirs is recent, comprehensive, and draws on multiple perspectives for interpreting the current state of the extant work. This survey is supplemented by research on process outsourcing where doing so will be useful and beneficial to this study. This chapter divides the outsourcing research in two ways: (1) Research related to the stages of outsourcing, and, (2) the theoretical foundations present in extant literature.

2.1 STAGES OF OUTSOURCING

Dibbern et al. (2004) developed a conceptual framework to categorize the significant body of work related to information services outsourcing. They viewed outsourcing as an organizational decision making process and adopted Simon’s (1960)

four-stage model of decision-making. Though Simon's model is not specific to outsourcing, the author's found it appropriate in such a context because engaging in outsourcing represents a significant decision making process for organizations. Nevertheless, because Simon's model represents a general model of decision-making, Dibbern et al. (2004) adapted it to fit more closely within the outsourcing phenomenon. Adapting Simon's categorization schema allowed them to divide the stage model into two particular areas of inquiry: decision processes and implementation.

2.1.1 Decision Processes

Within the broader categorizations of decision-making, Dibbern et al. (2004) identified the following three major questions that companies face as they manage the outsourcing process: (1) why to outsource, (2) what to outsource, and, (3) which choice to make when deciding among outsourcing alternatives? Asking, "Why did company X choose to engage in outsourcing" relates to Simon's "intelligence" stage of decision making. In this stage, researchers are interested in the factors that affect an organizations perception of the advantages and disadvantages of outsourcing. Using this component of their classification schema, Dibbern et al. identify extant research that seeks insight on questions such as, "What are the conditions or situations (i.e. determinants or antecedents) that might lend themselves to a decision to outsource? And, what are the risks and rewards, or advantages and disadvantages, associated with outsourcing?" (p. 16).

An exemplary paper identified by the authors' under the "why?" categorization is

Loh and Venkatraman (1992) investigation of determinants of IS outsourcing, which adopted a diffusion of innovation lens while viewing outsourcing as an administrative innovation. Using exemplar diffusion models based on internal and external sources of influence, Loh and Venkatraman's (1992) pioneering work sought to understand why companies decide to outsource. Though Dibbern et al's (2004) "why" classification is sufficient for categorizing a significant body of existing work, they further delineated the already vast body of knowledge related to why companies choose to outsource. Among these areas for further categorization are empirical studies representing interpretivist epistemologies. The authors identified seven interpretive studies (see table 2), which are similarly motivated by questions related to why companies choose to outsource. Of these studies, all are either single or multiple case study designs. Moreover, the studies analyzed the sourcing decision from the perspective of the main antagonists in the research setting – individuals residing in the customer firm.

What to outsource may seem closely related to why to outsource. In fact, answering the question, "why should an organization outsource" could be a necessary antecedent to answering "what processes or functions within a firm should be moved outside of the firm." Nevertheless, the authors make a viable distinction in their review paper and offer a plethora of exemplary papers which were motivated by developing a deeper understanding of what organizations should choose to outsource. One such example is Grover et al.'s (1994) paper which examines whether predetermined organizational factors affect the degree of outsourcing within different IS functions. Their research showed a relationship did exist between organizational strategies, the way IT

was used within the organization, and firm resources.

Asking “which choice to make” is a question which is similarly dependent upon answering “what should a company outsource.” Thus, according to the authors’ classification, when answering the “what” question, companies are simply identifying processes and functions that are strategically viable candidates for outsourcing. After determining what should be outsourced, companies are faced with choosing which ones should indeed be moved outside of the firm and placed within the hands of a third-party provider. Within this classification, Dibbern et al. (2004) focus on internal procedures that assist an organization in deciding which choice to make. In doing so, they look specifically for research that examines the guidelines used within this decision making process. Though the literature in this area is sparse, compared to other aspects of their classification model, work from Ang & Slaughter (1998), which uses transaction cost economics to help understand the choice process, represents outsourcing research completed in this area. Please refer to table 2 for a summary of Dibbern et al. (2004) of outsourcing research fitting under the why, what, and which categories.

Table 2: Why, What, and Which Categories of Outsourcing Research

Outsourcing Stages	Articles	Contributions
Why?	Loh and Venkatraman (1992)	Attempt to identify determinants of IS outsourcing through a diffusion of innovation lens
What?	Grover et al. (1994)	Distinguished different IS functions and examined if the extent of outsourcing of each of these functions is related to a number of organizational factors, such as the IS budget as a

Outsourcing Stages	Articles	Contributions
		percentage of sales of a company.
Which?	Ang & Slaughter (1998) ; Chalos & Sung, (1998); Lacity and Willcocks (1995) ----- Lacity and Hirschheim (1995)	Suggest transaction cost economics can help guide choice ----- Offers some guidelines on outsourcing selection criteria as well as case studies show how organizations have actually made their choice.

2.1.2 Implementation

Within the broader categorization of implementation, Dibbern et al. (2004) identified the following two major sourcing questions that represent components of their five-stage model: (1) how to implement the sourcing decision, and, (2) what is the outcome of the sourcing decision? Asking how an outsourcing decision is implemented is again predicated on answering the first three questions of the authors' staged model. Under this area of categorization, the authors focused on extant literature which investigates research questions related to three key issues: how do customer organizations select a vendor, how are relationships structured, and how are the relationships subsequently managed. However, interestingly, there is little work under the implementation umbrella that focuses specifically on how service providers deliver services to many unique customers, how they address dual objectives simultaneously, and how they can achieve scalable growth. This gap represents an important area of concern that proved crucial in the overall execution of this investigation. In terms of investigating inter-firm relationships under the implementation umbrella, Klepper (1995) is identified as exemplary within this classification as it "explores the long-term relationships between

vendors and their customers using a sequential stage model of partnership development drawn from the management literature” (p. 16). The outcomes of this paper provide potential actions that can be taken to establish, grow, and strengthen the relationships between vendor and customer.

In the last stage of their five part model, Dibbern et al. (2004) review literature which focuses on evaluating the actual outcomes organizations have faced after taking part in outsourcing. Within this area, the authors looked at research which searched for answers to questions such as, “What are the experiences of organizations that have outsourced?” “What lessons learned might we glean from them?” And, “What implications do they have for the practice of outsourcing, not only for IS community but for business in general?” Aubert et al. (1998) is one such paper identified by the authors of this extensive literature review. Aubert and his fellow researchers investigate outsourcing outcomes that are potentially undesirable and possible factors that may enhance an organization’s risk of experiencing such detrimental results. In addition to Aubert et al. (1998), Dibbern and his research team provide an extensive list of extant literature which focuses on outsourcing outcomes. Both positivist and interpretivist epistemologies are represented within this classification. Please refer to table 3 for a summary of Dibbern et al. (2004) of outsourcing research fitting under the how, and outcome categories.

Table 3: How and Outcome Categories of Outsourcing Research

Outsourcing Stages	Articles	Contributions
How?	Klepper (1995)	Explores the formation of long-term relationships between outsourcing vendors and their customers using a sequential stage model of partnership development drawn from management literature.
	----- Lee and Kim (1999)	----- Investigate both the quality of the vendor client relationship and its impact on outsourcing success.
Outcomes	Aubert et al. (1998)	Investigate potential undesirable outcomes associated with outsourcing (e.g. service debasement).
	----- Ang and Slaughter (1998)	----- Outcome factors such as employee behavior
	----- Fitzgerald & Willcocks (1994)	----- Continuation of contracts
	----- Grover et al. (1996) Lee & Kim (1999) Saunders et al. (1997)	----- Client satisfaction
	----- Heckman & King (1994)	----- Vendor satisfaction
	----- Lacity et al. (1996)	----- Financial outcomes
	----- Hirschheim & Lacity (1998)	----- Perceptions of outsourcing from different stakeholders

2.2 THEORETICAL FOUNDATIONS

The classification schema developed by Dibbern et al. (2004) was developed to organize extant outsourcing literature based on a five stage model of decision making.

This proved useful as outsourcing is certainly a phenomenon that represents a series of organizational decisions that must be made to instantiate such a potentially transformational activity. However, in addition to the stage of the decision process a piece of research may refer to, there is likely also a theoretical perspective that was instrumental in framing the research questions and the empirical study. Therefore, in this section the predominant theoretical perspectives used in outsourcing research will be discussed. In doing so, the following three perspectives adopted by Dibbern et al. (2004) will be discussed: Strategic, Economic, and Social Organizational.

2.2.1 Strategic Theories on Outsourcing

Strategic theories focus on how firms create and implement strategies to achieve a chosen performance goal (Dibbern et al., 2004). There is a need to understand the role of strategy in the creation and evolution of organizations in order to develop a theoretical framework that managers can use to improve their decision making. In discussing the strategic perspectives on outsourcing, it is useful to distinguish between two levels of strategy: business level strategy and corporate level strategy. Business level strategy is functionally focused and most concerned with achieving internal efficiencies within functional units. In contrast, corporate level strategy is interested in understanding the causes of organizational growth by looking at key variables such as environmental characteristics, technology, and size (Child, 1972). The distinction between business level strategy and the corporate level is important from one simple perspective. From a business perspective one can keep our focus on internal factors that affect firm performance. Whereas, adopting a corporate strategy perspective can enable an individual

to focus more on the interaction between the organization and its environment. Therefore, there are two theories that are useful for focusing our attention on aspects internal to the firm (Resource Based View (RBV)) and external to the firm (resource dependence).

The resource based theory steps inside the boundaries of the firm and focuses on the tangible, intangible, and human assets that eventually lead to firm capabilities. The concept of the progression towards capabilities or competencies is important in understanding what the RBV of the firm is trying to explain. Organizational resources do not ensure profitability but the ability of a firm to turn their resources into capabilities that customers view as valuable enable the collection of economic rents. Wernerfelt created the RBV with his award winning paper in 1984. It was not until several years later that it was recognized as a significant contributor to the literature. As Wernerfelt discussed in his follow up paper in 1995, he merely laid the first stone to which others added to eventually construct a wall. Barney's paper in 1991 added significantly to the understanding of RBV by explaining the importance of four empirical indicators (value, rareness, imitability, and substitutability) capable of creating sustained competitive advantage for firms. Mohoney's paper in 1992 explains the adaptability of the RBV to other traditional major research programs. Mohoney's paper was especially valuable in communicating the importance of resources to be viewed as the catalysts for understanding other organizational phenomena.

2.2.2 Economic Theories on Outsourcing

Economic theories have proved useful for analyzing or explaining each of the five

stages of decision making presented by Dibbern et al. (2004). Of these economic theories, agency theories and transaction cost theories have proved useful for developing deeper understandings of the outsourcing phenomenon. Eisenhardt (1989) defined agency theory as being concerned with the assignment of tasks from the principle to the agent while using a contract as a structuring mechanism. Such a relationship can occur within the boundaries of a single organization, as well cross the boundaries of two disparate firms. According to Dibbern et al. (2004), “Agency theory is based on the conceptualization of the firm as a nexus of contracts between principals or stakeholders and agents” (p. 18). The basic assumption of agency theory is the subsistence of information asymmetries and dissimilar perceptions of risk between principle and agent. These differences between stakeholders provide a context by which the principle can set incentives to ensure the agent behaves appropriately. In the most fundamental sense, agency theory focuses on ensuring that agent behavior is consistent with the objectives set for by the principle and such assurance is implemented through a series of controls (Jensen & Meckling, 1976). In this sense, the contract is most often used as a means of control, and, consequently, it is the most significant idea associated with agency theory. However, the types of contracts are similarly important when analyzing outsourcing from an agency theoretic perspective. In such a context the outsourcing firms may prefer outcome-based contracts whereby they place risk with the vendor. In contrast, the vendor may be risk averse, and thus prefer a behavior-based contract (Eisenhardt, 1989).

Dibbern et al. (2004) refer to Hancox and Hackney (1999) as a representation of outsourcing research which utilizes agency theory. In this study the authors note, “...the

focus of agency theory is not the decision to source via the hierarchy or via the market. Agency theory in short, helps to expose problems of divergent interests within both markets and hierarchies” (p. 18). Lederer and Prasad (2000) provide another example of outsourcing which utilizes agency theory. In this study they examined a type of agency contract – an outcome-based contract – and its effects on meeting project deadlines and staying within budgets. The literature on contract types in outsourcing research is extensive and growing, and agency theory is instrumental in leading this effort.

Transaction cost theory was first initiated by Coase in 1937 and then further developed through the extensive work of Oliver Williamson (1975, 1979, 1981, 1985, 1991). The basis behind this theory is that utilizing the market can be a costly endeavor when compared to producing goods and services within the boundaries of a focal firm. Therefore, economic efficiency can be achieved by analyzing the cost differential between producing goods and services internally and transacting for them externally. The costs associated with transacting from the market are twofold: search costs which are considered operational and, monitoring and enforcing obligations which are considered contractual. A core purpose of transaction cost theory is to predict the activities that will exist within the firm versus outside of it, and in doing so to assist in delineating the boundaries of the firm. Such demarcations can exist after determining the limit of transactions governed by processes inside of the firm.

Transaction cost theory has been used extensively in outsourcing research. Anderson and Coughlan (1997) focus on two core and complimentary aspects of transaction theory: guarding against opportunistic behavior and asset specificity.

According to the theory, assuming that parties will perform with the best interests of the partnership in mind is irresponsible. Therefore, one mechanism useful in guarding against such self-serving behavior is co-developing assets that are worth more within the boundaries of an interorganizational relationship than they would be outside of it. Such an imbalance in value results in a useful incentive to reduce opportunistic behaviors for those parties which find themselves on the low end of the value appropriation spectrum. Brandon and Segelstein (1984) explicate the complexity inherent in an outsourcing contract that is designed to manage uncertainty – another important concept within the transaction cost theory and highly relevant to outsourcing contexts. The authors discuss the intricacies of interorganizational governance between two companies engaged in an IT outsourcing relationship. Details such as standards for determining quality, volume fluctuations, and response times are just a few of the areas covered by such contracts to align incentives and manage the integration of inter-organizational processes. Please refer to table 4 for a summary of Dibbern et al. (2004) theoretical categorizations of outsourcing research.

Table 4: Theoretical Classifications of Outsourcing Research

Theoretical Foundation	Level of analysis	Basic Assumptions	Outsourcing Articles
Agency Theory	Organizational	Asymmetry of information, differences in perceptions of risk, uncertainty	(Hancox and Hackney 1999) (Sharma 1997) (Sridhar and Balachandran 1997) (Wang and Barron 1995) (Wang, Barron et al. 1997)
Transaction cost theory	Organizational, individual	Limited rationality, opportunism	(Aubert, Rivard et al. 1996) (Ang and Straub 1998) (Ngwenyama and Bryson 1999) (Loh 1994) (Cheon, Grover et al. 1995) (Lacity and Willcocks 1995)

Theoretical Foundation	Level of analysis	Basic Assumptions	Outsourcing Articles
			(Loh and Venkatraman 1995) (Aubert, Rivard et al. 1996) (Grover, Cheon et al. 1996) (Nam, Rajagopalan et al. 1996) (Nelson, Richmond et al. 1996) (Gallivan and Oh 1999) (Hancox and Hackney 1999) (Wang 2002)
Resource theories [Resource based and resource dependency]	Organizational	A firm is a collection of resources, and resources are central to a firms strategy	(Iacoby 1998; Jae-Nam and Young-Gul 1999) (Beath and Walker 1998) (Jae-Nam and Young-Gul 1999) (Poppo and Zenger 1998) (Teng, Cheon et al. 1995) (Grover, Cheon et al. 1994; Cheon, Grover et al. 1995) (Grover, Cheon et al. 1994) (Grover, Cheon et al. 1996)

2.3 GAP IN EXTANT OUTSOURCING RESEARCH

Though focused predominantly on information systems outsourcing, the overview by Dibbern et al. (2004) provides an extensive description of extant outsourcing research and shows that, while there has been a significant amount of work in this area, most of the research (1) is primarily variance rather than process oriented, (2) adopts an organizational unit of analysis, (3) largely adopts a customer perspective, and, (4) rarely goes inside the boundaries of service organizations to investigate how such firms address the paradoxical tension between standardization and customization to achieve scalable growth.

Process and variance models have been equally important in examining an organizational phenomenon—such as outsourcing. (Mohr, 1982; Newman and Robey,

1992). According to Dibbern et al. (2004), “Out of the 84 studies, only three have taken a process theoretic approach. The majority of papers (40) used a variance theory to explain the dependent variable” (p. 85). Furthermore, of the 80 studies they investigated, there were 40 papers that could not clearly be identified as either using a process or variance theory. The papers that adopted a process perspective (Loh and Venkatraman 1992; Hu, Saunders et al. 1997) focused on innovation diffusion theory to explain IS outsourcing. According to Dibbern et al. (2004), “viewing outsourcing from a process perspective is especially attractive in light of the dynamic nature of outsourcing and the emerging interest in the implementation issues” (p. 85).

When investigating whether an outsourcing study had been conducted at either the micro or macro levels of analysis (Markus and Robey, 1988), it became clear that IS outsourcing had primarily been analyzed at the firm or industry level rather than the individual or functional level. Although Dibbern et al. (2004) found that many outsourcing studies claimed to be macro in nature, most actually “tried to explain their dependent variables using constructs abstracted from information systems function level. In addition, the dependent variables often were treated on an overall IS level, not distinguishing between different IS functions” (p. 86). According to Dibbern et al. (2004), the outsourcing phenomenon is very complex and needs to be studied at multiple levels, including individual, organization, firm, and society. Of the studies that focused on the individual level of analysis, most centered on the decision making perspective whereby researchers investigated the determinants that led managers to decide to commit their firms to outsourcing relationships. Additionally, according to Dibbern et al., “Firm-

level studies include a plethora of papers that focus on the organization that is outsourcing its IS – the customer – and a comparative scarcity of studies that take the vendor perspective into account” (p. 89). This study fills his gap by adopting a multi-level, process oriented, and provider centric approach to investigate how and why patterns of collective action (within and between firms) relates to the tension between standardization and customization in IT-enabled service provisioning.

There have been no studies on outsourcing implementations that focused on how individuals working together in nets of collective action developed IT enabled services that assisted a provider organization in addressing the paradoxical tension between standardization and customization. Furthermore, despite the uncertainty around outsourcing efficacy, there have been few implementation studies that have delved deeply into the contextual complexities of outsourcing to explore how individuals working together develop capabilities to effectively manage the complexity of delivering services to many unique customers. Because extant outsourcing implementation research has typically been driven by frameworks constructed at the organizational unit of analysis, most studies pay little attention to the socio-cognitive sensemaking processes that are actually responsible for shaping collective behavior. Such organizational paradigms have certainly contributed to the collective understanding, yet they have often neglected the emergent nature of organizational action that results from sensemaking.

CHAPTER 3: SENSEMAKING IN ORGANIZATIONS

3.1 INTRODUCTION

A theoretical lens integrating principles from both psychology and sociology is appropriate for exploring how and why collective action relates to the standardization and customization of IT-enabled service provisioning. This chapter presents a detailed description of the socio-cognitive sensemaking framework and provides a theoretical linkage to collective action. Though the concept of sensemaking has been widely adopted in organizational research, this study focuses primarily on the extensive work of Karl Weick. Weick's work is far-reaching, providing what seems like a university's worth of knowledge in the papers and books he has contributed to scholarly discussion. The chapter first introduces his concept of sensemaking, and then presents six core properties of the multilevel framework (see table 6 for summary). It concludes with a short explanation for how sensemaking was used in this study as a valuable interpretive framework for studying complex organizational systems.

Sensemaking is a useful framework for investigating the social processes of organizing as they are 'shaped by' and 'shape' the actors that are embedded in discursive activity. It is this insight into the process of organizing that makes the sensemaking paradigm especially useful for interpretive styles of research with deep contextual description as one of its intents. Moreover, because sensemaking can provide deep insight into how organizational processes are shaped, and how they subsequently shape behavior, it is an appropriate framework for gaining insight into how collective action relates to the

tension between developing standardized and customized service offerings. From a sensemaking framework, collective action occurs out of a process of interaction with other sensemakers.

3.2 THE CONCEPT OF SENSEMAKING

Organizational sensemaking (Weick, 1993, 1995, 2001) has been used extensively as a theoretical framework for studying social organizations. Emerging from the enactment theory of organizations (Weick, 1979), sensemaking has been used widely by researchers investigating organizational communication (Cooren, 2004; Manning, 1992; Taylor & Van Every, 2000; Weick, 1983, 1989), issues related to general organizational management (Drazin, Glynn, & Kazanjian, 1999; Gioia & Chittipeddi, 1991), and organizational decision making (Bogner and Barr, 2000; Starbuck & Milliken, 1988). Researchers interested in organizational sensemaking focus on how, why, and with what effects actors construct interpretations of organizational events (Huber and Daft 1987) and “structure the unknown” (Waterman 1990) while seeking to create order (Weick 1995). Sensemaking is an ongoing process that results from organizational actors seeking to interpret and control their environment (Weick, 1993). Thus, from a sensemaking perspective, organizations are interpretation systems made up of interacting individuals who create order through inter-subjective communication. Importantly, interpretation is only an aspect of sensemaking, and this distinction is useful for further defining why sensemaking is different from other commonly used explanatory paradigms.

Interpretation is often used synonymously with sensemaking (Weick 1995).

According to Weick, “Such synonymous usage is not a blunder, but it does blur some distinctions that seem crucial if one wishes to understand the subtleties of sensemaking in organizational settings” (p.6). Weick differentiates the two by arguing that interpretation is a component of sensemaking and typically occurs after the creation of a social artifact or structure (e.g., text, social rule, IT system). In contrast, sensemaking addresses the creation of the social artifact as well as how it is subsequently interpreted. Thus, sensemaking is about authoring *as well as* reading (Weick 1995). Yet, the temporal distinction, or causal ordering, may not be sufficient for reducing the ambiguity around the two terms. To further clarify, Weick discusses characteristics of interpretation and sensemaking. In doing so, he uses (Mailloux 1990) definition of interpretation as an “acceptable and approximating translation” to explain the hierarchical nature and the social and process oriented characteristics of the concept. Weick explains:

An “acceptable” reading is one that has some stature in a community. An “approximating” reading is one that attempts to capture something, such as an intention, that is presumed to be “there.” And “translation is an activity such as historicizing, allegorizing, or punning that gives form to the approximation. In short, interpretation literally means a rendering in which one word is explained by another. When interpretation is equated with translation, the interpretation points in two directions simultaneously. It points toward a text to be interpreted, and it points toward an audience presumed to be in need of the interpretation. However, this mediation is not without context, which means that an interpretation is never a “private” reading. Instead, any reading assumes status “within the power relations of a historical community” (Mailloux, 1990, p.127), meaning that most interpretations involve political interests, consequences, coercion, persuasion, and rhetoric. (p. 7)

Additionally, Weick (1995) introduces the work of Porac, Thomas, and Baden-Fuller (1989) and points to the four interpretive assumptions that frame their work (see table 5 below). Using Porac et al.’s four points for purposes of comparison, Weick offers the following argument to further specify the uniqueness of sensemaking:

Porac et al.'s four assumptions about the nature of an interpretive study focus on attending to cues and interpreting, externalizing, and linking these cues. What is left unspecified are how the cues got there in the first place and how these particular cues were singled out from an ongoing flow of experience. Also unspecified are how the interpretations and meanings of these cues were then altered and made more explicit and sensible, as a result of "concrete activities." The process of sense making is intended to include the construction and bracketing of the textlike cues that are interpreted, as well as the revision of those interpretations based on action and its consequences. Sense making is about authoring as well interpretation, creation as well as discovery. (p. 8)

Table 5: Porac et al.'s Four Assumptions about Interpretive Study

1.	Activities and structures of organizations are determined in part by micro-momentary actions of their members.
2.	Action is based on a sequence in which "individuals attend to cues in the environment, interpret the meaning of such cues, and then externalize these interpretations via concrete activities."
3.	Meaning is created when cues are linked with "well-learned and/or developing cognitive structures."
4.	People can verbalize their interpretations and the processes they use to generate them.

3.3 SIX PROPERTIES OF SENSEMAKING

3.3.1 Identity

A critical aspect of sensemaking is the inherent inseparability of the "self" and the organizational system(s) an individual inhabits. As sensemakers, people travel through the world seeking to make sense of their surroundings. They do so by noticing, gathering, and interpreting informational stimuli within their environment. However, what one notices depends on who they are and the organizations they belong to.

A person participating in sensemaking could be considered simply a sensemaker. However, sensemaker is singular, representing an individual, and according to Weick,

“No individual ever acts like a single sensemaker. Instead, any one sensemaker is, in Mead’s words, a ‘parliament of selves’” (p.18). An individual’s cognitive framework is simply the lens through which they look at the world. It is the path-dependent result of their lives’ experiences, influenced by personal desires and affected by the context and organizations they inhabit. Such frameworks are seldom constructed in isolation, as individuals travel through their lives interacting with other individuals who are on a similar journey. Hence, the meaning of sensemaking begins to change at the point where individuals begin interacting with other individuals. It changes from singular to plural—from individual to organizational.

The concept of identity is paramount to understanding sensemaking because it points to the inherent tension in socio-cognitive studies. Integrating theories of micro-psychology with those from macro-sociology, identity focuses on the interaction between the individual and the organization, and the process by which each affects the other. Individuals are forced to play many roles, thus they have many identities. An individual born into a family of brothers and sisters becomes also either a brother or sister. Such an individual is a son or a daughter, grandson or granddaughter, and perhaps one day a mother or father too. The CEO might be a board member, perhaps a little league coach, and maybe even a volunteer fireman. Thus, one person can be so many, while often trying to figure out who the real “self” is behind all of these identities. Sensemaking is complicated not only because it encompasses the individual and organizational. It also encompasses many other individual selves residing in the same body. Thus, sensemaking is the process by which individuals shift among interactions, while simultaneously

shifting among so many selves.

The interaction largely determines the self: a man interacting with his wife is now a husband, the woman interacting with her subordinate is the boss, and so forth.

Therefore, the interaction determines the self, and the self determines what is “out there” to notice, to interpret, and to construct meaning of. Thus, sensemaking is dependent upon identity, which provides the lens through which people notice their environment within any given situation. Since identity determines in large part what people notice in a particular context, it plays a crucial role in sensemaking. Additionally, it is important to reiterate that individual and organizational identities are closely linked. Weick provides evidence for this important aspect of identity by referencing Dutton and Dukerich (1991, p.548) who say:

Individuals' self-concepts and personal identities are formed and modified in part by how they believe others view the organization for which they work... The close link between an individual's character and an organization's image implies that individuals are personally motivated to preserve a positive organizational image and repair a negative one through association and disassociation with actions on issues

3.3.2 Retrospective

The fact that a preponderance of sensemaking occurs to make sense of something that has already happened is perhaps obvious upon initial reflection. More generally, the retrospective nature of sensemaking is important for one particular reason: the discontinuity between human thought and reality. Thus, the world is continuously moving around us, and our thoughts exist to make sense of what we notice, but such a discontinuity is heightened by our inherent human limitations. We see only a small part of the larger world we inhabit.

The retrospective reality of human thought and its effects on human action has been widely studied in the organizational and philosophical literature. Weick utilizes the works of noted intellectuals (Hartshorne 1962; Schutz 1967) to synthesize two concepts related to the temporal dimension of human thought: *pure duration* and *discrete segments*. Weick seeks to clarify the difference between the two by referencing Schutz (1967, p.47):

Pure duration can be described using William James's image of a "stream of experience." Note that experience is singular, not plural. To talk about experiences implies distinct, separate episodes, and pure duration does not have this quality. Instead, pure duration is a "coming-to-be and passing-away that has no contours, no boundaries, and no differentiation."

Weick acknowledges that readers may be unable to relate to the qualitative aspects of continual flow. Instead, he says, "experience as we know it exists in the form of distinct events." But, according to Weick, the only way we get this impression is by stepping outside the stream of experience and directing attention to it (p. 25). Moreover, to direct attention to something, it must exist, and "it" has already passed. Weick references Schutz again to further distinguish pure duration from discrete segments (1967):

When, by my act of reflection, I turn my attention to my living experience, I am not longer taking up my position within the stream of pure duration; I am no longer simply living by flow. The experiences are apprehended, distinguished, brought into relief, marked out from one another; the experiences which are constituted as phases within the flow of duration now become objects of attention as constituted experiences....For the Act of attention – and this is of major importance for the study of meaning – presupposes an elapsed, passed-away experience – in short, one that is already in the past. (p. 51)

The difference between experiencing and experiences represents a temporal distinction of sorts. Experiencing refers to the action taking place over time rather than

the reflection of that action. It represents the process rather than the name given to distinguish such a process. It represents the how rather than the what. Experiencing represents an absence of human thought. Thus, human thought seems to be the differentiator. As such, experiences are the thoughts associated with an action. Because thought is the differentiator, it provides a framework for reflecting on the intricacies of the purpose of thought itself. Thus, thought exists to provide meaning to reality. Weick offers four aspects of meaning that represent properties of experiences.

First, meaning is an attentional process, although what is paid attention to has already occurred. Second, because attention is directed backward in time, whatever is occurring at the moment will influence what is discovered when people try to create meaning of past occurrences. Third, because time to be interpreted has elapsed, anything that affects memory will affect the sense that is made of it. Fourth, the notion of responding to a stimulus is misleading. Instead, a more accurate description of human action is response—stimulus. Thus, humans respond to what they notice in front of them, but the stimulus is only defined after it has already been responded to.

