STUCK IN THE CONFLICTED MIDDLE: A ROLE-THEORETIC PERSPECTIVE ON B2B E-MARKETPLACES

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Over the years, research on the implications of information technology on network governance structures has explored the “move to the market” and the “move to the middle” hypotheses. The middle is a space in which the logic and modalities of markets and hierarchies are intermingled. There is increasing evidence that most network relations reflect mixed-mode or hybrid logic. Despite the apparent advantages that make the middle so populous or “swollen” (Hennart 1993, p. 472), Kambil et al. (1999) highlight that it is riddled with uncertainty and high transaction costs. They label it “the conflicted middle” and propose that online marketplaces, specifically all-in-one markets, are capable of resolving this conflict. Unfortunately, however, Kambil et al. provide limited insight into both the nature of the conflict that plagues the middle and the ability of all-in-one markets to resolve it.

To address these questions, this paper applies a role-theoretic perspective to the study of an e-marketplace that served the energy industry and evolved into an all-in-one market. Relying on an interpretive case study, this paper addresses the following research questions: (1) What is the nature of the conflict that characterizes the conflicted middle? (2) How do e-marketplaces, specifically all-in-one markets, help resolve this conflict? Our research highlights that brokers, trading partners, and agents who operate in the middle (where the contradictory logic of markets and hierarchies are mixed) experience goal, behavior, and identity conflict. All-in-one markets can help resolve these conflicts by supporting role integration at the group level and role segmentation at the individual level.

Keywords: B2B e-marketplace, all-in-one markets, network governance structures, market, hierarchy, move to the middle, role theory, role conflict

Introduction

Over the years, there has been considerable research on the implications of information technology on governance structures in industry networks, that is, the relationships between organizations in a value chain (e.g., Robey et al. 2008).

Initially, the “electronic markets” or “move to the market” hypothesis dominated the information systems literature. The prediction was that, thanks to interorganizational technologies, markets with arm’s-length modes of transacting would become the preferred governance structure since IT reduces the unit cost of communication and, consequently, coordination costs (e.g., Malone et al. 1987). However, this hypothesis was later criticized for failing to consider that supply-side firms are made worse off by price transparency.
They need compensating benefits, such as limits on size of the supplier network, in order to participate (Soh et al. 2006). Furthermore, the electronic markets hypothesis overlooked that buy-side firms tend to favor hierarchical relationships with a handful of suppliers to ensure that the right product arrives at the right time (Holland and Lockett 1997; Kambil et al. 1999), protection against opportunistic behavior (Provan 1993), and containment of costs associated with searching (Choudhury et al. 1998).

By decoupling the impact of IT on coordination costs from its impact on transaction risk, the “move to the middle” hypothesis was developed (Clemons and Row 1992). The hypothesis suggests that IT and cooperative relationships are mutually reinforcing through the integration effect (e.g., Bensaou 1997; Grover et al. 2002; Kraut et al. 1999), and that firms will choose hybrid modes of coordination that mix market and hierarchy logic. These “mixed mode” (Choudhury et al. 1998; Holland and Lockett 1997) governance models typically take the form of long-term cooperative agreements with a few suppliers (Clemons et al. 1993).

Evidence of the move to the middle hypothesis is not limited to buyer–supplier relationships, however. It also affects intermediaries such as e-marketplaces, namely, interorganizational information systems that institute an exchange framework through which multiple buyers and suppliers interact to accomplish market-making activities, including identifying and selecting trading partners and executing transactions (Choudhury et al. 1998). For example, research has shown that e-marketplaces that rely on a purely market-oriented logic of search, price transparency, and competition are less likely to be successful than ones that also incorporate the logic of coordination and cooperation by embracing the integration capabilities of IT (Bakos and Brynjolfsson 1993; Holland and Lockett 1997).

Despite the pervasiveness of transactions that fall between markets and hierarchies, Kambil et al. (1999) label this continuum “the conflicted middle” and describe it as a place with high structural and operational uncertainty, as well as high coordination costs. They propose that “all-in-one markets” are capable of resolving the conflict associated with the middle. All-in-one markets are unified, technology-enabled platforms that aggregate multiple transaction modalities. They provide market-oriented functionality such as search, electronic catalogs, requests for quote, and reverse auctions, as well as hierarchy-oriented functionality such as private marketplaces that enable unique pricing, electronic data interchange, and supply chain management (for a detailed description of the capabilities of these e-marketplaces, see Dai and Kaufmann 2002). These technological capabilities, along with consulting services in the marketplace, facilitate both electronic brokerage and integration (Kambil et al. 1999; Malone et al. 1987).

Unfortunately, however, Kambil et al. provide limited insight into both the nature of the conflict in the middle and the mechanisms through which all-in-one markets help resolve it. This is because they focus on uncertainty rather than conflict, thus explaining the role in the middle of all-in-one markets in terms of uncertainty reduction rather than conflict resolution. Furthermore, their research is nonempirical and remains at a strategic level of analysis, highlighting choices managers have to make with respect to designing transactions in mixed-mode networks rather than dealing with conflict. In this study, we seek to address the gaps in our understanding of hybrid network structures and the implications for them in e-marketplaces. We rely on a longitudinal case study of an e-marketplace that evolved into an all-in-one market. By focusing on the practices of the e-marketplace, the participating buyer and supplier firms, and their respective employees, we seek to answer the following research questions:

- What is the nature of the conflict that characterizes the conflicted middle?
- How do e-marketplaces, specifically all-in-one markets, help resolve this conflict?

Our paper proceeds as follows: Drawing on role, conflict, and transaction cost theory, we begin by outlining a role-theoretic framework for conceptualizing and analyzing the conflicted middle. We further theorize how all-in-one markets help resolve this conflict. We then describe our research method, which entailed intensive data collection and an interpretive analysis. In the data section, we briefly outline the e-marketplace’s evolution and then analyze the various conflicts that the broker, trading partners, and agents experienced, and how they resolved them. We conclude with answers to our two research questions and a discussion of the implications of our study for research and practice.

A Role Theory View of Network Governance

Our research questions require that we gain insights into the everyday workings of hybrid governance relationships, which are instantiated and maintained by the actions of organizational members (Schultz and Orlikowski 2004). We thus focus on the practices through which the various participants
in a business-to-business (B2B) e-marketplace enact network governance structures. Practices are recurring human activities that are informed by shared institutional meanings (Schatzki et al. 2001). As role theory “offers a means of studying both the individual and the collectivity within a single conceptual framework” (Biddle 1979, p. 11), we adopt it as the basis of our theoretical framework.

Given that roles represent “the building blocks of social systems and the summation of the requirements with which such systems confront their members as individuals” (Katz and Kahn 1978, p. 219), macro-level industry networks can be viewed as a collection of group-level roles such as brokers, buyers, and suppliers, which, in turn, are comprised of individual-level roles like sales agents and purchasing agents. By recognizing the mutually constituting nature of roles and accommodating their interdependencies and interactions (Biddle 1986, p. 68), role theory privileges neither the macro-nor the micro-level actions of a network. This is essential for understanding practice.

A role connotes “a set of recurrent behaviors appropriate to a particular position in a social system” (Polzer 1995, p. 495). This definition highlights three components of roles: social positions or role identities (and the role sets they imply), expectations, and behavior (Biddle 1979). Social positions or role identities (e.g., doctor, manager, or mother) designate a recognizable status within a social structure (Biddle 1979). Role identity situates a role occupant in relation to others (e.g., a mother has children). The roles (e.g., children) that have the most immediate influence on and direct interactions with a given focal role (e.g., mother) are collectively referred to as the role set (Kahn et al. 1981).

Role expectations are norms, beliefs, and attitudes associated with either a social position (e.g., doctors should wear white coats) or a context (e.g., audience members are supposed to be quiet during an opera performance) (Biddle 1979). Role expectations relate not only to behavior but also to goals and values (Perrone et al. 2003). Expectations for a given role are not developed in a vacuum, but in the context of other roles that interact with and are dependent on the focal role, and vice versa (Floyd and Lane 2000). Role behavior resembles practice in that it connotes the recurring actions actually taken by role occupants (Biddle 1979).

Figure 1 shows the roles within a B2B network, which consists of both group- and individual-level roles. This schematic shows that the roles in the social system are interdependent. Role sets both enable and constrain the behavior in the focal role based on what members of the role set consider appropriate conduct (Perrone et al. 2003). This implies that the structure of the B2B network, the roles that constitute it, and the expectations associated with each of these roles are shaped through relational exchanges among network participants.

