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MANAGEMENT OF INFORMATION TECHNOLOGY OUTSOURCING RELATIONSHIPS: THE ROLE OF SERVICE LEVEL AGREEMENTS

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Abstract

Existing studies on information technology outsourcing relationships have typically examined partnership factors that influence IT outsourcing effectiveness. This research extends such studies and draws upon relational exchange theory to investigate how relational elements in service level agreements (SLAs) may impact outsourcing relationships. The results show that the effects of a well-structured SLA in managing IT outsourcing relationship are significant. This paper also provides insight into the development of relational governance through a contractual mechanism over the entire course of an outsourcing engagement. Suggestions for appropriate SLA elements are also developed.

Keywords: IT outsourcing relationships, service level agreements, PLS

Introduction

As information technology outsourcing embraces significant IT activities that pervade organizational processes, most recent practices have started to put more emphasis on managing the outsourcing relationship during the entire course of the partnership. An example that exemplifies current trends and needs of the industry is that of Merrill Lynch, who signed a billion dollar deal with an all-star team of vendors, and one general contractor that is responsible for forming and managing a trusted partnership (Datz 2003). A recent report by Gartner, however, points out that many firms have failed to build a skills base to meet the new challenge of managing their outsourcing environment and are, therefore, at risk of a low return on service value (Scardino 2002).

One literature review reveals that research interests in IT outsourcing have just started to focus on issues of relationship management (Lee et al. 2003). Most prior IT outsourcing research has focused on identifying determinants and partnership quality as well as their impact on outsourcing success (Lee and Kim 1999). Most literature focuses on the fact that a favorable partnership, present at the initiation of an engagement, grows over time, but has largely ignored how to foster and manage necessary attributes of partner relationships that promote partnership *quality*. Therefore, ongoing management is required to build, maintain, and assure long-term favorable relationships (Newman and Sabherwal 1996). This raises the underlying question that we address in this paper: How can organizations foster appropriate relationships that characterize favorable behaviors in IT outsourcing engagements? In an effort to fill this gap, we explore mechanisms for developing favorable exchange relationships between the service recipient (SR) and service provider (SP) in IT outsourcing from the SR's perspective.

Prior research on interorganizational relationships has argued that relational governance may develop from formal contracts (Poppo and Zenger 2002). This paper extends the prior research to explore the roles service level agreements (SLAs) play in IT outsourcing arrangements as a way of promoting relational governance. In line with the findings of existing research, we believe that the appropriate attributes of relational governance may have positive impacts on the IT outsourcing performance overall. The next section describes characteristics of SLAs in IT outsourcing relationships. Subsequently, we develop a research model and hypotheses. Then, the research methodology, including data collection and the statistical analysis is described in detail. The discussion and conclusion of this study are presented.

Governance of IT Outsourcing Relationship and Relational Exchange Theory

A review of the IT outsourcing literature reveals that two prevailing perspectives underlie most research in IT outsourcing relationships: an economic view and a partnership view. The economic view is approached using transaction cost economics (TCE) or agency cost theory (Ang and Straub 1998). It suggests drawing complex contracts that define remedies for foreseeable contingencies or specify processes for resolving unforeseeable outcomes in response to known exchange hazards such as uncertainty or asset specificity (Williamson 1991). The partnership view argues that the uncertainty surrounding IT outsourcing arrangements demands a relationship that provides the flexibility and collaborative benefit of a partnership. Thus, it tends to focus primarily on the process and behavior in managing relationships based on trust and societal enforcement (Lee and Kim 1999). It is important to note that the notion of partnership cannot be divorced from the elements of contracts (Fitzgerald and Willcocks 1994). In many interorganizational relationships, contracts primarily serve to define the tone and the nature of the relationship (Hui and Beath 2002) and contracts or direct control are necessary to serve as a safety net (Sabherwal 1999). In this regard, Poppo and Zenger (2002) found that formal contracts and relational governance function complementarily where managers appeared to couple their increasingly customized contracts with a high level of relational governance. Further, a review of prior literature also hints that partner relationship attributes can be built through contractual means (Kern and Willcocks 2002). Well-specified contracts might promote more cooperative, long-term, trusting exchange relationships. Yet, managing a relationship from a contract perspective has been largely downplayed (Kern and Willcocks 2002).

The relational exchange theory (RET) contends that the governance of interorganizational exchanges involves more than formal contracts. Interorganizational exchanges are typically repeated exchanges embedded in social relationships, which are called *relational* (Macneil 1980). In this research stream, Macneil (1980) developed a multidimensional typology of business exchange that differentiated from transactional or discrete, traditional, arm's length business exchanges. In relational exchange, the relationship is a critical governance mechanism and, therefore, relational exchange requires a relationship that has high levels of such relational attributes as relational norms¹ (Heide and John 1992; Kern and Blois 2002) and commitment² (Lawler and Yoon 1996; Morgan and Hunt 1994) that help govern the exchange. According to the transaction cost literature, contracts also provide customized approaches and mutually agreed upon policies and procedures for dealing with necessary adaptations in an exchange (Williamson 1991). This complementary relationship may also function in reverse, generating contractual refinements that further support greater relational attributes. Thus, researchers of RET have attempted to pinpoint relationship attributes that must exist to ensure relational exchange behaviors (Dwyer et al. 1987; Lambe et al. 2000). Drawing upon RET, this paper aims to explore, and extend where appropriate, the complementarities of key conclusions from two streams of research within the specific context of IT outsourcing arrangements.

Model and Hypotheses

Practitioners often proclaim that the key to managing sourcing relationships are the service level agreements (SLAs). An SLA is defined as a formal written agreement developed jointly between the service recipient (SR) and the service provider (SP) that

¹Relational norms are based on the expectation of mutuality of interest, essentially prescribing *stewardship* behavior, and are designed to enhance the wellbeing of the relationship as a whole. This will be captured through three sub-constructs suggested by prior literature: flexibility, information exchange, and solidarity.