Because human thought is the cognitive outcome of individual sensing, the person doing the thinking plays a crucial role in the development of such thought. Such people are individuals with particular motives and purposes for thinking and responding. Consequently, their desires and reason for acting influence what they notice in the first place, and they affect how such thought development occurs over time. For that reason, it is important to understand the individual motives influencing sensemaking behavior. Organizational structures can influence individual sensemaking by helping to frame what

individuals notice in the first place. They influence what individuals pay attention to in their environment and they provide a purpose for their behavior. Therefore, structure acts almost as a lens through which individuals can look to guide action. Moreover, such a lens limits what an individual may notice, and consequently ends up reducing equivocality, which, in turn, reduces behavioral options. As a lens for thought and action, organizational structure is useful for connecting individuals both vertically and horizontally within an organization.

Equivocality is another important concept for understanding the retrospective property of sensemaking. Because people's experiences are themselves thoughts that represent past instances, they are only representative of a small percentage of the actual happenings. Thus, no matter how informed someone may claim to be, chances are they only know some aspects of any given situation. To make matters more difficult from a sensemaking perspective, most individuals have many different areas of their lives that they are concurrently experiencing. From an organizational perspective, this simply relates to the fact that individuals often have many different projects going on at any given time. While having many projects occurring simultaneously, and while it is apparent that each individual knows only a portion of any given project, equivocality is a reality in organizational life. Moreover, it is not unlikely that individual projects represent individual goals, and as much as some projects may be separated by disparate goals their purposes may also contradict one another. Therefore, according to Weick:

The problem is that there are too many meanings, not too few. The problem faced by the sensemaker is one of equivocality, not uncertainty. The problem is confusion, not ignorance. I emphasize this because those investigations who favor the metaphor of

information processing (e.g., Huber, Ullman, & Leifer, 1979) often view sensemaking, as they do most other problems, as a setting where people need more information. That is not what people need when they are overwhelmed by equivocality. Instead, they need values, priorities, and clarity about preferences to help them be clear about which projects matter. Clarity on values clarifies what is important in elapsed experience, which finally gives some sense of what that elapsed experience means. (p. 28)

A significant area of prior research related to sensemaking focuses on understanding the effect of hindsight bias. More specifically, prior research exhibits the tendency to over-simplify explanations of prior events and align such descriptions with already experienced outcomes. Weick describes such a likelihood by saying people often remember indeterminate events to be much more determinate than one would experience in pure duration. Moreover, he references Starbuck and Milliken (1998, p. 37-38) who say the nature of determinacy is likely to be affected by one's perception of outcomes. Meaning, "if the outcome is perceived to be bad, then antecedents are reconstructed to emphasize incorrect actions, flawed analysis, and inaccurate perceptions, even if such flaws were not influential or all that obvious at the time" (p. 28). In the end, Weick sums up the importance of understanding the effect of hindsight bias on sensemaking processes by saying, "Hindsight both tightens causal couplings and reconstructs as coupled events a history that leads directly to the outcome" (p. 28).

3.3.3 Enactive

The first two properties focus mostly on factors that influence sensemaking and less on how individuals make use of information. Sensemaking is in large part a process of categorization, whereby humans sense information from the environment and then process it by comparing to previously collected information and categorizing it accordingly. The enactment property focuses specifically on that process of

categorization, how it occurs, and the factors that influence the process rather than on the initial sensing process. The enactment process emphasizes the evolutionary nature of sensemaking by explaining the effect categorizations have on future sensemaking. The process of categorizing continues over time and has a significant effect on the ongoing sensemaking processes that occur in organizational life. Weick explains the process by saying, "When people enact laws, they take undefined space, time, and action and draw lines, establish categories, and coin labels that create new features of the environment that did not exist before" (p. 31).

The "environment" is a powerful concept in organizational studies, and often takes on diverse meanings depending on discipline and time period. In much organizational literature, the environment is seen as a given, existing whether or not an organization or individual is around to be affected by it. In many cases, the environment is viewed as static, and is used as a conceptual tool to separate an individual or an organization from its boundaries. The sensemaking framework departs from this traditional perspective in one fundamental way. Instead of being seen as a singularly large fixed entity, the environment is considered to be the result of the sensemaking process itself. Instead of existing in isolation, or separate from the individual, the sensemaking framework views individuals as a part of the environment. According to Weick, the phrase "the environment" insinuates that it is a fixed entity and people are only passive observers. Alternatively, people truly produce the environment they face. The different perspective that results from the sensemaking framework fundamentally alters the way in which organizational behavior can be analyzed. Instead of looking

towards the environment as a factor affecting behavior, researchers leveraging the sensemaking framework focus more on the ongoing interaction between the individual and/or organization, and the environment. Weick continues to reiterate the point that people receive stimuli as a result of their own activity. Moreover, to substantiate his point he references Follet (1924) who says, "We are neither the master nor the slave of our environment" (p. 32).

To further explain the concept of enactment, Weick leverages the power of metaphor as a means for communicating complex concepts. One example is the metaphor of a fruit tree for explaining two important aspects of the enactment property. The fruit tree metaphor provides a useful visual for explaining how people and their environment can interact and affect each other over time. A fruit tree may already exist prior to a human tending to it. Nevertheless, such a relationship may change from one representing passive observation to proactive interaction if one decides to work with the tree while seeking to increase its fruit bearing potential. In such a case, an individual may begin to fertilize and care for the fruit tree without any initial feedback. Yet, over time, the fruit tree may respond to such care by bearing extraordinarily beautiful and tasteful fruit. The fruit tree was thus affected by the human intervention, and the feedback provides the human with further motivation to continue the interactive relationship between tree and man. This represents the agency aspect of sensemaking, that humans do have the power to interact with and change their environment. This metaphor also represents the evolutionary and interdependent nature of sensemaking. People create their environment as much as their environment creates them.

3.3.4 Social

A valuable aspect of the sensemaking framework is its integration of both individual and organizational units of analysis¹. The word “sensemaking” creates an inherent blind spot by tempting people to think in terms of an individual level of analysis, thereby forgetting the social aspects of sensemaking (Weick, 1995). The deficiency in much social science research seems to perpetuate itself over time, as analytical models leveraging one or the other levels of analysis often end up infiltrating entire disciplines and programs of study. When applied to organizations, an analytical model based solely at one level of analysis is likely to miss out on much of the complexity that arises from social interaction. Decisions are not made in isolation within organizational settings. Instead, they are often made in response to the conduct of others. Thus, according to (Burns 1961) and referenced by Weick, "In working organizations decisions are made either in the presence of others or with the knowledge that they will have to be implemented, or understood, or approved by others. The set of considerations called into relevance on any decision-making occasion has therefore to be one shared with others or acceptable to them" (p. 118).

The distinction between individual and organizational units of analysis is often difficult to maintain when analyzing behavior at either level. One important reason is the

¹ This multi-level characteristic was also mentioned when illustrating the identity property of sensemaking, as that too focused on the interrelationship between individual and organizational units of analysis. However, one should not confuse the properties because they are both multi-level and speak to the integration of individual and organizational units of analysis. The identity property is about how individuals define their identities in relation to the organization, and how identity construction occurs at the individual and the organizational level. In contrast, the social property is about collective action, and how talk, discourse, interaction, conversation, and meaning creation facilitate it.

temporal element of social influence. Thus, many researchers exploring the effects of social structure on individual sensemaking search for identifiable objects or specified human interactions that influence individual thinking and behavior. Although at times these can be identified and interaction between two or more people can be analyzed through means such as discourse analysis, interaction in real time is not the only way in which social influences can affect sensemaking. According to Weick, “Social influence on sensemaking does not arise solely from physical presence—that is the whole point of the phrase symbolic interaction” (p. 40). Therefore, sensemaking can be a social process within one person, because such a process is contingent on others over time.

The integral nature of sensemaking, which provides a multilevel framework for understanding individual and collective action, is the result of many unique theories of human behavior. One such theory that has been especially influential for developing the sensemaking framework is the work associated with symbolic interactionism.

Investigators who talk about sensemaking often invoke imagery associated with symbolic interactionism (Fine 1996) because the theory keeps in play a crucial set of elements, including self, action, interaction, interpretation, meaning, and joint action. This work originates from Mead who was insistent that mind and self begin and develop with a social process. Because social interaction is often mediated through language, researchers interested in sensemaking pay special attention to communicative interaction.

Conversational, discourse, and other interpretive analyses are often invoked as analytical methods for understanding behavioral patterns within such contexts.

Weick makes a concerted effort to ensure that users of the sensemaking

framework will not fall into the trap of discussing sensemaking as solely an individual activity. He makes such a point explicit in his framework because neglecting either the individual or the social effects would go against the spirit of the entire theoretical framework. Nevertheless, he also makes a point to acknowledge the complexity of social influence. Weick says,

Although it is important to discuss sensemaking as a social activity, it is also important to maintain a differentiated view of the forms social influence may take. Thus, people can coordinate their actions on more than just shared meanings. They can coordinate them on equivalent meanings, distributed meanings, overlapping views of ambiguous events, or nondisclosive intimacy. (p. 42)

The point is, the coordination mechanism is itself a complex phenomenon, and it is a point of extreme interest and useful inquiry for social researchers. Neglecting the complexity of the social effects on sensemaking would be akin to focusing on only one unit of analysis.

3.3.5 Ongoing

As previously mentioned, the concept of time is important for understanding sensemaking. Time is especially important to the ongoing property, because it provides a means for thinking about the beginning and ending points of an episode of sensemaking. However, upon early reflection, one will understand that there is no beginning or ending point connected to sensemaking. As communicated through the concept of the hermeneutic circle, there are no starting points in a social phenomenon. Weick references (Burrell and Morgan 1979) in their paraphrasing of Dilthey who adapted the so-called hermeneutic circle to social phenomenon. Dilthey said, "there are no absolute starting points, no self-evident, self contained certainties on which we can build, because we

always find ourselves in the middle of complex situations which we try to disentangle by making, then revising, provisional assumptions” (p.43).

Winograd and Flores (1987) discusses Heidegger’s (1962) idea that people find themselves thrown into ongoing situations. They term this "thrownness." They go on to list six properties of thrownness: (1) You cannot avoid acting. Your actions affect the situation and yourself, often against your will. (2) You cannot step back and reflect on your actions; you are thrown on your intuitions and have to deal with whatever comes up. (3) The effects of action cannot be predicted. The dynamic nature of social conduct precludes accurate prediction. (4) You do not have a stable representation of the situation. Patterns may be evident after the fact, but at the time the flow unfolds there is nothing but arbitrary fragments capable of being organized into a host of different patterns or possibly no pattern whatsoever. (5) Every representation is an interpretation. There is no way to settle that any interpretation is right or wrong, which means an "objective analysis" of a given situation is impossible. (6) Language is action. Whenever people say something, they create rather than describe a situation, which means it is impossible to stay detached from whatever emerges unless you say nothing, which is such a strange way to react that the situation is deflected anyway.

To think about sensemaking as a recurring process over time provides a useful framework for reflecting on certain intricacies. It is unlikely that individuals will be in a purely objective state as they participate in pure duration. Thus, much of this existence is happening to them before they have the ability to reflect on their situational context and adjust their action to align effectively with the environment with which they are

interacting. As such, interruptions to the ongoing flow provide a powerful mechanism for adjusting thought and focus of a particular individual engaged in sensemaking. Moreover, such interruptions provide a useful mechanism for researchers interested in sensemaking as they are often correlated with other power concepts in cognitive psychology. For instance, disruptions in flow are largely responsible for the affecting emotional responses in sensemakers.

Weick discusses the relationship between sensemaking, emotion, and interruption of ongoing projects by using ideas proposed by (Berscheid 1985). Berscheid argues that the perception of arousal triggers a rudimentary act of sensemaking and it provides a warning that there is a stimulus to which attention must be paid in order to initiate appropriate action. Weick suggests:

The variables of arousal and cognitive appraisal are found in many formulations dealing with emotion (e.g., Frijda, 1988), but the unique quality of Mandler and Berscheid is their focus on the interruption of action sequences as the occasion for emotion. Standard Operating Procedures (SOPs) are a good example of organized action sequences. These procedures tend to become more tightly organized the more frequently they are executed. The interruption of an ongoing SOP is a necessary condition to trigger an autonomic nervous system arousal. (p. 46)

3.3.6 Extracted Cues

Sensemaking is a difficult process to investigate as it typically happens so rapidly. Therefore, according to Weick, "Because sensemaking tends to be swift so we are more apt to see its products rather than the process" (p. 49). To deal with the difficulty, Weick recommends watching how people deal with prolonged puzzles while paying special attention to the ways "people notice, extract cues, and embellish that which they extract" (P. 49). Accordingly, the process of extraction, and the intricacies that define it, is central

to understanding the sensemaking framework.

Perhaps the most important aspect of “extraction” is its role in simplifying an otherwise complicated world. Instead of gathering information endlessly, extraction enables individuals to reduce the information needed to make sense of a particular object or situation. The reduced need for information results from the tendency to generalize a collected informational cue to the entire entity under analysis. Extracted cues represent only an aspect of a larger entity; they are simple structures that assist individuals in developing a greater sense of a particular situation. According to Weick, such simple structures are not only useful for sensemaking, but they are especially important mechanisms for distributing power within an organization. Having control over the simple structures that subsequently influence future sensemaking is akin to having influence on behavior. It is important to note that extraction is only an aspect of the greater sensemaking process. Therefore, an extracted cue acts as a foundation for the path-dependent process of sensemaking. It does not determine the outcome of such a process; it merely sets it in motion.

Weick is adamant about the importance of understanding contextual influences on the cue extraction process. People in organizations are in different locations and are familiar with different domains and as a consequence they have different interpretations of common events (p. 53). To further clarify the importance of context, Weick references the work of Starbuck and Milliken (1988) discussing the different views of people located at different levels in a hierarchy:

People with expertise in newer tasks tend to appear at the bottoms of hierarchies and to interpret events in terms of these newer tasks and they welcome changes that will offer them promotion opportunities and bring their expertise to the fore. Conversely, people at the tops of organizational hierarchies tend to have expertise related to older and more stable tasks, they are prone to interpret events in terms of these tasks, and they favor strategies and personnel assignments that will keep these tasks central. (p 53)

Sensemaking is not simply an idealistic pursuit of some objective truth. While it would be hard to argue that developing accurate interpretations of the world is not a high level objective of the sensemaking process, such a myopic perspective fails to account for the knowledge gained from inaccuracy. Accordingly, when it comes to sensemaking, the value is in the process of understanding rather than the understanding itself. Thus, much can be learned if mistakes are made while engaged in sensemaking. As Weick proclaims, "Extracted cues evoke action, and processes of sensemaking are often forgiving. Almost any point of reference will do, because it stimulates a cognitive structure that then leads people to act with more intensity, which then creates a material order in place of a presumed order" (Weick 1983).

Table 6: Summary of Sensemaking Properties

Property	Description²	References Used by Weick
Identity	People ask themselves, 'what implications do these events have for who I will be?' (Weick, 1995, 23-24). Identities are developed at two levels: the organizational and individual. Thus, individuals explore and construct their identities based on how they perceive the identity of the larger group.	Knorr-Cetina (1981) Erez & Earley (1993) Dutton & Dukerich (1991) Reason (1990) Turner (1987)
Retrospective	Actions are known only when they have been completed, which means we are always a little behind or our actions are always a bit ahead of us. (Weick, 1995, 26). For example, sense made from past experiences influences the categorization of an emerging issue and	Starbuck & Nystrom (1981) Schutz (1967) Hartshorne (1962) Brunsson (1982) Gollwitzer (1990)

² Summary descriptions adapted from Eckel and Kezar, 2003.

Property	Description²	References Used by Weick
	shapes future action.	Gephart (1992)
Enactive	Sensemaking a process of noticing, interpreting, framing, and manipulating an uncertain environment. People develop structure around equivocal situations in ways that make sense to them.	Pondy & Mitroff (1979) Follett (1924) Burrell & Morgan (1979) Eagleton (1990) Hassard & Parker (1993) Ring & Van de Ven (1989)
Social	Sensemaking enables collective action which occurs through talk, discourse, and conversation. It is dependent upon the interactions of people working together to create meaning by obtaining information, sharing information, acting, and reacting.	Walsh & Ungson (1991) Burns & Stalker (1961) Lave & Wenger (1991) Miller (1993)
Ongoing	Sensemaking is constant as people are thrown into a situation and must continuously engage in the process of sensemaking. Interruptions alter the ongoing flow of everyday life, causing heightened awareness around those disruptions.	Katz & Kahn (1966) Ashmos & Huber (1987) Winograd & Flores (1986) Snyder & White (1982) Van Maanen & Kunda (1989)
Extracted Cues	Extracted cues provide points of reference that shape the sensemaking process. They are simple, familiar structures that are seeds from which people develop a larger sense of what may be occurring. (Weick, 1995, 50). Context affects what is noticed and how it is interpreted.	Smircich & Morgan (1982) Shotter (1983) Mowday & Sutton (1993) Salancik & Pfeffer (1978) Kiesler & Sproull (1982)

3.4 HOW SENSEMAKING IS USED IN THIS STUDY

This study has investigated patterns of collective action within a large outsourcing provider and two of their largest customers during the provisioning of IT-enabled service provisioning. Accordingly, the purpose of this study was to understand how and why patterns of collective action relate to the tension between standardization and customization in delivering these services. In doing so, this investigation explored the complex social processes that ‘shape’ and are ‘shaped by’ the individuals that seek to

coordinate their collective action. Therefore, to investigate the research question guiding this study we delved deep into the contextual peculiarities of social organizing processes and examined the procedural antecedent to collective action: sensemaking.

From this perspective, this study sees collective action as a macro process that occurs through the complex social process of organizational sensemaking, which transpires as an ongoing effort whereby individuals seek to create order by making retrospective sense of their environment (Weick 1993, 1995, 2001). Furthermore, “reaching convergence among members characterizes the act of organizing (Weick 1979) and enables the organization to interpret as a system” (Weick 1984 p. 285). Thus, an organization is seen as an interpretive system whose collective action is the result of individuals engaged in sensemaking processes that must battle the tensions inherent in a pursuit of convergence. As a result, to study collective action it was useful to investigate sensemaking within a real life context.

In this study, sensemaking was used as an analytical lens acting as a “sensitizing” device to interpret the data collected as we sought to understand the nature of collective action within a process service organization and in relation to their key customers. According to Klein and Myers (1999) in interpretive research “theory is used in a different way than it is used in positivist research; interpretive researchers are not so [much] interested in ‘falsifying’ theories as in using theory more as a ‘sensitizing’ device to view the world in a certain way” (p. 75). Hence, the six properties of sensemaking described in this chapter were used as components of the overall sensitizing device used to interpret the data (collected through the investigation) during the deductive phase of

analysis. The following chapter will describe in detail the adopted interpretive case study.

CHAPTER 4: RESEARCH APPROACH

This chapter describes the research approach that was used in this investigation. Within the spirit of qualitative research, and before presenting the research methodology, the overall paradigm guiding this study is offered. Subsequently the case study design, data collection strategies, analysis procedures, and site descriptions are presented along with the rationale for chosen them.

4.1 RESEARCH PARADIGM

Mason (1996) argues that researchers should “be clear about what is the essence of their enquiry, and should express this as an ‘intellectual puzzle’ with a clearly formulated set of research questions” (p.13). To assist in such a feat, Mason asks five questions as a basis for designing a rigorous study. First, she asks what is the nature of the phenomena, or entities, or social ‘reality’ that one seeks to investigate? Then, after determining what is being examined, Mason inquires into what might represent knowledge or evidence of the entities or social ‘reality’ that is investigated? Third, she asks, what topic, or broad substantive area, is the research concerned with? Once the topical area is identified, Mason then asks for explication of the intellectual puzzle. Finally, she recommends identifying the research questions guiding the study.

The questions should not lead to easy answers. Instead, they facilitate critical reflection, or, as Mason says, “encourage you as a researcher to interrogate your own assumptions, to systematize them, and possibly to transform them” (pg. 22). The remainder documents these reflections by discussing five particularly important aspects

of this research: (1) Ontological Position, (2) Epistemological Position, (3) Substantive Area, (4) Intellectual Puzzle, and, (5) Research Question.

4.2.1 Ontological Position

The first question Mason asks seeks deeper understanding than simply labeling your research topic. Instead, the purpose is to focus on the questions of ontology or personal perspective. Yet, identifying ontological positions is more than describing the objects that enter one's frame of reference. Rather, the ontological position relates as much to the viewer as it does to what is being viewed. The point is, when looking at the world, the object of our attention can be investigated from the perspective of diverse ontologies. Guba and Lincoln (1994) depict four perspectives for directing research: positivism, post-positivism, critical theory, and constructivism. Constructivism, the fourth paradigm, assumes a relativist ontology because it admits multiple realities, and a subjectivist epistemology because it infers that the interaction between the investigator and the object of investigation creates knowledge (Boudreau 2000). According to Boudreau, "Constructivism is frequently associated with interpretivism; although some authors seek to draw a distinction between the two paradigms (e.g., (Schwandt 1994), they are similar enough to be used interchangeably" (pg. 66-67).

The study was guided by what Schwandt (2001) refers to as a "weak" constructivist position as opposed to a more controversial "radical" constructivist position. The latter is a position in which the researcher believes human knowledge cannot consist in accurate representation or faithful copying of an external reality—of a

reality existing apart from the knower's experiences (Schwandt 2001). Instead of considering everything in the world to be socially constructed, and consequently never being able to explore "reality," the weak constructivist does not deny reality, but instead argues the importance of understanding multiple realities. Within the spirit of weak constructivism, this study was guided by the assumption that distinct dimensions of the social world do exist, and understanding them comes from inter-subjective interaction between the researcher and subject.

For this study, the ontological components under investigation were threefold. First, the practices by which a provider managed the tension between standardization and customization by developing and delivering IT-enabled services was the primary component of investigation in this study. Second, the collective action of individuals embedded in social and digital structures that facilitate coordinated action was investigated. Lastly, because this was a multilevel study, the third component was the interplay between individual and organizational units of analysis. However, because interpretive researchers should try to derive their constructs from the field by thoroughly examining the phenomenon of interest, rather than impose externally defined categories on a phenomenon (Orlikowski and Baroudi 1991), we guarded against the ontological components acting as deductive constructs. Instead, we adopted a hybrid analytical technique where we incorporated both inductive and deductive methods of analysis. Therefore, the ontological components previously mentioned simply guided my attention during the study, but they did not limit me from experiencing the contextual complexities of the social processes under investigation.

4.2.2 Epistemological Position

Mason's second question is designed to help the researcher discover their epistemological position, or one's theory of knowledge which represents an individual's beliefs regarding how social phenomena can be known and demonstrated. While ontology concerns the researcher's assumptions about the nature of the phenomenon under investigation, epistemology refers to the assumptions about knowledge and how it is obtained (Mason and Mitroff 1981; Myers 1997). Therefore, the ontological and epistemological assumptions should be appropriately matched to enhance validity (Mason and Mitroff 1981).

Unlike research guided by a nomothetic paradigm, our intentions were not to test "general laws" of how providers manage the tension between standardization and customization by developing IT-enabled process capabilities. Instead, because our a priori knowledge was so limited, we intended to contribute to theory building in this area rather than to test preexisting models. As a result of this gap in knowledge, the focus of this research was the practices by which service providers developed IT enabled process capabilities and managed the dialectic forces they faced in relationships with key strategic customers.

Therefore, through deliberation with theory and practice, we planned to adopt an interpretive lens to guide this study. Social processes were suitably investigated within an interpretive paradigm because it overtly captured complex, dynamic, social phenomena that were both context and time dependent (Orlikowski and Baroudi, 1991). Because

managing dialectic forces related to developing IT-enabled process capabilities is of an emergent social nature, an interpretive perspective provides the needed flexibility to study the dynamic, complex, and process oriented phenomenon (Orlikowski and Baroudi 1991; Mason 1996).

4.2.3 Substantive Area

Mason (1996) suggests that the answer to the third question, defining the substantive area, follows from the answers to questions relating to ontology and epistemology. Our research question suggests that a service provider that managed the dialectic tensions related to developing IT-enabled process capabilities they faced would be a necessary focal point for this investigation. Additionally, because we were also interested in how collective action within strategic partnerships affected dialectic tension, the opportunity to collect data from individuals working within key customer organizations was valuable. Therefore, this study's substantive area contains three core components: (1) Service provisioning within large outsourcing organizations, (2) The practice of developing IT-enabled process capabilities within service organizations, and, (3) The collective action of an outsourcing service provider and their customers.

4.2.4 Intellectual Puzzle

In addition to asking her forth question, Mason (1996) poses two questions to assist the researcher in further defining the purpose and focus of their study. She asks, "What do we wish to explain or explore? And, "what type of puzzle is it?" In answering these questions the researcher is forced to further consider the ontological and

epistemological positions while also ensuring they align appropriately. Mason offers four common, but distinctive, types of puzzles found in qualitative research: developmental puzzles, mechanical puzzles, comparative puzzles, and causal predictive puzzles. The first type of puzzle, developmental, asks the question, how and why did x develop? In such a scenario, x can relate to any ontological component present within the social or physical world. The intellectual puzzle guiding this study fit under the developmental classification because we were interested in how service providers influenced collective action to manage the dialectic forces they faced in providing services to their customers. Therefore, based on Mason's classification, this study was guided by a developmental puzzle that questioned how service providers could effectively manage collective action to manage the dialectic forces they faced in relation to developing IT-enabled process capabilities.

4.2.5 Research Questions

Mason concludes her list by asking, "What are our research questions?" She explains that the purpose of expressing the ontological components under investigation, the epistemological position that will define how knowledge will be developed about such components, the broad research area, and the intellectual puzzle is to focus the researcher's mind on the research questions guiding the study. Mason explains, "Once you are thinking in terms of puzzles and explanations, it will be a relatively easy task to formulate a set of research questions, and these will form the backbone of your research design" (p. 19). Mason adds that such research questions should be clearly formulated, intellectually worthwhile, and researchable as they are vehicles that one will use to move

from broad research interests to more specific ones that focus a particular project.

To develop a deep and holistic understanding of how service providers manage the dialectic forces related to developing IT-enabled process capabilities, a theoretical lens integrating principles from both psychology and sociology was useful. Based on the review of extant outsourcing literature, it was evident that a gap existed in this body of work; the preponderance of research in this area neglected paradigms that account for the psycho-social factors that affected organizing processes—or nets of collective action. Furthermore, we argue that a theoretical account of the phenomena under investigation would prove most beneficial if it was developed through the lens of organizational sensemaking. Based on this account, the study was designed to answer the following research question that is reiterated from chapter 1:

Research Question:

How and why does collective action (within and between firms) relate to the tension between standardization and customization in IT-enabled service provisioning?

By improving our understanding of how service providers could address the dialectic forces they faced when developing IT enabled process capabilities, researchers could help organizational designers capitalize on the potential of IT.

4.3 RESEARCH METHODOLOGY

Guba and Lincoln (1994) emphasize the importance of matching the research methodology with the epistemological paradigm that guide a study. Accordingly, the

interpretive framework that guided this study required a method enabling direct communicative interaction with individuals. Additionally, because of the nature of our research question (a “how” question), and the degree of control we had over behavioral events, a case study strategy was especially appropriate. Yin (1994) explains the usefulness of case study research by saying:

A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. In other words, you would use the case study method because you deliberately wanted to cover contextual conditions – believing that they might be highly pertinent to your phenomenon of study. – Yin, 1994, p13

The phrase "case study" is ambiguous, as it can represent different aspects of social science research. Some use the term to represent a particular unit of analysis, such as a study of a specific educational institution. However, the term “case study” can also be used to represent an entire method of social research. Unfortunately, due to the ambiguity, social scientific communities have often misconstrued the case study strategy. Such misunderstanding stems from shortsighted descriptions of the method. For instance, a common definition of case studies has merely repeated the types of topics to which case studies have been applied (Yin, 2003)—many definitions cite topics such as “individuals,” “organizations,” “processes,” “programs,” neighborhoods,” “institutions,” “events,” and “decisions” as the major focus of specific case studies. However, according to Yin, merely citing the topic is insufficient to establish the needed definition of case studies. As referenced in Yin, Jennifer Platt (1992) provided an explanation into why the case study method was so often misunderstood in American methodological thought.

According to Platt, the practice of executing case study research can be traced

back to the Chicago school of sociology. Platt argues that “participant-observation” emerged as a data collection technique and inhibited the development of a more comprehensive definition of the case study method. However, while providing the historical overview Platt acknowledged the first edition of Yin’s book on case study methodology, saying it definitively distinguished the case study strategy from the myopic paradigm associated with any type of fieldwork. Thus, the case study strategy is more than a data collection technique. According to Yin (2003):

The case study as a research strategy comprises an all-encompassing method – covering the logic of design, data collection techniques, and specific approaches to data analysis. In this sense, the case study is not either a data collection tactic or merely a design feature alone (Stoecker, 1991) but a comprehensive research strategy. (p. 14)

Among experiments, surveys, histories, and the analysis of archival data, the case study is one of many ways for conducting social research (Yin, 2003). Yin (2003) offers three conditions that impact the appropriateness of a particular research method: (1) the type of research question, (2) the control an investigator has over events, and (3) the focus on contemporary as opposed to historical phenomena. Generally, a case study strategy is preferred when a researcher is asking a “how” or “why” question(s), when they have little control over behavioral events, and when they are less interested in a historical analysis as opposed to understanding a contemporary phenomenon.