Figure 1 highlights that the role set of an e-marketplace consists of buying and selling organizations, as well as the broker agents it employs. Both buyers and suppliers look to an e-marketplace to connect them to new trading partners (Fernandez and Gould 1994). To the extent that an e-marketplace
Table 1. Types of Role Conflict

<table>
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<tr>
<th>Type</th>
<th>Definition</th>
<th>Example</th>
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<tr>
<td>Goal</td>
<td>Disagreements about the ends of a task; i.e., what is to be accomplished (Jehn 1997).</td>
<td>Expectations that production workers simultaneously maximize both quantity and quality.</td>
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<tr>
<td>Behavior</td>
<td>Disagreements over the how or means (i.e., the tasks and activities) by which the goal is achieved (Jehn 1997).</td>
<td>Expectations that car sales representatives both compete for customers and cooperate with one another to provide seamless service to all customers.</td>
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<td>Identity</td>
<td>Expresses people’s struggle for dignity, recognition, and control over meaning and their destiny (Rothman 1997), and is associated with challenges to a role’s place in its social structure and to the role occupants’ beliefs about what is good (Hicks 2001).</td>
<td>Retailer’s fear that new technology will erode their bargaining power and way of doing business (Clemons and Row 1993).</td>
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Since network structures are created and maintained through role enactment, it is useful to distinguish between the structural and situated aspects of conflict. Contradictions, structural concepts that “tend to involve divisions of interest between different groupings or categories of people” (Giddens 1984, p. 198), are frequently the underlying source of conflict. However, conflict is the “actual struggle between actors or groups” (Giddens 1984, p. 198). Thus, contradictions are structural and inherent in social systems, whereas conflict is situated. Conflict only arises when contradictions are made apparent through the enactment of different interests, particularly when this negatively affects one party (Walsham 2002).

Consistent with Giddens’ (1984) view of conflict as enacted contradiction, we define conflict as the struggle between or among two or more individuals, groups, or organizations that arises from incompatibilities in role expectations and impedes the parties’ performance and/or attainment of objectives (Gaski 1984). This definition implies that members of the role set of the focal role need to enact contradictions in order to trigger role conflict. For example, when a single member of the role set makes contradictory demands on the role (e.g., expecting the role occupant to make purchases using only a single, yet unavailable, channel) role conflict arises (Kahn et al. 1981). Table 1 defines the three types of role conflict identified in the literature.

The likelihood of conflict being enacted and impacting one party negatively is influenced by the degree of role integration and segmentation (Ashforth et al. 2000) (see Figure 2). Highly integrated roles are two roles that are generally enacted in the same temporal, spatial, or social context (Ash-
Because the limit or scope of each role in the integrated set is ambiguous (shown by broken role boundaries in Figure 2a), role integration frequently leads to conflict at the micro level due to the uncertainty about which role elements are appropriate in a given situation (Sundaramurthy and Kreiner 2008). This uncertainty places a considerable psychological burden on the individual role occupants, as they determine suitable goals, behaviors, and identities. For example, as an employee, a purchasing manager might be expected to enforce compliance with the company’s policies to use a new e-marketplace and transact with suppliers via arm’s-length relationships. However, the supplier’s agent, with whom the manager has become friends, might expect the manager to honor their embedded relationship and demand favorable treatment. Given that the manager is expected to fulfill these two discrepant roles (i.e., friend and employee) simultaneously, it is highly likely that he or she will experience conflict.

In contrast, segmented roles clarify the temporal, spatial, and social context in which they are appropriately enacted (shown by solid role boundaries in Figure 2b). Individual role occupants can compartmentalize their roles, thus limiting ambiguity and conflict (Sundaramurthy and Kreiner 2008). In our earlier example, the purchasing manager would have been less likely to experience role conflict if the company policy advocating e-marketplace use only applied to some suppliers or products, such that the embedded relationships with the supplier’s agents would have been unaffected. The employee and friend roles would have been separated.

Role Conflict Resolution Strategies

Integration and segmentation are also the fundamental mechanisms underlying conflict resolution strategies (Sundaramurthy and Kreiner 2008). However, they do not have the same effect at different network levels. As our discussion of integration and segmentation at the network’s micro level has indicated, role integration increases conflict because the uncertainty associated with blurred role boundaries becomes psychologically taxing for the individual (Ashforth et al. 2000). In contrast, role integration holds promise as a conflict resolution mechanism for groups operating at the macro level. Given that groups are made up of separate entities, role integration helps build cohesion by establishing a common purpose, developing similar beliefs, norms, and values, and aligning goals and role expectations (Floyd and Lane 2000). In this manner, divergent goals, expectations, and values, which might otherwise fuel conflict among group members, are brought together. At the micro level, role segmentation strategies are more effective for resolving individuals’ experiences of role conflict. Table 2 summarizes the conflict resolution mechanisms available at the group and individual levels, respectively. The table lists the macro-level integration strategies first to show that they both enable and constrain micro-level conflict resolution strategies.

A Role-Theoretic Framework of the Conflicted Middle

While the preceding section outlines role conflict resolution mechanisms, network governance models themselves can reduce conflict by specifying network role expectations (Floyd and Lane 2000). The two network governance archetypes that delimit the continuum that constitutes the conflicted middle are markets and hierarchies (Kambil et al. 1999).

In order to simplify our vocabulary and use language that is consistent with authors who have written about hybrid governance modes in the IT context, e.g., Kambil et al. (1999) and Holland and Lockett (1997), we omit the prefix “electronic” from both markets and hierarchies even though, like many of the authors whose research we cite (e.g., Bakos and Brynjolfsson 1993), we see IT as a key enabler of both of these governance structures. Furthermore, the traditional transaction-cost definition of hierarchy includes centralized ownership of and common managerial control over the adjacent steps in a supply chain, that is, vertical integration (Williamson 1985). However, in much of the research on IT-mediated markets and hierarchies, the ownership aspect of this definition is relaxed (Clemons et al. 1993), in part because this research is less focused on outsourcing and the boundary of the firm than on the modes of interorganizational coordination and network governance structures (Bakos and Brynjolfsson 1993). In this paper, we also omit the common ownership aspect of the definition of hierarchies; instead, we emphasize integration between trading partners and centralized managerial control.
### Table 2. Role Conflict Resolution Mechanisms

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<th>Mechanism</th>
<th>Definition</th>
<th>Example</th>
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<td><strong>Group-Level (Broker and Trading Partner) Integration Strategies</strong>&lt;sup&gt;†&lt;/sup&gt; (Kumar and van Dissel 1996; Stern 1976)</td>
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| Supra-Organizational Integration Strategies | Mechanisms that create alignment among network players. | • Establishing supra-organizational goals that transcend the conflicting parties’ differences such that they can agree on a common purpose.  
• Instituting conciliation and mediation roles such as brokers. |
| Interpenetration | Provides means of increasing the number of meaningful interactions between members of conflicting organizations. | • Membership-based interpenetration: temporary exchange of organizational members.  
• Ideological interpenetration: informational and educational activities (e.g., training) aimed at aligning role expectations. |
| Boundary | Focuses on transferring, translating, and transforming perspectives and knowledge among divergent roles in order to accomplish a task (i.e., boundary spanning) (Boland and Tenkasi 1995; Carlile 2004). | • Boundary spanners: people who rely on their relationships and interpersonal skills to persuade, negotiate, and pressure their counterparts in other organizations.  
• Boundary objects: contracts or technology that are used in trading partner relationships. Their meanings are both stable and flexible. Stable meanings enable trading partners to coordinate trade at the network level. Flexible meanings allow trading partners to adapt the objects to specific buyer-supplier relationships (Star and Griesemer 1989). |
| **Individual-Level (Agent) Segmentation Strategies**<sup>‡</sup> (Ashforth and Mael 1989) | | |
| Choice | Entails conforming to one role over another, frequently involves hierarchical ordering in the form of role prioritization. | A purchasing agent may resolve the conflicts related to awarding reverse auction contracts to a supplier with which she has an embedded relationship by deciding she is an employee first, and a friend second. |
| Compromise | Entails partial conformity to the conflicting expectations of two roles (Gullahorn and Gullahorn 1963; Miller and Shull 1962; Vliert 1981), and may involve “frequent and usually recurring transitions” (i.e., micro-transitions) (Ashforth and Mael 1989, p. 472) between roles. | Purchasing agents purchase items using both hierarchical and market trading mechanisms. |

<sup>†</sup>A fourth organization-level conflict resolution strategy identified in the literature is “bargaining and negotiating.” However, as this forms an integral part of the other three strategies, we do not consider it separately.

<sup>‡</sup>The literature on individual-level conflict resolution identifies two additional conflict resolution strategies: resolution and avoidance. In resolution, the role occupant shifts role identity by changing the values associated with one or both roles in order to eliminate the conflict (Ashforth and Mael 1989). Avoidance is defined as complying with neither conflicting role (Vliert 1981). We do not elaborate on these strategies here. The resolution strategy is difficult to assess empirically in the context of an organizational case study, as individuals’ shifts in values are frequently subtle and unobservable. The avoidance strategy is poorly defined (Tjosvold and Sun 2002), making it difficult to identify in an empirical context. Also, conflict avoidance is frequently seen as counter-productive in organizational contexts (Floyd and Lane 2000) as it seems to ignore rather than resolve conflict.
this section, we outline the role expectations of key network participants for each of these archetypes. We then integrate the concepts developed thus far to outline our role-theoretic framework of the conflicted middle, which will serve as a sensitizing device for the empirical portion of our research.