²Commitment refers to an implicit or explicit pledge of relational continuity between exchange partners. Typically the notion of commitment connotes solidarity and cohesion, but these synonyms are vague. Here, we consider three measurable criteria of commitment: inputs, durability, and consistency proposed by Kumar et al. (1995)

specifies a product or service to be provided at a certain level so as to meet business objectives (Sturm et al. 2000). As a part of the outsourcing contract, SLAs are drafted as a specific way to efficiently manage outsourcing relationships. SLAs in IT outsourcing have played an important role in cultivating favorable sourcing relationships according to the popular press in that SLAs form the initial contract where both parties define and understand the goals, the responsibilities of each party, and how to handle difficult challenges together, thus drawing sourcing engagements toward a trust-based partnership (Singleton et al. 1988). While the popular press provides conjectures and anecdotal evidence concerning the importance of SLAs in IT outsourcing (Matlus and Brittain 2002), no empirical study has yet investigated the role of SLAs in the development of favorable relationships between the SR and the SP.

We propose 11 relational elements of SLAs or seeds that will help in fostering an intended relational contract. When a challenge arises during the contract period, it prompts the need for a deeper level of cooperation or collaboration through the parties' communication and involvement. Thus, the relationship can be restructured and realigned based on evolving interests and trust. Indeed, the IT outsourcing relationship might become more relational as exchange contingencies and duties become less codifiable. Based on the relational contract identified by Macneil (1980), a template of relational SLAs under study is developed in this paper and further refined based on a review of (1) determinants or issues that have been previously discussed in partnership literature and (2) the fundamental constituents in SLAs suggested by the Gartner Group (Stone 2001). Appendix A summarizes the characteristics of those relational elements within the context of relational exchanges as compared to discrete transactions that are limited in capacity to develop relationship-based governance over time

These 11 elements are categorized into 3 major dimensions: foundation, change management, and governance characteristics. *Foundation characteristics* in SLAs deal with the ground rules for future exchanges. This builds a spirit of agreement and ownership of the functional exchange among those entities involved with its development (Singleton et al. 1988). This also helps decision makers who actually deal with contracts to understand and share the intent of the creation of the relationship. It sets clear standards of conduct by defining what the SR and SP are obligated to deliver and at what cost. *Change management characteristics* address uncertainty (e.g., clauses for agreeing to agree). Because the IT environment evolves rapidly and business conditions often require a fast response by the SP to deliver new services or modify current services, a change management plan is a critical dimension in SLAs. These ensure that the SP will deliver valuable inputs to the SR and strengthen the SR/SP relationship when constructing contractual and service level definitions that are unrealistic in situations of increasing uncertainty. *Governance characteristics* provide a way to harmonize the relationship through a clear statement of measurements, the communication channel and method, conflict arbitration, and penalties and rewards. A way to ensure that the relationship remains on course is to continually assess the value that the relationship is creating for the various stakeholders. These three dimensions become the skeleton for the SLA structure to assure positive SR–SP relationships.

Consistent with the RET, we argue that attributes such as relational norms and commitment are key governance mechanisms in IT outsourcing arrangements that might serve as a “companion working spirit” (Koh et al. 1999). We believe that these attributes of psychological protocols in relationships are antecedents of appropriate relational behaviors in functional exchanges of an outsourcing relationship. In addition, relational attributes may be nurtured through ongoing exchanges guided by the relational elements of SLAs. For example, well-specified contracts narrow the domain and severity of risk to which an exchange is exposed and thereby promote norms of flexibility, solidarity, and information sharing. Such relational norms may function to mitigate the precise exchange hazards (e.g., unforeseeable contingencies, measurement difficulty) by heightening the probability that trust and cooperation will safeguard against hazards poorly protected by the SLAs and thereby lead to the resultant behavior. Moreover, consummated exchanges anchored at the SLAs give parties an “emotional buzz” in much the same way as jointly accomplishing a task with another fosters perceptions of relational cohesion (Lawler and Yoon 1996), durability, and consistency in exchange. These perceptions of commitment mediate the impact of structured relational elements of SLAs on commitment behaviors. Thus, we have introduced an intervening psychological link between formal SLAs and relational behaviors.

Based on the RET framework, Figure 1 depicts the research model that is to investigate how the relational elements in SLAs may boost the success of outsourcing relationships. The relational attributes such as *relational norms* and *commitment* can be cultivated through well-structured three-dimensional views of SLAs embedded in the relational exchange. This synergism may help shape favorable behaviors in outsourcing arrangements such as *conflict resolution*, *trusting behavior*, and *mutual dependence* by overcoming the adaptive limits of contracts: a bilateral commitment to keep-on-with-it despite unexpected conflicts. The hypothesized relationships in this model and the underpinnings are detailed below.