According to Orlikowski and Baroudi (1991), case study research is the third most prominent research method used in IS research, trailing only surveys and lab experiments. Additionally, it is the most common qualitative method used in information systems. Three kinds of case studies are most often used in IS research (Benbasat,

Goldstein et al. 1987; Vreede, Jones et al. 1998): observatory, participatory, and action research. Observatory and participatory research differs from action research in that there is no intentional intervention. Observatory research is different from participatory in that there is very little interaction by the researcher with the subjects under investigation.

Benbasat et al. (1987) argue that the usefulness of case study research stems from a shift in interest among IS researchers in past decades. Such a shift has increased the importance of organizational issues within the IS discipline, rather than those which focus more specifically on technical issues. Though case study research has been a frequently used strategy for conducting qualitative IS research, unfortunately, such usage has done little to alter a stereotype that directly challenges its rigor compared to other social science methodologies. According to Yin (2003):

Investigators who do case studies are regarded as having downgraded their academic disciplines. Case studies have similarly been denigrated as having insufficient precision (i.e., quantification), objectivity, or rigor. This stereotype of case studies that began in the 20th century continues into the 21st century, especially compared to the computer-based advances in quantitative social science marked by computer-assisted telephone interview (CATI) techniques, clinical and community trial research designs, and analytical techniques such as structural equation modeling (SEMs) and hierarchical linear models (HLMs). (p. xiii)

To reach a deep understanding of the phenomenon and ensure adequate validity of research findings, this observatory case study used multiple data collection techniques from many different sources (Yin, 2003; Miles and Huberman 1994). To leverage the benefits of replication logic, the study was designed to collect multiple sources of data from one service provider and two separate and distinct customer organizations of similar size, but residing within two different industries (High-Tech and Automotive). The similarity in size allowed us to adopt a literal replication strategy (Yin, 2003) to search

for commonalities across the two cases. However, the diverse industry context was useful for applying theoretical replication (Yin, 2003) where contrasting results between the two cases provided additional insight. Replication logic did not ensure that results from this research were generalizable, but it did add confidence and rigor to the insights that emerged from the findings (Yin, 2003; (Miles and Huberman 1994). The remainder of this section will discuss the following four components of the case study: research design, data collection, data analysis, and site description.

4.3.1 Research Design

According to Yin, a research design makes a logical connection between the data to be gathered and the research questions guiding a study. The main purpose of a research design is to ensure the conclusions drawn from a particular collection of data do indeed relate to the questions motivating the study. Yin offers five components of a research design that are especially important in case study research: (1) the research questions; (2) its propositions, if any; (3) its unit(s) of analysis; (4) the logic linking the data to the propositions; and, (5) the criteria for interpreting the findings.

The research questions guiding a study have already been mentioned as a crucial factor in determining the most appropriate method for carrying out an investigation. As previously stated, the case study strategy is most often leveraged when researchers are guided by “how” and “why” questions as opposed to “who,” “what,” and “where” questions. Because how and why questions deal with operational links that needed to be traced over time, rather than mere frequencies or incidence, they often call for strategies

that allow for such links to be investigated within their natural context. Therefore, case study strategies are often most appropriate for investigating the how and why questions that guided this study.

The overarching research questions will likely determine the suitability of a particular methodology, yet they will not direct sufficient attention to the peculiarities of the phenomenon under investigation. For this reason, Yin recommends stating some propositions that will assist in moving the study along in the right direction. Doing so will help the researcher determine where to look for relevant evidence. However, there are studies that may not require propositions, as there simply is not sufficient extant theory to guide such an investigation. In this case, such exploratory studies should at least be guided by a core purpose. Because this study was indeed exploratory, and extant theory in this area was in such infancy, developing propositions was not considered useful.

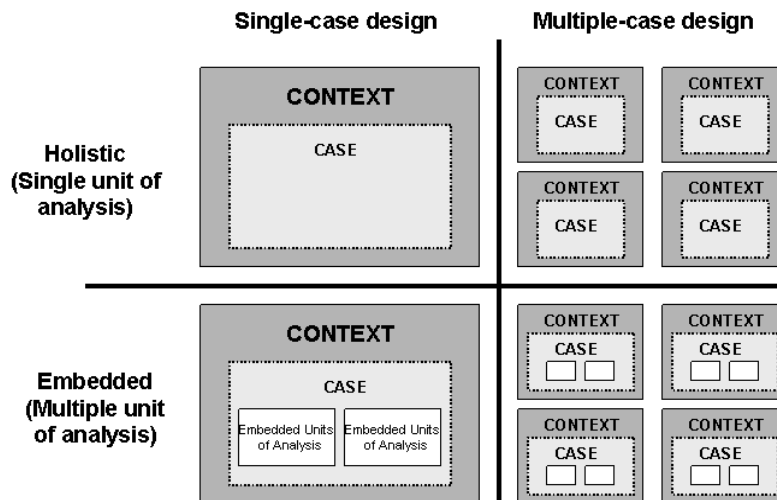
The third component of a research design is determining the unit of analysis under investigation. Defining what the actual “case” for which a case study is conducted is perhaps the most difficult aspect of case study design. A case can be of an individual, an event, or an entity. Generally, there should be a close relationship between the research questions guiding the study and the unit of analysis defined within the research design. Because my research question related to both organizational and inter-organizational phenomena, the units of analysis for this study were threefold: the service organization, the inter-organizational relationship connecting the service organization with two of their largest customers, and the individuals embedded within these. Accordingly, because inter-organizational interaction is a type of organizational action, the units of analysis in

this study corresponded to two core levels of analysis: organizational and individual. Though my exploration occurred at two levels of analysis, the study still leveraged a single (rather than a multiple) case strategy. To accompany the multiple units of analysis within the framework of a single case design, a single case design with embedded units of analysis was conducted.

Figure 2, presented by Yin and COSMOS Corporation, represents the basic types of designs for case studies. This 2 x 2 matrix shows the importance and inseparability of context (referred to with dotted line below), despite the design, and explicates two variants of such designs: single and multiple cases. Additionally, this separation can be further delineated based on either unitary unit or multiple units of analysis. Accordingly, as figure 2 shows, there are essentially four possible types of case study design: Type 1 or single holistic designs, type 2 single case embedded designs, type 3 multiple case holistic designs, and type 4 multiple case embedded designs. In this study, there could be some confusion as to where the case fell in relation to this 2 x 2 matrix. With two customer organizations representing different industries, one could ask how they would share the same context as depicted in the lower left quadrant. Thus, it could seem as though a multi-case design as represented in the upper right quadrant might be more fitting. However, in that sense, two separate cases would be considered, one between the service provider and customer A, and another between the service provider and customer B. In that scenario a greater emphasis would be placed on individual relationships rather than the collective action of a service provider and two of their customers together. Because the core focus of this study was the service organization, with a secondary emphasis on

the relationship with key customers, this study most accurately fit in the lower left quadrant. As a result, and despite the two customer companies did represent different industries, the overall operational context was considered similar as the processes under investigation were alike within both organizations. Hence, the industry uniqueness was considered a differentiating characteristic of the embedded units of analysis, and consequently, they were useful during theoretical replication but not considered as representative of contextual dissimilarity.

Figure 2: Case Study Designs from Yin (2003)



Yin (2003) offers three rationales for using a single case design. The first is what Yin refers to as the *representative* or *typical* case. According to Yin, in such situations, “The object is to capture the circumstances and conditions of an everyday or commonplace situation” (pg. 41). The lessons learned from such representative cases are considered to be informative about other similar cases. Another reason for adopting a single case strategy occurs when the case represents a unique situation and such

uniqueness can be leveraged within the overall research design. Yet another valid reason for using a single case study is what Yin refers to as the revelatory case. This case exists when a researcher has a unique opportunity to observe and analyze a phenomenon that is characteristically inaccessible by a particular research community. In this study, having access to a large and well-known service organization and two of their largest customers was seen as providing revelatory opportunities.

4.3.2 Data Collection

According to Yin (2003), evidence for case studies may be collected from different sources requiring distinct methodological procedures: interview, direct observation, participant observation, and documentary and archival data. Though these sources are perhaps the ones most commonly used, other sources certainly exist. For example, films, photographs, and digital tapes are useful sources of evidence when conducting case study research. Regardless of the sources used, Yin recommends case study researchers follow three essential data collection principles. In this section, the sources that were used will be presented along with an explanation as to how the data collection principles were followed. The techniques that were used were semi-structured interviews, direct observations, participant observations, and analysis of documentation and archival records.

4.3.2.1 Interview

The primary data collection strategy for this study was a series of semi-structured interviews. We focused first on conducting interviews inside the provider firm, which

took place over a period of three years. After concluding the internal investigation, we proceeded to conduct the interviews within the first relationship. Upon completing those interviews, we sought out our second case and began interviewing those individuals once we gained access. Interviewees were identified with the help of a key informant inside *MoveQuick* and then within each relationship. A total of seventeen interviews occurred within *MoveQuick* and that were not specifically related to one of the customer relationships (see table 7). A total of eleven interviews occurred with individuals involved in the *MoveQuick-TechKnow* relationship—5 with *MoveQuick* employees and 6 with *TechKnow* employees (see table 8). A total of ten interviews occurred with individuals in the *MoveQuick-AutoMart* Relationship—6 with *MoveQuick* employees and 4 with *AutoMart* employees (see table 9). In total, 38 semistructured interviews were conducted.

Rather than “unstructured” qualitative interviews, in which the investigator offers a subject for discussion without posing specific questions, the semi-structured format is more often used when the researcher enters the field with more direct questions in mind (Rubin and Rubin 1995). The exploratory nature of this study corresponded more appropriately to semi-structured interviewing as the interview protocol emerged within individual interviews. Such emergence was akin to enhancing specificity as our understanding of the phenomenon became clearer. By and large, qualitative interviewing is necessary whenever depth of understanding is required (Rubin and Rubin 1995). It is useful when the purpose of the research is to unravel complicated relationships and events that evolve slowly over time. Similar to other qualitative methods of data

collection (Benbasat et al. 1987), interviewing represents an especially suitable way to explore a research question, its broader implications, and place it in its historical, political, or social context (Rubin and Rubin 1995).

The interviews for this study were conducted in the form of a normal conversation and took from thirty minutes up to one and a half hours. The interviews were tape-recorded and fully transcribed, and respondents were anonymous to maintain confidentiality. To explore the research questions the interview protocol was adjusted slightly for individuals based on their job role and consisted of five core parts: (1) an introduction to the investigation, (2) background information on the individual (3) a part focused on how IT was used within the service organization to create process capabilities allowing the provider organization to manage the dialectic forces they faced, (4) a section focused on how partnerships were structured and how such structures affected the provider's ability to achieve, both, standardization *across* and customization *within* key customer relationships, and (5) a component that investigated provider strategies for influencing collective action (between provider and customer firms) in an effort to manage the dialectic forces they faced. Each part of the interview protocol was designed to elicit rich descriptions from individuals based on their experiences³. Thus, though the interviews were semi-structured, they were not followed in a stiff or unyielding way.

Interviews were conducted with participants representing different levels of organizational hierarchy and all major functions within the organizations involved in this

³ Components four and five were for individuals involved in one of the two relationships that were investigated.

study (e.g. General Management, Relationship Management, IT Management, and Operations). The organizational roles were crucial factors that guided the sampling strategy because of the importance of organizational position in the overall management of dialectic forces. Thus, standardized services existed after individuals worked together across functions to develop IT-enabled processes that could be leveraged across multiple customer relationships. Dialectically, customized services were relationally specific, meaning they existed after individuals worked together across functions to develop IT-enabled processes that were specific to the customer organization and thus could not be easily replicated across other customer relationships. In view of that, organizational position undoubtedly influenced individual perspective, individual behavior, and, aggregately, collective action.

Table 7: Interviews Conducted with *MoveQuick* Employees Not Directly Related to a Customer Relationship

Department	Position
General Management	<i>Business Systems Analyst</i>
General Management	<i>Vice President and General Manager</i>
General Management	<i>Program Manager</i>
General Management	<i>Vice President</i>
General Management	<i>Business Manager</i>
General Management	<i>Senior Account Executive</i>
Relationship Management	<i>Program Manager</i>
Relationship Management	<i>Customer Care Manager</i>
Relationship Management	<i>Customer Care Manager</i>
Relationship Management	<i>Customer Care Manager</i>
Relationship Management	<i>Customer Care Manager</i>
IT Management	<i>CIO</i>
IT Management	<i>Director of Integration</i>
IT Management	<i>Director of IT Strategy</i>
Operations Management	<i>Operations Manager</i>
Operations Management	<i>Operations Supervisor</i>
Operations Management	<i>Hub Operations Manager</i>

Table 8: Interviews Conducted within the *MoveQuick-TechKnow* Relationship

Company	Position
<i>MoveQuick</i>	Relationship Management
<i>MoveQuick</i>	Relationship Management
<i>MoveQuick</i>	Relationship Management
<i>MoveQuick</i>	IT Management
<i>MoveQuick</i>	Operations Management
<i>TechKnow</i>	General Management
<i>TechKnow</i>	General Management
<i>TechKnow</i>	Relationship Management
<i>TechKnow</i>	Relationship Management
<i>TechKnow</i>	Relationship Management
<i>TechKnow</i>	IT Management
<i>TechKnow</i>	Operations Management

Table 9: Interviews Conducted within the *MoveQuick-AutoMart* Relationship

Company	Position
<i>MoveQuick</i>	Relationship Management
<i>MoveQuick</i>	Relationship Management
<i>MoveQuick</i>	Relationship Management
<i>MoveQuick</i>	IT Management
<i>MoveQuick</i>	Operations Management
<i>AutoMart</i>	General Management
<i>AutoMart</i>	General Management
<i>AutoMart</i>	IT Management
<i>AutoMart</i>	Operations Management

4.3.2.2 Direct Observation

Direct observations were possible only after making field visits to the case study site. In contrast to participant observation, direct observation reflects a data collection method in which the researcher acts more as a passive observer (Yin 2003).

Observational evidence is valuable especially when acting as a supplement to other data collection strategies. According to Mason (2002), the terms ‘observation’ “usually refer to methods of generating data which entail the researcher immersing himself in a research ‘setting’ so that they can experience and observe at first hand a range of dimensions in

and of that setting” (pg. 84). Mason explains that dimensions of setting may consist of social actions, behavior, interactions, relationships, events, as well as spatial, geographic and temporal dimensions. For this study, direct observation was a useful part of the multi-method data collection strategy for three reasons. First, it aligned closely with the ontological perspective guiding this study that focused on individual actions existing within nets of collective action. Second, it assisted in answering the research questions by contributing to a deep and holistic understanding of the phenomenon of interest. Third, because the research team was an active and reflexive part of the research process, we needed to experience first-hand the social phenomenon that was being explored.

Among other data collection opportunities, we had the opportunity to spend time observing operational and marketing personnel within the focal organization. One member of the research team traveled for three days with members of *MoveQuick’s* relationship management team. The purpose of these observations was to see how *MoveQuick* individuals communicated their capabilities to customers. A special emphasis was placed on trying to understand how *MoveQuick* employees tried to shape customer decisions toward or away from standardized offerings. Additionally, special attention was paid to investigating how customers perceived and reacted to the messages from *MoveQuick* personnel. We also spent three days observing the internal sorting processes of *MoveQuick-Operations* in Atlanta, Georgia, as well as two days in Louisville, Kentucky. Such observations focused on sorting and distribution processes within the centralized logistics operations center. We observed the process by which packages entered the facility through inbound operations, and the intricate outbound

processes that ensured packages left such a facility in order to reach their intended destination. We observed team meetings within the sorting facilities to observe interactions and team dynamics at this level of the organization. Moreover, we observed and inquired into how operational processes were adjusted to meet the unique requirements of individual customers. During direct observation the researchers also paid attention to cultural issues that might be reflected in employee morale, dialog between individuals, leadership behaviors and styles, lighting, sounds, and other key characteristics of the working environment. These attributes were all useful for developing a situational awareness of the context.

4.3.2.3 Participant Observation

Participant observation requires a more active role from the researcher. Unlike direct observation, a researcher utilizing this method of data collection may actually participate in the case being studied. Participant observation was possible for this study because of the permission we received from the service provider that allowed us access to the field setting. Being on site afforded one member of the research team the opportunity to interact with participants while they actually carried out the duties associated with their job roles. Such interaction was different from interviewing participants, which sought to gather data based on their own reflections of particular phenomena. Engaging in participant observation enabled us to truly gather data in its real life context. To use this method, one member of the research team acted as a package delivery specialist. He wore the *MoveQuick* uniform and traveled on the delivery van for an entire day, helping the driver deliver packages door to door. Through this experience, he investigated the

technologies and practices that combine to assist the provider in executing their work processes. He also paid special attention to how the delivery driver interacted with his customers and the social relationships that were developed over time. By paying attention to this level of detail and social interaction, the researcher could notice how adjustments to business processes could be made informally rather than through formal lines of control. Throughout both the participant and direct observations notes were taken in journal form to document the observations.

4.3.2.4 Documentary and Archival Data

Documents and archival data were an important source of data for this study as they provided a means to triangulate findings that emerged from semi-structured interviews and participant and direct observations. Document and archival data were collected from all three organizations. For example, Power Point presentations that communicated relational performance and future outsourcing strategies to C-Level managers were collected from both customer organizations. Detailed minutes from past performance reviews along with Excel spreadsheets that measured performance on key indicators were also collected—providing evidence of relational performance and other areas of budding interest. Additionally, information collected via the internet, emails, and internal memos reflecting inter-organizational interactions were also made available (please see table 10 for alternative sources of documentary data that was collected).

According to Yin (2003), documentary data is likely to be pertinent to every case study. Nevertheless, as a source of evidence, it has both strengths and weaknesses. Some strengths relate to: its stability as it can be reviewed repeatedly; its unobtrusiveness,

which ensures it was not created as a result of the case study; its exactness – containing names, references, and details of events that reflect accuracy as opposed to secondary data; and, its broad coverage, which enables long spans of time and a diversity of settings to be analyzed. Though strengths are evident, so too are weaknesses. Documentary data has weaknesses in that it: can be difficult to retrieve; can perpetuate bias through incomplete or selective collection; and, may reflect the unknown bias of the document’s author. However, despite its weaknesses, documentary and archival data provided another useful source of data to help develop a rich description of the domain and deep insight into the research question guiding this study.

Table 10: Sources of Documentary-Archival Data

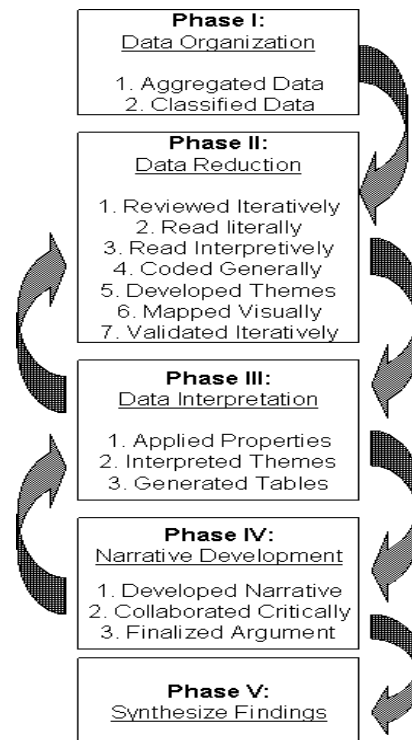
1.	Organizational diagrams illustrating reporting relationships
2.	Organizational reports cards
3.	Organizational literature for exploring implicit norms and culture
4.	Market literature related to value propositions
5.	Observational data from team meetings
6.	Observational data from training sessions
7.	Observational data from core operations- package sorting and delivering

4.3.3 Data Analysis

For this study we chose a hybrid analytic approach to data analysis where we incorporated inductive and deductive coding and thematic development techniques (Fereday and Cochrane, 2006; Chiasson et al., 2008). This technique was beneficial as it allowed us to begin the analytical process by working from the data. Doing so allowed us to move from specific cases to more general conclusions (Schwandt, 2001). However, by complementing the inductive analysis with a deductive one we were able to utilize the

sensemaking framework to develop richer interpretations of our initial data driven findings. This approach was suitable for answering the exploratory research question guiding this investigation as it allowed the sensemaking framework to drive deductive analysis while at the same time ensuring that themes emerged direct from the data through inductive coding. In this section we describe the five phased process that was used to analyze our data and generate key findings of theoretical and practical importance. The data analysis process is summarized in figure 3.

Figure 3: Data Analysis Process



The first phase related to organizing and classifying data (notes of interviews, transcripts of interviews, archival data such as power points slides and minutes taken from key meetings, etc.). The data was demarcated along internal and relational lines.

Thus, all data related generally to *MoveQuick* was placed in a separate data repository as was all data related to each individual relationship. In total, we were then left with three subsets of data. Within these subsets of data the transcribed files were classified according to job function of the person or persons being interviewed. This was useful to see if the personal perspectives of individuals related to the tension were in anyway correlated with their relative organizational positions. To assist in the organization of the data we used NVivo 7 which is a well known software package for qualitative data analysis. We created three NVivo instances, for *MoveQuick*, *MoveQuick-TechKnow*, and *MoveQuick-AutoMart*.

In the second phase we conducted a bottom-up or inductive analysis by thoroughly listening to, reading, coding, and discussing the data in an iterative fashion (Eisenhardt, 1989). Interview notes were taken during each interview and judiciously reviewed in recap sessions with members of the research team after the interviews. These interview notes attempted to capture the essence of each conversation as it related to the research questions guiding this study. Interviews were recorded and listened to multiple times, generating additional notes by the researcher. By listening to the recordings multiple times, the researcher was able to validate key takeaways that emerged from the live interview or from previous listening. The field notes and transcribed files were read and re-read using a literal reading strategy (Mason, 2002). Using this type of a reading strategy focused our attention on developing a literal interpretation of the data including its content, style, and structure (Mason, 2002)⁴. However, after conducting a literal

⁴ Mason (2002) makes it clear that a purely literal replication strategy is impossible because of inherent

reading of all documents we began reading interpretively. In doing so, we began to construct meanings as to what we thought the data might indicate.

During these early interpretive readings, themes running through individual interviews were identified by writing notes in the margins. Our standard for what represented a theme was its salience as an explanatory factor rather than its frequency (Glaser & Straus, 1967; R. Blatt et al, 2006). These codes would relate to passages of data that seemed interesting or relevant to our research question. In early readings the codes would emerge from the text itself, meaning codes were actually taken from the text itself. However, as subsequent interviews were read and past interviews were re-read, codes representing higher levels of abstraction were created (see Appendix C for an example). For instance, if a subset of text related to the challenges associated with integrating disparate information systems within *MoveQuick* and the difficulties were attributed at the application layer, a code labeled “Connectivity – A to A” was developed. This was meant to distinguish between “Connectivity – B to B” that referenced text which illustrated the challenges of integrating disparate business processes within and across organizational boundaries. It is important to note that this first level of data reduction focused on creating codes within individual interviews.

It was not until the fifth step of phase two that we began to look across the interviews to further reduce the data and uncover emerging themes that were proliferating through the data. To achieve this, we created visual displays or conceptual maps to present information systematically (Miles and Huberman, 1994). Since our research

human tendencies and limitations such as bounded rationality, subconscious bias, etc.

question related to a core tension inside *MoveQuick* and its customer relations, we focused on competing forces that were impacting the tension and challenging their profitability. In doing so, we began to see a clear pattern emerge in terms of factors that were enabling and constraining *MoveQuick* as they pursued operational objectives to develop a services infrastructure that was scalable. In a continued effort to reduce data into meaningful and interesting themes we went through multiple iterations and created three distinct visual displays during our analysis (see Appendix D). In order to continuously validate our interpretations we iterated between our data and the thematic codes that were being generated (Eisenhardt, 1989). Additionally, the researchers had many rounds of discussions to uncover major concepts and themes that were emerging from the data and to develop higher level analytical constructs. After concluding the bottom-up analysis we entered into the third phase of our analysis to begin developing a theoretical interpretation of the themes that were discovered from the second phase.

The third phase of analysis was a top down or deductive approach where we applied the sensemaking lens to the data and to the themes that were generated during the inductive phase (refer to table 6 for a summary of properties). Having already divided the data in three ways, we applied each of the six properties of sensemaking to these main data subsets (*MoveQuick*, *MoveQuick-TechKnow*, and *MoveQuick-AutoMart*). In this phase we used sensemaking in two ways. First, as a method of inquiry, sensemaking was used because it focused our attention on equivocality and relationships (R. Blatt et al, 2006). Therefore, we paid special attention to relationships within and between *MoveQuick*, as well as the factors identified in the inductive phase that increased the

equivocal flow of experience for *MoveQuick* employees. These factors were ones that exacerbated the tension at *MoveQuick*. Second, as an object of inquiry, sensemaking was used to develop insight into the sensemaking processes that influenced collective action within and between firms (R. Blatt et al, 2006). Using sensemaking in this way allowed us to develop insight into the sensemaking processes that *MoveQuick* employees went through as they collectively managed the tension they faced. Moreover, it helped us understand how individuals within customer firms perceived their relationships both in the past and into the future. Using the sensemaking lens in this way also provided insight into how and why some of the factors that were uncovered in the inductive phase contributed to the tension at *MoveQuick*. At the conclusion of this third phase we generated tables that had the six properties of sensemaking in the first column and the within case findings in subsequent columns. These tables were instrumental in creating the synthesized summaries that were presented at the end of the internal analysis and the relational analysis (see tables 14 and 15).

The fourth phase of analysis consisted of writing the narrative of the case. In this phase we drew upon earlier findings in the inductive and deductive phases to construct a narrative explanation of our findings at *MoveQuick* and within the two relationships we investigated. Thus, our initial thematic observations served as a foundation to build the narrative explanation (Walsham, 1993; Silva and Hirschheim, 2007). We focused our narration on the tensions and relational dynamics that continued to challenge *MoveQuick's* profitability. In doing so, we included retrospective accounts of how the organization collectively attempted to deal with such tensions and how relationships

changed over time. In the spirit of narrative inquiry, we constructed the story in a collaborative effort within and between researchers and participants (Connelly and Clandinin, 1990; Connelly and Clandinin, 2000). Thus, numerous iterations between researchers were necessary to synthesis ideas and tighten unclear or ambiguous meanings. Furthermore, participants were involved in this collaborative process through ongoing discussions and through their own critical interpretation of portions of the narrative.

The fifth and final step of our analysis is presented in the discussion chapter and consisted of synthesizing the findings from the internal and relational analysis's and to consider how our findings contribute to the literature. In doing so we considered the theoretical and practical implications that can be learned as a result of this research.

4.3.4 Site Description

Choosing a site to conduct case study research is particularly important if one wishes to develop insight about the research questions guiding a study. Because of the qualitative nature of this work, the site and case selections were made on conceptual rather than statistical grounds (Miles and Huberman 1994). Fortunately, I was given access to two such companies: a large outsourcing provider (the focal organization) and an equally large customer organization. Additionally, I sought out another key customer relationship (to investigate) in order to leverage the advantages of a cross-case design methodology.

4.3.4.1 The Focal Organization- *MoveQuick*⁵

Louie Leonard was only 19 when he founded *MoveQuick* in the early 1900's with borrowed money. At the time, private messenger and delivery services were in high demand, and Leonard's company delivered messages and small packages along the east and west coast—mainly by foot and bicycle. Just before 1920, the company had a new name—*MoveQuick*—and made its first expansion, into northern California. Decades later, *MoveQuick*, now one of the world's largest package delivery companies, delivers millions of packages a day in hundreds of countries and territories worldwide. Its well-known fleet of orange delivery trucks reaches almost 100,000 vehicles. An additional air fleet numbers some 600 planes. But getting packages from Point A to Point B is not the only strength of *MoveQuick*.

The company now leverages its global delivery network to extend its core capabilities through specialized services, offering customer firms a wide range of solutions for their supply chain needs. For example, significant investments in information technology over the past decade enable *MoveQuick's* core network to serve as the foundation for other service offerings, which can then be combined into an integrated supply chain solution. Equipped with a wealth of expertise in global distribution, *MoveQuick* has also extended this strength into the management of physical, financial, and informational goods across the globe. It is a process *MoveQuick* calls “massive movement.”

⁵ The names of the focal organization and key actors have been disguised in order to ensure confidentiality.

Developing these global capabilities was not a haphazard process of idea generation and marketing spin at *MoveQuick*. Rather, it was a combination of both organic growth and external acquisitions since the company's first days. Key among these were the expansion of service offerings across the globe and the decision to build its own air cargo fleet; substantial investments in information technology; changing to a publicly traded company; and executing various acquisitions to expand service capabilities. The end result—*MoveQuick* has evolved into a firm like no other. It is a company well suited for the massive movement of global commerce. As a champion and deep believer of *MoveQuick*'s strategic initiatives, *MoveQuick* CEO William Witherspoon articulates *MoveQuick*'s mission: “We believe the world of coordinated commerce, and its promise of bringing businesses, economies, cultures, and people closer together, will continue to create significant benefits for our customers, shareowners, and employees around the world.”

Several years ago, *MoveQuick* unveiled a new look, changing the company logo for the first time in more than 40 years. However, it was much more than a logo change. The strategy underscored the company's expanded promise to provide customers with multiple solutions to their needs. The promise went beyond the company's core strength in package delivery to include harmonizing the flow of goods, information, and funds across customers' supply chains. *MoveQuick* believed this dynamic new approach—with *MoveQuick-Solutions*—would enable its customers to evolve in new and necessary ways. It was also *MoveQuick*'s vision for future growth. No other company could bring to the table the technology, portfolio of services, industry expertise, reliability, and trusted

brand as *MoveQuick*.