**Role Expectations in Markets and Hierarchies**

Markets are characterized by open competition and perfect information (Bailey and Bakos 1997), where price is the principal organizing mechanism (Hennart 1993). This requires that perfect, decentralized, and transparent information be made readily accessible—through standardized product descriptions in catalogs (Granados et al. 2006). In such a distributed system of information, individual agents are expected to act rationally and independently (Anderson and Anderson 2002). Market norms include self-interest and opportunism, as well as utility-maximizing decision making (Bailey and Bakos 1997). In markets, extensive searches, price comparison, and a focus on one-off transactions with the lowest-cost supplier are considered superior. Technology is regarded as a means of rationalizing market transactions, thus reducing overall cost. As a result, trading parties tend to enter into explicitly negotiated, short-term agreements.

In contrast to the focus of the market-based governance on price, behavioral constraints are the primary organizing mechanism in hierarchies (Hennart 1993). Information is centralized in a hierarchy, as is decision making. Private, privileged information, such as inventory levels and business strategies, is passed between partner firms, and technology is used to integrate trading partners’ business processes (Malone et al. 1987). This facilitates coordination, and can also be used to monitor partners’ performance and compliance with the directives of the hierarchy (Clemons et al. 1993; Grover et al. 2002). Hierarchies enact embedded relationships, which are defined by “exchange protocols associated with social non-commercial attachments [that] govern business dealings” (Uzzi 1999, p. 482). This implies that reciprocity and trust are expected, as well as alignment of interest among trading partners. In evaluating and selecting partners the focus is on maximizing value, with the result that non-contractible services such as quality, information sharing, and innovation are taken into consideration (Bakos and Brynjolfsson 1993).

This brief overview of markets and hierarchies illustrates the contradictions between these two structural alternatives. Table 3 summarizes how the respective logic of these alternatives translates into contradictory role expectations.

**Framework of Conflict in the Middle**

Building on Kambil et al.’s (1999) depiction of markets and hierarchies as delimiting the middle, Figure 3 summarizes our theoretical framing of the conflicted middle. The framework shows that when the boundaries between market and hierarchy roles blur, brokers, trading partners, and agents experience uncertainty with regard to network role expectations. This increases the risk of goal, behavior, and/or identity conflict (Floyd and Lane 2000). Furthermore, the framework shows that all-in-one markets have the potential to resolve this conflict by implementing integration and segmentation strategies.

However, even in the face of these structural contradictions in the middle, conflict is not a foregone conclusion. Conflict will only emerge if the contradictions between expectations associated with markets and hierarchies appear through the enactment of different interests. When these enacted contradictions negatively affect one party, conflict is likely (Walsham 2002). Additionally, the ability of participants to integrate and segregate market and hierarchy roles will impact the likelihood of conflict occurring. The interaction between the role elements and the broker, trading partner, and agent roles in the enactment of structural contradictions is the focus of our first research question, which explores the nature of the conflict in the conflicted middle.

Using Kambil et al.’s argument that all-in-one markets can help resolve conflict in the middle, the framework depicts the all-in-one market as enacting the broker role in the center of our framework. Associated with it are role integration strategies that enable groups to resolve conflict, as well as role segmentation strategies that enable individuals to resolve conflict. How all-in-one markets help resolve conflict in the middle is the second question that we seek to answer with the empirical portion of our research.

**Method**

The case study method is well-suited to our research objectives for two reasons (Walsham 1995). First, there is a lack of prior theory on the nature of conflict in the middle. Second, social context is important in exploring not only the conflict, but also the role of technology in resolving it. We rely on a single interpretive case study for this research. We do not seek to impose an a priori theory on our data or to test our theoretical framework (Orlikowski and Baroudi 1991);
Table 3. Role Expectations in Markets and Hierarchies

<table>
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<tr>
<th>Role</th>
<th>Market</th>
<th>Hierarchy</th>
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<tr>
<td>BROKER: e.g., E-marketplace</td>
<td>Goal: Match buyers and suppliers in a manner that fosters transparency, market competition, and rational decision making among distributed participants (Anderson and Anderson 2002).</td>
<td>Build integrative relationships between buyers and suppliers in a manner that streamlines coordination and information sharing among trading partners to promote long-term mutually beneficial relationships (Malone et al. 1987).</td>
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<td>Behavior: Rely almost exclusively on technology to perform information-intensive matching activities between buyers and sellers in a scalable fashion (Anderson and Anderson 2002).</td>
<td>Draw on human capital in addition to technology to provide more personalized, value added services such as problem solving by offering guarantees, preserving anonymity, and tailoring goods and services (Anderson and Anderson 2002).</td>
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<td></td>
<td>Identity: Unbiased broker that pursues its interest independent of buyers and sellers (Fernandez and Gould 1994).</td>
<td>Biased broker that aligns and integrates with either buyers or suppliers by selectively presenting information from one side of the network to the other (Fernandez and Gould 1994).</td>
</tr>
<tr>
<td></td>
<td>Behavior: Enter into explicit short-term agreements and maintain arm’s-length relationships (Schultze and Orlikowski 2004).</td>
<td>Negotiate long-term agreements that include non-contractible elements and cultivate embedded relationships (Schultze and Orlikowski 2004).</td>
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<tr>
<td></td>
<td>Identity: Undifferentiated buyer and supplier of commoditized goods and services (Schultze and Orlikowski 2004).</td>
<td>Differentiated trading partners that seek and provide value-added goods and services (Granovetter 1985; Uzzi and Gillespie 2002).</td>
</tr>
<tr>
<td>INDIVIDUAL AGENT: e.g., Sales Agent, Purchasing Agent, and Broker Agent</td>
<td>Goal: Maximize rewards by maximizing output measured at market prices (Hennart 1993).</td>
<td>Maximize rewards by maximizing input measured in terms of complying with management directives (Hennart 1993).</td>
</tr>
<tr>
<td></td>
<td>Behavior: Make independent decisions: collect the best information available and act on it (Hennart 1993).</td>
<td>Obey orders: channel information to management and then obey orders (Hennart 1993).</td>
</tr>
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</table>

rather we developed our theoretical framework through iterations with the data and the literature to help us make sense of our case data and to generate rich and empirically grounded insights about the conflicted middle (Klein and Myers 1999; Walsham 2006).

For our case study, we chose EnergyX, an all-in-one market that served the utility industry in the United States. Founded in March 2000 by a consortium of 21 utilities, EnergyX’s purpose was to prepare the industry for deregulation. We selected EnergyX for theoretical sampling reasons (Patton 1990). Theoretical sampling involves choosing cases that exhibit the phenomenon of interest naturally and intensively thus allowing the researcher to examine and elaborate on the theoretical constructs under investigation. Because of the utility industry’s historical preference for relationships, and the utilities’ dual roles as owners and customers of EnergyX, we expected conflict to occur naturally during the e-marketplace’s introduction and adoption. EnergyX thus represented a suitable case for studying the conflicted middle.

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Insights were gathered from a wide range of marketplace participants using a variety of data gathering techniques. The organizations that participated in the study ranged from utilities and suppliers that relied on EnergyX extensively to those that did not join EnergyX at all. Even though the first author stayed in touch with a key informant, a procurement services manager at BigU (one of the utilities that had invested in EnergyX), and continued to review secondary data on EnergyX though 2009, most of the data for this study were collected between August 2000 and May 2003. During this time, the first author spent time at EnergyX, as well as with the utilities and suppliers that were trying to adopt the e-marketplace. Data collection techniques included shadowing employees and spending non-work time with them (i.e., lunches, driving to meetings), attending meetings (8), taking plant tours (2), participating in EnergyX technology demonstrations (2), and conducting interviews (50 interviews with 30 people from different functional areas and organizational levels). Appendix A summarizes the organizations involved in the study and the job titles of the interviewees.

In total, approximately 300 pages of single-spaced field notes were generated for the EnergyX case. Interviews averaged about 90 minutes, and were not tape-recorded because of the utilities’ concerns regarding (1) inadvertent disclosure of confidential information regarding EnergyX, which they expected to go public in short order, and (2) government restrictions on collusion. Thus, the first author took extensive notes during meetings and interviews and then wrote them up immediately afterward, capturing as many of the interviewees’ verbatim expressions as possible. As a result, typing up field notes usually took at least four times as long as the visit itself.

The first author also shadowed the EnergyX implementation team on eight different occasions. During these visits, which typically lasted about 6 hours, she observed their work practices and conducted numerous informal interviews. About 90 percent of the data collection occurred in face-to-face meetings that involved a group of utilities, the facilitator read a statement regarding the Robinson-Patman Act. Each utility had to confirm verbally that they were not colluding.
face settings; the remaining data were collected over the phone or via email. In addition, supporting materials such as business plans, sales presentations, brochures, reports, and press releases were gathered and analyzed.

Upon concluding her data collection at EnergyX, the first author discussed the field experiences with her dissertation committee, which consisted of five academics who were unfamiliar with the field sites. Furthermore, the first author shared her emerging interpretations with study participants and practitioners by having informal conversations, sharing her dissertation with the key informant at BigU, presenting research results at a BigU management meeting, two purchasing manager conferences, and in a trade publication. This subjected her interpretations and representations of events to challenges from multiple perspectives.