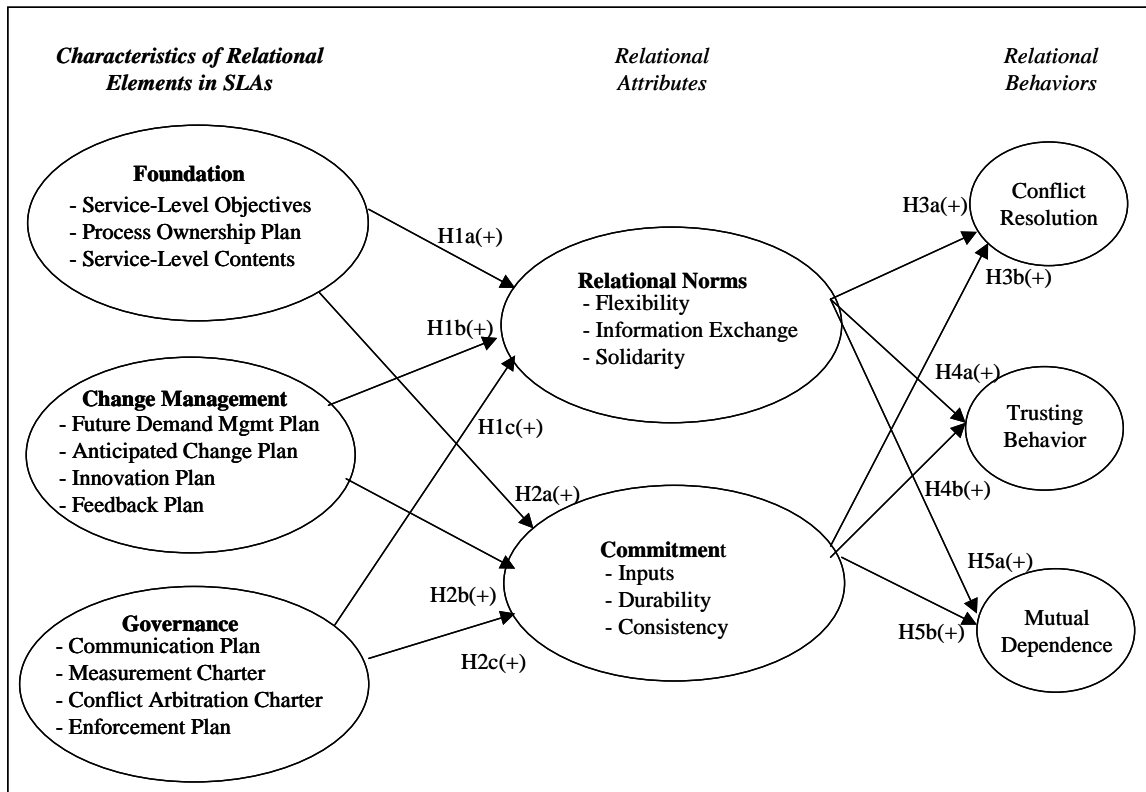


Figure 1. Research Model

Relational Attributes

Relational Norms

In business relationships, relational norms are “expectations of mutuality of interest, essentially prescribing *stewardship* behavior, and are designed to enhance the well-being of the relationship as a whole” (Heide and John 1992). As the relational norms between the SR and the SP stabilize and increase, the parties would be better able to expect patterns of stewardship behaviors in a relationship. With the high level of relational norms, the SR could expect that the SP would use its own judgment to find the combination of resources that best meets the SR’s need at the lowest cost although the circumstances may cause deviation from the specified agreements in the contract. Therefore, IT outsourcing appears to heavily rely on mechanisms that could help develop relational norms very early in the life of the relationship (Kern and Blois 2002). While the IT outsourcing industry has developed norms that define general expectations of roles and practices of the industry players under a normal outsourcing arrangement over a decade, the general norms need to be further fine-grained to fit within the context of a specific outsourcing engagement. The client firm can strengthen and promote the development of relational norms by specifying positive action principles as the basis for possible norms as they occur and then communicating these expectations to the SP.

Foundation characteristics encapsulate what these parties believe to be the characteristics of a successful partnering relationship. Clarifying the objectives of both parties and process ownership through SLAs in the engagement will facilitate the expectation of proactive information exchange and solidarity in the relationship to develop appropriate norms. Change management schemes in SLAs would foster parties’ bilateral expectations of willingness to make adaptations as circumstances change. These expectations may enhance the contractual solidarity that places a high value on the relationship. Governance characteristics entail careful monitoring of services, reinforcement, and regular revisiting of the contract for updates to guide the SR to move together with the SP toward standardization of interactions and routine operations. The standardization becomes the expected pattern of behavior. For example, psychological reinforcements using reward or penalty help partners expedite the norm development

process. Thus, we argue that SLAs that reflect these three characteristics of relational elements could influence the future promotion of relational norms. Therefore,

Hypothesis 1a: Foundation characteristics of SLAs directly and positively influence the relational norms in IT outsourcing relationships.

Hypothesis 1b: Change management characteristics of SLAs directly and positively influence the relational norms in IT outsourcing relationships.

Hypothesis 1c: Governance characteristics of SLAs directly and positively influence the relational norms in IT outsourcing relationships.

Commitment

While commitment arises as early as the selection of the vendor and then becomes formalized with the signing of the contract in outsourcing practices, commitment should evolve to a major factor in maintaining exchange relationships (Newman and Sabherwal 1996). In this study, commitment refers to an implicit or explicit pledge of relational continuity between exchange partners (Bensaou and Venkatraman 1995). We posit that a way to promote commitment over time is through the use of relational elements of SLAs. For instance, developing a psychological congruence of obligation (Koh et al. 1999) and relational cohesion (Lawler and Yoon 1996) through foundation characteristics (service-level objectives, process ownership, and service-level contents) helps parties to become more deeply involved in the relationship through the investment of capital and effort. Given the specific components of change management in SLAs such as an innovation plan or a demand management plan, the parties can bond themselves to encourage their continued investment in the relationship. Indeed, pressure to adjust rather than dissolve a relationship arises from the ongoing benefits accruing to each partner. These benefits include certainty from mutually anticipated levels of service, efficiency stemming from innovation, and exchange effectiveness that accrues from incentives. Measurement charts and reporting procedures in the communication plan might help parties maintain the vigilance, where open revelation of needs (e.g., an adjustment of requirements and performance) and resources related to the future of the relationship are made to the relationship. Such transparent exchanges may help the parties to mitigate the uncertainty, which, in turn, encourages parties to remain in the relationship. Therefore,

Hypothesis 2a: Foundation characteristics of SLAs directly and positively influence commitment in IT outsourcing relationships.

Hypothesis 2b: Change management characteristics of SLAs directly and positively influence commitment in IT outsourcing relationships.