The proven experience and coverage of *MoveQuick-Solutions* provides Global 500 and growing companies alike with flexible modes and scheduling, scalable design and resources, and global reach. *MoveQuick-Solutions* vast array of available services and industry solutions can be combined and leveraged by customers to create and sustain a competitive advantage.

4.3.4.2 The Partner Organization I- TechKnow

TechKnow is not just any technology company. It's one of the largest global consumer IT companies in the world. Millions of people worldwide use *TechKnow* technology every day. For example, *TechKnow* software is responsible for identifying millions of cell phone subscribers when they turn on their phones to make calls.

TechKnow also powers many of the world's stock and commodity exchanges. In response to customer needs and changing market conditions, *TechKnow* has built a portfolio unequaled in breadth and depth. *TechKnow* technology now ranges from consumer handheld devices to some of the world's largest and most powerful supercomputer installations.

TechKnow helps people apply technology in meaningful ways to their businesses, personal lives and communities. An annual investment in research and development in the billions of dollars (USD) fuels the invention of products, solutions, and new technologies, so *TechKnow* can better serve customers and penetrate new markets.

TechKnow is also famous for being innovative, producing many patents a day worldwide.

In addition, *TechKnow* Labs provides a central research focus for the company by inventing new technologies that change markets and create business opportunities.

The *TechKnow* strategy is simple: offer hi-tech and low cost products, services, and solutions and deliver the best customer experience. No other company has the combination of portfolio, people, and expertise to deliver on all three. *TechKnow*'s acquisition of its rival, InfoKnack, created a leading global provider of products, technologies, solutions, and services for consumers and business. The company's inventory now spans IT infrastructure, personal computing and access devices, global services, and imaging and printing. The merger forged a dynamic team that now spreads all over the world. The integration of interfirm systems and processes, however, was an enormous task even before the merger, and it became a greater issue after the acquisition. Consequently, a merger of this magnitude created immediate integration challenges for *TechKnow*, and integrating successfully would play a significant role in determining the future value of this strategic merger. *TechKnow* responded by looking to its business partners to assist in merging the two previous competitors into one large, innovative, and dynamic hi-tech organization.

4.3.4.2 The Partner Organization II – AutoMart

Emerging out of near dissolution, *AutoMart* reestablished itself among the top auto manufacturers in the world by the early 90s through innovative cars and the invention of new concepts in transportation. In the early 1920s, Lewbern P. Mitchel, a noted machinist in Michigan, was fresh from having turned around the ailing Willy's car

company when he was hired to take over and overhaul the troubled operations of the Maxwell-Chalmers company. A little over a year after the introduction of the first *AutoMart* - branded car, the *AutoMart* Corporation was formally launched from the remaining assets of the Maxwell Motor Company.

Over the course of the next several decades, the *AutoMart* Corporation introduced several innovations that are still admired today by automotive enthusiasts and engineers as well as the general public. *AutoMart* introduced the revolutionary Airflow, whose iconoclastic design revealed its place as one of the first automobiles to be designed with aerodynamics in mind. Emerging in the postwar period as one of the top US automakers, *AutoMart* launched the celebrated multi horsepower “Hemi” engine in the 1950’s, an opening salvo in the ensuing horsepower race among American auto manufacturers. In the 1960s, *AutoMart* introduced the one-body construction and was innovative in adopting alternators as a replacement for generators for a car’s electrical system.

The 1970s were a difficult decade for *AutoMart* and the other automobile manufacturers. The oil crisis, increased competition from Asian manufacturers, and changing consumer tastes all hurt the company’s bottom line. In 1979, the US Congress passed legislation authorizing loan guarantees for the ailing auto giant; this action became the first step in *AutoMart*’s remarkable reemergence as a profitable global auto maker in the 1980s and 90s.

Today, the AutoMart group consists of *AutoMart* Motors Company LLC and its subsidiaries, *AutoMart* Canada Inc., and *AutoMart* de Mexico S.A. de C.V., as well as

other international automotive affiliates. The *AutoMart* group brands include Smoothriding, RoughKneck and Forge, as well as a line of parts and accessories marketed under the PartCo name. In FY 2005, *AutoMart* had nearly one-hundred thousand employees, generated billions of dollars in revenue, and sold millions of cars.

In the group's 2005 annual report, the chairman of *AutoMart* assured shareholders that while the company was working on improving its cost structure, management's focus would be on products. As evidence of this perspective, *AutoMart* introduced over a dozen new models in 2005. The chairman also noted that "the *AutoMart* group is increasingly setting itself apart from its North American competitors in terms of quality, innovation and design."

CHAPTER 5: RESULTS

In this section the results of the study are presented from two perspectives: an internal and a relational. The internal perspective presents findings that were discovered inside *MoveQuick* and focus on how *MoveQuick* manages the tension between standardization and customization when delivering IT-enabled services to key customers. In contrast, the relational perspective focuses on the two B2B relationships, *MoveQuick-TechKnow* and *MoveQuick-AutoMart*, and how these relationships reflect *MoveQuick*'s ability to manage the tension between standardization and customization. Within both perspectives, we apply the six properties of sense-making (identity, retrospect, enactment, social, extracted cues, and ongoing) to analyze the data guided by the research questions for this study. The results include selected excerpts from the collected data to provide the reader with a rich understanding of the specific context under investigation.

5.1 THE INTERNAL PERSPECTIVE

5.1.1 Identity

MoveQuick is comprised of two distinct business units: *MoveQuick-Operations* and *MoveQuick-Solutions*. Our findings suggest that there was a distinct difference between the consensual identities of both business units which likely led to integration challenges. *MoveQuick* had recently celebrated its one-hundredth anniversary, reaching its level of global dominance by building *MoveQuick-Operations*—a massive package distribution network that focused on efficiency and spanned more than 200 countries and territories. Accordingly, *MoveQuick-Operations* identity is best described

as one that values standardized operating procedures, operational excellence, and continuous improvement through precise measurement of performance objectives. In fact, during a meeting in Denver, a *MoveQuick-Operations* employee stated:

At MoveQuick-Operations, if we want to improve something, we must first measure it; that which does not get measured does not get fixed.

When touring one of *MoveQuick-Operations*' distribution facilities to observe a midnight sort, a military boot camp best describes the situation. In the dungeons of the sorting facility, presort meetings were held—shift managers and high school age sorters convened to discuss the outcomes of previous shifts and the goals for the upcoming shift. In one of the meetings observed, the shift manager passed out spreadsheet-style reports with detailed performance metrics related to the prior sort. These reports detailed how efficient and effective *MoveQuick-Operations* employees were in sorting the more than 140,000 packages that had entered and exited the facility during the previous sort. For example, one efficiency metric measured how fast the team received incoming packages and put them on the correct outgoing trucks at the opposite end of the sorting facility. Similarly, the effectiveness metric measured errors that occurred in terms of packages being put on the wrong trucks. During the observed meeting, the shift managers meticulously scrutinized each error, one by one, and made it clear through a certain degree of yelling and screaming that perfection was the goal.

In contrast to *MoveQuick-Operations*, *MoveQuick-Solutions* demonstrated a distinctly different identity. *MoveQuick-Solutions* had an entrepreneurial spirit that reflected its youth and its mission to be a growth engine for the parent

organization. Instead of a century of operations, *MoveQuick-Solutions* began in the early 1990's. A simple walk through the corporate headquarters at *MoveQuick-Solutions* highlights a small but telling distinction between the two business units. Gone are the mandated stiff suits and conservative ties worn at the headquarters of *MoveQuick-Operations*, replaced by today's comfortable, casual business attire that reflects creativity and free will.

MoveQuick-Solutions was structurally separate from *MoveQuick-Operations*, but it was set up to leverage the massive distribution network of its parent firm, while providing higher value-added services to customer firms. Such services related to supply chain design and planning, logistics and distribution services, transportation and freight, and international trade management. The coordination of business processes between the two business units was necessary and crucial, but their consensual identities and obvious distinctions created a real challenge. Consequently, a tension between standardization and customization emerged, because *MoveQuick-Solutions* seemed only partially able to leverage the standardized prowess that had made *MoveQuick-Operations* famous. Instead, *MoveQuick-Solutions* was caught in a trap of living up to its self-made identity of solutions provider, building what seemed to be newly customized offerings for each customer. As one executive in the information systems department of *MoveQuick-Solutions* said:

We went to the customer and in our desire to be responsive, we allowed anything and everything to drive us in a technology direction. If you didn't like Manhattan, we would throw you something else. If you didn't like that, then we'd throw some other thing.

Since beliefs about an organization's identity are a crucial part of managers' mental models (Weick, 1995), the conflicting belief structures about standardized excellence versus ongoing customization corresponded to very different world views for *MoveQuick-Operations* and *MoveQuick-Solutions* employees. These contrasting consensual identities made the coordination of operational processes and the alignment of business unit strategies a challenge, thereby exacerbating rather than attenuating the tension between standardization and customization. Another interviewee who was leading a charge to integrate the two business units said:

I mean, it's funny because I've been in this a few years now and initially why I came over here was to work on integration [between MoveQuick-Operations and MoveQuick-Solutions] ...to pull all this together. I went through a year just trying to get people to even consider it. I mean, it was like I used to say I lived for five years in Europe and people used to tell me that was a long journey back and forth from Chicago to London and Brussels and I said, no, the longest journey is from Lakeview [MoveQuick-Operations headquarters] to Hilltop [MoveQuick-Solutions headquarters] and Hilltop to Lakeview. That's where the biggest separation is.

This interviewee continued:

Well, I grabbed a guy one day and he made an offhand comment and I said, before you get too arrogant, you know why you get paid every month? Because that boring, [MoveQuick-Operations] business down there at Lakeview- they're making money. So until we start to make money, you know, we don't have a lot to say about this thing.

Despite the challenges they faced, *MoveQuick-Operations* and *MoveQuick-Solutions* executives worked hard to develop a more symbiotic relationship between the business units. They tried to develop fewer one-off solutions for customers, and instead leveraged the standardized capabilities already in place within the parent organization. While this process took a lot of time, it appeared that the core factor in enabling a move

toward a more orchestrated relationship between *MoveQuick-Operations* and *MoveQuick-Solutions* was a lessening of the two disparate identities. As individuals in both business units began transitioning from asking “who are they” to “who are we,” a sure sign of identity construction (Weick, 1995), the foundation for process and strategy alignment between the units began to emerge. A respondent working within the *MoveQuick-Solutions* unit suggested:

I always say that one of the reasons it has taken so long [to integrate MoveQuick-Operations and MoveQuick-Solutions], is the organization wasn't ready. Once we did the rebranding [of which the most visible change was the construction of a new logo, symbolizing MoveQuick-Operations expansion from package delivery into a broader array of supply chain services]...the rebranding was extremely powerful internally to get people to quit thinking just inside of their space. I think a lot of it [the recent success we have had integrating the firms], was because the organizations finally came to terms with the fact that we could not operate as two separate firms any longer.

During our investigation, it became increasingly clear that the consensual identities constructed by *MoveQuick-Operations* and *MoveQuick-Solutions* employees were not only distinctly different, but acted as an invisible wall which separated both firms. As a result, there was poor coordination between the two business units, and consequently, the tension between standardization and customization had a tendency to grow stronger. However, as managers for both units realized the challenges involved in managing the tension between standardization and customization, the organizations began to reconstruct and share a single identity. This did not happen through happenstance, but with deliberate intent. As one interviewee said:

The management committee realized that they needed to make some significant change so inwardly we could begin the thought process of, hey you know, this is different than it was ten years ago and that we needed to change.

5.1.2 Retrospect

The retrospective property of sensemaking provides a valuable lens for investigating how individuals' interpretations and actions affect the tension at *MoveQuick*; it speaks in two interesting ways to how past events and future actions are connected through a sensemaking process. First, managers' interpretations represent simplified views of experiences because they are constructed in retrospect, which efficiently edits out the complex causal chains that actually produced the observed outcomes (Weick, 1995). Second, the sequential nature of retrospective sensemaking means today's events play a role in shaping interpretations of events that have occurred in a more distant past (Weick, 1995).

The tendency to edit out the complex nature of reality during retrospection was evident as *MoveQuick-Solutions* managers pursued a strategy of repeatability. By developing a business model that was repeatable, *MoveQuick-Solutions* established service offerings that were intended to be used identically across many different customer relationships (see figure 4). The repeatable model consisted of standardized service offerings that defined value propositions for specific market segments. *MoveQuick-Solutions* would focus their attention for a period of time on developing the standardized offerings, and then shift their focus at a later time to customizing services within unique accounts. By replicating services across customers, *MoveQuick-Solutions* tried to develop the economies of scale needed to operate profitably, similar to those developed by *MoveQuick-Operations*. *MoveQuick-Solutions* managers defined their repeatable service

model through the lens of the eighty/twenty rule as they realized they would be unable to attain one hundred percent repeatability. For each customer relationship, eighty percent of the provided services would be standardized across customer accounts, leaving twenty percent of the required services to be customized to meet the unique needs of each customer.

When first conceived, the idea of developing standardized offerings that could be repeated across many customers seemed reasonable, but managers quickly discovered that initial segmentation strategies failed due to one main reason: they were too simple as they did not sufficiently account for heterogeneous requirements of individual customers. For example, within one particular vertical, the systems and processes needed across customer accounts simply varied too much to be reduced to a single generic process. However, in a sustained effort to develop a repeatable service model rather than pursue alternative strategies, *MoveQuick-Solutions* managers continued to pursue a segmentation strategy by developing more specialized offerings within each vertical. For instance, as shown in Figure 4—a PowerPoint slide from a *MoveQuick* executive⁶—the Healthcare vertical they developed a standardized offering focused specifically on pharmaceutical exchange and fulfillment that could theoretically be used across many customers in the pharmaceutical industry. However, despite continuous efforts, they could not segment their way out of the complex reality they faced—each customer was different. One *MoveQuick-Solutions* employee commented on a contract they had with a customer in the defense industry:

⁶ This slide on the following page was reproduced from an actual PowerPoint slide from a *MoveQuick* executive. It was reproduced to hide particular company names to protect *MoveQuick*'s confidentiality.

Most accounts are not on 24 hour notice, but when hostility started rising in the Middle East last year [because this is a defense industry account], we did put this account on a 24 hour notice. They didn't have someone here [at the warehouse] all the time, but [MoveQuick-Solutions] employees supporting this account had to begin wearing pagers so someone could be contacted at anytime day or night for an emergency. The good thing is we never had to use it, so it's good that people didn't get woken up in the middle of the night, but more importantly, the service men and women were safe and the equipment was functioning properly.

The excerpt above is just one of many that speak to the differences between individual customer accounts. As we toured the *MoveQuick-Solutions* warehousing facilities, conversations with employees largely reflected the one above, focusing mainly on the unique aspects of individual accounts. Thus, despite their best efforts, it was clearly evident that no two customer business processes were the same.

Repeatable Service Model

- Repeatable, standardized offerings
- Physical logistics services, information systems, and proven process and procedures
- Definable value propositions for a specific market segment
 - Wireless fulfillment and returns
 - Manufacturing services
 - OEM global sourcing
 - Healthcare / Pharmaceutical exchange fulfillment
 - Order fulfillment North America
 - Pan European distribution model

Figure 4: Repeatable Service Model from *MoveQuick*

At first glance, the repeatable service model can simply be seen as a failed strategy. However, by applying the lens of the retrospective property of sensemaking, we are able to gain insight into factors that may have contributed to its demise. At *MoveQuick-Solutions*, it became clear that the simplified mental models of employees led

to segmentation strategies that were too general. For instance, a *MoveQuick-Solutions* employee that was responsible for developing a repeatable solution for exchange/fulfillment processes for pharmaceutical companies would have to draw on retrospective interpretations of experiences with previous pharmaceutical customers. However, as the complexity of these experiences is often edited out in hindsight, the idiosyncrasies across prior customer accounts were likely unaccounted for. As a result, instead of reaching their eighty-twenty goal, MQ employees continued to provide one-off solutions for most customers.

The sequential nature of retrospection was the second interesting aspect of this property and it was observed when *MoveQuick-Solutions* employees talked about *MoveQuick-Operations*. Interestingly, many *MoveQuick-Solutions* employees and managers came over to the new organization from *MoveQuick-Operations*. Thus, their experiences led them to develop interpretations of both organizations. Since attention is directed backward from a given point in time, whatever is happening while we seek to understand past events influences what we come to understand (Weick, 1995). Therefore, since *MoveQuick-Solutions* initiatives represented the present situation for *MoveQuick-Solutions* employees, they provided a lens for developing an interpretation of the *MoveQuick-Operations* organization. Thus, it became apparent that the solution-oriented mindset that was so evident at *MoveQuick-Solutions* seemed to exacerbate the perception that *MoveQuick-Operations* is an old and conventional organization that does little more than deliver packages. One *MoveQuick-Solutions* manager said:

People have long associated MQ with the conservative, reliable company that delivers their holiday packages through rain, snow, and sleet. We do that. But, as

I hope you'll see, we also do a lot more as well. We bet our future on an aspiration of the supply chain done right -- an aspiration we call synchronized commerce. Synchronized commerce is about becoming a "one-to-one," integral partner in each of our customer's success. We do that by knowing their business, their business processes, and their supply chain, to such a degree that MQ can produce solutions for each customer and their customers.

Retrospective sensemaking can be visualized as a cone of light that spreads backward from a present situation (Weick, 1995). Since *MoveQuick-Solutions* initiatives represented the present situation for *MoveQuick-Solutions* employees, they undoubtedly influenced how *MoveQuick-Operations* was perceived. This retrospective effect seemed to increase the misalignment between new (*MoveQuick-Solutions*) and old (*MoveQuick-Operations*) and hence exacerbated the tension between standardization and customization: it magnified the standardized aspects of *MoveQuick-Operations* and the customized nature of *MoveQuick-Solutions*. This effect further emphasizes the coordination challenges that were presented in the prior section related to the consensual identities of *MoveQuick-Operations* and *MoveQuick-Solutions*. The sequential effect repressed coordination between business units by perpetuating the "us" versus "them" mentality. Hence, by adopting the retrospective lens and understanding its sequential nature, we were able to develop a deeper understanding of why the identities of both organizations were at odds and challenging to change, and why coordination between business units was so difficult. *MoveQuick-Solutions* employees saw *MoveQuick-Operations* through the lens of their present situation that focused on customized solutions for individual customers, and thus saw *MoveQuick-Operations* as an old, stodgy, rigid organization.

From the perspective of the retrospective property of sensemaking, we saw that at *MoveQuick-Solutions* the simplified interpretations of past events likely contributed to the development of overly simplified segmentation strategies that were designed to mitigate the tension between standardization and customization. Moreover, the sequential nature of retrospection provides insight into the magnification of differences between *MoveQuick-Solutions* and *MoveQuick-Operations*. By highlighting differences at the expense of similarities, coordination between the two organizations was challenged and the tension between standardization and customization had a tendency to grow stronger once again.

5.1.3 Enactment

As the enactment property of sensemaking focuses on the creation of group level cognitive structures, *MoveQuick* executives were co-creating understandings of what was “out there” in their environment, as well as helping develop some of the environmental peculiarities they were noticing. One primary example of a phenomenon occupying their attention, and which they were also playing a role in enabling, was globalization—a vast business opportunity to which *MoveQuick* executives must respond appropriately. Accordingly, globalization, a combination of economic, technological, socio-cultural, and political forces that contribute to the development of a single market (Croucher, 2004) was of central concern for *MoveQuick* executives.

There was a clear and pervading group level view among *MoveQuick* executives that the globalization of markets spelled opportunity for their firm, but political

opportunity for the world. As one *MoveQuick* executive said:

Global trade also provides political stability. FDR's secretary of state, Cordell Hull, said it best: "When trade crosses borders, armies don't." A new twist on this quote is called the "Dell Theory". It states: "No two countries sharing a supply chain have ever gone to war."

MoveQuick executives saw growth potential when they thought of the opportunities that might come from globalization. The growing middle class in India, China, Russia, Brazil, and Central Europe correlated to more people and firms that would send and receive packages in the future—a clear source of new revenue for both business units. At *MoveQuick*, it was apparent that the importance of globalization was not a perspective held by a single executive, but instead represented a rather cohesive organizational view held by senior *MoveQuick* managers. This group level view, in turn, was shaping the future direction of the firm. As table 11 shows, executives from all major functional groups within the organization developed similar beliefs as to the importance of globalization to their business.

Table 11: Organizational View on Globalization

Role	Comment
CFO	<i>In the late 1990s, MQ recognized that the forces of globalization and technology were converging to change the way commerce was conducted and the growing importance of supply chain management.</i>
VP - Solutions	<i>We recognized that if we were going to survive in the Brave New World (The world of open markets and global trade) we would have to transform our businesses.</i>
CIO	<i>MQ has felt the influence of fast-evolving technology and globalization for quite some time.</i>
COO	<i>Whatever the relative merits of the debate on the global economy, the reality is the empowered consumer, and the global playing field, are not going away.</i>
SVP – OPS	<i>I work for a company that is deeply rooted in the global economy and has a lot riding on its continued development.</i>
SVP – MKT	<i>We're operating in a world where companies are just as likely to have customers, partners, suppliers and employees in Bangalore and Beijing as in Baltimore and Boston.</i>

The excerpts in Table 11 provides strong evidence that *MoveQuick* executives developed a rather cohesive group level view towards globalization and the opportunities it provided for future growth. According to the enactment property, this collective construction occurred through the back and forth movement between subjective perceptions and objective actions from individuals that were parts of larger “nets of collective action.” Thus, individuals objectified their subjective perceptions through actions and dialog, which were in turn perceived by other individual actors in the organization, in an ongoing enactment process. As Porac et al. (1989) argue, “This continual objective-subjective-objective transformation makes it possible eventually to generate interpretations that are shared by several people. Over time, individual cognitive structures thus become part of a socially reinforced view of the world” (p. 78).

In addition to the construction of group level cognitive structures, the enactment property illustrates how managers were in many ways responsible for creating their own environment. Thus, often times, they were contributors or enablers of what they were paying attention to. Consequently, it could be said that *MoveQuick* executives collectively constructed a group level view of globalization; globalization ‘shaped’ their ongoing actions pushing *MoveQuick* executives and employees to develop the capabilities required to “synchronize global commerce;” and, globalization was also ‘shaped by’ the ongoing actions of *MoveQuick*, who, as an organization, was a fundamental player in enabling the movement of physical, financial, and informational goods across geographic boundaries—a fundamental aspect of globalization. Thus, though *MoveQuick* executives perceived globalization as an economic opportunity and a positive force in the world, they were also embedded in and a key contributor to the process responsible for creating it. One *MoveQuick* executive went so far as to take responsibility for the negative undertones that seemed to accompany the dialogue about globalization. He said:

One could argue that a major reason that the term “globalization” has such a negative connotation is that we haven’t done a good job promoting trade literacy, the business community in particular.

Similarly, the tension between standardization and customization did not just suddenly appear in the environment and require *MoveQuick* executives to respond accordingly. Rather, the tension they faced emerged as a result of their very own actions. To compete in the new global environment, one that they helped create, *MoveQuick* executives needed to pursue new initiatives and develop new capabilities to support

business growth. As a result, they started *MoveQuick-Solutions* to provide supply chain solutions to individual companies, whom increasingly had operations scattered throughout the globe. As they found, companies were idiosyncratic—no two were alike. Thus, solutions for individual companies too often led to customized offerings that were not easily replicated across customer accounts.

From the perspective of the enactment property of sensemaking, we see evidence of the existence of group level cognitive structures related to globalization at *MoveQuick*. The enactment property provides an explanation as to how these structures were developed and evolved. There is also evidence that the globalization phenomenon was influencing the ongoing strategic direction of *MoveQuick*, as it likely contributed to their decision to start their solutions oriented business unit, *MoveQuick-Solutions*. However, globalization also exacerbated the tension they faced between standardization and customization as the economic, technological, socio-cultural, and political differences that distinguish global companies undoubtedly corresponded to idiosyncratic business processes that were difficult to standardize. Furthermore, the enactment property also shows that globalization, of which they were developing a shared understanding, was in some way the result of their own actions. The interrelatedness of developing a shared understanding and the collective affect on what was being noticed sheds interesting insight on the tension between standardization and customization at *MoveQuick*. It shows that some of their biggest challenges (customer idiosyncrasies) resulted from their very own actions (enabling globalization).

5.1.4 Social

The social nature of sensemaking is particularly significant at *MoveQuick*, due to the cross-functional nature of delivering supply chain services. However, in leveraging the social property we paid particular attention to coordination and collaboration issues within *MoveQuick-Solutions* and between *MoveQuick-Solutions* and *MoveQuick-Operations*. Our findings suggest that coordination within *MoveQuick-Operations* was not problematic as the organization was focused on one clear goal: moving packages around the globe. In fact, they have developed a notorious reputation for building a robust and efficient global distribution network to delivery more packages than any other company in the world on a daily basis. This is not to say *MoveQuick-Operations* did not have their own internal coordination challenges, but they surely did not have the degree of subunit orientation that pervades organizations like *MoveQuick-Solutions*, ones that are new and made up of many units with often conflicting goals. *MoveQuick-Solutions* consisted of subunits that were responsible for supply chain consulting, logistics, transportation and freight, international trade, and global financing (to name a few of the specializations). Additionally, they had specialized industry groups that aligned to major verticals and that tried to work across the organization in a matrix like structure. On top of the subunit diversity and complicated matrix structure, as previously mentioned, *MoveQuick-Solutions* was created through many recent acquisitions and significant organic growth. Thus, as was evident, *MoveQuick-Solutions* had many issues with coordination and collaboration within their organization and across it as they tried to leverage the capabilities of *MoveQuick-Operations*.

The social property of sensemaking speaks to communication, inter-subjective interaction, and collaboration as a means to coordinate collective action (Weick, 1995). From a solutions provider perspective, core functional units must work to develop their own competencies while making sure they fit into an enterprise-wide solution. Interestingly, the social aspects of making sense became most apparent at *MoveQuick-Solutions* in two ways: 1) communication breakdowns were detected between individuals or functional units and resulted in inefficient solution delivery, and 2) informal and unstructured means were relied on to align service offerings with market demand.

MoveQuick-Solutions began to adjust their business strategy after realizing their ongoing segmentation strategies were largely ineffective. Its newfound approach centered on the development of a modularized services architecture that would encapsulate service offerings into reusable business components. Individual customers could “mix and match” service modules to develop a robust solution that was unique to their business needs. For example, a customer in the high-tech industry might choose *MoveQuick-Solutions* extensive warehouse management system and combine it with customs brokerage and ground delivery services (a service of *MoveQuick-Operations*) to meet its idiosyncratic business needs. However, to combine these service offerings into an enterprise-wide solution, *MoveQuick-Solutions* employees had to collaborate with individuals residing in different subunits within their own organization as well as with individuals residing in *MoveQuick-Operations*. Doing so, allowed *MoveQuick-Solutions* to develop the necessary process interfaces between individual service components so they could be easily combined. Collaboration would also help *MoveQuick* employees to

develop a broader, more holistic understanding of each customer's needs, and to deliver more enterprise wide solutions. Nevertheless, despite good intentions it was evident that *MoveQuick-Solutions* continued to be challenged in these pursuits. When talking about a recent conversation with a new employee, one *MoveQuick-Solutions* manager said:

We talked about the company for about 20 minutes and I finally said, what do you do? He said, I'm a solutions guy. So as I drove home that night, I'm thinking...so here's this sharp young engineer [out of one of the top engineering schools in the world] that really knows his stuff, but he has no idea about what the strategy is for this company because he's sitting in a cubicle working out one piece of the solution as part of the bigger picture. That's not connected. He has no idea that the account he is working on [a MoveQuick-Solutions account] is actually a \$70 million customer with MoveQuick-Operations.

A lack of social interaction was not only apparent within the delivery arm of *MoveQuick-Solutions*, but it seemed many of the core functional groups within *MoveQuick-Solutions* were not collaborating. For instance, an individual within *MoveQuick-Solutions* marketing department talked about the importance of collaboration among individual sales representatives. She insinuated that their customers were not necessarily receiving "one voice" from their sales representatives:

But now when they [MoveQuick-Solutions sales representatives working on the same account] go into a meeting, they all sit in the same room. So if you're going to send a letter to IBM or to 3M or GE Medical, guess what, those customers are also MoveQuick-Operations customers so let's think about what we send and how we send it and what the message is.

Hence, it was evident that *MoveQuick-Solutions* continued to suffer breakdowns in its ability to collaborate across the enterprise, which led to poor coordination, inefficient resource allocation, and disintegrated solutions. The advent of their new modularization strategy within *MoveQuick-Solutions* did not reduce their internal need to

collaborate, as they still needed to develop individual service components that were highly standardized and that could be used across many customer relationships. Additionally, they needed to standardize the interfaces between the modules so they could be integrated effectively. Accordingly, they needed to continuously improve the alignment between the standardized components that were being developed and market demand. As they learned more about their customers and changing market demands, they needed to dynamically recalibrate their offerings. To achieve such recalibration, *MoveQuick-Solutions* needed tight collaboration between frontline sales staff and the marketing and product development teams. Our findings suggest that *MoveQuick-Solutions* developed formal and informal mechanisms for sharing information to support collaboration. A marketing team employee provided an explanation of these mechanisms when she said:

The formal path would be through our lead or sales management tool. There's a postmortem section in there about each opportunity, including a win-loss analysis. Some people are better at putting good information in there than others. The informal program works differently...we begin to see that a standardized offering isn't performing where we want from a marketing perspective, and we proactively start calling the sales force, going to lunch with them, and talking to customers as well. And then certain people within the sales force know that me or my group is the lead on a particular offering, they'll start leaving me voice mails and e-mails about what they're finding and what they need and why. There are certain sales people that I know who are very strong...I'll proactively call them to get their feedback on a particular offering.