Data Analysis

Our data analysis followed an interpretive approach (Klein and Myers 1999; Orlikowski and Baroudi 1991). We initially read the field notes seeking to understand EnergyX’s evolution. This revealed the intermixing of market and hierarchy logic and how this created conflict throughout the network. We then consulted the literature on transaction cost economics and e-marketplaces, as well as role and conflict theory. We read the field notes and supporting documents again, and identified the examples of conflict. Through comparison and contrast, we looked for patterns among the conflict examples. This led us to group them by the roles that experienced them (i.e., agents, trading partners, and broker), to what they pertained (i.e., goal, behavior, and identity), and how they were resolved (i.e., integration and segmentation). These tentative categories solidified as we developed a better understanding of role theory, which bolstered their meaning. In order to tie the different elements of conflict together both theoretically and empirically, we developed our theoretical framework of the conflicted middle (Figure 3). Using this framework, we analyzed the data yet again to identify empirical support for the various constructs in our framework and to answer our research questions. Thus, our analysis consisted of numerous iterations of making sense of theory in terms of the data, and vice versa.

Case Study: EnergyX

Traditionally, utilities in the United States have been regulated. Each utility was responsible for delivering uninterrupted power for a specific geographic region. Quite literally, their mission was “to keep the lights on.” The utilities had to recover quickly from outages caused by natural disasters or equipment failure and thus tended to cooperate with each other and rely on embedded relationships with their suppliers. When one utility ran out of infrastructure products (e.g., wood poles, transformers, meters, or pipe) during a natural disaster or equipment failure, suppliers tended to help out by running extra shifts or selling products earmarked for other customers. Additionally, other utilities would make their excess inventory available.

These characteristics evidence a hierarchical governance logic in this industry. As supplier relationships served as a hedge in times of emergency, the utilities valued these relationships more than they did competitive pricing. The chief executive officer (CEO) of EnergyX described the industry’s bias toward relationships as follows:

[The utilities] have a bias toward relationships and that’s not bad. But sometimes these companies don’t get it when we tell them “your supplier is charging you a 400 percent mark-up.” They say “yes, but we do have a relationship with them.”

In the late 1990s, however, the utilities faced deregulation, which raised many concerns about the industry’s readiness for an open market and the business practices necessary for competition. To respond to these challenges, several utilities engaged a consultant. In March 2000, this effort culminated in 21 utilities investing in the formation of EnergyX, a B2B e-marketplace. EnergyX’s vision was to transform the utilities from regulated entities that “had no responsibility for their pricing” to competitive energy companies by using Internet technology to introduce market logic into the utilities’ sourcing practices. To this end, EnergyX focused on infrastructure products, as these represented a significant “spend” for the utilities. While the utilities’ spent substantially more on fuel for energy production, there was already a discipline of competitive sourcing and established markets in this domain. One challenge with the infrastructure domain, however, was that it dealt with complex, engineered products that were often bundled with services, such as dragline buckets. This made standard descriptions and product catalogs difficult to implement.

5Quotes in the text that are not attributed to specific individuals are taken from the field notes.

6Dragline buckets are digging buckets, which are part of excavation machines.
Given that EnergyX’s market vision clashed with the hierarchical relationships that characterized the industry, most suppliers refused to participate. EnergyX’s price-based comparison made the suppliers comparatively worse off vis-à-vis the utilities. In the spring of 2001, EnergyX began addressing this issue by morphing into an unbiased e-marketplace. According to its CEO, EnergyX “actually tried to distance itself from the utilities” and hired staff with intimate supplier knowledge to convince suppliers that EnergyX was a neutral player that sought to cut inefficiencies and costs out of the entire industry’s supply chain. EnergyX held meetings to learn about suppliers’ functional requirements for the e-marketplace while trying to exploit the distrust some of the suppliers had for the utilities. For instance, EnergyX emphasized that auctions would “force utilities to be clear about what they wanted,” which was advantageous to suppliers.

EnergyX’s nearly exclusive focus on developing the supply-side and new technical features for the e-marketplace strained its relationship with the utilities. By April 2001, many of the founding utilities considered abandoning the EnergyX venture, making it even more difficult for EnergyX to attract a critical mass of supply-side members. As the purchasing manager from ReliableU, one of the utilities that founded EnergyX, pointed out, “They [EnergyX] were trying to create relationships with suppliers and didn’t realize the utilities already had these relationships and they [EnergyX] needed the utilities’ help in creating these relationships.”

In June 2001, EnergyX began evolving into an all-in-one market by incorporating more hierarchical elements into its business model. To develop and implement these elements, EnergyX employed “buyer development managers” who were charged with building embedded relationships with the purchasing managers and buyers in the utilities. EnergyX’s buyer development managers were typically given office space in the utilities’ procurement departments and participated in contract negotiations between the utilities and their suppliers. EnergyX hoped that these efforts would result in utilities leveraging their supplier relationships to help EnergyX build up its supplier network. For example, purchasing agents called on the supplier sales agents with whom they had good relationships and began exploring how the utility, the supplier, and EnergyX could work together to improve procurement efficiency. The suppliers’ sales agents agreed to participate because they saw their work with EnergyX as part of maintaining their relationship with the utilities.

Some of these efforts resulted in new utility–supplier contracts referred to as “EnergyX collaborative agreements,” which typically involved the development of common specifications for engineered infrastructure products. For example, each utility in the southeastern United States had slightly different product specifications for wood poles (e.g., resin versus no resin, flat versus pointed), yet sourced them from a single supplier. The buyer development managers facilitated meetings between these utilities and the wood pole manufacturer to reduce the product specifications from 500 to 100, which also lowered both production and transaction costs.

By October 2001, EnergyX had evolved into an all-in-one marketplace. In addition to the electronic catalogs and reverse auctions that were characteristic of public e-marketplaces, EnergyX began to offer private e-marketplaces and supply chain management technologies. In 2002, it began to pursue services in indirect goods (e.g., office supplies and technology). In addition to developing technology to streamline how utilities purchased indirect goods, EnergyX aggregated the utility industry’s collective demand for these products to negotiate lower prices. Table 4 summarizes the key events in EnergyX’s evolution.

**Conflict and Conflict Resolution in the Middle**

As EnergyX moved to and eventually operated in the middle as an all-in-one market, conflicts proliferated within its network. Relying on our conceptual framework, our analysis focuses on the roles in which conflict was the most evident, nevertheless acknowledging that other network roles experienced conflict also. In our discussion below, we highlight the conflicts that role occupants encountered in their everyday work, how they resolved them, and what implications this had for others in their role set. We commence our description of the conflicted middle at the micro level.

**Agent Role Conflict: Purchasing Agents**

At the individual level, role conflict was particularly evident among the utilities’ purchasing agents. When EnergyX was introduced, the utilities’ goal was to migrate all purchasing activity to the e-marketplace, in part to adopt more price-competitive sourcing practices and in part to maximize their return as investors in EnergyX. Given that the purchasing agents were salaried employees, this shift in the utilities’ direction did not represent a goal change for the purchasing agents: consistent with hierarchy logic implicit in employment contracts, they were still expected to obey management’s orders.

Nevertheless, the behavioral expectations related to the role of purchasing agents shifted dramatically. While in the past...
they were expected to purchase from negotiated contracts and rely on their relationships with the suppliers’ sales agents to maximize value (hierarchy logic), they were now supposed to use the e-marketplace to shop for the lowest prices (market logic). The following quote from EnergyX’s vice president illustrates the conflict in behavior in which the purchasing agents were supposed to engage. On the one hand, management encouraged them to use EnergyX, but on the other, the purchasing agents were not supposed to engage in “maverick” purchasing by leveraging their increased access to information. Large organizations with trained procurement people do not want their employees to shop. They aren’t interested in price comparisons. They want their employees purchasing off of negotiated contracts. Large organizations want to limit their employees’ field of view; they don’t want a place to compare prices in professional procurement shops. They want to keep people away from maverick procurement processes.

In addition to struggling with these inconsistent behavioral expectations, the purchasing agents also faced numerous
identity conflicts with the introduction of EnergyX. Previously, their beliefs about what it meant to be a competent purchasing professional (e.g., choosing value over price) were consistent with those of the utilities’ management. As one e-procurement manager at BigU put it, “Some vendors might be cheaper but they may not invoice you in the way you want to be invoiced.” Now, however, their role as purchasing professionals was at odds with their employee role.

In addition, the purchasing agents had traditionally viewed themselves as valuable contributors to the utilities’ success. After all, they helped ensure that the infrastructure products they needed “to keep the lights on” even in the face of unforeseen disasters. They attributed this capability to their industry-specific knowledge and embedded relationships with suppliers. Thus, EnergyX’s market logic threatened their professional identity and social status. Furthermore, when management invested in EnergyX and sought to implement the market-oriented purchasing practices, many purchasing agents feared that “management thought they weren’t doing a good job” and that “the e-marketplace was going to replace them.” BigU’s e-procurement manager explained that the purchasing agents’ concerns were justified.