Hypothesis 2c: Governance characteristics of SLAs directly and positively influence commitment in IT outsourcing relationships.

Relational Behaviors

Conflict Resolution

Conflict resolution refers to the extent to which parties achieve mutually satisfying resolution of their conflicts and disagreements are replaced by agreement and consensus (Macneil 1980; Robey et al. 1989). As identified by Druckman et al. (1988), differences in values and interests play a central role in a wide variety of conflicts and their resolution is suggested through improved communication and understanding of the shared goals. We emphasize the functional benefits of these relational attributes toward successful resolution of conflict. Norms are the lubricants that keep relationships from being stymied by their contractual terms. The norms or principles identified for this management structure provide the foundation for successful conflict resolution, the standardization of escalation procedures, a critical review of past actions, and the stimulation of solidarity (Dwyer et al. 1987). Kaufmann and Stern (1988) found that when a serious conflict occurs, the norms under which the exchange relationship generally operates play an important role in determining the parties' reactions to each other's behavior during the dispute. Commitment demands more frequent and effective communications between the parties and leads to demonstrate good faith in bargaining, which will serve to deepen the relationship between SR and SP. Therefore

Hypothesis 3a: Relational norms directly and positively influence conflict resolution in IT outsourcing relationships.

Hypothesis 3b: Commitment directly and positively influences conflict resolution in IT outsourcing relationships.

Trusting Behavior

Our conceptualization of trust in this study focuses on relational forms of trusting behavior that specifically pertain to the counterpart in the dyad, where trusting behavior is likely to be based on experience and interaction with a particular exchange partner (Zaheer et al. 1998). As conceptualized by Sabherwal (1999), identification-based trust in IT outsourcing follows from two parties identifying with each other goals that could be nurtured through the norms of information exchange, where parties can engender the mutual expectations about the proactive sharing of information. Indeed, trust takes time to develop (Lewicki and Bunker 1996) and, in most cases, in IT outsourcing, trust evolves through the growth of a good track record for the accomplishment of stipulated terms (Kern and Willcocks 2002). Thus, the critical issue of trust build-up is to create an environment that insures that the SR and the SP behave in a fair manner and with favorable attitudes based on the norms established and that their business interests are in alignment over the life of the relationship. The relational norm of solidarity nurtures an environment of multilevel interactions between the firms, through mutual coordination and conscientious and honest dealings with each other. The cultivation of this environment should be institutionalized through commitment that encourages a pervasive mindset of a continuous relationship (McKnight et al. 1998). The commitment engendered in relational exchange will provide a way for partners to safeguard themselves from opportunistic behaviors and will promote trusting behaviors. Therefore,

Hypothesis 4a: Relational norms directly and positively influence trusting behavior in IT outsourcing relationships.

Hypothesis 4b: Commitment directly and positively influences trusting behavior in IT outsourcing relationships.

Mutual Dependence

Mutual dependence is the recognition by both partners that outcomes obtained from the exchange relationships are greater than those possible from other business alternatives (Dwyer et al. 1987). While dependency emerged as a byproduct of IT outsourcing, maintaining mutual dependency was generally considered a difficult task because of an asymmetry of resources and an influence on the power-control dichotomy over time (Fitzgerald and Willcocks 1994). The SR and the SP attempt to influence a partner's decision making on a particular issue because each needs the other to in order to achieve their respective goals (Lee and Kim 1999). Literature on interorganizational relationships demonstrated that commitment to a relationship played an important role in balancing power and equity in repetitive exchanges (Cook and Emerson 1978). Partners jointly expected fiduciary responsibility in the performance of their roles and believed that each would act in the best interest of the partnership. Williamson (1991) argues that the exchange of "hostages" (bilateral exchange of transaction-specific assets) is a way of ensuring commitment to the relationship and communicating mutual dependence. Mutual dependence is also built as partners invest in the exchange relationship, determine mutually compatible goals, and foresee positive mutual outcomes. These courses of mutual dependency could be developed through relational norms of solidarity and information exchange, which has been fostered through relational elements of SLAs. Therefore,

Hypothesis 5a: Relational norms directly and positively influence mutual dependency in IT outsourcing relationships.

Hypothesis 5b: Commitment directly and positively influences mutual dependency in IT outsourcing relationships.

Research Methodology

Data Collection

Data was collected in South Korea using questionnaires via the Web survey method. A list of IT professionals in 200 firms was obtained from the attendee list of a national outsourcing conference, indicating that the sample frame represents a national directory of the most senior IT managers in Korea. To improve the response rate, we adopted the total design method proposed by Dillman (1978). Pre-recruiting calls were made to the prospective respondents in order to explain the purpose of the study and invite their participation in the study. We requested that the survey be forwarded to an executive (e.g., CIO, senior IT

manager, procurement executive, contract manager, or the head of the IT outsourcing management team) who had been involved in any IT outsourcing decision which had been implemented through SLAs with an external IT provider within the last 5 years. A total of 150 professionals from the list agreed to participate in the survey themselves or to direct us to key informants who had been involved in IT outsourcing arrangements using SLAs. An e-mail message containing the URL that linked to the Web-based online survey instrument was sent to the 150 key informants from the selected firms. To increase the response rate, the respondents were offered a chance to win financial incentives as well as a report that summarized the results of the study. Of the 150 participants who agreed, 92 completed responses were received, representing a response rate of 61.3 percent.

Demographic information about the respondents showed that about 46.8 percent were senior IT executives and 41 percent were IT managers. Although some preliminary steps were taken to ensure proper selection of key informants, a formal check was administered as part of the questionnaire (Kumar et al. 1993). Specifically, two items regarding key informant quality were used to assess the informant's knowledge about the SLAs chosen and the involvement with the IT outsourcing arrangements on a seven-point scale. The mean score for informant quality for each item was 5.60 and 5.80 out of 7, respectively, indicating that respondents were appropriate and thus all responses were retained.