Sensemaking is about common language, social interaction, and subjectively shared meanings (Weick, 1995). Accordingly, the informal nature of collaboration between the *MoveQuick-Solutions* sales force and the marketing and product development teams exemplifies the social property of sensemaking. However, though the

social property of sensemaking speaks to communication and collaboration, it also speaks to informal networks, politics, and values. It speaks to shared understandings and converging mental models, but it also speaks to value judgments such as “certain sales people who are very strong” and those, in relative terms, who must be less so. As *MoveQuick-Solutions* seeks to develop standardized modules that align closely with market demands, it is forced to collaborate, communicate, and perhaps most challenging, make value judgments as to who is knowledgeable and who is not.

As our evidence suggests, sensemaking is not an individual activity (Weick, 1995). Instead, it requires intensive social interaction in formal and informal ways. The advent of their new modularization strategy within *MoveQuick-Solutions* heightened their internal need to collaborate, as they needed to develop individual service components with standardized interfaces so they could be easily combined. However, the lack of social interaction inhibited understanding of the process interfaces and challenged their ability to create a modular infrastructure. As evidenced in this section, communication breakdowns stifled collaboration within *MoveQuick-Solutions* and across unit boundaries with *MoveQuick-Operations*. It resulted in inefficient resource allocation and an inability to show “one face” to customers. Furthermore, developing service components requires tight collaboration between product development and the front line sales force. However, as seen at *MoveQuick-Solutions*, collaboration and communication must be coupled with values and judgments to effectively align service offerings with market demands. Despite their modularization strategy, *MoveQuick-Solutions* still pursued the development of standardized modules, but to tailor the bundled solutions to specific customers they

needed to develop new social relations across business units. Our findings suggest that they did so informally, without explicating shared values and useful coordination mechanisms, which led to relatively effective, but inefficient, coordination within and across firm boundaries.

5.1.5 Ongoing

Creating *MoveQuick-Solutions* enabled *MoveQuick* to become an important partner for companies looking to develop a competitive advantage through improved management of their supply chains. However, despite their pursuit of these potentially more profitable markets, *MoveQuick-Solutions* had not yet achieved the operating margins of *MoveQuick-Operations* because of their inability to develop the necessary economies of scale in a complicated services business. The ongoing property of sensemaking provides a lens for understanding why it was so difficult for *MoveQuick-Solutions* managers to develop a services infrastructure that would allow them to profitably meet the idiosyncratic needs of many customers. By applying this lens we found that *MoveQuick-Solutions* faced two simultaneous challenges: coping with the ongoing stream of acquisitions and innovations and aligning them into a ready-to-use portfolio of service capabilities and, coping with the ongoing pressures and demands within individual relationships while pressing to achieve profitability within each account.

One challenge that made it difficult to balance the tension was the ongoing expansion that occurred within *MoveQuick-Solutions*. To meet customers differing

supply chain needs— from transportation and freight, logistics design and planning, and post sales support, to solutions for specific industries— *MoveQuick-Solutions* had to build and acquire a host of specialized capabilities quickly. They did this through internal growth and numerous external acquisitions (see table 12). Thus, as is a characteristic of the ongoing property of sensemaking (Weick, 1995), *MoveQuick-Solutions* employees were thrown into a situation of great turbulence, as competitive pressures forced them to rapidly develop a sophisticated breadth of capabilities. In doing so, they realized that the many acquisitions and the internal development of new capabilities came with a price. As one *MoveQuick-Solutions* employee said:

We've acquired over 20 companies over the past few years, the biggest one being Ocean Trade. And when we brought all of these companies in, one thing that we quickly found is that each company had their own systems in place...either ones they developed internally or ones they contracted out. To deal with this redundancy, we started to go through here and say, "You know what; we don't want to support double digit systems." So, we went through and started evaluating which ones were most useful most of the time, and, in doing so, we tried to come up with a preferred platform [that could be used across customer relationships].

The numerous acquisitions and internal innovations created an obstacle for *MoveQuick-Solutions* as they sought to build their modularized infrastructure that would allow customers to mix and match service modules. For modules to work jointly, they needed to divide them appropriately by separating them by function and they needed to ensure the interfaces interact so information could be sent between them. However, because of the numerous acquisitions, they were left with many heterogeneous system and process modules across business units, making it difficult to develop a cohesive enterprise infrastructure. As a result, it became clear that the ongoing focus on building

new capabilities exacerbated internal operating complexity, and, consequently, it inhibited the creation of a services infrastructure that would help *MoveQuick-Solutions* balance the tension they faced. Furthermore, despite a concerted effort to rationalize systems and processes the internal operating complexity was not the only force creating havoc for *MoveQuick-Solutions* managers as they sought to develop a profitable operating model.

Another ongoing challenge that made it difficult for *MoveQuick-Solutions* to balance the tension between standardization and customization occurred when *MoveQuick-Solutions* attempted to respond to customer requirement heterogeneity. In an ongoing pursuit to help each customer develop a supply chain that created a competitive advantage in their respective industries, *MoveQuick-Solutions* was forced to adapt and adjust their own systems and processes to meet their customers idiosyncratic business needs. As a result, the ongoing pressures within individual customer relationships turned preferred platforms that were meant to be leveraged across customer accounts into one off solutions once again. In regard to developing a standardized offering, one *MoveQuick-Solutions* employee said:

To me it's very important. It just doesn't happen to the degree that it needs to because there's so many solutions, so many customers, so many different ways we have to produce something to be productive. Each solution ends up becoming so customized that an application [even if it started out the same] is almost always different. When you saw Photoshoot [while observing operations in building C], you saw the EXE application being used to support their business processes. If you went over to Print Solutions in the other building, you would see the EXE application once again. But there it is different. They are set up totally different. Print Solutions wanted this kind of information, and they wanted the orders to come to this place, and they wanted something else set up another certain way. So I can say we have EXE in both places, but the fact is I'm not so sure that an

employee working for the Photoshoot account can walk over to the Print Solutions system and recognize it.

MoveQuick-Solutions employees that worked within individual customer relationships were not sitting still looking towards a static environment. Instead, they faced their own pressures to not only meet the unique needs of individual customers, but also to continuously grow the revenue for each account. So, despite the importance of developing preferred platforms and standardized offerings to improve operational efficiencies, *MoveQuick-Solutions* faced an ongoing dilemma within individual customer relationships that too often forced them away from developing, and using, standardized offerings. This ongoing challenge once again exacerbated internal complexity and inhibited the development of a services infrastructure that would assist them in managing the tension they faced.

From the perspective of the ongoing property of sensemaking, we see that *MoveQuick-Solutions* employees dealt with two ongoing forces that continuously challenged their ability to develop an operating model that balanced the tension between standardization and customization. To counteract dwindling margins in their core package business, *MoveQuick* managers decided to develop a services business, *MoveQuick-Solutions*, to provide supply chain solutions to customers, large and small. In an effort to build a robust services business, *MoveQuick-Solutions* continued to acquire specialized firms while also developing new capabilities organically. However, this ongoing pursuit created a continuous stream of internal coordination challenges that affected their ability to develop a modularized services infrastructure. Furthermore, we

noticed that individual customer relationships seemed to take on a life of their own, as systems and platforms that were meant to be standardized were altered after ongoing customization within individual customer relationships. Together, the simultaneous forces created ongoing obstacles for *MoveQuick-Solutions* employees as they sought to manage the tension between standardization and customization.

Table 12: Partial List of Acquisitions and Organic Growth

1995 – 2005
<ul style="list-style-type: none"> ▪ SPL Acquisitions ▪ Freight / CHB Services ▪ Purchased The Mail Place., now the MQ Store ▪ Purchased First International Bank to create MQ Capital Corp ▪ Purchased Healthcorp for Healthcare & Pharmaceuticals ▪ MQ Mail Innovations (Organically grown) ▪ MS (Organically grown) ▪ MQ Consulting (Organically grown) ▪ Purchased Latenight Trucking ▪ Purchased Stolica to develop footprint in Poland ▪ Purchased Jynx to develop logistics footprint in UK

5.1.6 Extracted Cues

The extracted cues property of sensemaking can guide one’s attention in different ways. It can focus attention on cue creation, which relates to how and why people place cues into the environment. Alternatively, it can focus attention on cue adoption, which relates to how others react to such cues from the environment and the subsequent affect on collective behavior. At *MoveQuick*, the extracted cues property alerted us to both creation and adoption. The creators were *MoveQuick* executives; the adopters were employees and customers. In applying this lens, we were also alerted to two specific

types of cues, one verbal and the other visual, that were created for the purpose of shaping perceptions and behavior inside and outside of *MoveQuick*. We found that the creation of these cues, though important for facilitating the growth of *MoveQuick-Solutions*, was likely responsible for contributing to the tension between standardization and customization.

First, we found that *MoveQuick* executives were working hard to reformulate how their customers and employees perceived supply chain management through the creation of well defined verbal cues. They tried to persuade customers and employees to adopt a new understanding of supply chain management, one that might lead to potential competitive differentiation rather than simply back office improvement. This, of course, aligned with their strategic initiative to start *MoveQuick-Solutions*. To help facilitate this cognitive shift, they leveraged the existing business context and coupled that with the creation of vivid verbal cues to reorient people's perceptions. Thus, their communications were focused on creating new terminology related to "weaponry", "arsenals", "tools for market growth", and "board room initiatives" within the context of global markets that were complex, rapidly changing, and fast paced. Table 13 provides evidence of these cues and the context in which they were often communicated by members of the *MoveQuick* management team.

Table 13: Creating Cues by MoveQuick Executives

Role	Comment
CFO	<i>Smart companies recognize that the complexities of global trade require another weapon in their arsenal – the supply chain.</i>
VP – MoveQuick-Solutions	<i>The complex and fast-paced global economy has been greatly influenced by an entirely new way of looking at supply chains. In this new world, companies recognize the supply chain is a source of value and competitive advantage. It's no longer viewed as just a non-strategic cost center...Effective supply chains: Grow revenue by reaching new markets ...Improve cash position ... Differentiate products ... Improve customer service ... and Enhance productivity. Forward-thinking companies, like Wal-Mart, Motorola, Abbot Labs, Sears and Dell, to name just a few, understand the strategic imperative of supply chain management</i>
CIO	<i>Put simply, it means that instead of goods, information, and funds flowing along independent, often random pathways as they once did, they can now be integrated, and optimized from one end of the globe to the other. And it means that managing a company's flow of global business trade has moved from a back office agenda to the boardroom.</i>
SVP – Sales and MKT	<i>If ever this patron saint's help is needed, it is for those companies who have delayed integrating a synchronized supply chain strategy with their business strategy. Let me tell you why procrastination in creating this synergy is unacceptable. Retailers and consumer goods producers are operating in a complex world, where change is the order of the day. Old business models, processes and strategies are being re-examined. A lot of the old rules no longer apply. New dynamics and challenges bombard us every day.</i>

By creating cues such as those in table 13, MoveQuick executives hoped that

customers would extract these cues and reformulate their perceptions of supply chain management—moving away from the simple notion that it was a back-office process and adopting a new view that it was worthy of executive attention. This new conceptualization was therefore intended to shape customers' perceptions so that they would value *MoveQuick-Solutions* offerings. With this newfound awareness of the possibilities for competitive differentiation through innovative SCM, *MoveQuick-Solutions* executives hoped customers would also be willing to pay the premium prices that reflect non-commodity based services. However, it became apparent that the cues executives were delivering to the marketplace were not well aligned to their internal initiatives to develop standardized offerings that could be replicated across customer accounts. Since customers were extracting cues and formulating images of SCM as a strategic weapon, one that could differentiate them from their competitors, they were understandably looking for *MoveQuick-Solutions* to provide more than generic solutions. Thus, they wanted to make sure that the services they were purchasing from *MoveQuick-Solutions* were unlike those that *MoveQuick-Solutions* provided to other customers and that they were getting favored treatment. As one *MoveQuick-Solutions* customer said:

MoveQuick-Solutions has not stepped up to the plate and presented our company with compelling advantages to move our partnership to a position that assures us that we are getting preferred customer treatment & current performance levels are not meeting our needs in certain areas. They are not taking actions that are consistent with their viewing these opportunities as valuable and that this partnership is an important relationship.

Our findings suggest that customers were extracting the cues that *MoveQuick* executives were creating, and they were adopting new perceptions as to the competitive opportunities that come from effective supply chain management. Nevertheless, in

adopting these new beliefs they also expected *MoveQuick-Solutions* to treat them differently, as if they were their only customer.

In addition to verbal cues, we found that *MoveQuick* executives were working hard to reformulate customer and employee perceptions through the creation of visual cues. After a two year strategic research initiative with a firm notorious for helping firms build global brands, *MoveQuick* management determined that the company's "look" was simply out of date and no longer reflected its evolving capabilities in the area of supply chain services. Consequently, they altered their almost 100 year old logo by removing characteristics that too strongly reflected *MoveQuick*'s old capabilities and adjusted it to expand its meaning to visually reflect the capabilities being developed within *MoveQuick-Solutions*. According to one *MoveQuick* executive:

The new MoveQuick logo still conveys the essence of MoveQuick, the spirit of service and excellence we've built as the world's leading package delivery company. But it expands its meaning to reflect the broader services now available to customers.

Moreover, the CEO of *MoveQuick* noted:

MoveQuick remains the world's premier package delivery company. However, our new logo reflects a world that expects more than packages from MoveQuick - new capabilities and an innovative vision for the world.

The creation of the new logo was not just important for altering customers' perceptions of *MoveQuick*, but it was equally important for changing the way *MoveQuick* employees thought about themselves. As one *MoveQuick-Solutions* manager noted:

I have a 24 year old son who is now in med school. He's still angry that they [altered the logo] because that is what he grew up with. He said, "I still don't like that new logo." So, you still have a lot of that even within MoveQuick, but I think

the management committee realized that they needed to make some significant change so inwardly we could begin the thought process of, “Hey, you know, this is different than it was ten years ago, and that we needed to change.”

From the perspective of the extracted cues property of sensemaking, we see that cues were clearly created by *MoveQuick* executives as much as they were adopted by customers and employees. *MoveQuick* executives created verbal cues as well as visual ones to adjust individual perceptions and shape collective behavior. However, with employees extracting cues that forced them to think outside the boundaries of *MoveQuick-Operations* which is known for standardized excellence, and customers extracting cues that led them to believe that their relationship should be different than all others, *MoveQuick* continued to face a growing tension between standardization and customization.

5.1.7 Summary of Internal Findings

The six properties of sensemaking uncovered rich insights into how and why patterns of collective action inside *MoveQuick* relate to the tension between standardization and customization (see table 14 for summary of findings). Sensemaking starts with chaos, where organizational members face equivocal environments, but are forced to enact structures that inform and constrain identity and action (Weick, 1995; Mills, 2003). Our findings suggest that *MoveQuick* faced an environment that was uncertain, complex, and ambiguous. In this environment, they engaged in sensemaking that shaped collective action and that in many cases increased, rather than decreased, the tension they faced. As we summarize our findings, we focus on three important themes that run across the individual properties of sensemaking and help answer the research

question. These themes relate to internal sources of the tension, internal responses to the tension, and impact of customer interactions on the tension.

The first theme we discovered relates to internal sources of the tension that challenged *MoveQuick*. As our findings suggest, these internal sources were largely self imposed as many of *MoveQuick*'s enacted strategies and structures made the tension between standardization and customization stronger. Initially, *MoveQuick-Solutions* in many ways signified the beginning of the tension. Once customers began considering the competitive opportunities that might come from innovative supply chain management, they looked to *MoveQuick* to provide such differentiated services. As cues were created to make employees think differently, they began to adopt a new perspective on their role and capabilities. By adopting a more solution-oriented mindset they likely broadened their search away from standardized offerings. In doing so, they placed greater emphasis on developing customized alternatives to meet idiosyncratic customer needs.

Additionally, the many external acquisitions made by *MoveQuick* created additional sources of tension that were likely expected but still required management attention. The many acquisitions led to system and process heterogeneities that exacerbated internal operating complexity. Consequently, the internal challenges impacted their ability to develop an enterprise architecture that could effectively respond to their turbulent environment—the one they were playing a large role in creating. Finally, *MoveQuick-Solutions* distinct mission and young age led to a consensual identity that was not well aligned with *MoveQuick-Operations*. As a result, integration challenges between *MoveQuick-Operations* and *MoveQuick-Solutions* abounded, and contributed to

strengthening the tension by inhibiting effective separation of duty and specialization.

The second theme relates to internal responses to the tension *MoveQuick* faced. *MoveQuick* employees organized to make sense of equivocal inputs and enacted structural interventions in continuous attempts to create order out of chaotic situations. The equivocal inputs related to idiosyncratic customer requirements that challenged *MoveQuick*'s profitability. In response, *MoveQuick* first enacted the repeatable service model strategy that sought to reduce equivocality by offering predefined services aligned with specific market segments. After this proved unsuccessful, *MoveQuick* altered their strategy and began developing modularized enterprise architecture. In doing so, *MoveQuick* sought to encapsulate service offerings into reusable business components with standardized interfaces so they could be easily combined into an enterprise wide solution. From a sensemaking perspective, this shift in strategy represents a fundamental change in how *MoveQuick* was managing their equivocality. The repeatable service model and intensive segmentation strategies were mechanisms to create order out of disorder by enacting formal structures to mitigate requirement heterogeneity. By developing such structures they were trying to reduce equivocality. In contrast, the development of the modularized enterprise infrastructure related more to putting structure around internal processes and resources so they could more effectively respond to the equivocal inputs. Hence, *MoveQuick* shifted focus from trying to lessen the equivocality of inputs towards improving their ability to respond to it.

The third theme relates to interactions between *MoveQuick* and their key customers. The advent of *MoveQuick-Solutions* created a new relational dynamic

between *MoveQuick* and their customers. Instead of a rigid, but efficient organization that offered prepackaged services, primarily package delivery, *MoveQuick-Solutions* now wanted to learn about unique aspects of their customers business and provide solutions accordingly. Furthermore, the many cues that were created to shape customer perceptions in regard to the competitive opportunities that might come from innovative supply chain management caused customers to look for unique services and often preferred treatment. When these factors were coupled with the continual pressure faced by *MoveQuick* employees to grow account revenues, it is understandable that the tension only grew stronger. Yet, as the sales and account management teams were forced to grow accounts, the operations and service delivery organizations were left trying to effectively deliver the promised services and to do so profitably. The focus on customer interaction is especially important for our study as it sheds light on core aspects of the tension, namely, competing objectives across business units. Our findings suggest that there was likely an imbalance within *MoveQuick* between those creating disorder, the sales and relationship management teams, and those responding to it, the operations and service delivery teams. In the next section we will continue to investigate the relationship between customer interactions and the tension challenging *MoveQuick* by applying the six properties of the sensemaking framework to two of *MoveQuick's* strategic relationships.

In conclusion, it is worth noting that these key findings primarily reveal how the tension between standardization was created and reinforced. The detailed analyses of the six sensemaking properties did not reveal strong evidence of forces or activities at *MoveQuick* through which the tension was reduced or effectively resolved. For instance,

from the point of view of the retrospective property, we saw that the tendency to edit out the complex nature of past events and the sequential nature of sensemaking led to strategic and operational challenges for *MoveQuick*. Our findings suggest that the retrospective property mainly led to negative effects, as both cases reported at *MoveQuick* reflect such outcomes. However, it is important to note that retrospection definitely can lead to problem resolution, and there is nothing in the sensemaking framework that would preclude us from finding such instances. For example, the ability to simplify the complexity of past events can assist in dealing with the constraints of human information processing and bounded rationality. Moreover, the purposeful selection of positive aspects of past events can provide the necessary confidence to venture into unknown territories to pursue new opportunities, such as starting *MoveQuick-Solutions*. Yet, in our investigation such positive aspects were not nearly as observable at *MoveQuick*.

Table 14: Findings from Internal Investigation at *MoveQuick*

Property	Observation	Impact
Identity	<ul style="list-style-type: none"> ▪ Conflicting identities between <i>MoveQuick-Operations</i> and <i>MoveQuick-Solutions</i> 	Inhibited integration between business units
Retrospect	<ul style="list-style-type: none"> ▪ Simplified mental models shaped go-to-market strategies 	Led to inadequate segmentation strategies that did not account for heterogeneous requirements
	<ul style="list-style-type: none"> ▪ Sequential effect magnified differences between business units 	Repressed coordination between business units by perpetuating the “us” versus “them” mentality
Enactive	<ul style="list-style-type: none"> ▪ Group level views on globalization were ‘shaped’ and ‘shaped by’ their business 	Exacerbated requirements heterogeneity across customer accounts through

Property	Observation	Impact
	strategy	advent of solution oriented mindset
Social	<ul style="list-style-type: none"> ▪ Lack of cross functional interaction within <i>MoveQuick-Solutions</i> 	Inhibited understanding of process interfaces which constrained the creation of a modular infrastructure
	<ul style="list-style-type: none"> ▪ Formal and informal interaction patterns between sales and marketing team 	Led to relatively effective but inefficient alignment between service modules and market needs
Ongoing	<ul style="list-style-type: none"> ▪ Continuous external acquisitions and internal growth increased system and process redundancies 	Exacerbated internal coordination complexity and inhibited the creation of a modular infrastructure
	<ul style="list-style-type: none"> ▪ Incessant pressure to provide differentiated services within and across customer accounts 	Increased customer requirements heterogeneity and constrained the development of standardized offerings
Extracted Cues	<ul style="list-style-type: none"> ▪ Verbal cues created to shape perceptions and behavior ▪ Visual cues created to shape perceptions and behavior 	Influenced customers to expect preferred treatment and employees adopted solutions-oriented mindset

5.2 THE RELATIONAL PERSPECTIVE

5.2.1 Identity

TechKnow and *AutoMart* decided to innovate their products and improve their cost structures through supply chain services offered by *MoveQuick-Solutions*. Doing so would enable them to focus on their own core competencies rather than trying to develop

breakthroughs in logistics and transportation. Though coordination costs for managing external partnerships would increase under the new initiatives, the management teams for both companies believed the opportunities of strategic outsourcing far outweighed the costs. Both firms pursued similar strategies in terms of outsourcing non-core business processes, but they had observably different consensual identities in terms of how they perceived themselves as organizations.

TechKnow was a notoriously collaborative company that valued trust. To highlight the importance of collaboration, the following quote from one of their founding fathers is still at the top of their corporate objectives page:

It is necessary that people work together in unison toward common objectives and avoid working at cross purposes at all levels if the ultimate in efficiency and achievement is to be obtained.

Our findings suggest that similar interpretations of their identity are still held today by *TechKnow* employees, and that collaboration and trust continue to be valued as *TechKnow* employees interact with business partners. This is to be expected, as individuals not only act on behalf of the organization of which they are a part, but they act “as the organization” by embodying the values and identity of the collectivity (Chatman et al., 1986 referenced in Weick, 1995). As one *TechKnow* employee that was part of the team that managed the relationship with *MoveQuick* noted:

In our normal meetings, MoveQuick [employees] would see how we interact, and, I tell you, they would pull me to the side and say, “Gee Bob, man, you guys are just awesome. I can’t believe how you guys collaborate and have such respect for one another. You actually hear each other’s ideas, etc.” It was great. So, over time, they came to enjoy and respect and understand how we survive as a company.

This employee continued to say that this identity did not just occur through happenstance, but, instead, it was the result of hard work and cultivation. In regard to how they protect and cultivate this identity, the employee said:

I think it starts at the senior executive level. You empower people; you trust people; you respect them; and so you value what they do; you empower them. So, it comes from the top. And then, we also have a set of strategies that we continue to pass out to our teams that, you know, remind people about the core values of TechKnow. So, we've got web sites; we talk about that. It's also part of people's development plan and how they get measured, as well. If they're not embracing TechKnow values, then they're not going to be very successful within TechKnow.

It was clear that the consensual identities of *TechKnow* and *MoveQuick* were different. The collaborative nature of *TechKnow*, at times, seemed at odds with the identity of *MoveQuick*, especially *MoveQuick-Operations* which stressed operational excellence and continuous improvement rather than trust, collaboration, and continuous innovation. Nevertheless, though the relationship started off on rocky ground it grew stronger. Both companies worked hard to carefully align their expectations and transcend any dissimilarity that occurred because of their different identities. As one *TechKnow* employee said:

We have developed a very strong relationship over time. But, it wasn't easy at first. But, over time, we came to trust each other, to respect each other's ideas and opinions.

The consensual identity of *AutoMart* was different than *TechKnow*. However, some of the difference stemmed from the absence of a strong identity within *AutoMart*. While nearly every *TechKnow* employee reiterated that they saw themselves as a collaborative company that valued trust, there was no clear consensus around any core

identity at *AutoMart*. With that said, there was some convergence from *AutoMart* employees of an identity that reflected the attributes of survivability and continuous improvement. *AutoMart* employees held a belief that they were in a very competitive industry and to survive they needed to continuously come up with new ways to cut costs and respond to market changes. As one *AutoMart* employee noted:

We have to apply the new management model in our general and administrative functions to become faster, leaner, and more flexible. We need to match the level of our best competitors.

In fact, the automotive industry continues to be very competitive, despite continued growth in the global automotive market. *AutoMart* employees have grown accustomed to increasing competition from Asian auto manufacturers, escalating fuel costs, and issues related to wages and benefits of unionized employees. What might have once been considered an innovative company, was now struggling for their own existence. Their identity, though subtle, represented that they saw themselves as survivors in what has become an increasingly competitive market. When talking about their environment an *AutoMart* employee noted:

Well, we're in a highly competitive environment, and if you don't have the right systems in place you will likely lose. These systems all provide us ways to either provide an improvement in the process or enhance productivity to lower costs.

Though subtle, the *AutoMart* identity seemed more aligned with the identity of *MoveQuick*, especially *MoveQuick-Operations*. Both firms reflected ones that inhabited mature industries and for which ongoing improvement of existing processes was perhaps more valued than the occasional breakthrough innovation. Moreover, there was a blue collar spirit that was evident when talking with individuals from both companies.

MoveQuick managers were well-known for often beginning their careers as delivery drivers, and consequently held on to such memories and the accompanying identities as their careers progressed. Though the same can not necessarily be said for *AutoMart* managers, the spirit by which they communicated their thoughts seemed as though it could result from early days manning the automobile production lines. Thus, there was undoubtedly a blue collar similarity that pervaded both organizations and that distinguished them from *TechKnow*.

From the perspective of the identity property of sensemaking, we found distinct consensual identities when comparing the *TechKnow* and *AutoMart* relationships. Interestingly, these distinct identities did not necessarily correspond to relational strategies that would typically be expected to emerge from such beliefs. As will be seen in the section related to the enactment property of sensemaking, the *TechKnow* relationship was tightly governed by strict service level agreements (SLAs) that were enacted to protect their interests and align objectives. Also, *TechKnow* chose to pursue a dual provider approach to mitigate potential switching costs and other risks associated with increased dependence. These relational governance strategies are unexpected as one would not expect such formal governance structures would stem from a firm that has an identity such as *TechKnow*, one that places such emphasis on trust and collaboration. In contrast, *AutoMart* seemed considerably less concerned about the importance of formal governance as rigid SLAs were nonexistent. Furthermore, as opposed to *TechKnow* that pursued a dual provider approach, *AutoMart* decided one provider could best serve their interests. As will be discussed further in this chapter, the identities observed surely did

not correspond to how one would expect the relational strategies to be enacted and executed.

5.2.2 Retrospect

The retrospective property of sensemaking provided a useful lens for investigating how individuals perceived the relationships they were involved in. In doing so, we were able to see how individual recollections differed based on whether individuals were part of *MoveQuick* or one of the customer firms. Our findings suggest that there were differences in how individuals looked back on the relationships they were involved with. *MoveQuick* employees tended to perceive the relationship they were involved in differently than individuals within the customer firms. Additionally, as a result of these different recollections, they seemed to develop different projections of how the relationships would evolve moving forward. In this section we will investigate these differences, in terms of perceptions of the past and projects for the future. In doing so we will leverage the retrospective property to interpret our findings and provide a sensemaking explanation as to why our observations likely occurred.

The retrospective property of sensemaking speaks to the backwards glance that occurs when individuals make sense of what has already occurred. As previously discussed, within the backwards glance there is the inherent tendency to edit out the complex reality of past events (Weick, 1995). However, this process of editing is as much about what individuals choose to focus their attention on as it is about what they neglect to see during retrospection. As our findings suggest, individuals tended to recollect only

certain aspects of the relationships and focused their attention differently depending on whether they were part of *MoveQuick* or one of the customer firms. As the excerpts below imply, individuals in *MoveQuick* tended to look back on the relationships in positive terms, and they projected these positive thoughts into the future. However, though customers too had positive recollections of the past, they were much less certain of the future. For instance, the following two excerpts speak to the different recollections.

A *MoveQuick* employee involved in the *TechKnow* relationship said:

I think it's pretty obvious we have a very good structure in place to support continuous innovation and to help people think outside the box. To generate new ideas we often send articles among ourselves and say, "Take a look at this."

However, the *TechKnow* employee involved in the same relationship said:

We have undoubtedly come a long way in a short period of time. Nevertheless, I am concerned that in the near future the partnership will hit a brick wall. Based on current practice, how much more efficient can we become?