EnergyX was going to combine the utilities’ purchasing and have a commodities manager take the usage pattern and leverage that to buy products at great prices. This would move all buying and negotiations to go through EnergyX.

Not only was their professional identity under threat, but also their very livelihood and financial situation. One purchasing manager at BigU noted perks available to the purchasing agents through their relationships with sales agents, such as sporting event tickets, lunches, and dinners, were particularly meaningful given that salaries in the utilities were relatively fixed.

In order to deal with their behavior and identity conflict, the purchasing agents pursued two conflict resolution strategies. They used the e-marketplace selectively, completing online purchases primarily for indirect goods, and they tried to outperform the e-marketplace. In light of the role conflict they experienced (i.e., price-based shopping via EnergyX as employees versus value-based buying off negotiated contracts as purchasing professionals), the purchasing agents adopted both purchasing behaviors, albeit in different product segments. They limited most of their online shopping to office supplies and other indirect goods. In this segment, EnergyX had a pricing advantage since the purchasing agents’ extant supplier relationships were not strong. This strategy allowed the purchasing agents to comply with management’s directives while maintaining their professional identity.

The purchasing agents’ strategy of outperforming the marketplace involved “beating” and “undermining the e-marketplace” by leveraging their supplier relationships. As one national sales manager explained,

It is common for purchasing agents to call me out and say that their management joined the e-marketplace and they want to prove that they can get a better price than the e-marketplace. One time this happened my firm was the firm on the e-marketplace. In that case, I had to contact the representative from my company that was responsible for the e-marketplace. I explained that I was going to give the guy that called me a lower price and underbid the price my company was offering on the e-marketplace.

This type of situation highlights how the purchasing agents used their embedded relationships to deal with their identity conflicts. By achieving better prices than the e-marketplace, the purchasing agents demonstrated to themselves and to their management that they were providing value and therefore deserving of a place in the organization. However, the purchasing agents’ efforts to outperform the e-marketplace created goal, behavior, and identity conflicts for supplier organizations and behavior conflicts for the broker.

Trading Partner Role Conflict: Suppliers

In trading partner roles, conflict was primarily apparent among supplier organizations. Suppliers had traditionally pursued a goal of maintaining a hierarchical governance structure with their utility customers in order to maximize total revenue and provide value-adding services (e.g., helping out during natural disasters). Established suppliers had thus invested in embedded relationships with the utilities and did not see participating in EnergyX as an opportunity to market themselves. Instead, they feared that it would commodify their goods and services through catalogs, product standardization, and price transparency. Furthermore, as one senior contract manager at BigU explained, they were justifiably worried about losing revenue:

Several of BigU’s suppliers tried to circumvent EnergyX from day one. They feared that their cost would increase by adding this third party into the mix. They didn’t see EnergyX as a place to market their products. They thought that EnergyX wanted to squeeze their margins away. They feared that the 10 percent profit they might get on an item would go to EnergyX instead of to them. In one sense, they
were right. With the wood poles [collaborative agreement], EnergyX and the buyers did cut into the manufacturer’s profit.

The suppliers also struggled to understand the utilities’ ambiguous expectations. Did the utilities want low-cost or high-value suppliers? Did they want arm’s-length or embedded relationships with their suppliers? On the one hand, the utilities encouraged suppliers to join the EnergyX marketplace and, without the suppliers’ consent, made the suppliers’ product information available for inclusion in the EnergyX catalog, which set the stage for arm’s-length contracting. On the other hand, they assured the suppliers that their use of EnergyX was experimental and temporary and that embedded relationships would prevail. For example, an e-procurement manager at BigU illustrated how the utility responded to its suppliers when they questioned BigU’s decision to do a reverse auction with a new set of suppliers:

BigU is catching some flack about doing the reverse auction because we are getting involved with some people that we would not normally do business with. We are trying to explain to our vendors that we are not getting involved permanently with the vendors from the reverse auction; rather it is just a one-time thing.

The conflict apparent in the suppliers’ role goals also manifested itself in the utilities’ expectations around the suppliers’ behavior. Some suppliers, at the behest of the utilities, joined EnergyX. According to the e-procurement manager at BigU, “we convinced them [the suppliers that were reluctant to join] that the relationship was still between BigU and the vendor and that EnergyX was just the medium.” However, as one of the suppliers pointed out, the technology-mediated way of doing business required a considerable integration effort and behavioral change on the supplier’s part:

As a supplier, you have to really work with the marketplaces. Because if the marketplace doesn’t work correctly and your order isn’t delivered to the customer, the customer blames you.

In one instance, BigU leveraged its embedded relationship with ISC, an industrial supply company that specialized in bearings, chemicals, and hydraulics, to streamline the process of purchasing from their negotiated contract by convincing ISC to join EnergyX. An ISC account executive explained the benefits they anticipated from this:

We saw the benefit of participating in EnergyX as integration with BigU. If we work with BigU on doing business over the e-marketplace, we have higher integration and it is more difficult for BigU to divorce us.

To achieve this technology-enabled integration, ISC and BigU needed to develop standard item identifiers and descriptions, which then became part of EnergyX’s product catalog. This endeavor required a significant investment. However, as one of the e-commerce account executives at ISC pointed out, ISC found it difficult to capitalize on this investment:

There is a disconnect between what the customer’s corporate office wants to do and what the people out in the field do. They sign up because corporate wants to do it but then the company’s buyers keep doing it the old way. I think they don’t like to change. We don’t like to be the bad guy and tell the people placing the orders, “Hey your corporate office told us you wanted to do business this way and had us invest in all of this and you aren’t using it.”

This quote illustrates how the conflicts experienced by the utilities’ purchasing agents’ manifested within supplier organizations. While the utilities’ corporate management expected the suppliers to join EnergyX, the utilities’ purchasing agents were not expected to complete all transactions via the e-marketplace. As suppliers sought to fulfill the promise of technology-mediated transacting by trying to persuade utility purchasing agents to use the e-marketplace, they also worried about putting their relationships and interpersonal modes of transacting with the purchasing agents in jeopardy. Thus, the suppliers experienced behavior conflict.

Confronted with these goal and behavior conflicts, the suppliers struggled with increasing uncertainty about their identity, particularly with regard to what their relationships with the utilities meant and what the relational capital they had built up over the years was worth. Were they supply-chain partners or undifferentiated providers of goods and services? On the one hand, the utilities used their relationship with the suppliers to lure them onto EnergyX with the promise of tighter integration. On the other, they issued no edicts that directed the utilities’ purchasing agents to use the e-marketplace. Furthermore, once on the e-marketplace, the utilities were going to compare the suppliers on price, side-by-side and indistinguishable from their competition on the public marketplace.

Moreover, market-based mechanisms such as reverse auctions were frequently used to generate lower prices with which the utilities then pressured all suppliers, including non-participating ones, to offer better deals. Furthermore, the utility purchasing agents solicited the supplier agent’s help to outperform the marketplace by reducing prices even further.
All of these challenges that the suppliers’ faced in their relationship with their utility customers, coupled with questions about what constituted a good supplier (e.g., high value versus low cost), shaped the suppliers’ identity conflict.

To manage this conflict, the suppliers relied on price ambi-
guasion as a conflict resolution strategy. By not posting their final, bottom-line prices on the public e-marketplace, they sought to render price comparison difficult, if not meaningless. A purchasing manager at ReliableU explained this practice:

The suppliers are very reluctant to give EnergyX their best price because that leaves no room for negotiating and giving the utilities that they have relationships with their better pricing. Giving EnergyX the best price will hurt these suppliers’ profit margins.

In part, their price ambiguity strategy was a defensive move: suppliers needed to protect their margins from additional discounts that the utilities’ purchasing agents would invariably seek in private, off-EnergyX negotiations. The posted prices nevertheless presented a risk for suppliers in that they established a baseline above which they could not charge. Furthermore, if a supplier’s prices were much higher than those of competitors, it was unlikely that utilities would contact that supplier for further price negotiations. Since the price ambiguity strategy undermined the transparency promises of the e-marketplace, it created conflicts in the broker role.

**Broker Role Conflict: E-Marketplace**

As the broker, EnergyX experienced several conflicts that emanated primarily from the utilities’ dual role as EnergyX investors and customers. As investors in the context of the dot-com era, the utilities’ goal for EnergyX was to transform, indeed revolutionize, the utility industry. EnergyX was envisaged as a change agent and visionary leader for whose success the utilities hoped ultimately to take credit. Thus, the utilities saw themselves as EnergyX’s partners: highly integrated and with aligned interests (hierarchy logic). As such, the utilities realized their need to use the e-marketplace to help it achieve critical mass, market fluidity, and financial success.

As customers, however, the utilities’ expectations for the e-marketplace represented the market logic. While they wanted all of the benefits of an e-marketplace, such as more competitive prices, more efficient procurement, and an expanded supplier base, they did not embrace the painful organizational change effort this required. They only wanted to use EnergyX when it delivered superior value. One purchasing agent illustrated the utilities’ conflicting goals for EnergyX in the following way: “We’re not going to do stupid things just to use EnergyX.” Thus, EnergyX was viewed as a supply chain option that constantly needed to prove its worth, which was made more difficult by the fact that purchasing agents constantly tried to outperform the e-marketplace in an effort to resolve their conflicts. Furthermore, both BigU and ReliableU developed decision support systems that helped them determine when to bypass EnergyX.