Operationalization of Constructs

All constructs in the survey were measured using multi-item scales with seven-point Likert rating systems. Three stages of the instrument design were performed (Moore and Benbasat 1991): (1) item creation, (2) scale development, and (3) instrument testing. In the item creation, a conscientious effort was made to adapt existing validated measures of the research constructs from established instruments. For the scale development, a panel of experts reviewed the instrument to ensure the content validity and to identify ambiguous items of the instruments created in the first step. The scales for the adapted items used endpoints ranging from (1) "strongly disagree" to (7) "strongly agree." For the instrument testing, a pilot test was conducted prior to collecting data for the field test. After analyzing the pilot responses, a number of minor revisions were made to the questionnaires, such as clarifying terms, reordering questions, and removing instructions that the respondents found unnecessary.

Eleven constructs of SLA elements.³ The new items for the 11 constructs of SLA elements were developed in this study based on a review of prior literature on RET and interfirm relationships as well as input from outsourcing experts. Based on the premises of RET, the operational definitions for each construct of the proposed elements of SLAs were generated. Three items were developed for each construct to capture to what extent the specific elements were addressed in their SLAs using a scale ranging from (1) "not at all" to (7) "very extensively."

Relational norms. Because relational norms are indicative of a high-order construct dubbed *relationalism* (Heide and John 1992), we captured three contracting norms of solidarity, flexibility, and information exchange as proposed by Heide and John. The measure used five items that tapped into the degree to which a client firm expected that parties would be willing to make adaptations as circumstances change, proactively provide information useful to the partner, and that a high value was placed on the relationship (Heide and John 1992).

Commitment. In order to capture the willingness of the parties to exert effort and devote resources to sustain an outsourcing relationship, we considered three measurable criteria of commitment: inputs, durability, and consistency as proposed by Kumar et al. (1995). The measure used seven items that assessed the extent to which the parties intended to become more deeply involved in the outsourcing relationship through the investment of capital and effort, the parties' desire to continue an outsourcing relationship because of positive affect toward the partner (Meyer and Allen 1984), and the parties' intention to remain in the relationship, which reflected the relationship's stability (Lee and Kim 1999).

Conflict Resolution. The items were derived from Robey et al.'s (1989) measure for interpersonal conflict resolution in information systems development. Items were adapted to an IT outsourcing context to assess the extent to which disagreements between the SR and the SP were replaced by agreement and consensus.

Trusting Behavior. The measure for trusting behavior was based on the conceptualization by Zaheer et al. (1998). Lee and Kim (1999) adapted the trusting behavior measure in the context of outsourcing relationships to capture the degree to which the service

³Space limitations preclude a complete discussion of the operationalizations of the measures.

provider would act predictably, fulfill its obligations, and behave fairly. Three items were used to measure the trusting behavior between the SR and SP in the IT outsourcing engagements.

Mutual Dependence. The measure was adapted from Lee and Kim to fit the context of this study. The final measure used three items that measured the extent to which an organization influences a partner's decision making.

Data Analysis

We used the partial least squares (PLS) approach of PLSGraph version 3.0 to assess our measurement model and then the structural model. This technique is appropriate because of the existence of some formative constructs in our model and the effectiveness of testing the model with a small sample size in this study (Chin 1998a). The conservative sample size requirements for PLS models is 10 times either (1) the largest number of formative indicators in a block or (2) the largest number of independent variables impacting a dependent variable, whichever is greater (Chin 1998b). Our sample size of 92 exceeded the recommended minimum of 30, which was adequate for model testing.

Each one of the constructs exhibited the needed internal consistency reliability, convergent validity, and discriminant validity (Tables 1 and 2). The internal consistency reliability was checked by composite reliability (Fornell and Larcker 1981) as well as Cronbach's alpha, which was well above the recommended level of 0.7, indicating adequate internal consistency (Nunnally 1978).

Content validity was examined through both convergent and discriminant validity. Convergent validity is adequate when constructs have an average variance extracted (AVE) of at least 0.5 (Fornell and Larcker 1981) and when items load highly (loading > 0.5) on their associated factors as well. Table 1 shows that reflective measures have significant loadings that are much higher than the suggested threshold. For satisfactory discriminant validity, the AVE from the construct should be greater than the variance shared between the construct and other constructs in the model (Chin 1998a). These items also demonstrated satisfactory convergent and discriminant validity (see Table 2).

Table 1. Summary of the Assessment of the Measurement Models

Constructs	# of Items	Alpha	Composite Reliability ^a	AVE	Loadings (t-Statistics)*	Scales Adapted from
Service Level Objectives	3	0.85	0.87	0.69	0.83 (12.25), 0.85 (9.68), 0.81 (8.03)	New items
Process Ownership	3	0.90	0.92	0.79	0.92 (26.12), 0.88 (18.72), 0.87 (16.65)	New items
Service Level	3	0.90	0.90	0.75	0.94 (49.81), 0.84 (21.31), 0.82 (17.06)	New items
Future Demand	3	0.90	0.93	0.81	0.90 (23.50), 0.88 (23.87), 0.91 (30.38)	New items
Anticipated Change	3	0.89	0.92	0.80	0.91 (27.56), 0.89 (16.93), 0.89 (23.54)	New items
Planning of Innovation	3	0.88	0.89	0.74	0.73 (7.44), 0.94 (25.13), 0.89 (24.20)	New items
Feedback Process	3	0.87	0.94	0.83	0.87 (16.38), 0.90 (11.57), 0.95 (34.91)	New items
Communication Flow	3	0.90	0.92	0.80	0.93 (24.83), 0.88 (12.53), 0.86 (17.54)	New items
Service Measurement	3	0.91	0.93	0.81	0.90 (20.97), 0.89 (20.35), 0.92 (30.66)	New items
Conflict Arbitration	3	0.92	0.87	0.69	0.76 (7.17), 0.92 (21.71), 0.80 (9.61)	New items
Coercing Penalty	3	0.87	0.88	0.71	0.96 (20.22), 0.81 (6.54), 0.73 (4.92)	New items
Relational Norms	5	0.86	0.88	0.60	0.75 (9.94), 0.81 (20.15), 0.78 (17.28), 0.75 (11.14), 0.77 (13.89)	Anderson and Narus 1990; Heide and John 1992; Kaufmann and Stern 1988
Commitment	7	0.89	0.93	0.65	0.78 (16.63), 0.83 (22.83), 0.81 (18.19), 0.78 (17.68), 0.82 (16.91), 0.79 (19.30), 0.82 (16.91)	Meyer and Allen 1984; Mohr and Nevin 1990; Noordewier et al. 1990
Conflict Resolution	3	0.85	0.91	0.77	0.89 (31.77), 0.90 (36.76), 0.87 (28.30)	Robey et al. 1989
Trusting Behavior	3	0.81	0.89	0.72	0.90 (49.69), 0.86 (25.14), 0.78 (16.40)	Lee and Kim 1999
Mutual Dependence	3	0.82	0.90	0.74	0.85 (26.83), 0.85 (24.88), 0.88 (26.67)	Lee and Kim 1999