Despite similarly positive recollections of the past, this *TechKnow* employee wanted *MoveQuick* to offer thought leadership by applying industry best practices to their organization as the relationship matured. He wanted *MoveQuick* to continue to invest in the relationship as they did at its inception, and thought that they should be able to apply what they have learned through their many interactions with other customers to further transform *TechKnow*'s supply chain. In doing so, he wanted *MoveQuick* to play a more proactive role in investing in the relationship and identifying opportunities to improve their business processes. Such change, he said, would continue to redefine *TechKnow*'s supply chain—from a process that supported its business objectives to a strategic enabler

that proactively helped the company create and capture new market opportunities.

However, after looking back on the relationship the *TechKnow* employee challenged the assumption made by *MoveQuick* employees that the current structure was sufficient for enabling ongoing innovation and questioned whether or not *MoveQuick* was committed to growing the relationship.

Our findings suggest that within the *AutoMart* relationship a similar situation occurred. For instance, a *MoveQuick* employee working within the *AutoMart* relationship said:

I believe in this relationship. They endorsed me as the preferred carrier. My business continually grows with AutoMart as we are constantly identifying new opportunities.

However, an *AutoMart* employee within the same relationship said:

I think that we kind of reached a crescendo two years ago or three years ago as we were actively pursuing real strong strategic alliance programs, how do we get into each other's business more effectively and leverage each other's core competencies so that we can grow.

Individuals representing both *TechKnow* and *AutoMart* were uncertain as to how the relationship would evolve. They looked back on the relationships positively, but both seemed to think the relationships had reached a stalemate, where revenues and services acquired remained constant. We have previously used the metaphor of a cone of light to illustrate the retrospective property of sensemaking. However, it is again useful in this context as it provides an explanation as to why individuals in the provider and customer firms can look back on the same relationship and see things differently. As individuals partake in a backwards glance their current positions influence what they notice during

retrospection. *MoveQuick* employees seem to look back on the relationships and see solutions that have been developed to specific challenges. They then use these past successes as a source of confidence for growing the relationship in the future. However, individuals within the customer firms seem to look back at the relationships differently. The *TechKnow* employee seemed to perceive previously developed solutions as straightjackets for future innovation, because they would limit future investment and the ongoing search required to generate new ideas. The *AutoMart* employee looked back on the relationship and noticed a mountain that had already been climbed, and, consequently, seemed uncertain as to what the future would bring.

From the perspective of the retrospective property of sensemaking our findings suggest that there is a rather noticeable difference between how members of *MoveQuick* look back on their strategic relationships and how members of their customer firms do. It seems that *MoveQuick* employees have a tendency to look back on key relationships and focus their attention on how far they have come and then project that success towards the future. In conversations with *MoveQuick* employees the general consensus was that they have come a long way and they will continue to grow the relationship. In contrast, individuals from both *TechKnow* and *AutoMart* look back on the relationships somewhat differently. Though they too acknowledged their past successes, they seemed to think they might have come at the expense of future innovation.

5.2.3 Enactment

MoveQuick and *TechKnow* enacted a sophisticated formal governance structure to coordinate business processes across organizational boundaries, align expectations, and

shape collective behavior. They agreed on a series of performance targets that focused on measuring the success of the relationship based on certain key criteria. As previously mentioned, a key component of this governance structure was a series of strict SLAs. Within the *MoveQuick* and *TechKnow* relationship, SLAs provided a framework for evaluating service quality and relational performance. They acted as triggers that motivated the development of customized innovations when established standards of appropriateness for service quality were not met. Thus, when performance targets fell below a particular threshold, representatives of *MoveQuick* and *TechKnow* were forced to search for potentially innovative alternatives that could lead to improved performance in later periods. According to one *MoveQuick* employee:

SLAs drive us to behave in such a way as to insure that we don't just meet our targets, but that we surpass them. They force us to look at processes and procedures and get more into the details. We trend them and look at every aspect of every angle and really just analyze them because we know that they are critical to the success of the relationship.

The SLAs varied in their specificity and were closely coupled in a hierarchy of service-oriented objectives. These objectives acted as rules for coordinating collective behavior and were also used to devise team structures and reporting relationships. For instance, one *TechKnow* manager was responsible for overseeing a group of 10 SLAs, and she led a team of individuals responsible for ensuring that *MoveQuick* met the agreed upon objectives. *MoveQuick* also had dedicated personnel that were responsible for ensuring that they met their objectives. One *MoveQuick* employee reiterated the importance of the SLAs by saying:

Our job from a customer care perspective is to be the overseers, to make sure our

operation is performing where we need to be, to meet all of the service levels that we're required to meet. So, we monitor those pretty much daily, and we have to look at the trends and look at what's happening out there and keep in touch with exactly when we start to see some slippage and really jump on that and pounce on it when we do. Sometimes things happen very, very quickly, so in one week we could start to lose that metric for the whole month... so depending on the severity we may have to go into very, very quick action in some cases.

In the late 1990's, in the very early stages of their relationship, *MoveQuick* and *TechKnow* managers met in a Chicago hotel room to enact the 86 SLAs that would make up their first contract. They faced equivocality, as their relationship was just beginning and there were many aspects of that situation that were not known. However, facing a blank slate they participated in a sensemaking process; they took undefined space and enacted laws, drew lines, established categories, developed new labels and terms, and essentially created new features of the environment that did not previously exist (Weick, 1995). In doing so, they created order out of disorder by structuring the unknown. After being placed into the environment, this enacted governance structure was interpreted by *MoveQuick* and *TechKnow* employees. Expectedly, the enacted structure influenced collective behavior and helped *MoveQuick* employees meet relational objectives and differentiate between important and mission critical aspects of *TechKnow*'s business. As one *TechKnow* manager mentioned:

Every transaction drives ultimate results of the outcome. So you need SLAs that are very specific, almost micro level. However, there are five, maybe six SLAs that we've deemed really, really important. They impact our ability to service our customer and protect our brand reputation. We highlighted these macro level SLAs with incentives...so if MQ does better than the predetermined SLA, it's a value to us and there's an incentive associated with that for them. If they don't do as well, there are obvious penalties attached.

As with most aspects of sensemaking, the enactment property speaks to the

importance of dynamics, change, and the ongoing evolution of human activity systems. The governance system enacted by *MoveQuick* and *TechKnow* managers was not a static structure, but was constantly changing as aspects of the business environment changed and contracts were renegotiated. One *TechKnow* employee mentioned the evolution of the SLAs when he mentioned a recent renegotiation:

We design SLAs because we determine that a particular service level is required in order for us to meet the expectation of our customers. So that's what they are all designed around, and we've found from the past that we actually added quite a few this time, and the reason being that, if it's not there, then you're probably not going to get the performance that you need, because the provider, MoveQuick, is going to say that wasn't the agreement, so we are not responsible for meeting those metrics. So that's what we try to design all these around, again, is to try to make sure we're striving for the service that's necessary to meet our customers' requirements and expectations.

Since SLAs were found to be such a crucial aspect of the *TechKnow* relationship, we probed *MoveQuick* and *AutoMart* employees to see how important SLAs were in governing their relationship. Our findings suggest that *AutoMart* approached relational governance in a different way. Most notably, they seemed to place only minimal importance on detailed governance structures such as SLAs and instead adopted a very informal means of structuring their alliance. In fact, the following exchange between one of the members of the research team and a *MoveQuick* employee speaks to the lack of importance that was placed on SLAs within this relationship:

Interviewer: Joe, can you talk about SLAs, and, specifically, the role they play in governing the relationship?

Interviewee: Service level agreements? Hmm. As far as that goes, I don't know that we really have very stringent service level agreements or how well they're tracked.

Another *MoveQuick* employee was asked:

As far as SLAs, can you give a general description of the SLAs that govern this project?

The respondent replied:

SLAs – just to make sure I’m referring to them as operating plans. Yes, of course. One of the things we abide by is our rate agreements with them, and off those rates, we help build land and cost models. So those are pretty much set in stone.

As Weick reiterates so often throughout his work, sensemaking is about action as much as it is about interpretation. Thus, the enactment property focuses on the “making” part of sensemaking and the interpretive property focuses on the “sensing” part. Instead of enacting or making detailed SLAs, individuals with the *AutoMart* relationship created high level and informal mechanisms for governing their relationship. In terms of high-level metrics they sought to reduce spend by a predetermined rate each year and to be *AutoMart*’s top logistics carrier—an award they won twelve years in a row. However, they coupled these high-level metrics with informal structures such as trust that was developed overtime as both companies worked together closely on many projects of mutual interest.

Through the lens of the enactment property, we found distinctly different governance structures that were enacted within the *TechKnow* and *AutoMart* relationships. For the *TechKnow* relationship, the creation of SLAs became a core mechanism for coordinating interfirm activities, managing the relationship, and facilitating continuous improvement and innovation. In contrast, the *AutoMart* relationship placed little significance on them. Instead of detailed SLAs, the *AutoMart* relationship was governed by higher-level metrics and informal governance that served to

align interests and expectations. As previously indicated, the diverse governance structures observed were surprising as they clearly did not align with the consensual identities of both customer firms. In the upcoming sections we will continue to investigate how the enacted structures we have observed may have contributed to dynamics within the relationships.

5.2.4 Social

To initiate and sustain long-term relationships, *MoveQuick* needed to interact with their key customers. This interaction provided a necessary and crucial means by which *MoveQuick* could develop shared understandings, align incentives and expectations, and collaborate to discover new ways to orchestrate their customers' business processes. Therefore, the social property of sensemaking was an important analytical lens for investigating inter-organizational relationships and how patterns of interaction related to the tension *MoveQuick* faced. Our findings suggest that distinct patterns of social interaction were utilized to manage the two relationships we investigated. At *TechKnow*, infrequent face-to-face meetings were augmented by information technologies that provided a virtual means of social interaction. At *AutoMart*, face-to-face meetings were the norm as *MoveQuick* representatives made it a point to establish offices at the customer location. In this section, we discuss these differences and the observed outcomes that can be attributed to these patterns of interaction.

The social property of sensemaking relates to contingencies. Sensemaking is never solitary because a person's actions are always dependent on others (Weick, 1995).

When *MoveQuick* entered into relationships with *TechKnow* and *AutoMart*, they first had to make sense of the existing business processes executed by their potential customers. Doing so enabled them to align their service offerings to the specific needs of each customer. Thus, in some ways, how they defined their service offerings was contingent on their customers' existing business. However, this understanding took time and did not come easily. As one *TechKnow* employee noted:

When we first began the relationship, MoveQuick really didn't understand our business environment. They really clearly didn't understand exactly what we were looking for in terms of them taking over the total logistics environment for us. That was the first problem. Then, when we started down the path of trying to design a solution, they were slow to respond in reacting to open issues, and it was basically because it was driven by us. They really didn't understand the environment.

In an effort to help *MoveQuick* develop a better understanding of *TechKnow*'s business environment, managers from both firms decided it would help to increase the social interaction between *MoveQuick* and *TechKnow* employees. Managers from both firms realized that the ability to effectively deliver services to *TechKnow* was contingent on *MoveQuick*'s ability to understand *TechKnow*'s business. To deal with these contingencies, one *TechKnow* employee noted:

We tried to overcome their lack of understanding by putting some of the MoveQuick people in our operations so they would start to get some firsthand knowledge of what we're experiencing.

A great deal of social interaction is mediated through talk, discourse, and conversation (Weick, 1995). Managers for *MoveQuick* and *TechKnow* realized that in order to develop a shared understanding of the current environment and to co-create opportunities for future value, individuals from both organizations needed to have

intensive face-to-face interactions. By observing *TechKnow* actions in their own context, *MoveQuick* employees undoubtedly developed a deeper understanding of their customer's business environment. Moreover, by having this opportunity for more intensive interaction, *MoveQuick* employees could more accurately align their service capabilities to the needs of *TechKnow*. Interestingly, however, these intensive interactions were not long lasting. Instead, they occurred only at the beginning of the relationship and only for a couple of weeks. This was in stark contrast to the *AutoMart* model of interaction.

By demonstrating their service capabilities, meeting predefined requirements, and integrating new technologies to improve operational efficiencies, opportunities for growing the *AutoMart* account began to emerge for *MoveQuick*. Therefore, *MoveQuick* became a more integral part of the *AutoMart* operation. To leverage this early success and in an effort to grow the relationship, the *MoveQuick* account manager (who was responsible for overseeing and growing the *AutoMart* account) pursued a new relational strategy. Instead of infrequent face to face meetings at predefined times, he wanted to become a more integral part of the *AutoMart* organization. Doing so would allow him to interact more closely with *AutoMart* employees on a daily and ad hoc basis and, thus, provide him the opportunity to develop a deeper understanding of their business needs. According to the *MoveQuick* manager responsible for the *AutoMart* account:

They gave me a seat on the site of the corporate offices of AutoMart, where I attended all their internal meetings, which gave me a great opportunity to view their challenges, their struggles. And a challenge or struggle, to me, was an opportunity.

Putting a *MoveQuick* person on site was very forward thinking for both

MoveQuick and *AutoMart* at the time. Most customers did not want a *MoveQuick* person on site as they saw it as too invasive to their organization. But in *AutoMart*'s world, being such a large and complex organization, they were beginning to develop a particular interest in having their corporate partners become an integrated part of their operations—feeling that it would help their partners learn the in's and out's of their business more effectively. Being onsite allowed the *MoveQuick* account manager to observe day-to-day operations, attend meetings of strategic importance, and develop deeper insight into future value creation opportunities. The more intensive daily interactions proved crucial to the *MoveQuick* and *AutoMart* relationship; it spawned continuous discussions around new projects that would improve *AutoMart* supply chain capabilities while offering revenue generating opportunities for *MoveQuick*.

In one such effort, *AutoMart* was looking for a better strategy to assist their dealers with taking cost out of their dealer networks. Through daily interaction, the *MoveQuick* account manager and his *AutoMart* counterparts determined that if they could improve the dealers' efficiency, the dealer would create a better working relationship with *AutoMart*, which, in turn, could potentially create more opportunity for *MoveQuick*. Representatives from *MoveQuick* and *AutoMart* put their heads together to develop a buying portal that is now referred to as vendor order visibility. Doing so allowed them to improve network efficiency by centralizing purchasing decisions and adopting risk pooling strategies that would reduce inventory carrying costs. To develop the portal, *MoveQuick* and *AutoMart* joined forces to conduct an in-depth eight-month analysis of the existing dealer network. Though it was long and tedious, the *MoveQuick* account

manager was glad to be sitting on site at *AutoMart* during the investigation; it allowed him to learn through his own interactions how *MoveQuick* could assist *AutoMart* in new and necessary ways by developing a more complete understanding of their business.

From the point of view of the social property of sensemaking, we see some clear distinctions between the *TechKnow* and *AutoMart* relationships. Such relationships are sustained by everyday social interaction that acts as a medium for developing a shared understanding (Weick, 1995). Yet, the patterns of social interaction were clearly different for both relationships and, likely, led to different outcomes. The *TechKnow* relationship was more virtual, where early face-to-face meetings were replaced with information technologies that supported distributed working arrangements. To combat the spatial separation, both *MoveQuick* and *TechKnow* agreed to conduct quarterly business reviews where face-to-face meetings would allow relational metrics to be reviewed and working relationships could be strengthened. However, the *AutoMart* relationship reflected a different relational strategy. After early gains, the new account manager decided to leverage these wins and take a position on site at *AutoMart* headquarters. He occupied an office and participated in daily meetings to develop a deeper understanding of their business. Moreover, much of the account team that serviced the *AutoMart* relationship lived in the same city as *AutoMart* headquarters. Consequently, instead of weekly conference calls, *MoveQuick* employees made face-to-face conversations the norm. The richness of face-to-face interaction facilitates the understanding of complex events and the innovation of solutions that may address such challenges (Weick, 1995). As such, the inability to sufficiently understand *TechKnow*'s business environment was likely

exacerbated by the lack of early onsite interactions. By providing this level of interaction after early challenges, it did seem that a more shared understanding occurred between *MoveQuick* and *TechKnow*. On the other hand, the continuous face-to-face interactions that occurred within the *AutoMart* relationship likely contributed to a series of customized projects such as the one referred to as vendor order visibility.

5.2.5 Ongoing

The ongoing property of sensemaking provides a lens for investigating evolutionary aspects of the *TechKnow* and *AutoMart* relationships. Our findings suggest that both relationships have expectedly different stories and contain events that surely distinguish them from other *MoveQuick* customer relationships. The *TechKnow* relationship went through some large interruptions. For instance, during the relationship *TechKnow* went through a large merger that clearly acted as a disturbance and source of discontinuity for the relationship, yet the relationship seemed to strengthen as a result. In contrast, there were no seismic interruptions within the *AutoMart* relationship. Instead, it grew steadily over a twelve-year period by incremental but consistent investment in smaller sized customized projects. Although both relationships grew considerably in terms of revenue for *MoveQuick*, they did so in different ways. Our findings also suggest that they evolved to a similar place. It is at this point that *MoveQuick* managers continued to struggle with managing the tension between standardization and customization.

To improve its overall supply chain operations, *TechKnow* searched for a partner that could help it reach short and long term business goals. As a result of the competitive

industry that they inhabited, they needed to quickly enhance operational efficiencies to compete with low cost providers that were quickly capturing market share. In addition to improving operational efficiencies, *TechKnow* wanted a partner that could help build end-to-end global supply chain capabilities that were agile and responsive. Thus, they were searching for a company with a global footprint. Additionally, they needed a partner that already had superior logistic and supply chain capabilities. Even more importantly, they searched for a provider organization that would be willing to continually invest in developing new capabilities because *TechKnow* managers realized that differentiated supply chain capabilities were going to require continuous innovation to stay ahead of the status quo. According to one *TechKnow* employee:

Initially, when we thought about what our business should look like in the future by outsourcing logistics, it wasn't well received, and we knew from a technology standpoint what we needed to have in place to make this successful. Most companies were not even scratching the surface of where we wanted to go with our business. So clearly we were one of the first few companies to step up and embrace outsourcing in a big way and in a positive way. We needed a partner that would come onsite and to help us get there. We needed a partnership and not a vendorship.

Since the earliest days of the partnership, the operational execution of interfirm processes continuously improved and early efficiencies were gained. Both companies carefully aligned their expectations and reduced any ambiguities by enacting the sophistic governance structure that provided a framework for managing the relationship. However, the relationship faced a significant disruption several years after signing the initial three-year contract. *TechKnow* acquired another large technology company, Ares Inc., in hopes of increasing their market share in the increasingly competitive PC industry. In order to reap the benefits of this acquisition and create the necessary efficiencies to remain

competitive in the price conscious industry, *TechKnow* needed to merge the companies' operational processes and information systems to reduce needless redundancies.

However, these operational processes and systems were embedded in cultures that were similarly distinct. Interestingly, *MoveQuick* also provided services for Ares before the merger. As our findings suggest, the distinct cultures of *TechKnow* and Ares may have led to different relationships, as well. As one *TechKnow* employee mentioned:

When we brought together these two companies, MoveQuick had the contract for both companies separately. There were two different contracts. However, the relationships between those companies and MoveQuick were different. On the TechKnow side there was a philosophy that we need to develop a strong partnership that focused on partnership, price and principles. For instance, if they did well, if they brought new opportunities to the table to us where we didn't have to bring it ourselves, then it was an incentive for them. They would get 10% or something like that of the profits, whatever it was. However, on the Ares side, it was different. The relationship wasn't quite as open as on the TechKnow side. So there was a little bit of a kind of...us versus them mentality; it was a little bit more of a vendorship than a partnership.

While both companies needed to respect their individual legacies, the competitive nature of their industry forced them to quickly move forward as one entity. What was known before the merger as *TechKnow* Yellow (reflecting their corporate color) and Ares Blue soon became a new corporate color, Green, that signified their integration. Though challenging, the integration occurred rather quickly. One *TechKnow* manager explained:

I would say within six months or so, we started to come together more as a Green environment. One of my mandates I made with each one of my staff members was that their responsibility is to become Green. So you mix Yellow and Blue, and you get Green. So that was a development opportunity for everyone. So the people who were Yellow on my staff, they had to also learn the Blue side of the business to become Green, and they had to understand their processes, they had to understand their systems. People who were Blue had to learn the Yellow side to become more Green because I'm not running a Yellow or Blue organization, I'm running a Green organization.

After helping to merge Ares into *TechKnow*'s core operations, *MoveQuick* began working with *TechKnow*'s original design manufacturers (ODM) throughout Asia to coordinate the flow of materials within and across international boundaries. In doing so, they developed relationships with subcontractors and provided management expertise to coordinate the movement of goods throughout the continent. Additionally, they set up a centralized parts distribution center in Tokyo and fifteen field stocking locations throughout the country to improve the efficiency by which field technicians could receive parts as they were out in the field fixing *TechKnow* printers.

Among other accomplishments, *MoveQuick* built a warehousing facility at a major airport in China where finished notebook computers were pooled prior to exportation. A major part of this operation was the documentation facilities that helped *TechKnow* deal with the duty rates, customs clearance, and entry processes that were different for each country but that had to be managed as part of international trade. Tariff classifications, value declaration, and duty management could escalate coordination costs for *TechKnow*, but *MoveQuick*'s documentation facilities helped in this regard. Moreover, by staying abreast of international rules and regulations that were constantly changing, *MoveQuick* provided an essential service for *TechKnow*. Despite these many achievements, the relationship between *MoveQuick* and *TechKnow* had its challenges. As one *TechKnow* employee noted:

It wasn't easy at first. It was not easy. But over time, we came to trust each other, to respect each other's ideas and opinions. We have a set of core values that in my mind are second to none in the industry. We really truly value people we trust, there's a high level of integrity amongst the people. So we wanted MoveQuick to embrace that same kind of core values within their company if they're going to

deal with TechKnow. As a result, we developed a very strong relationship over time.

Even though they had developed a strong relationship thus far, we found that this relationship was undoubtedly in a constant state of change. *TechKnow* managers began looking for more from the partnership. They wanted to continue to improve the efficiency of existing processes, but they were also interested in exploring customized innovations that may help to differentiate them from their competitors. They knew it would be counterproductive to focus solely on increasing efficiencies at the expense of discovering innovative alternatives to existing ways of conducting business. Consequently, as one *TechKnow* manager commented:

We have undoubtedly come a long way in a short period of time. Nevertheless, I am concerned that in the near future the partnership will hit a brick wall. Based on current practice, how much more efficient can we become?

Like the *TechKnow* relationship, the ongoing property of sensemaking provides a lens for investigating evolutionary aspects of the *AutoMart* relationship. Though *MoveQuick* had been a carrier for *AutoMart* for many years, there was a turning point in 1993—the year to which many refer as the beginning of the *MoveQuick* and *AutoMart* relationship. *AutoMart* lacked a centralized purchasing strategy because the organization consisted of many autonomous business units. As a result, they were unable to leverage their buying power to achieve volume discounts with many of their suppliers. Moreover, because their delivery network at that time consisted of as many as five separate carriers for one division of their business, it was difficult to develop an orchestrated strategy with so many players involved. Thus, the need for more centralized purchasing and better

overall logistics coordination, combined with what was increasingly poor performance from some carriers, left *AutoMart* searching for answers to their operational challenges.

In 1993, a gentleman by the name of Larry Posh, the senior manager over the major parts division for *AutoMart*, sought out *MoveQuick* and their best of breed logistics capabilities. The parts division represented the largest percentage of *AutoMart*'s business for *MoveQuick* at that time, as they shipped service parts and small repair shipments to over 6,000 *AutoMart* dealerships in the United States, Canada, and Mexico. Though they were still looking for a carrier to provide a service at a low rate, *AutoMart* began looking for something more. As a result, Posh called on *MoveQuick* to assist them with managing their existing network that had grown increasingly complex. Though *MoveQuick* did not necessarily offer the lowest prices in these early days, they were competitive relative to other carriers, and they were able to leverage a vast resource of supply chain experts to help solve *AutoMart*'s challenges.

Though Posh had known *MoveQuick* for years, he was used to *MoveQuick* treating every customer in the same standardized way. His previous experiences left Posh feeling as though *MoveQuick* was unwilling to become familiar with the idiosyncratic needs of individual customers and alter their standardized offerings to meet unique business needs. Nevertheless, Posh detected that *MoveQuick* was starting to change; he sensed that *MoveQuick* was finally ready to be a strategic partner rather than just a vendor. He noticed that they were willing to take the extra step for customer service; something he had not necessarily experienced in prior interactions with *MoveQuick*. As a result of their performance responding to *AutoMart*'s challenges in 1993, Posh and

AutoMart sent out a request for questioning (RFQ) to *MoveQuick* in 1994—a formal proposal asking *MoveQuick* to put together a small package solution and pricing package in response to *AutoMart*'s business requirements. In response to their request, *MoveQuick* came to the table in 1994 with a very aggressive package and was awarded a five-year contract as *AutoMart*'s services business' preferred small package carrier—an unprecedented contract for *MoveQuick* at the time. A year later, because of their demonstrated commitment and competitive rates, *MoveQuick* won another contract for *AutoMart*'s corporate mail, which consists of letters, packages, and intracompany correspondence. Thus, in two short years, *MoveQuick* had grown the *AutoMart* account to almost 20 million dollars of revenue annually. Since then, what was once a couple million dollar account had grown steadily to almost 200 million dollars a year for *MoveQuick*. However, though revenue continued to grow for the account, there appeared to be an attenuation of strategic, customized initiatives between the organizations. As one *AutoMart* employee said:

I think that we kind of reached a crescendo two years ago or three years ago as we were actively pursuing real strong strategic alliance programs, how do we get into each other's business more effectively and leverage each other's core competencies so that we can grow.

The individual continued to talk about the ongoing evolution of the relationship when he mentioned:

*I think we were a bit of a victim, or our relationship was a bit of a victim, of the typical life cycle. Everybody was doing well a couple of years ago, and then we both kind of hit the skids, and where we would have liked to have seen a little bit more innovation out of some of our partners, I think *MoveQuick* and some of our partners decided that it was in their best interest to kind of focus on their core competencies. So they didn't want to get into a situation that required significant financial resources for obvious reasons. So when you're looking at these strategic*

relationships— the financial health of both partners is a real strong indicator of what type of customization versus standardization occurs.

However, according to the *AutoMart* employee, the financial position of *MoveQuick* was not the only factor influencing their interest in investing resources into a customized project; their relative power in relation to their customers was equally important. Moreover, he mentioned that this relative power imbalance was likely to oscillate between provider and customer as it did within their relationship. He said:

The leverage position in the relationship also becomes very important. If there's a high degree of leverage on the MoveQuick side, then standardization isn't so much of a problem. You've got a certain set of services. You've got a certain set of procedures that are used, and you'd expect your customers--regardless of their size-- to comply with that to make it easier for the whole organization to deliver those services. However, when the leverage is more on the customer's side, there's a little bit more ability to arm twist or to encourage or influence organizations to look at some things in an innovative light, or provide more R and D for customized solutions specifically for that organization. So I think we've kind of been in both sides over the last couple of years or certainly over the last 10 years now.

From the perspective of the ongoing property of sensemaking, we found that both relationships certainly reflect the dynamic, chaotic, and constantly changing models of organizational life that Weick talks about so much within his work. Though both relationships underwent distinctly different events, they both seemed to evolve to a similar position. That is, both *TechKnow* and *AutoMart* were now looking for *MoveQuick* to bring something new to the table. Both companies wanted *MoveQuick* to provide thought leadership by applying industry best practices that they learned through their many interactions with different customers. They wanted *MoveQuick* to reengineer their supply chains—from a process that supported their business objectives to a strategic enabler that would help each company create and capture new market opportunities. But,

to create this kind of differentiation within customer accounts required *MoveQuick* to make investments that might not have clear payoffs. Moreover, because these relationships had matured to a point where *MoveQuick* already had a lot of their customers' business and because they were now also struggling with their own internal profitability, they were even more hesitant to make such investments that would not be easily replicated across other customer accounts or that would not clearly bring new sources of revenue within existing accounts. As one *AutoMart* employee said:

Regardless of whether you're making \$8 million a year with an account or \$80 million, if that account performance is going to be flat over the next five years, it'll be very difficult to argue for customization. Or certainly, if that account, again, regardless of whether it's an \$8 million or \$80 million a year account, has a high degree of customization where it costs you so much more than a like account that could be highly standardized; then strategically it makes it a difficult long term relationship.

5.2.6 Extracted Cues

The extracted cues property of sensemaking provides a useful lens for understanding why *TechKnow* and *AutoMart* continued to seek differentiated services despite *MoveQuick*'s internal desire to standardize them. As our findings suggest, the context in which both customer firms competed had similarities and, likely, led to like patterns of behavior. Thus, the contexts likely had a strong affect on why the customer firms chose to partner with a company like *MoveQuick* in the first place, and why they continued to push for higher-level services as the relationships matured. As Weick discusses, context and cues are largely inseparable. In this section, we will see that there is truth to this assumption and that this inseparability likely contributed to the tension *MoveQuick* faced between standardization and customization.