In addition to the utilities’ conflicting goal expectations, the e-marketplace also faced challenges from the supply-side of the network. EnergyX’s close association with the utilities made it difficult to deny its bias and convince the other customer set of its value proposition. This was remedied when EnergyX began relying on the utilities to recruit the suppliers.

In time, EnergyX relinquished many of its market-oriented behaviors. It shifted its mode of operating from high-tech to high-touch by employing agents, titled “buyer development managers,” who were physically located in the utilities. These broker agents were tasked with helping the utilities use and get value out of the e-marketplace by, for instance, negotiating long-term contracts with suppliers. One senior contract representative at BigU highlighted that EnergyX increasingly downplayed technology:

While EnergyX really started as a marketplace, it has evolved. Now it focuses more on being a supply chain expert than on technology. Now, EnergyX focuses 75 percent on taking costs out of the supply chain and 25 percent on technology.

Furthermore, as the vice president of sales at EnergyX pointed out, they reversed many of their market-oriented ideals:

Our marketplace is not really for shopping and comparing prices. The idea of shopping on-line and comparing is dead. Now, a marketplace is a way to access an organization’s own negotiated contracts and integrating with suppliers.

This illustrates the interdependence of conflicts across the B2B exchange network. The purchasing agents’ behavior conflict created conflicts for their suppliers, which resulted in EnergyX’s struggle regarding whether to pursue high-tech or high-touch modes of operation.
Unfortunately, the hierarchy logic that guided EnergyX’s behavior was not reflected in its identity. As evidenced by the way the utilities remunerated the e-marketplace, they saw EnergyX as an independent supply chain provider, not as a partnered broker. It was difficult for EnergyX to keep track of and get paid for all the transactions it had affected. The utilities commonly used the results of an EnergyX collaborative agreement and/or an EnergyX auction to complete contract negotiations outside of EnergyX. This was due to EnergyX’s failure to secure exclusive contracts with the utilities and suppliers’ price ambiguation strategy, which actively encouraged utilities to complete contract negotiations off-EnergyX. Furthermore, EnergyX’s final revenue model, namely a commission on the cost savings achieved via the e-marketplace, which represented a purely outcome-based reward structure (market logic), failed to recognize the full value generated by EnergyX. One purchasing agent at BigU summarized the conflict as follows:

EnergyX has improved many of BigU’s procurement processes and management has failed to recognize the value from these process improvements.  
EnergyX has knocked 2 weeks off of BigU’s request for quote process.

Despite the many goal, behavior, and identity conflicts that EnergyX, its supplier and buyer customers, and their respective agents encountered during the period under investigation (2000-2003), EnergyX was still operating in late 2009. We contend that EnergyX’s ability to resolve the conflicts experienced by its network members contributed to its survival.

Discussion

The purpose of our interpretive case study of EnergyX, an e-marketplace that evolved into an all-in-one market, was to answer two research questions regarding (1) the nature of conflict in the mixed-mode governance structures that occupy the continuum between markets and hierarchies, and (2) how e-marketplaces, specifically all-in-one markets, resolve the conflicts in the middle. We address each question in turn. Table 5 summarizes the results of our data analysis.

Nature of Conflict in the Middle

Table 5 summarizes the conflicts we identified within the EnergyX case. It highlights that our study yielded considerable evidence of different types of conflict in both macro- and micro-level roles. Of the roles we focused on in our analysis, only the utilities’ purchasing agents did not experience goal conflict because their role as salaried employees was unaffected by EnergyX’s implementation.

Our analysis allows us to draw four conclusions about the nature of conflict in the middle. First, the structural contradictions between market-based and hierarchical modes of governance, which are intermingled in the conflicted middle, underpin the goal, behavioral, and identity conflicts in the various roles that constitute the network. As Table 5 highlights, the empirical examples of all three conflict types reflect the empirical examples of all three conflict types reflect the logic of market- versus hierarchy-based governance structures (outlined in Table 3).

Second, even though structural contradictions underpin conflict generally, conflict only arises when contradictory interests are enacted in a way that impedes one role’s ability to meet its objectives. Our data highlight that conflict was triggered, for example, when the same member of a role set placed contradictory demands on a focal role (Kahn et al. 1981). As investors in EnergyX, the utilities had expectations incommensurate with their expectations as customers. As a result, EnergyX experienced goal, behavior, and identity conflicts. Conflict was also triggered when there were inconsistencies among the goals, behavior, and identity elements of a given role. An example of this can be found in the broker role. Even though EnergyX increasingly aligned itself with the utilities and relinquished its original market-oriented ideals, especially with regard to its behavior, its position vis-à-vis the utilities continued to reflect a market logic. This was exemplified by EnergyX’s remuneration based on cost savings, that is, outcomes. EnergyX’s challenges with monetizing its contributions are indicative of its ongoing role conflict as a non-exclusive broker.

Third, the conflict types are interdependent, suggesting that triggering one type of role conflict increases the likelihood that another conflict type will occur. For instance, if two parties in a role set hold contradictory expectations of a focal role’s goals (i.e., what should be done), this is likely to cascade into disagreements regarding the role’s behavior (i.e., how this goal should be achieved). In our case study, this revealed itself in the utilities’ expectations of the suppliers’ role, which led not only to goal but also behavior conflict since the suppliers could not count on the utilities’ management to enforce the use of the e-marketplace internally. How-

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7In 2005, EnergyX merged with another e-market. As of late 2009, the merged e-marketplace, which is still an all-in-one marketplace, is serving more than 200 buy-side clients in a variety of industries including health, hospitality, and financial services. Thirty of its clients were utilities in the United States. Its supplier network numbered 2,000 vendors.
Table 5. Summary of Conflicts and Conflict Resolution Strategies

<table>
<thead>
<tr>
<th>Role</th>
<th>Agent: Purchasing Agent</th>
<th>Trading Partner: Supplier</th>
<th>Broker: EnergyX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal Conflict</td>
<td>None</td>
<td>Arm’s length relationships emphasizing price versus value adding embedded relationships</td>
<td>Achieving market-oriented improvements for utilities versus revolutionizing the industry</td>
</tr>
<tr>
<td>Behavior Conflict</td>
<td>Price minimization by shopping versus value maximization by purchasing from contracts</td>
<td>Technology-mediated integration versus human-centered contracting</td>
<td>High-tech versus high-touch modes of operating</td>
</tr>
<tr>
<td>Identity Conflict</td>
<td>Procurement professional versus employee</td>
<td>Undifferentiated provider versus supply chain partner</td>
<td>Independent supply chain provider versus partnered broker</td>
</tr>
<tr>
<td>Conflict Resolution Strategies</td>
<td>Segmentation Strategies</td>
<td>Integration Strategies</td>
<td>Integration Strategies</td>
</tr>
<tr>
<td></td>
<td>Choice: Outperforming the marketplace</td>
<td>Boundary Mechanisms: Price ambiguation</td>
<td>Supra-organizational Mechanisms: broker position, collaborative agreements, and transcendent vision</td>
</tr>
<tr>
<td></td>
<td>Compromise: Selective use</td>
<td></td>
<td>Interpenetration Mechanisms: hiring employees from participant organizations and training network members</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Boundary Mechanisms: boundary spanning by buyer development managers and the use of boundary objects such as technology</td>
</tr>
</tbody>
</table>

However, as our discussion of the supplier’s role conflict shows, behavior conflict does not necessarily lead to goal conflict. As the purchasing agents remained salaried employees whose goals were to maximize their rewards by complying with management’s directives, no goal conflict was evident. Nevertheless, due to the change in management’s directives, behavior conflict ensued.

Fourth, conflicts are interdependent within a role set. For instance, the purchasing agents’ behavior conflicts, which revolved around their reluctance to shop via the e-marketplace, shaped the suppliers’ behavior conflicts. This made it difficult for the suppliers to develop a coherent channel strategy. Similarly, the utilities’ lack of clarity around whether EnergyX was a partner tasked with revolutionizing the industry or merely a supply chain provider that had to prove its worth continuously (i.e., goal conflict at the broker level) cascaded to the supplier and purchasing agent roles, where it manifested itself as behavior conflict.

How All-In-One Markets Resolve Conflicts in the Middle

Our second research question addresses how all-in-one markets resolve conflict in the middle. Table 5 summarizes our findings and shows that EnergyX implemented multiple integration strategies which then enabled trading organizations and their agents to resolve conflict. Role integration was apparent at the macro- or group-level, whereas role segmentation was evident at the micro- or individual-level. By altering role boundaries, these strategies helped prevent the structural contradictions between markets and hierarchies from escalating into conflict and also helped manage conflicts after they had been triggered.