^aFornell and Larcker's (1981) internal consistency reliability; AVE = Average Variance Extracted; *p < 0.001

Table 2. Correlations of Latent Variables and Evidence of Discriminant Validity

	SLO	PO	SL	AC	FD	C	RN	PI	FP	CF	SM	CA	CP	CR	TB	MD
SLO	0.83															
PO	0.52	0.89														
SL	0.60	0.60	0.87													
AC	0.35	0.55	0.51	0.90												
FD	0.39	0.61	0.61	0.65	0.90											
C	0.53	0.54	0.63	0.24	0.35	0.80										
RN	0.34	0.48	0.50	0.20	0.24	0.67	0.77									
PI	0.37	0.41	0.45	0.66	0.67	0.31	0.21	0.86								
FP	0.44	0.48	0.54	0.56	0.69	0.41	0.29	0.61	0.91							
CF	0.48	0.58	0.64	0.47	0.56	0.54	0.47	0.46	0.63	0.89						
SM	0.53	0.57	0.70	0.40	0.62	0.58	0.46	0.50	0.64	0.69	0.90					
CA	0.42	0.38	0.45	0.50	0.55	0.43	0.34	0.56	0.64	0.54	0.59	0.83				
CP	0.25	0.43	0.44	0.21	0.34	0.37	0.35	0.28	0.29	0.43	0.31	0.32	0.84			
CR	0.39	0.46	0.54	0.21	0.32	0.67	0.61	0.23	0.33	0.41	0.50	0.27	0.47	0.88		
TB	0.45	0.44	0.52	0.22	0.21	0.62	0.64	0.27	0.31	0.41	0.48	0.36	0.48	0.70	0.85	
MD	0.48	0.39	0.52	0.22	0.20	0.60	0.56	0.25	0.30	0.46	0.55	0.38	0.52	0.50	0.64	0.86

Note: Bolded diagonal elements are the square root of average variance extracted (AVE).

These values should exceed the inter-construct correlations (off-diagonal elements) for adequate discriminant validity.

SLO = Service Level Objectives; PO = Process Ownership; SL = Service Level; AC = Anticipated Change; FD = Future Demand; C = Commitment; RN = Relational Norm; PI = Planning of Innovation; FP = Feedback Process; CF = Communication Flow; SM = Service Measurement; CA = Conflict Arbitration; CP = Coercing Penalty; CR = Conflict Resolution; TB = Trusting Behavior; MD = Mutual Dependence

Having confirmed the psychometric properties of the 16 multi-item constructs in our model, the next step was to assess whether the three second-order constructs—foundation, change management, and governance characteristics—were measured reliably by the related first-order constructs. Three characteristics of SLAs were conceptualized as a second-order formative construct measured by eleven constituent elements of SLAs. The weights of all 11 elements were statistically significant (see Figure 2).

The next step in testing the hypothesized model was to assess the relationships among various latent constructs in the PLS structural model. The assessment of the structural model includes estimating path coefficients and R^2 .

Both the R^2 and the path coefficients indicate how well the model is performing. A bootstrapping procedure with resampling of 500 subsamples was used to determine the statistical significance of the parameter estimates. Tests of individual hypotheses in the model relied on an examination of the magnitude, sign, and statistical significance of the path coefficients in the structural model.

All statistical tests were assessed at the 5 percent level of significance using one-tailed t-tests because our hypotheses were unidirectional. A summary of these results is presented in Figure 2. The results show that the standardized path coefficients range from 0.238 to 0.515 and R^2 for endogenous variables range from 33 to 54 percent. Overall, the results provide strong support that the augmented model predicts the possibility of cultivating a positive outsourcing relationship through SLAs. Thus, the fit of the overall model is good. Findings support all hypotheses of the model (Figure 2). Foundation, change management, and governance characteristics were all positively related to the relational norms and commitment, with significance at the $p < 0.01$ or lower level. Respectively, 33 and 44 percent of the variances in relational norms and commitment were accounted for by these three second-order constructs of SLA characteristics in the model.

Relational norms and commitment were all positively related to the conflict resolution, trusting behavior, and mutual dependence, with significance at the $p < 0.05$ or lower level. Respectively, 54, 52, and 36 percent of the variances in conflict resolution, trusting behavior, and mutual dependence were accounted for by these two relational attributes in the model.