The high-tech industry experienced extremely high levels of volatility during the past couple of decades. Thus, companies were forced to continuously improve and innovate their operations to remain competitive. The advent of innovative companies like Dell forced other high-tech companies to also pursue an integrated business level strategy, one in which both low cost and high quality differentiated tactics were pursued simultaneously. *TechKnow* was no different; they similarly had to adjust the way they conducted business to protect against a depleting market share. To improve their competitiveness in this volatile industry, *TechKnow* began looking for a third party business partner to help them improve their non-core business processes. Yet, as our findings repeatedly suggest, *TechKnow* was looking for more than just commoditized package delivery services; they were looking for a competitive advantage. Additionally, once engaged in the relationship and after achieving early gains, *TechKnow* continued to pursue more from the relationship with *MoveQuick*. As one *TechKnow* employee suggested:

I think our continuous push for innovation in our operating model is the result of the economic situation we're operating in, the competitive situation we're in. Right now, the US market for one, is very, very competitive in the computer industry. It's changed drastically. It's forcing us to come up with more and more fresh ideas for doing things differently. And, that is what drives us then to sit across the table from MoveQuick individuals and leaders to help us achieve a new cost structure...that is what drives us, okay, to keep looking for better ways to do things.

Another employee responded:

This industry is just tough, it keeps us on our toes, it keeps us looking for new ways to do things all of the time.

Comments such as these were offered repeatedly as we interviewed *TechKnow*

employees seeking to uncover key drivers that were shaping their behavior related to standardization and customization. We wanted to know what cues they were taking from *MoveQuick* and the factors that were influencing *TechKnow* employees to either accept the standardized offerings or instead to pursue solutions that were unique and customized. Our findings suggest that the context in which *TechKnow* employees were embedded was undoubtedly forcing them to continuously search for new ways of improving their competitiveness. Hence, they were not only searching for third party companies to assist them in the short term, but they were looking for such organizations to be strategic partners that would continuously redefine their supply chain capabilities over time. As one *TechKnow* employee mentioned:

We thought about it [who are partner was going to be] a lot because we wanted a long-term partnership. We thought about this for the future. So we thought about it a lot and we looked around the greater industry to find out who could meet our needs.

Our findings also suggest that although *AutoMart* competed in a different industry, they faced many of the same challenges as *TechKnow*. Despite a market that continued to expand, the automotive industry became increasingly competitive. Also, companies within this industry faced many challenges. Auto manufacturers in Asia continued to create havoc for US auto manufacturers such as *AutoMart*. Much of the market growth in the US came at the expense of manufacturers' margins as they were attained through price incentives, rebates, and cheap credit. In addition to pressures from global competitors, *AutoMart* was challenged by the relative high costs that resulted from the wages and benefits of its employees who were members of the powerful autoworkers union. Couple these challenges with the rising fuel costs that affect consumer behavior,

and companies such as *AutoMart* were surely fighting for their lives. Accordingly, our findings suggest that the competitiveness of this industry seemed to be on the minds of all *AutoMart* employees with whom we spoke. The following excerpts from *AutoMart* employees reflect this common belief:

This is a complex industry, a very complex industry.

I've worked for 32 years and believe me, I mean, we have to keep up with the latest technology to remain competitive. If we don't, we'll be beaten...our competitors will put us out of business.

Well, we're in a highly competitive environment, and if you don't have the right systems and processes in place you will likely lose. These services all provide us ways to either provide an improvement in the process or enhance productivity to lower costs.

The automotive industry is a tough one, particularly for the U.S. domestic manufacturers, and our focus is going to be on continually lowering the cost and improving efficiency.

Through the perspective of the extracted cues property of sensemaking, we see the important role context plays in managing the relationships between *MoveQuick* and their strategic customers. Our findings suggest that both companies were competing in industries that were highly competitive, and for which constant improvement and innovation to existing operations were required. As Weick tells us through his work on extracted cues, there is a local contingency between cues and context, and they are connected in two ways. First, the context will affect what is extracted in the first place. Second, the context will affect how the cues are then interpreted. When applying this frame to the relationships, our findings suggest that the industry contexts in which the customers were embedded (high-tech and automotive) were likely contributors to their pursuit of third party supply chain service providers in the first place. Thus, the context in

which they were embedded led them to search for outside help. However, once noticed, the context also shaped how *MoveQuick* was perceived. Instead of a provider of commodity services, customers such as *TechKnow* and *AutoMart* perceived *MoveQuick* as a company that could offer more. They, then, wanted and expected more, too. Despite their desire to develop standardized services that could be replicated across many customer accounts, *MoveQuick* was fighting an uphill battle as their customers perceived them as capable of delivering so much more.

5.2.7 Summary of Relationship Findings

From the perspective of the six properties of sensemaking, we found both similarities and differences between the *TechKnow* and *AutoMart* relationships that added rich insight into addressing our research question (see table 15 for summary of findings from the two relationships). Both relationships strongly reflected the ongoing property of sensemaking, as they were both in a state of constant change. Interestingly, while each relationship had its own story, with events that were particular to it, both seemed to evolve in a similar direction in which both companies were left wondering what to do next. *TechKnow* and *AutoMart* were looking for preferential treatment and customized services while *MoveQuick* was primarily considering what and where to invest their resources for maximum gain. As we summarize our findings from the relationships investigated, we focus on three important themes that run across the individual properties of sensemaking and that provide insight into how and why *MoveQuick* managed the tension between standardization and customization. These themes relate to identity and governance, social interaction, and relational dynamics.

Our findings suggest that both customers had distinctly different identities, but these differences did not correspond to relational governance strategies and structures as expected. *TechKnow* was known for valuing collaboration and trust, but in relation to *MoveQuick* they made sure to protect themselves through well defined formal governance. To reduce switching costs and other threats that come from potential dependencies, they pursued a dual provider strategy. In the other case, *AutoMart* talked rarely about trust and collaboration, if at all, as they viewed themselves as inhabitants of a highly competitive environment where continuous improvement was required to survive. However, their relationship with *AutoMart* was less concerned with formal mechanisms of governance and evolved toward a sole provider strategy. These findings were certainly unexpected, as the identities and chosen strategies for relational governance seemed clearly misaligned in both cases.

In addition to distinct identities and governance, we also saw very different patterns of social interaction between *MoveQuick* and the two customers. *MoveQuick* spent a couple of days at *TechKnow* facilities early on in the relationship to try and understand their business. These early interactions were coupled with quarterly business reviews that over time became less quarterly and more semi-annual. In contrast, *MoveQuick* adopted a different approach to interacting with *AutoMart*. *MoveQuick* placed an employee onsite full-time at *AutoMart*, so they could develop a more comprehensive understanding of their business. In fact, one *MoveQuick* employee said at times he had to remind himself that he was a *MoveQuick* and not an *AutoMart* employee. Hence, to compensate for the lack of face-to-face interaction, individuals within the

MoveQuick and *TechKnow* relationship leveraged information and communication technologies in different ways than within the *AutoMart* relationship.

Sensemaking was especially useful for investigating the relationships because it allowed us to explore relational dynamics. Though there were differences along the way, in terms of events and patterns of interaction and the size of ongoing interruptions, both relationships evolved toward a similar place—a stalemate. Thus, the future trajectory of the relationship became uncertain for provider and customer alike, in terms of revenue growth from *MoveQuick*'s perspective and services purchased from the customer's perspective. At the point of stalemate, *TechKnow* and *AutoMart* looked back on the relationships and had mostly positive recollections, yet these memories did not necessarily correspond to positive projections for the future. At early stages of the relationships, the return on investment was clearer for *MoveQuick* as they saw a world of opportunity in terms of revenue growth. Therefore, at early stages they were more willing to invest the resources necessary to develop customized solutions to gain more business. However, overtime, as the relationships matured and there was less opportunity to gain additional revenues from these accounts, future investments became more uncertain for *MoveQuick*. Consequently, customers began to wonder if *MoveQuick* was willing to make relational investments to support customized development because of the uncertain growth opportunities. At this point of stalemate, the relational dynamics change, and the logic of managing the relationship began to be questioned too.

Table 15: Findings from Relational Analysis

Property	<i>TechKnow</i>	<i>AutoMart</i>
Identity	<ul style="list-style-type: none"> ▪ Values collaboration and trust 	<ul style="list-style-type: none"> ▪ Values continuous improvement and survivability
Retrospect	<ul style="list-style-type: none"> ▪ Recollections of success leading to uncertain projections 	<ul style="list-style-type: none"> ▪ Recollections of success leading to uncertain projections
Enactive	<ul style="list-style-type: none"> ▪ Strict and rigid formal governance 	<ul style="list-style-type: none"> ▪ Primarily informal governance
Social	<ul style="list-style-type: none"> ▪ Periodic face-to-face encounters augmented by information technology 	<ul style="list-style-type: none"> ▪ Continuous face-to-face interaction as a result of fulltime employee onsite
Ongoing	<ul style="list-style-type: none"> ▪ Few large projects create significant interruptions, yet relationship evolves towards stalemate 	<ul style="list-style-type: none"> ▪ Continuous stream of small projects and small interruptions, yet relationship evolves towards stalemate
Extracted Cues	<ul style="list-style-type: none"> ▪ Industry forces keep them looking for differentiated solutions to improve service and reduce costs 	<ul style="list-style-type: none"> ▪ Industry forces keep them looking for differentiated solutions to reduce costs and improve service

CHAPTER 6: DISCUSSION

This study was motivated by the lack of outsourcing research that adopts a service provider perspective. In fact, in Dibbern et al's (2004) summary of outsourcing research they mention one study (Schultze and Boland, 2000) that is a "rare exception" because it examines outsourcing relationships primarily from a provider perspective. In other studies that were not mentioned in Dibbern et al. (2004), Evangelista and Sweeney (2006), Knemeyer and Murphey (2005), Lieb, R. C. and Randall, H. L. (1999), few go inside the service organization to conduct a multi-year field based investigation, sufficiently exploring the challenges service providers face in formulating informed, successful remedies. The purpose of this research was to investigate these insistent challenges while paying special attention to the provider perspective. To achieve our objective, we went inside one of the largest supply chain outsourcing providers in the world, to explore how they address the core challenge that threatens their profitability: managing the tension between standardization and customization in delivering IT-enabled services. The study allowed us to explore their initiatives to address this tension, and then to investigate the efficacy of their approaches. As a result, this research makes theoretical contributions to outsourcing implementation research as discussed in Dibbern et al. (2004), and has theoretical implications that relate specifically to enterprise architecture for service provisioning and relationship management for long-term value creation.

6.1 THEORETICAL IMPLICATIONS

6.1.1 Enterprise Architecture for Service Provisioning-

Goles (2001) pointed out that service provider's capabilities play a crucial role in influencing outsourcing value creation. However, this study has added to that discussion by pointing out some of the very challenges vendors have as they seek to create such capabilities that will enable them to add value for many different customers. *MoveQuick* proved a case in point: effectively installing an overarching enterprise architecture, in a coordinating role, proved crucial; by coordinating collective action and facilitating service provisioning for the company. Our results have shown that developing these enterprise capabilities was challenging for *MoveQuick*. We identified three core components of *MoveQuick's* enterprise architecture that proved most important as *they* tried to develop the capabilities that enabled them to balance the tension between standardization and customization. These components relate to enterprise design, process design, and technology design.

6.1.1.1 Enterprise Design

To remain competitive, vendors such as *MoveQuick* have been forced to realign their organizational structure, marketing strategy, and resource capabilities to account for the markets interest in the attainment of higher value added business process services (Halvey and Melby, 2000). Yet, even with realigned organizational structures there is no guarantee that vendors will possess cost advantages over customer firms simply because of the volume of services they are forced to provision (Levina and Ross, 2003). As we saw from our investigation, *MoveQuick* was in a constant state of change as they

attempted to adjust and redesign their enterprise to respond to the paradoxical challenges they faced. As discussed in chapter 2, Poole and Van de Ven (1989) offered multiple modes for addressing paradoxical situations, such as the tension between standardization and customization that vendor firms are often forced to address as they seek to create cost advantages. These methods are not only useful for building theory, but can guide enterprise designers effective in working, organizationally, to meeting dual objectives. One approach offered by Poole and Van de Ven (1989) was to create spatial separation among competing entities. As our findings suggest, *MoveQuick's* initial attempt to deal with the tension was to follow this logic of spatial separation. Realizing they needed to pursue new opportunities by providing higher value added services, they set out to create *MoveQuick-Solutions* some fifteen years ago. Rather than do this within the boundaries of *MoveQuick-Operations*, they created a separate organization. However, to effectively address a paradox through spatial separation, Poole and Van de Ven (1989) argued that it is crucial to clarify levels of reference between entities, and specify precisely how such levels interact. Interestingly, our findings contribute to this discussion by suggesting that the integration between entities was indeed the crucial factor that challenged *MoveQuick's* ability to address the paradox they faced through spatial separation.

The identities within both firms were noticeably distinct; this was likely accentuated by the fact that the business units were spatially separated. *MoveQuick-Operations* held onto its identity of efficiency and disciplined measurement to ensure continuous improvement. By contrast, *MoveQuick-Solutions* distinguished itself from its parent firm by emphasizing an entrepreneurial and solution-oriented spirit. These distinct identities inhibited tight integration between business units, as it seemed they created a

psychological barrier bent on inhibiting communication between the firms. These barriers challenged the business model as a whole, as coordination between units was so crucial to *MoveQuick's* success. Our findings suggest that the barriers were exacerbated by social psychological forces, such as the sequential nature of retrospective sensemaking. Retrospection encouraged *MoveQuick-Solutions* employees to perceive its parent firm through the lens of their existing one, creating an interesting dynamic of dual affiliation. This finding extends the work of Poole and Van de Ven (1989) by showing some inherent challenges that may result from spatial separation as well as providing a unique viewpoint on enterprise design challenges from a vendor perspective (Levina and Ross, 2003).

In addition to the conflicting identities between business units, we saw similar degrees of conflict between functional units within *MoveQuick-Solutions*. The organization was made up of many subunits where competing local objectives seemed to inhibit global coordination. We found that certain parts of the organization, such as marketing and sales, aggravated tensions with cues that pushed customers towards customization, while other parts, operations and IT, were left trying to respond in a profitable way by developing standardized offerings. Furthermore, the parts of the organization responsible for increasing customization were, at the level of appearance, more effective in meeting their objectives than those trying to reduce it. For the good of the company as a complete entity, this infighting is counterproductive. The shaping of customer perspectives, on the one hand, and the positioning of the internal stakeholders, on the other, must be balanced; so that actions and responses are aligned on a global scale. To conclude, although spatial separation has been recommended as a logical means

to resolve a paradoxical situation (Poole and Van de Ven, 1989), our results suggest that such separation may lead to counterintuitive consequences that may impede integration and ultimately exacerbate the core tension.

A second way that *MoveQuick* attempted to deal with the tension between standardization and customization was to pursue the creation of a repeatable service model. Based on the framework of Poole and Van de Ven (1989), this strategy reflects the pursuit of temporal separation as a logical means to address a paradoxical tension. In this case, attention on standardization and customization oscillates at different moments in time. By adopting the eighty-twenty rule, *MoveQuick* hoped to develop standardized services that would largely meet the needs of individual customers at one point in time, and then shift their focus to customizing a small portion of the service to meet idiosyncratic needs at a later point in time. Yet, our sensemaking framework again uncovered psychological factors that made the logic of temporal separation ineffective as a means of addressing the tension *MoveQuick* faced.

To develop standardized services, *MoveQuick* pursued a segmentation strategy where services could be developed to meet the idiosyncratic needs of particular market segments. To build these standardized offerings, individuals needed to draw upon their past experiences within a particular segment, to offer insight into potential customer requirements within specified markets. However, after ongoing segmentation continued to be coupled with one-off solutions, *MoveQuick* managers began to realize that their hope of developing prepackaged services based on forecasted needs was farfetched. As the retrospective property showed, the tendency to simplify backwards glances likely contributed to segmentation strategies which were, in effect, a far cry from the diversity

of individual customer requirements forthcoming. Thus, our findings suggest that attempts to deal with the tension between standardization and customization through temporal sequencing (Poole and Van de Ven, 1989) may again be an insufficient means for helping service providers balance the tension and achieve scalable growth.

After enterprise designs that followed the logic of spatial and temporal separation proved ineffective, *MoveQuick* managers embarked on a major shift in strategy. Their new approach was to focus less on reducing equivocality through structure and segmentation, and instead follow a new logic of design; one which would fundamentally change the enterprise. In this new attempt *MoveQuick* sought to develop a modular enterprise architecture, one where they embed technology into their core processes so that they can efficiently and responsively execute their business strategy (Ross et al., 2006). The new strategy reflects Poole and Van de Ven's (1989) logic of holistic redesign to address a paradoxical situation. *MoveQuick's* move towards a modular enterprise design reflects such a radical shift in logic, but as our results indicate that shift in strategy did not come—like the others—without its own set of challenges. Some of these bear enumeration as they add missing pieces of information to the discussions on outsourcing implementation from a vendor perspective (Dibbern et al., 2005; Levina & Ross, 2003) and enterprise architectural maturity (Ross et al., 2006). For instance, a lack of cross-functional interaction within *MoveQuick-Solutions* inhibited understanding of process interfaces, which constrained the creation of a modular infrastructure. And yet, a real corner had been turned. Nevertheless, our findings indicate that *MoveQuick's* pursuit of a modular enterprise design represents a heightened state of organizational maturity that will likely lead to greater scale and profitability as they continue to refine and tighten the

linkages between major service components.

6.1.1.2 Process Design

Despite the fact that most firms outsource their business processes to provider firms under the assumption that vendors will possess production cost advantages (Levina and Ross, 2003), we have seen that such hopes often end up evaporating. Our findings suggest that to meet such expectations service providers must be aware of the distinctly different process design philosophies that may be needed to guide the delivery of higher value added services. As we have seen, strategy alone will not augment the importance of designing and implementing effective business processes (Davenport, 1992). *MoveQuick-Operations* developed a world renowned reputation by developing internal transaction processes that were highly efficient. These transaction processes had one clear goal: to move packages efficiently across space and time. However, *MoveQuick-Solutions* continued to struggle with developing higher-order process capabilities; their goal was to leverage underlying processes of their parent firm more creatively and effectively, to create value above and beyond a standardized offering. In such a case the transaction processes would be adjusted slightly, or mixed, matched, and combined to create a customer specific solution. The result would be a more comprehensive solution to meet the unique needs of individual customers.

By adopting a sensemaking perspective, we were able to improve our awareness of the distinct types of processes that were needed to meet multiple objectives. This finding has implications for how we think about process designs capable of meeting dual objectives (Adler and Goldoftas, 1999; March, 1991) and from a vendor perspective

(Dibbern et al., 2005; Levina & Ross, 2003). Since our findings suggest that the processes that enable world renowned efficiency are not suitably adaptive to meet customized needs, we must understand the reasons why. The sensemaking lens helps us to begin to develop insight into why this might be the case. Process designs that focus on transactional efficiency are shaped by structures that contain clearly defined cues. These cues are then easily extracted by members embedded in the process. Such cues might be extracted from a computer generated label that is placed on a package, and that direct a sorter to the exact location to which they should place a package on a delivery truck.

Cues of this type offer little means of encouraging further search and instead help direct attention towards the localized task and clearly defined routines that connect individuals in nets of collective action. However, such directed attention becomes problematic when predefined routines do not align well to new or changing business contexts. For instance, when the same package sorter follows a similar sorting protocol but is asked to place the packages on a new vehicle, predefined routines may not match up to the new vehicle specifications. At this point, individuals are forced to reconcile the tension between the predefined cues that are already directing their attention, and the cues that are being generated because of the misalignment. Process design philosophies that help individuals and organizations resolve this tension efficiently will likely help meet the dual objectives of standardization and customization. However, it is important to note that Weick would argue strongly that what is not necessarily needed at this point of tension is more information. This is not just a problem of information processing, but equivocality. Instead, Weick would argue that what people need are values, priorities, and

clarity about preferences to help them be clear about what really matters (Weick, 1995). Accordingly, process designers need to consider multiple layers and types of structure that can be designed to support the execution of business processes in equivocal contexts. For instance, low levels of structure that offer easily extracted cues to support transaction processing may be accompanied by higher order structures that distribute decision authority to local levels, encourage ongoing inquiry to proactively sense potential disruptions, and support autonomous action to rectify problematic situations.

6.1.1.3 Technology Design

Technical capability has been identified as an influential factor in shaping the development of outsourcing relationships (Willcocks and Kern, 2001). While technology certainly plays a crucial role in enabling service providers to address the tension between standardization and customization, our findings suggest that leveraging its obvious benefits does not come unchallenged. As we have seen, the nature of IT intensive services has rendered the structural and temporal strategies for dealing with the tension ineffective (Poole and Van de Ven, 1989), largely because of the increased speed with which change must now occur and the increased ambiguity resulting from information overload (Weick, 1995). The movement towards modularized enterprise architecture (Ross et al., 2006) was the next step *MoveQuick* took in an attempt to address the tension they face. However, by applying the sensemaking lens to this initiative we see the importance of social interaction within and between functional units if service providers pursue such an enterprise transformation. Without ongoing interaction and effective collaboration between the business units, they will be unable to develop the necessary standardized process interfaces that allow service modules to communicate, and then to

be easily combined, into an enterprise solution. As our findings suggest, though the technology is an important part of the transformation towards modularity; one cannot decouple it from the larger social system for which the IT artifact is embedded: it is the social system around it that is largely responsible for shaping its evolution.

6.1.2 Relationship Management for Long-term Value Creation

Our exploration into two of *MoveQuick's* key relationships generated interesting findings that further contribute to outsourcing implementation research (Dibbern et al., 2004; Sabherwal, 1999). As we saw from our study, relationships are undoubtedly dynamic, as they reflect the evolutionary characteristics of any complex system. Adopting the sensemaking lens helped us explore these interesting dynamics. By asking individuals to reflect on their experiences, we were able to leverage these retrospective accounts (Weick, 1995), yielding the cognitive aspects for managing and executing such relationships at different points as the relationships matured. In doing so, we maintained our focus on the core tension we were investigating within the service provider. Metaphorically then, we kept one eye on the service provider and the tension that threatened their profitability, while focusing another eye on the patterns of collective action within a given relationship. Doing so helped us explore how these patterns of behavior within the relationships applied pressure upon the tension between standardization and customization. Our findings offer contributions to existing outsourcing implementation literature on two main dimensions related to managing inter-firm relationships: governance mechanisms and relationship investment.

Governance Mechanisms-

Research related to governing inter-firm relationships pays special attention to different factors that influence the creation of inter-firm governance mechanisms (Mani et al., 2006; Sabherwal, 1999). For example, researchers have investigated the importance of trust for building a strong foundation upon which long-term relationships can flourish (Grover et al., 1996). Others have explored the impact of asset specific investments on inter-firm governance, and have argued that governance costs increase with increased investments in assets specific to a relationship because firms must safeguard against opportunism (Williamson, 1985, 1991). Yet, other researchers have argued that governance costs do not necessarily increase with an increase in asset specificity (Dyer, 1997; Dyer and Singh, 1998). Despite these contributions, there have been few studies that investigate the socio-cognitive underpinnings of inter-firm governance. By adopting the sensemaking framework we were able to make a positive contribution to extant theory on inter-firm governance by showing counterintuitive factors that influence governance formation, especially as the relationships change over time.

The distinct governance mechanisms observed within both relationships were unexpected, but they motivated continued exploration into why such findings might have occurred. There has been a lot of research on factors that influence the formation of long-term governance (Mani et al. 2006; Balakrishnan et al., 1993), but few studies look at counterintuitive findings of governance formation in real-life settings. As our results suggest, many interrelated factors combine to contribute to the formation of long-term governance. Within the *TechKnow* relationship we saw well defined formal governance, while the governance for the *AutoMart* relationship was relatively informal and less

explicit. These findings alone might not be surprising, if it was not for the distinct consensual identities that were detected within both customer firms. The observed identities simply did not seem to fit with the governance strategies being used. The *TechKnow* relationship was governed formally through precisely defined performance metrics, but their culture was well-known for valuing trust and collaboration. *AutoMart*, on the other hand, spoke little of trust and collaboration. However, they unexpectedly showed evidence of tight collaboration with *MoveQuick*, and they seemed to value trust when choosing their informal governance strategy—including their movement toward a sole provider model. These findings suggest that a firm's identity may only be one factor in determining ongoing collective action, and that other aspects of a given relationship may be more influential in determining the most appropriate governance for managing long-term relationships. Our findings suggest that four other factors may also impact inter-firm governance mechanisms. These newly observed factors contribute to a vast body of prior research related to factors that influence inter-firm governance (Mani et al. 2006; Dyer and Singh, 1998; Balakrishnan et al., 1993; Williamson, 1985).

First, the nature of the differences between firms within a relationship may impact the governance developed at different stages of the relationship. As our findings suggest, one may observe a rather obvious misalignment between *MoveQuick*'s identity and *TechKnow*'s. On the other hand, *MoveQuick* and *AutoMart* share in a philosophical, consensual identity. Differences in the *MoveQuick/TechKnow* identities could have acted as cues that were extracted by *TechKnow* employees and that occupied their attention—creating a counteracting affect on *TechKnow*'s trusting and collaborative identity.

Consequently, because of the dissimilarities at early stages of the relationship, *TechKnow* likely felt that it was in their best interest to ensure their expectations were aligned by enacting strict and formal governance. In contrast, because *MoveQuick* and *AutoMart* had such similar identities, they likely did not experience the initial distrust that would require more formal governance.

A second factor may impact the governance mechanisms; this is the nature of the service being provisioned. At early stages of the relationship, *TechKnow* seemed to have a clear understanding of their existing business and what they needed from *MoveQuick*. As a result, it is understandable that the governance mechanism constructed would similarly be less ambiguous and more clearly defined. In contrast, *AutoMart* sought out *MoveQuick* services when their current business practices were in total disarray. Again, it makes sense that the governance constructed at the beginning of their relationship was less formal and more generic as equivocality was high. Thus, our findings suggest that the level of ambiguity around existing business practices, *and* the services that are needed, may influence the initial governance that is created. One might ask: How can you expect to have formal and explicit governance, when you aren't exactly sure what you want to govern in the first place.

The third factor impacting governance mechanisms relates to the nature of the goals and objectives of both firms. Our findings suggest that the formal governance developed within the *MoveQuick-TechKnow* relationship may have overemphasized short-term tactical objectives at the expense of long-term strategic ones. Given the industry cues that *TechKnow* managers were extracting while directing their attention

towards present day imperatives, it is not surprising that their governance structure reflected their competitive situation. However, our findings suggest that more sophisticated governance needs to be developed to ensure short-term and long-term objectives are pursued in a consistent and balanced fashion. When individuals become bound to short term actions and objectives, their sensemaking may become focused on searching for explanations that justify those actions rather than searching for new and better ways to conduct existing practices (Weick, 1995).

Fourth, the stage of a given relationship is particularly important for designing effective governance. At early stages of a partnership interlocking routines, crucial for integrating systems and processes across organizational boundaries, are not yet well defined. Consequently, relational designers must then ask what role generic or higher order structures, such as relational culture, play in creating the facilitating conditions to support the inter-subjective interaction necessary for developed, interlocking routines. As we move away from vertical structures towards horizontal ones, designers must also consider the degree to which generic structures within individual firms remain an important part of the organizing process between firms (Weick, 1995). Additionally, once interlocking routines are clearly defined and sufficiently guiding collective behavior, the specificity of performance metrics for assessing value must be considered. At early stages of a relationship there might be a need for a metrics that assesses how a process is executed; as well as the performance outcomes from it. However, over time, as performance meets predefined objectives—it may prove necessary to both loosen and reorient these metrics towards outcomes only: this enables the service provided to be in

charge of how a process is executed.

The nature of the partners, services, goals and objectives, and the stage of a relationship all have important implications for how firms design governance mechanisms. Service providers need to encourage the right types of governance mechanism to be developed. It may then facilitate, rather than inhibit their balance of the tension between standardization and customization so as to encourage sustainability. As much as provider firms need to enact cues, helping customer firms see the strategic value of supply chain services, they also need to direct customers' attention away from monitoring company methodology; and instead, reorient their attention towards outcomes. Perhaps the most effective way to do this is to promote trust and risk sharing within the relationship, while simultaneously encouraging outcome rather than process oriented metrics. However, moving towards outcome oriented monitoring may take time, and relationships may need to evolve through stages before getting there. In the end, an effective governance mechanism provides a platform for shaping customer perceptions and behavior in a positive way, but many factors are likely to impact its creation.

Relationship Investment

Prior outsourcing research has focused on issues related to decision determinants, whereby researchers are interested in understanding questions such as why to outsource (Loh and Venkatraman, (1992)) and what to outsource (Grover et al, 1994). Other research related to decision determinants in such contexts has focused on factors that influence whether or not to invest resources that are specific to a outsourcing relationship (Ring and Van de Ven, 2006). While prior research related to decision determinants has

proved useful in helping us develop a deeper understanding of the outsourcing phenomenon, there has been little research in this area that explores the dynamics of decision determinants. There are few past studies that have explored how decision determinants within outsourcing relationships may change as the relationship matures. Our findings suggest that three factors may influence decision determinants related to investments in customized solutions as relationships mature.

The first factor that can impact relational investments is growth projections. As relationships mature, managers can be forced to confront different contexts for making relationship specific decisions. At earlier stages of relationships, when providers see high growth potential in terms of future revenue opportunities, they are much more likely to invest the resources necessary to develop a customized solution. In contrast, if providers perceive that account performance, over a prolonged period of time, is going to be flat they will experience difficulty making a strong business case for customized investments. For instance, if a provider has fifty percent of a customers' business in a particular business segment, it will be much easier for them to make relationship specific investments if they perceive that it is going to result in a greater piece of that core business. Yet, if the same provider already has ninety percent of a customers' business, their incentives for ongoing investment decrease substantially. As a result, at one point in time a provider may be willing to invest significant resources into a particular relationship because they want and can envision more business, but at another point in time they will be less willing to make such investments because they simply do not perceive the future opportunity.