The Broker’s Integration Strategies

EnergyX employed supra-organizational, interpenetration, and boundary mechanisms as part of its integration strategy.
With its supra-organizational mechanisms, EnergyX sought to align the network participants’ interests and bring them together into a common structure and vision. Furthermore, EnergyX itself functioned as a supra-organizational mechanism, mediating buyers’ and suppliers’ inherently conflicting goals (i.e., price minimization versus profit maximization). The collaborative agreements were indicative of the value-adding role that EnergyX could play as a broker. For example, in the wood pole collaborative agreement, several utilities developed common specifications, demonstrating EnergyX’s ability to leverage its supra-organizational position to help the entire industry network envisage a total supply-chain cost reduction goal that transcended the buyer–supplier conflicts.

EnergyX’s membership-based and ideological interpenetration mechanisms were aimed at reducing the distinction among the network players such that more meaningful interactions could develop. EnergyX’s membership-based interpenetration strategy included hiring employees from utilities, suppliers, and technology providers in order to gain insights into the assumptions and expectations of these network participants. Ideological interpenetration, intended to create a shared understanding among network participants, took the form of guidelines that described best practices for using the all-in-one market. Disseminated via training sessions, conference presentations, and white papers, the guidelines outlined the use of different purchasing strategies based on product type, situation, and procurement phase. For instance, they encouraged buyers to pursue embedded relationships and use private markets for products like switch gear and cable, which were central to “keeping the lights on.”

EnergyX’s boundary mechanisms managed the intersection between EnergyX and its customers. EnergyX’s buyer development managers served as boundary spanners. They were charged with facilitating the three-way integration among EnergyX, the utilities, and the suppliers. Because they served multiple role sets, these boundary spanners dealt with conflicts on an ongoing basis (Friedman and Podolny 1992); they absorbed conflict as part of their everyday job. EnergyX’s technology served as boundary objects in that its applications conveyed a meaning stable enough to enable network transactions while offering enough flexibility to support more unique, local meanings (Star and Griesemer 1989). So, even though a reverse auction on EnergyX implied that a utility was pursuing a market-based logic—that is, prioritizing price above relationships and seeking bids from new suppliers, which might lead suppliers to successively under-bid their competitors—both utilities and suppliers might interpret the reverse auction as part of either their extant or anticipated hierarchical relationship. For example, a supplier might bid on the single reverse auction deal as if it were part of an embedded relationship, or the utility might not award the deal to the lowest bidder. The boundary objects’ interpretive flexibility was facilitated by the integration of applications that embedded contradictory logic (e.g., public and private marketplaces) on a single platform as this legitimated the coexistence of both arm’s-length and embedded relationships in the same utility–supplier dyad.

Supplier’s Integration Strategies

As trading partners, suppliers relied on price ambiguation as a boundary mechanism for conflict resolution. The public market’s catalog was leveraged as a boundary object in that the prices listed were essentially suggested rather than final or best prices. Thus, the situated meaning of the price in the catalog entry was sufficiently flexible for experienced purchasing agents to perceive it as a starting point for further negotiations. Despite this common practice, the listed prices were nevertheless stable enough in their meaning to coordinate network transactions. The interpretive flexibility of the application (e.g., catalog) and its content (e.g., price) created the opportunity to determine the mode of transacting in a highly contextual manner (i.e., based on product type, situation, and procurement phase).

Purchasing Agents’ Segmentation Strategies

Purchasing agents relied on two role segmentation strategies, namely choice and compromise, to resolve the conflicts they were experiencing. Outperforming the marketplace by leveraging their embedded relationships to negotiate better deals than were available via EnergyX represented a choice strategy. Simultaneously confronted with their roles as employees who were rewarded for their input (i.e., using the marketplace in order to comply with management directives) and their role as procurement professionals who were rewarded for their output (i.e., the best deal), they prioritized the latter. This seemed a relatively safe choice, because it was unlikely that someone would lose his/her job for saving the utility money.

The purchasing agents’ selective use of the e-marketplace represents a compromise strategy. Using the public marketplace to purchase indirect goods (e.g., cell phones and computers) allowed the purchasing agents to fulfill their role as employees, while purchasing infrastructure goods (e.g., wire and transformers) on private marketplaces allowed the purchasing agents to maintain their role as independent professionals. EnergyX’s integrated platform enabled micro-
transitions between the purchasing agents’ roles as employees in the indirect goods space and as professionals in the direct goods arena. This temporal segmentation of the two roles helped the purchasing agents resolve their role conflict.

Based on the insights gained from analyzing how all-in-one markets resolved conflict in the middle, we draw three conclusions. First, all-in-one markets resolve conflict by implementing integration strategies which then enable trading partners to implement segmentation conflict resolution strategies and individual agents to implement segmentation conflict resolution strategies. Second, the technology of all-in-one markets is critical to resolving conflict in the middle. EnergyX’s technology (i.e., a platform on which applications representing the market and hierarchy logic were offered side-by-side) was key to the suppliers’ and the purchasing agents’ conflict resolution strategies. As boundary objects, the individual applications proved stable enough to coordinate transactions, but also sufficiently flexible in their meaning to enable their adaptation to local needs and specific buyer–supplier relationships. This suggests that the interpretive flexibility of all-in-one markets’ technology helps prevent the structural contradictions between markets and hierarchies from being enacted as conflict.

Third, within all-in-one markets, conflict resolution mechanisms, and strategies are interdependent. For instance, EnergyX’s buyer development managers played a key role in implementing not only EnergyX’s boundary mechanisms, but also its interpenetration and supra-organizational mechanisms. The buyer development managers conveyed EnergyX’s transcendental vision (i.e., supra-organizational) and trained network members (i.e., interpenetration). Furthermore, EnergyX hired many of these managers from participant organizations (i.e., interpenetration) and leveraged their knowledge and relational capital in the negotiation of collaborative agreements (i.e., supra-organizational).

Implications

Our study enriches the current understanding of B2B e-marketplaces, especially those supporting mixed-mode governance structures. In contrast to prior research on hybrid network structures, which has focused on their movement toward unbiased markets (Granados et al. 2007) or hierarchies (Ganesh and Madanmohan 2004; Hess and Kemerer 1994), our study focuses on these mixed-mode networks as more permanent structures. We view the middle as a place where the contradictions between markets and hierarchies can give rise to conflict at any point in time. This implies that the middle is not a transient state through which networks move on their way to more stable structures such as pure markets or pure hierarchies, but an enduring structure riddled with conflict.

In the middle, conventional understandings of technologies and meanings are challenged. While it is frequently argued that marketplace technologies such as reverse auctions are not suitable for procuring highly engineered products or value-added services (Choudhury et al. 1998; Mithas et al. 2008), our research highlights that reverse auctions can effectively be used to procure such items when they are run against a backdrop of embedded relationships. However, in the absence of conflict resolution mechanisms or all-in-one markets, conflict is likely to arise.

Since the meanings of market- and hierarchy-based technologies and expectations shift in the middle, the notion of price transparency based on the availability of price discovery mechanisms like reverse auctions and published catalogs (Soh et al. 2006) is challenged. As our study has highlighted, the suppliers relied on catalogs as boundary objects, whose meaning is stable at the global level but flexible at the local level. Thus, even though the use of catalogs might be viewed as an indicator of price transparency, in many buyer–supplier relationships they are merely a means of signaling suggested price. Our study thus amplifies calls for the development of less “crude measures of price transparency” (Soh et al. 2006, p. 713) and suggests that such measures will need to consider the strength of the relationships between the trading partners.

Contributions and Limitations

Our paper is the first to explore Kambil et al.’s (1999) notion that hybrid network relationships are characterized by conflict. Even though there is increasing evidence that most
network relations reflect mixed-mode logic, many have noted that there is little empirical research on these hybrid structures (Carter and Hodgson 2006; Mithas et al. 2008). Further, there is support for the observation that using a theory base of transaction cost economics alone, which is frequently the case with studies of mixed-mode networks (Ganesh and Madanmohan 2004; Granados et al. 2007; Hess and Kemerer 1994), is inadequate. This paper is a first step in addressing these concerns. Not only do we examine hybrid network relationships in terms of recurring human action (i.e., practices), but we also build a framework using multiple theories, namely role, conflict, and transaction cost theory.

Our focus on practices also allowed us to theorize e-marketplace technology, that is, the IT artifact, in its social context of use by paying attention to what actors do and the workarounds they employ to make technology work (Markus and Silver 2008; Orlikowski and Iacono 2001). In addition to answering calls to integrate practice into our theories of technology in general (Markus and Silver 2008), and e-marketplaces in particular (Mithas et al. 2008), this research provides a valuable socio-cultural perspective in an area where the economic perspective has been dominant.

This research also develops a role-theoretic perspective of practice, which allows us to explore the intertwined, situated nature of network relationships among agent, trading partner, and broker roles. These roles are rarely considered simultaneously in research on B2B e-marketplaces, which tends to focus either on brokers (e.g., Matook and Vessey 2008; Soh et al. 2006) or trading partners (e.g., Mithas et al. 2008).