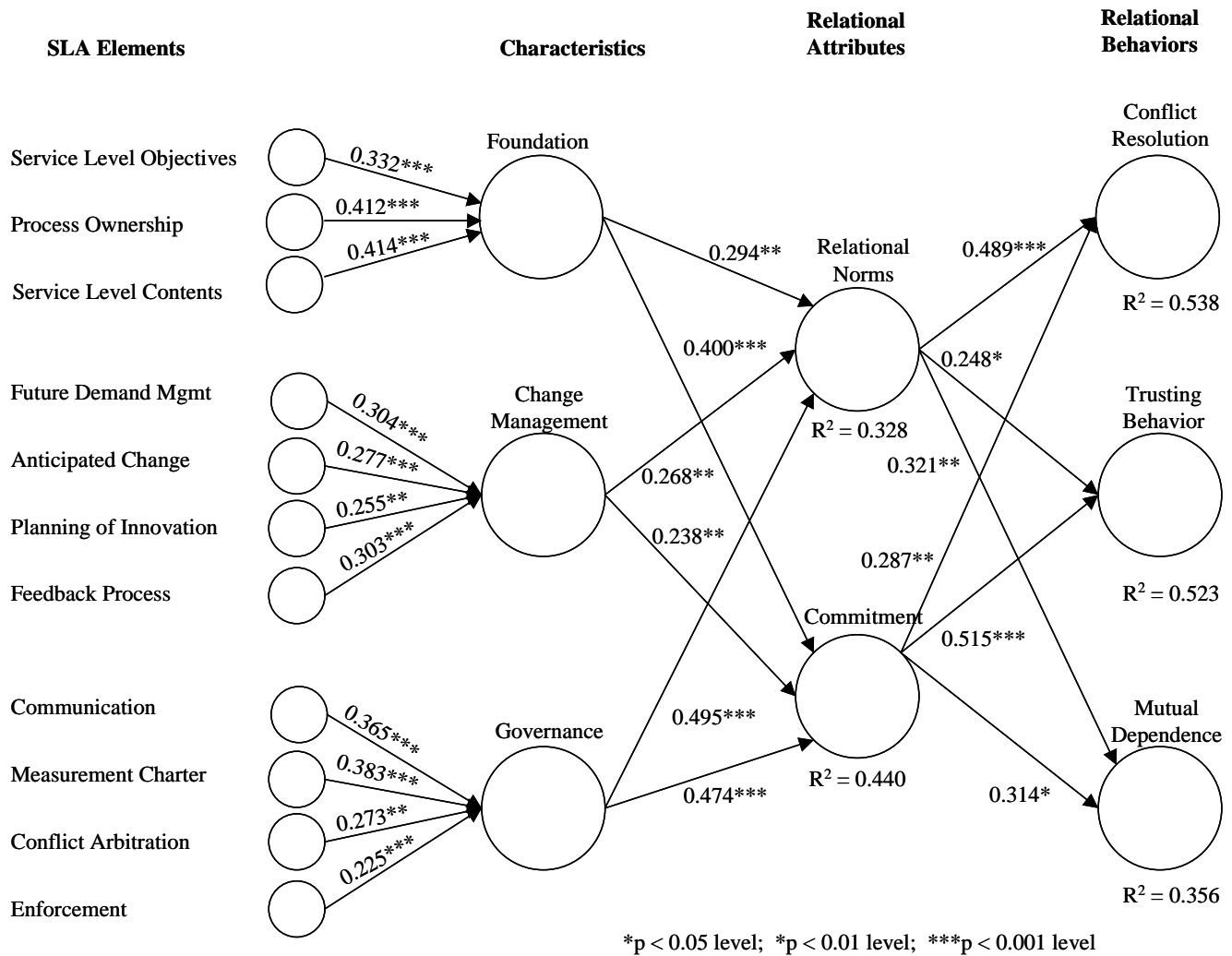


Figure 2. Model Results

Foundation, change management, and governance characteristics contributed positively and significantly to relational norms ($\beta = 0.294$, $p < 0.01$; $\beta = 0.268$, $p < 0.01$; and $\beta = 0.495$, $p < 0.001$, respectively), supporting hypotheses 1a, 1b, and 1c. Similarly, foundation, change management, and governance characteristics contributed positively and significantly to commitment ($\beta = 0.400$, $p < 0.001$; $\beta = 0.238$, $p < 0.01$; and $\beta = 0.474$, $p < 0.001$, respectively), supporting hypotheses 2a, 2b, and 2c. Relational norms and commitment had significant and positive effects on conflict resolution ($\beta = 0.489$, $p < 0.001$ and $\beta = 0.287$, $p < 0.01$, respectively), trusting behavior ($\beta = 0.248$, $p < 0.05$ and $\beta = 0.515$, $p < 0.001$, respectively), and mutual dependence ($\beta = 0.321$, $p < 0.01$ and $\beta = 0.314$, $p < 0.05$, respectively). Hypotheses 3a, 3b, 4a, 4b, 5a, and 5b were supported.

Discussion and Conclusions

Combining the first-order construct weights, the PLS approach of structural equation modeling allowed for the examination of the second-order constructs, providing insight as to which aspects of SLAs are particularly salient in the context of the development of relational attributes. Overall, the results of this research provided good support for the argument that the psychological state of relational attributes could be nurtured via SLAs, which in turn encouraged favorable behaviors between the SR and the SP. This study empirically showed that the effects of well-structured SLAs in managing the IT outsourcing relationship were significant. Path coefficients between the constructs indicated that all constituent elements of SLAs proposed in this study were significant contributions to the relational attributes such as relational norms and commitment.