A second factor that can impact a providers investment decisions in a particular customer account relate to the nature of the potential investments. The perceived risk of an investment will likely have a strong impact on whether or not the provider is willing to invest in customized solutions. Furthermore, the relational specificity of particular customized solutions will impact a provider's willingness to invest in a customized solution. If the outcomes of a particular investment are relatively clear, and the provider believes that they will be able to replicate some portion of the solution across other customer accounts, there will be a greater incentive to invest.

A third factor we found that could impact a provider's investment decisions relates to the current business context within the provider organization. As we saw from our study, *MoveQuick* was in a state of ongoing and rapid change. They were acquiring companies and organically building new capabilities at an alarming rate. Consequently, this internal complexity, created a context where managers seemed less willing to make new relationship specific investments as it would only exacerbate their internal operating complexity. As a result of their many acquisitions and ongoing development, *MoveQuick* employees were forced to focus their attention on making sense of their current situation, which was highly equivocal. In a state of ongoing disruption, resources and attention are likely to be directed towards developing structure to reduce equivocality, rather than upon engaging in new projects which the company fears may exacerbate it.

It was apparent from our investigation into the two relationships that they were surely in a state of constant change. By adopting the ongoing property of sensemaking we were able to pay special attention to these important relational dynamics. Our findings

suggest that there were two distinct patterns of change within both relationships, but both relationships seemed to evolve towards a similar place—stalemate. The *TechKnow* relationship was characterized by several large and radical strategic initiatives, such as the acquisition of another large high-tech company and a massive global roll-out of a new computing platform. In contrast, in the *AutoMart* relationship we saw a continuous stream of smaller initiatives focused on incremental improvements to existing processes. As both relationships evolved towards stalemate, the customer firms were looking for *MoveQuick* to make relationship-specific investments to support the development of customized solutions. Yet, in both cases, *MoveQuick* faced a complicated decision scenario. By adopting a lens and a method that allowed us to investigate the dynamics of decision making in its real life context, we were able to show that relationship specific investments are dependent on many factors. Growth projections for each relationship, issues of uncertainty and replicability around investments, and their own internal operating complexity are all factors that are likely to influence relationship specific investments and the tension between standardization and customization.

6.2 PRACTICAL IMPLICATIONS

For outsourcing firms to survive, they will be forced to tackle the problem of scalable growth. In doing so, they must balance the tension between developing standardized services, capable of replication across thousands of customers; and its correlative or opposite: efficiently customizing such services to meet the unique needs of individual customers. Many service providers continue to pursue scalable growth initiatives, as developing these capabilities will likely have an enormous impact on their

earnings and growth. This research contributes to practice in three ways: it adopts a vendor perspective on service delivery, it investigates the issues and challenges related to the evolution of enterprise architectural maturity, and it provides insight into sustaining long-term partnerships.

6.2.1 Vendor Perspective on Service Delivery

A key driver of this research was the fact that many outsourcing relationships fail, because service providers are often unable to meet the high expectations of customers, and are even less likely to do so profitably. The consequences of outsourcing failures are considerable for provider and customer alike, given the typical expenditure of both parties on both initiatives. By adopting a provider centric perspective, we were able to shed light on some of the inherent challenges service providers' face, such as how to meet the dual objectives of standardization and customization. By going inside the provider firm and exploring patterns of collective action within and between organizations, we saw how detrimental local action at the expense of global coordination could be. We also noticed the importance of social interaction for aligning incentives and expectations, and for collaborating to achieving seamless integration between business units, service modules, and applications. Furthermore, we discovered that the most difficult challenges faced by service providers were the results of their very own actions. Perhaps most importantly, we saw how attempts to resolve the paradox between standardization and customization through structural and temporal separation proved ineffective within the provider organization. Instead, a holistic approach to the design of an enterprise architecture where organizational structure, process design, and technology

work together give service providers the greatest chance of balancing the tension between standardization and customization and achieving scalable growth.

6.2.2 Evolution of Architectural Maturity

To address the tension between standardization and customization, service providers must design sophisticated enterprise architectures that allow the organization to pursue these opposing objectives. As related in our findings, *MoveQuick* first pursued structural and temporal separation as a means for addressing the tension they faced. However, after these initiatives proved unsuccessful, they embarked on a new strategy, wherein they pursued the development of a modularized enterprise architecture. This was a distinct paradigm shift, and offers lessons for other service organizations seeking to achieve scalable growth. Instead of reducing equivocality by developing prepackaged solutions, service providers might want to follow *MoveQuick's* lead. Doing so would focus their attention and resources on improving their ability to respond to customer requirement heterogeneity, rather than reduce it through external control. However, developing modular enterprise architecture requires its own paradigm shift, where attention shifts from a focus on grandiose enterprise applications to specialized service components with standardized interfaces transferable into an enterprise-wide solution. However, recent research suggests that firms in pursuit of modularized enterprise architecture may need to pass through multiple stages to get there (Ross, Weill and, Robertson, 2006).

6.2.3 Partnership Sustainability

Another key practical contribution of this research relates to the design of

governance mechanisms to assist the service provider in addressing the tension they face, while encouraging long-term sustainability of partnerships. By designing partnership structures intelligently, service providers can positively shape collective behavior—enabling a dual pursuit of both standardization and customization. As a result, both firms can move past the early gains that come from obtaining the low hanging fruit, and develop sustainable relationships to create real strategic value for the customer firm, while enabling the provider to provision services profitably. It is essential for companies that are already involved in outsourcing relationships, or those considering such an endeavor, to understand how they can develop structures capable of balancing opposing pursuits and promoting long-term sustainability. As we saw in the *TechKnow* relationship, SLAs proved to be a crucial part of their overall governance mechanism. Our findings suggested that many of their SLAs focused too much on short-term objectives. That does not have to be the case. If intelligently designed, SLAs can represent the DNA of outsourcing relationships, shaping collective behavior and influencing the evolutionary tendencies of a relationship.

To develop SLAs that shape both types of behavior, they must contain diverse types of informational cues, while also establishing appropriate rewards to serve as behavioral reinforcements. For instance, to promote continuous improvement in the short-term, such cues might clearly aim towards improving the speed of an existing process; the reinforcing relates to the monetary rewards earned if outcomes meet or exceed these objectives. Thus, achieving 95% on-time delivery goals, and improving on these outcomes overtime, represents continuous incremental improvement. In contrast,

other SLAs may contain additional types of informational cues that promote innovation of existing processes. For instance, SLAs that focus on overall service quality, which include metrics related to inventory holding costs and product availability, may encourage individuals to consider innovations to existing practices to improve overall service quality.

6.3 LIMITATIONS

We should not present our contributions without also considering the limitations of this study. Our study has three major limitations, two related to the sensemaking framework and one general to all case research. First, despite the deep insight sensemaking provided, there were areas of insight from our inductive analysis that were not sufficiently emphasized by the sensemaking framework. First, the framework did little to shed light on the role of human emotion as it relates to interpretation and collective action within *MoveQuick* and between *MoveQuick* and the customer firms. The disparate consensual identities of *MoveQuick-Operations* and *MoveQuick-Solutions* created a situation where emotions seemed to play a major role. It went a distance in explaining the interactions between people, while experiencing the tension between customization and standardization. These emotions were evident during participant observations, such as when a *MoveQuick-Operations* manager communicated his disgust for having to alter hours of operations at a major sorting facility to accompany the demands of a large *MoveQuick-Solutions* customer, but the emotions seemed to be less detectable during text based analysis. Since the advent of *MoveQuick-Solutions* represented a disruption to the ongoing events for *MoveQuick-Operations* employees, it

represented a sensemaking opportunity. We were left asking how either positive or negative emotions impacted procedural flexibility and integration between business units.

Second, another aspect of our inductive analysis that did not seem to be adequately emphasized by the sensemaking framework related to external control. It is obvious that there is not a distinct property of the sensemaking framework related to power, yet power is implied within many of the properties. For instance, Weick mentions how power can influence the cues that are placed into the environment and then extracted by the less powerful soles. Thus, by having power over the enactment of cues-- one could have influence within a larger collective by determining who gets access to what. This, however, is clearly a rather simplistic way in which to construct power.

Through our inductive analysis we determined that some customers had a strong influence over what *MoveQuick* would and should do in terms of investing in solutions unique to a particular customer. Moreover, it seemed that these power relations changed over time, as *MoveQuick* became more determined to rationalize their systems and processes and less willing to accept whatever the customers demanded. However, we looked to the sensemaking framework to provide a more comprehensive illumination of how these power relationships were articulated and how they shaped perceptions inside *MoveQuick*. This could simply be based on the fact that our inductive analysis was based on interview data rather than observing the sensemaking process first hand. As researchers we would like deeper insight into the cognitive shifts which take place when power is expressed, as well as a more comprehensive understanding of how its impacts sensemaking when it oscillates between the provider and customer firm.

The third limitation of our study relates to the method itself. Despite its obvious benefits, single case research can lead researchers away from focusing on general trends and concepts, focusing instead their attention on events and conditions that are distinctive to a particular situation (Markus et al., 2006; Brady and Collier, 2004; Yin 1999). By adopting the embedded units of analysis for the relational investigation, we attempted to mitigate this concern. However, from a provider perspective, conducting additional studies would be the best way to circumvent this threat to validity (Markus et al., 2006). In all research there is the great possibility that subjects selectively report what they want a researcher to hear; rather than what they want him to know. This study certainly does not stand immune from this possibility. However, to the extent that individuals' recollections accurately portray their feelings and the beliefs that they use to guide their ongoing action, this study can offer needed insight for researchers and practitioners interested in managing the tension between standardization and customization in IT-enabled service provisioning.

6.4 FUTURE RESEARCH

Despite the uncertainty around outsourcing efficacy, there have been few studies that have delved deeply into the contextual complexities that challenge a service provider as they pursue scalable growth. This study was intended to help fill this gap. However, strengthening the generalizability of these findings would be its replication in additional service provider firms. We also hope to continue to follow *MoveQuick*, as they continue to pursue the development of their modularized enterprise architecture. By continuing to explore *MoveQuick* and their transformation, we can further investigate the dynamics of

power and external control within long-term strategic partnerships as the competitive posture of both firms change. Additionally, future research needs to pay special attention to the sensemaking peculiarities of horizontal versus vertical structuring. As organizations partner with other firms to form value networks, we need to develop a fuller, more complete understanding of how these new structures ‘shape’ and are ‘shaped’ by sociocognitive sensemaking processes.

The concept of paradox in the services literature must also be investigated further. There has been a solid stream of work investigating the challenges that come from opposing pursuits in traditional business environments. Yet, such issues only gain importance in a growing services economy. Paradoxes are likely never going to be resolved, but service organizations must learn to leverage and combine their distinct capabilities to create higher levels of value for customers. Future research in this area needs to more deeply investigate the sociocognitive underpinnings of paradoxical tension in service delivery, especially as actions are taken to alleviate such pressure. It has been said that because the world is inherently paradoxical such tension can never be completely lessened because there will always be a new paradox waiting to be discovered (Poole and Van de Ven, 1989). If this is true, we need to have a better understanding of which levers can be pulled and which should be left alone to attenuate paradoxical tension in a services context. Future research should investigate these issues closely.

APPENDIX A: LETTER SEEKING ENTRY

“LEVERAGING WORLD CLASS CAPABILITIES: A CASE STUDY ON MOVEQUICK STRATEGIES FOR BUILDING A REPEATABLE SERVICE MODEL”

JUNE 5, 2003

Introduction: A research team from Georgia State University and MoveQuick would like to conduct a case study investigation of MoveQuick, as the company re-brands and repositions itself to emerge as a dominant player in the global supply chain solutions industry. Heightened market uncertainty, globalization, and advances in information technology are pressing companies to reevaluate their business models to improve financial and operational performance. Supply chain management practices can have a significant impact on efficiency and market responsiveness. To compete in the supply chain outsourcing market MoveQuick must develop supply chain solutions that can be leveraged across multiple customer relationships. Failure to create reusable processes, infrastructure, and information sharing practices would constrain their ability to leverage their world class supply chain capabilities and massive information technology infrastructure.

MoveQuick became a market leader in package delivery by building a massive operations infrastructure and fine-tuned processes for the coordination of package movement between firms. In addition to the physical delivery of goods between stages in the supply chain, MoveQuick must develop the capabilities to coordinate physical, financial, and information flows throughout the entire value chain. The company has invested extensively to develop innovative capabilities required to compete in the information intensive supply chain markets yet they must ensure these capabilities are applied in multiple customer outsourcing relationships throughout the value chain. Each customer supply chain will differ, resulting in some level of customization required to meet unique customer demands. However, the technological, process, and relational innovations required to prescribe and integrate customer processes into the core MoveQuick infrastructure needs to be investigated.

Focus of Study: The opportunity for MoveQuick to be a dominant force in the enablement of global supply chains hinges on their ability to collect and coordinate information across organizational, system, and country boundaries while using a repeatable information infrastructure in multiple customer scenarios. The research team is interested in exploring the technological, process, organizational and relational attributes required to introduce a repeatable service model in diverse customer relationships. Issues associated with the infusion and adoption of MoveQuick common business practices, impact and possible creation of network externalities, in addition to the possible strategies and potential outcomes of realigning relational power will be investigated. The case study will be divided into the following six sections:

- I. Historic overview of MoveQuick and an explanation of new market opportunities.
- II. Investments and innovations in digital technologies by MoveQuick for supply chain collaboration.
- III. Key challenges that emerge when introducing repeatable service models.
- IV. Analysis of innovative processes and technologies fundamental to the development of a repeatable service model.
- V. Exploration into best practices for building relational trust and moving towards a prescriptive model.
- VI. Investigation of future strategies for influencing the evolution of supply chain networks.

Approach: The research team would like to conduct comprehensive personal interviews with MoveQuick customers and key members of the MoveQuick management team from the following organizations:

- MoveQuick Corporate
- MoveQuick Supply Chain Solutions
- MoveQuick Mail Innovation
- MoveQuick Corporate and Field Marketing and Sales

- MoveQuick Capital Corp
- MoveQuick Freight Services
- MoveQuick Ocean Trade Direct
- MoveQuick Consulting

Outcome: The research team has the following expected outcomes for the case study.

- Provide educational material to be used in MBA and MS programs around the world.
- Provide educational materials to be used for the training of corporate and field MoveQuick personnel
- Generate insights into technological, process, and relational innovations.
- Help MoveQuick develop and fine-tune strategies for building a repeatable service model.
- Explore process innovations that both leverage the core infrastructure yet adapt to unique customer requirements.
- Develop a relationship for future research collaboration between MoveQuick and Georgia State University on the topic of interorganizational collaboration, information sharing, and repeatable service models in the supply chain outsourcing industry.

We look forward to working with MoveQuick and appreciate your support in the past, in the present, and in the future.

Sincerely,

Arun Rai – Regents' Professor and Harkins Chair, Robinson College of Business

David Forquer - Department of Management: Robinson College of Business

Mark Lewis – Doctoral Student: Robinson College of Business

Mr. Q – Marketing Education Manager: MoveQuick

APPENDIX B: EXAMPLE OF INTERVIEW PROTOCOL

- All interviews will start by asking each person to describe their job role, how it relates to the overall organization, their key contact points, and a brief synopsis of their prior career to this point (including previous roles/assignments, companies worked for etc.).

Relational (Interview with Account Managers) -

- Describe the current MOVEQUICK relationship with customer X.
- What percentage of the services you provide to customer X are standardized versus customized?
- Describe the process for engaging a customer, collecting requirements, and aligning your capabilities to meet individual customer demands.
- What percentage of the customers supply chain are they outsourcing to MOVEQUICK?
- What MOVEQUICK offerings is customer X currently using?
- How many other companies are involved in the operation?
- How integrated is MOVEQUICK in the value chain of customer X (Demand, Supply, Return – 3PL, 4PL)?
- What is customer X's position in their value chain (Supplier, Integrator, Distributor)?
- How successful would you say MOVEQUICK has been in meeting customer X's requirements?
- Describe how the relationship has evolved?
- What were the initial perceptions related to the complexity of integrating customer X's processes with the MOVEQUICK infrastructure?
- Did this impact the structure MOVEQUICK created to coordinate the processes?
- How have these structures evolved?

Information Visibility?

- What type of information is customer X willing to share with MOVEQUICK and their Partners?

- What is the MOVEQUICK strategy for growing existing accounts?
- How successful has this strategy been? Why?
- Are customers more willing to adapt their existing processes or technologies to better align with current MOVEQUICK capabilities?
- How is a decision regarding customer X made within MOVEQUICK?

IT Manager-

- Describe how successful you have been adapting customer's previous technologies to better align with MOVEQUICK existing technologies and infrastructure?
- Describe the process of integrating a customer's IT infrastructure with your organizations.
- What is your process for prescribing solutions?
- Why were you successful?
- Why were you not successful?
- What have been the biggest challenges?
- How is a decision regarding customer X made within MOVEQUICK?

Operations Manager-

- Describe the services you currently provide for customer X?
- Describe how the services you provide have evolved?
- What were the initial perceptions regarding the difficulty of integrating Customers X's processes with the MOVEQUICK infrastructure?
- Did this impact how governance structures were set at the beginning of the relationship?
- Describe the current governance structure and decision process for changing processes.
 - At MOVEQUICK?

- At Customer?
- Describe how successful MOVEQUICK has been adapting customer's previous processes to better align with MOVEQUICK existing capabilities?
- Why were you successful?
- Why were you not successful?
- Describe how well the core infrastructure (distribution centers) deals with large supply chain accounts. What customer situations create the biggest challenges for the infrastructure?
- Describe changes that have been made to distribution centers to meet new customer requirements (both for specific customers and to improve aggregate operations).
- What is the process for making changes to the core infrastructure to meet individual customer requirements?
- Where are these decisions made within MOVEQUICK?
- Are they made frequently?
- Are they made from the perspective of a single customer or from the entire operation?

APPENDIX C: EXAMPLE OF MAJOR THEMES GENERATED FROM MARGIN NOTES

MoveQuick Sales Management

Cultural Integration
External Influence
External Communication
Internal Communication
Parochial Thinking
Historical Influence
Political Influence
Resource Constraints
Organizational Flexibility
Internal Coordination
Incentives
IT Usage – Training
IT Usage – Business Intelligence
IT Usage – Sales Force Automation
IT Usage – Telephony Automation
Institutional Power
Information Sharing
External Coordination (with customer)
Global Coordination (with multiple suppliers)
Solution Integration
Coordination Complexity

MoveQuick IT Management

Internal Coordination
Reporting Relationships
Standards – Enterprise
Shared Services
High Reliability
Customer Implementation
Internal Communication
Requirements Gathering
External Communication
Decision Shaping
IT & Marketing Interaction
Visibility
IT Readiness
Component Based Architecture

Repeatable service model
Connectivity – A to A
Connectivity – B to B
Standards – Process Translation
Customer Integration
Change Orientation – Culture
Technology Choice
Flexibility – Infrastructure
Flexibility – Process (loose coupling)
Cascading Effects (dynamic complexity)
Standards – Transaction
Customization
APIs
Intellectual Property
External Force – Revenue
External Force – Cost
Change Controls
Uncertainty
Customer Knowledge
External Control
Information Sharing
Visibility
VMI

MoveQuick Marketing

Organizational Structure – Marketing Strategy
Organizational Structure – Products and Services
Organizational Structure – Industry Verticals
Standardization
Coordination – Internal
Organizational Responsiveness
External Drivers – Generating Small Package Revenue
External Influence – Customer Requirements
External Influence – Benchmarks
External Influence – Power
Shaping Decisions
Customization
Internal Collaboration
Repeatibility
Visibility
Information Sharing – Internal
Learning – Loss Analysis
Learning – Market Analysis
Capability Alignment

Information Flow
External Drivers – Failure
Internal Communication

***MoveQuick* – Sales Strategy**

Customer Classification – Strategic
Organizational Structure
Process Responsiveness
Information Sharing
Process Classification – Pre - manufacturing
Process Classification – Post - manufacturing
Process Classification – After sales
Visibility
Customization
Standardization
External Communication
Governance - Service Level Agreements
Market Power
Information Security
Informational Ethics
Value Proposition
Collaboration Areas
Complexity – Multivendor VMI
Economy of Scale
Local vs. Global Incentives
Multi-customer Classification
Incentives - Gain Sharing
Trust

***MoveQuick* – Operations**

External Communication
Information Flow
Responsiveness
Variability
Real – time
Visibility
Customization
Coordination – Internal
Coordination – External
External Drivers – Industry Characteristics
External Drivers – Product Characteristics
Innovation
Performance Metrics

Challenges – People
Challenges – Products
Decision Authority

APPENDIX D: VISUAL DISPLAYS IN PHASE 2 OF ANALYSIS

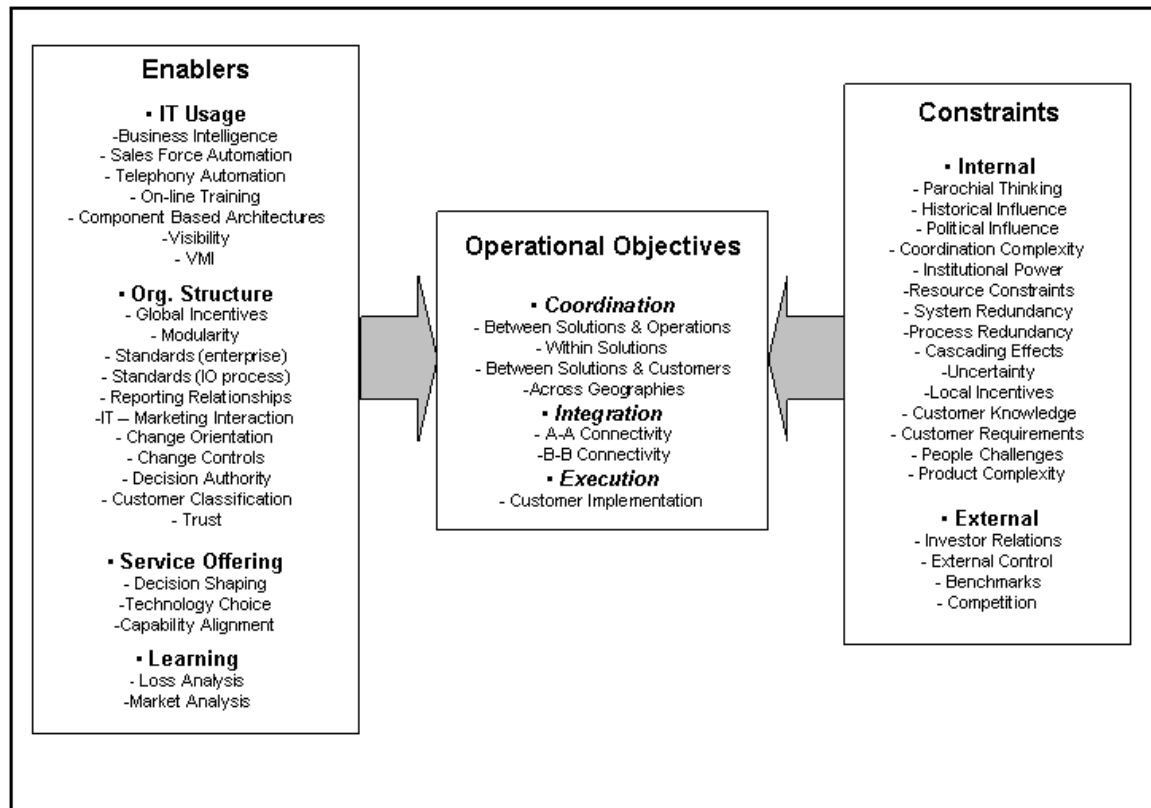


Figure 5: Example of Initial Visual Display and Early Data Reduction

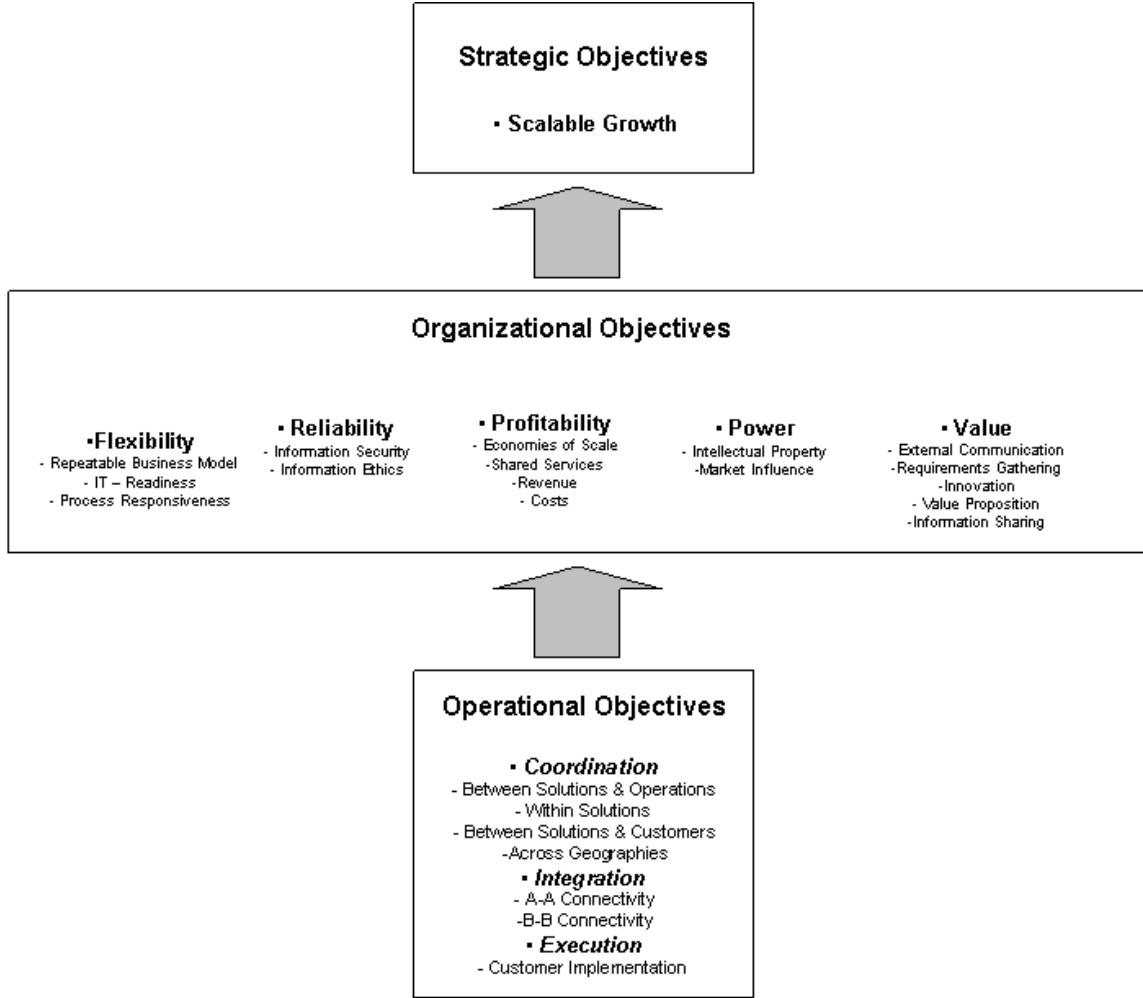


Figure 6: Example of another Level of Data Reduction Related to Objectives

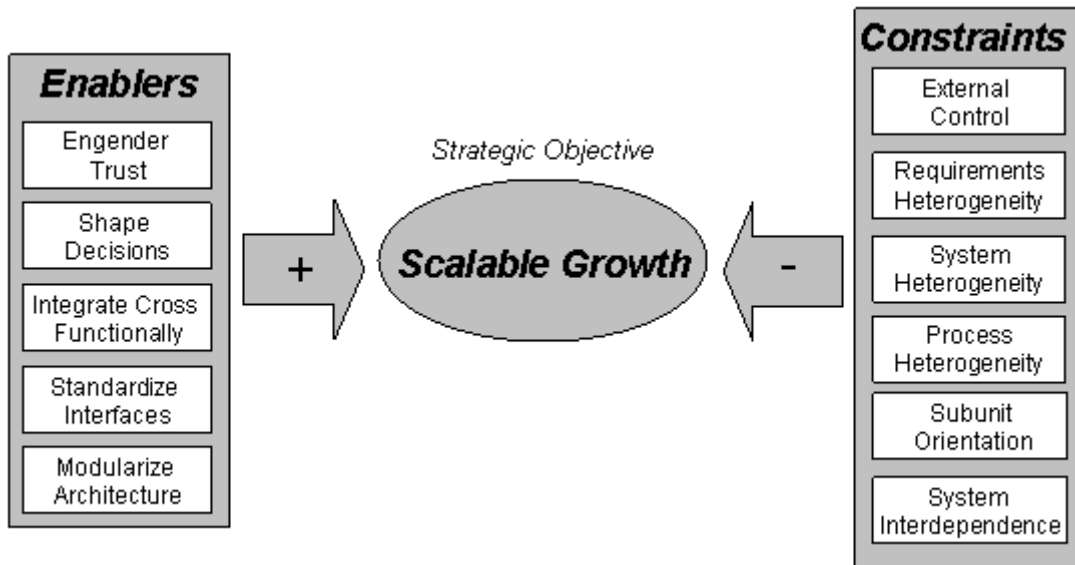


Figure 7: Example of Final Level of Data Reduction

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