We relied on an interpretive case study of a single e-marketplace comprised of buyer and supplier firms and their respective employees. Even though there are a few case studies on B2B e-marketplaces that draw on primary data (Bensaou 1997; Grover et al. 2002; Kraut et al. 1999), an interpretive approach is rare (e.g., Schultz and Orlikowski 2004). The majority of case studies in this space use secondary, published data for their empirical base (Granados et al. 2006; Hess and Kemerer 1994; Lee and Clark 1996; Soh et al. 2006).

The rich, empirical illustrations of the conflicted middle and the role of all-in-one markets in conflict resolution presented in this paper has allowed us to move beyond previous research (Kambil et al. 1999; Kumar and van Dissel 1996), which described the conflict in the middle in terms of uncertainty rather than conflict. By focusing on conflict, we extend Kambil et al.’s (1999) conceptual framework and elaborate on the role of all-in-one markets in resolving conflict, not merely reducing uncertainty. Our research thus developed an empirically validated framework for understanding the conflicted middle in terms of contradictions and conflict. An interesting opportunity to extend our theoretical frameworks lies in exploring the relationships between the various conflict resolution strategies and the different conflict types (i.e., goal, behavior, and identity conflict).

These contributions need to be considered in light of the limitations of our research. First, we relied on a single case study, which frequently raises questions about the generalizability of the results to other empirical settings. This is a particular concern when the case was chosen for theoretical sampling purposes. Since we chose our case study for theoretical reasons, we can make no claims of across-case generalizability. However, our study does achieve within-case generalizability (Lee and Baskerville 2003). By developing a theory of the conflicted middle (Figure 3) through iterative exploration of prior theory and our empirical data, we achieve generalization from empirical description to theory. Our reliance on both induction and deduction means our research results should be both testable and empirically valid, especially for network participants operating in a mixed-mode governance structure.

Second, most of our case study data was collected several years ago, when e-marketplaces were topical in both the academic and practitioner communities. However, as B2B e-marketplaces continue to operate alongside hierarchical procurement methods, there is no doubt that these conflicts are still prevalent today. Nevertheless, given that our research focused primarily on EnergyX’s formative stages, additional research on current procurement practices within more mature all-in-one markets is necessary. This will help us better understand how these conflicts have been resolved over time and what new conflicts have surfaced.

Conclusion

This paper seriously considers Kambil et al.’s (1999) description of mixed-mode governance structures as the conflicted middle: we seek to understand the nature of conflict in the middle and the role of all-in-one markets in resolving it. With regard to the nature of conflict in the middle, our study indicates that the enacted conflicts were based on the struc-

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8We chose EnergyX because we wanted to study conflict and two of EnergyX’s characteristics made conflict likely: buyer-ownership and implementation in an industry characterized by embedded relationships. However, neither of these characteristics is unusual in the B2B space. Many e-marketplaces are buyer-owned (Yoo et al. 2007) and embedded relationships are common in many industries (Bensaou and Anderson 1999; Dyer and Singh 1998).
tural contradictions between markets and hierarchies, the two governance modes that are mixed in the middle. Furthermore, conflicts are interrelated across types (i.e., goal, behavior, and identity) and roles (e.g., agents, trading partners, and brokers). This suggests that once one type of conflict is triggered, the likelihood of another type of conflict arising within the role set increases.

All-in-one markets helped resolve these conflicts by implementing integration strategies to foster a common understanding among the network participants. These strategies included the formulation of a supra-organizational vision that transcended the contradiction between markets and hierarchies, as well as technology stable enough to coordinate transactions yet flexible enough to adapt to local needs. Boundary spanners helped individual agents and trading organizations understand these strategies and implement their own. Buyers and suppliers relied on boundary mechanisms, an integration strategy, to resolve conflict in their relationships. Purchasing agents resolved conflict by separating their roles as employees from their roles as purchasing professionals. In sum, all-in-one markets play a significant role in resolving conflict in the middle by managing role boundaries.

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References


**About the Authors**

Hope Koch is an associate professor in the IS program at Baylor University, where she leads the program’s career development efforts. Hope has received numerous awards for her program building efforts including the 2008 ConocoPhillips Faculty Development Fellowship and the 2009 Southwestern Business Dean’s Association Innovative Achievement Award. Her research interests align with her program building efforts and include attracting students into technical fields and the use of social networking technologies in the workplace. Hope’s work has appeared in numerous academic outlets including *Journal of Strategic Information Systems, Communications of the Association for Information Systems*, and a best paper at the Americas Conference on Information Systems. Hope has prior industry experience working as a CPA for the #1 company on the Fortune 500 list: Walmart Stores, Inc.

Ulrike Schultze is an associate professor in Information Technology and Operations Management at Southern Methodist University’s Cox School of Business. Her research tends to explore the impact of information technology on work practices. While her initial research focused on knowledge work and knowledge management technology, her more recent research projects are in the area of Internet-based technologies and virtual worlds. Ulrike frequently relies on multimethod research designs, which include ethnographic observations, interviews, and surveys. Her research has been published in, among others, *Information Systems Research, MIS Quarterly*, and *Information & Organization*. She currently serves on the editorial boards of *Information & Organization, Journal of Information Technology*, and *Scandinavian Journal of Information Systems*. 
## Appendix A

### Interviews Conducted

<table>
<thead>
<tr>
<th>Company†</th>
<th>Interviewee Job Title/Number of Interviews‡</th>
<th>Interview Date(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-marketplace</td>
<td>President and Chief Executive Officer</td>
<td>6/7/02</td>
</tr>
<tr>
<td></td>
<td>Sales Vice President</td>
<td>6/7/02</td>
</tr>
<tr>
<td></td>
<td>Buyer Development Manager</td>
<td>5/21/02</td>
</tr>
<tr>
<td></td>
<td>Portfolio Manager</td>
<td>4/3/02</td>
</tr>
<tr>
<td></td>
<td>Project Manager</td>
<td>4/3/02</td>
</tr>
<tr>
<td></td>
<td>Senior Buyer Development Manager</td>
<td>9/10/04, 4/14/05</td>
</tr>
<tr>
<td>BigU</td>
<td>Procurement Services Manager (9 field visits)</td>
<td>2/19/00, 1/9/01, 3/15/01, /5/01, 6/28/01, 10/15/01, 12/10/01, 4/3/02, and 5/21/02</td>
</tr>
<tr>
<td></td>
<td>Senior Contract Representative (4 field visits)</td>
<td>1/9/01, 3/15/01, 6/28/01, and 4/3/02</td>
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<tr>
<td></td>
<td>Procurement Services Specialist (2 field visits)</td>
<td>1/9/01, 3/15/01 and 6/28/01</td>
</tr>
<tr>
<td></td>
<td>Information Technology Manager (4 field visits)</td>
<td>1/9/01, 3/15/01, 6/28/01, 10/15/01, and 12/10/01</td>
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<tr>
<td></td>
<td>Work Management Manager</td>
<td>3/15/01</td>
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<tr>
<td></td>
<td>Wood Pole Buyer</td>
<td>3/15/01</td>
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<tr>
<td></td>
<td>Nuclear Procurement Services Manager</td>
<td>4/3/02</td>
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<tr>
<td></td>
<td>Senior Buyer</td>
<td>4/3/02</td>
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<tr>
<td></td>
<td>Nuclear Purchasing Manager</td>
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<td></td>
<td>Procurement Vice President and EnergyX Board Member</td>
<td>6/28/01</td>
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<tr>
<td></td>
<td>Information Technology Specialist</td>
<td>6/28/01</td>
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<td>LittleU</td>
<td>Purchasing Manager</td>
<td>8/15/02</td>
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<td>NationalU</td>
<td>Director, Strategic Procurement and Supply Chain</td>
<td>5/13/03</td>
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<tr>
<td>ReliableU (Regulated)</td>
<td>Corporate Purchasing and E-Procurement Manager</td>
<td>8/12/02</td>
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<tr>
<td>ReliableU (Unregulated)</td>
<td>Purchasing Manager</td>
<td>8/15/02</td>
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<tr>
<td>Dragline supplier</td>
<td>Manager Capital Projects</td>
<td>7/17/02</td>
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<td>Industrial Supply Company (ISC) (i.e., bearings, chemicals and hydraulics)</td>
<td>E-Commerce Account Executive</td>
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<td>Lubricants supplier</td>
<td>E-Business Director</td>
<td>3/9/01</td>
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<td></td>
<td>E-Business Sales and Marketing Director</td>
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<td></td>
<td>Manager Operations, Packaging, and Additives</td>
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<td>Vice President Supply, Manufacturing and Distribution</td>
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<td>Office supplies supplier</td>
<td>President</td>
<td>7/2/02</td>
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<td>Division Customer Service Representative</td>
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<td></td>
<td>Quality Manager</td>
<td></td>
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<tr>
<td>Tools, services and transmission materials distributor</td>
<td>National Account Manager (3 interviews)</td>
<td>7/3/07, 8/29/07, and 1/16/09</td>
</tr>
</tbody>
</table>

†To protect anonymity, we use pseudonyms for the utilities. For suppliers we describe the type of product they supplied.
‡Unless otherwise noted, each person represents one interview.
*Italics denotes our key informant, who changed jobs three times during the study.