Table 3. Management Path Coefficients between Constructs

		Relational Attributes				Relational Attributes	
		Relational Norms	Commitment			Relational Norms	Commitment
Characteristics of SLAs	Foundation	0.294	0.400	Relational Outcomes	Conflict Resolution	0.489	0.287
	Change Management	0.268	0.238		Trusting Behavior	0.248	0.515
	Governance	0.495	0.474		Mutual Dependence	0.321	0.314

However, the difference in the magnitude of path coefficients between the constructs is interesting (see Table 3). Because the model was run using standardized construct values, the beta values can be interpreted directly. For example, a 1 standard deviation increase in specifying foundation characteristics in SLAs results in a 0.294 standard deviation increase in relational norms. Thus, the results indicate that while the SLA elements that reflect foundation characteristics and change management characteristics assist in nurturing the appropriate relational norms, the SLA elements that reflect governance characteristics may foster relational norms more effectively than do the other characteristics of contractual elements.

The SLA elements that form foundation and governance characteristics may shape relational norms more effectively than do the change management characteristics. Furthermore, while both relational norms and commitment were shown to have successfully assisted in governing the behaviors of the parties in the IT outsourcing engagement, the results showed that the effectiveness of each attribute on three relational behaviors in the model were different. Specifically, the relational norms showed a stronger impact on conflict resolution than the other two relational behaviors, indicating that as the parties developed the relational norms that possess flexibility, solidarity, and effective information exchange between the SR and the SP, the relational norms helped the parties to effectively handle the conflicts of interests that arose in the course of functional exchanges. On the other hand, commitment emanating from relationship durability and consistency of input had more influence on inducing trusting behavior of the parties in the outsourcing engagements. The underpinnings of this result could be explained by the current outsourcing practices that were extended even to the strategically important IT activities for leveraging the unique skills and resources of the other organization to the benefit of their companies. Given the change in businesses today, the SR and the SP seek to develop a relationship out of their potential for a long-term fit. Therefore, if both parties were able to develop commitment in the ongoing relationship, it would act to mitigate coordination disturbances and agency problems and encourage both parties to be reliable.

While there is a need for further theoretical refinement, elaboration, and the extension of the model, the different impacts of SLA elements and relationship attributes to the behavioral outcomes in IT outsourcing indicate that the different sets of the elements in SLAs can be composed within the diverse contexts of outsourcing engagements such as outsourcing objectives and institutional environment. If this is confirmed through future studies, then it can lead to a more appropriate development of outsourcing relationships with different contingencies.

In conclusion, the results of this study strongly support our argument that the relational elements in SLAs may boost the success of outsourcing relationships by effectively nurturing favorable relationship attributes and behavioral outcomes. Existing studies on IT outsourcing relationships typically examine the partnership factors that influence the IT outsourcing effectiveness and do not effectively shed light on how to cultivate those factors to garner the benefits of IT outsourcing. The SLAs were proposed to the model as a way to develop the relationship-based functional exchange in IT outsourcing practices. To practitioners, our results suggest that organizational commitment in developing well-structured SLAs beforehand should ultimately pay off in the success of IT outsourcing arrangements through the cultivation of positive relationships during the course of engagements. To academia, this indicates both the viability of integrating an RET framework in the study of IT outsourcing relationships and the importance of continued research in this direction.

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Appendix A. Relational Elements in SLAs Derived from a Relational Exchange Perspective

Characteristics of Relational Elements in SLAs		Contractual Issues in RET	Relational Exchange	Discrete Transactions
Foundation Characteristics	Service Level Objectives	Spirit of contractual solidarity and regulation of exchange behavior to ensure performance	Increased emphasis on legal and self-regulation; psychological satisfactions cause internal adjustments	Governed by social norms, rules, etiquette, and prospects for self-gain
	Process Ownership Plan	Number of entities taking part in some aspect of the exchange process	Often more than two parties involved in the process and governance of exchange	Two parties
	Service Level Contents	Obligations in terms of three aspects: sources of content, sources of obligation, and specificity	Content and sources of obligations are promises made in the relation plus customs and laws; obligations are customized, detailed, and administered within the relation	Content comes from offers and simple claims, obligations come from beliefs and customs (external enforcement), standardized obligations
Change Management Characteristics	Future Demand Management Plan	Planning the process and mechanisms for coping with change and contingencies	Significant focus on the process of exchange; detailed planning for the future exchange within new environments and to satisfy changing goals; tacit and explicit assumptions abound	Primary focus on the substance of exchange; no future is anticipated
	Anticipated Change Plan	Expectations for relations, especially concerned with anticipated conflicts of interest, the prospects of unity, and potential trouble	Anticipated conflicts of interest and future trouble are counterbalanced by trust and efforts at unity	Conflicts of interest (goals) and little unity are expected, but no future trouble is anticipated because cash payment upon instantaneous performance precludes future interdependence
	Innovation Plan	Cooperative innovation, especially joint efforts at continuous performance improvement and planning	Joint efforts related to both performance and planning over time; adjustment over time is endemic	No joint efforts
	Feedback Plan	Transferability; the ability to transfer knowledge, obligations, and satisfactions to other parties over time	Limited transferability; exchange is heavily dependent on the identity of the parties	Complete transferability; it matters not who fulfills contractual obligation
Governance Characteristics	Communication Plan	Primary personal relations and organizational reckoning of exchange performance	Important personal, noneconomic satisfactions derived; both formal and informal communications are used	Minimal personal relationships; ritual-like communications predominate
	Measurement Charter	Measurement and specificity for calculating and reckoning of exchange performance	Significant attention to measuring, specifying, and quantifying all aspects of performance, including psychic and future benefits	Little attention to measurement and specifications; performance is obvious
	Conflict Arbitration	Balance of power that imposes one's will on others	Increased interdependence increases the importance of judicious applications of power in the exchange	Power may be exercised when promises are made until promises are executed
	Enforcement	Carrot-and-stick; division of benefits and burdens (the extent of sharing of benefits and burdens)	Likely to include some sharing of benefits and burdens and adjustments to both shared and parceled benefits and burdens over time	Sharp division of benefits and burdens into parcels; exclusive allocation to parties

*Adapted from MacNeil (1980) and Dwyer et al. (1987)