Exploring a Causal Model for the Understanding of Outsourcing Partnership

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Abstract

This study explores the sources of influence in a successful outsourcing partnership based on a behavioral-attitudinal theory of IS success. Six major partnership-related variables were identified from the literature in terms of social exchange theory, which has been mainly applied to the study of outsourcing partnerships. A causal model of outsourcing success was proposed in which three attitudinal variables (mutual benefits, commitment, and predisposition) were introduced as intervening variables into the relationship between behavioral variables (shared knowledge, mutual dependency, and organizational linkage) and outsourcing success. This model was then tested using a sample of 225 organizations in Korea. The proposed model was compared with a rival model without such intervening variables. The findings indicate that the proposed model has more significant paths and power than the rival model in assessing the relationship between partnership and outsourcing success.

1. Introduction

In recent years, increasing attention has been paid to building a successful partnership between the customer and the provider of IS outsourcing services [18, 23, 25]. Several firms have established close relationships with service providers, including Kodak, IBM and DEC, USAA and IBM, and Xerox and EDS. Typically, in forging these partnerships, the customer firms have recognized the limitations of legal contracts and have sought flexible relationships with their service providers.

Researchers have examined the effects of the partnership relationship on outsourcing success using various contextual variables based on several theories [10, 18, 30]. However, few studies have addressed both the outsourcing process variables (e.g., high trust, benefit and risk sharing, commitment) and the outsourcing outcome variables (e.g., cost saving, quality of IS services, user satisfaction). Furthermore, previous studies of outsourcing have reported differing, sometimes conflicting, results without a clear theoretical explanation. In other words, these studies have not made it clear which theory can adequately explain the role of outsourcing partnerships and the antecedents of outsourcing success. This deficiency in the outsourcing literature needs to be addressed and a more detailed understanding of outsourcing relationships developed by adopting a more insightful perspective.

The objectives of this study were to assess the structural relationship among the determinants of an outsourcing partnership and to identify the relationship between partnership-related variables and outsourcing success. To do so, it was postulated that a successful outsourcing partnership depends on attitudinal (psychological) variables rather than behavioral variables as suggested by behavioral-attitudinal theory. Second, after identifying six major partnership-related variables from the literature in terms of social exchange theory, a causal model of outsourcing success was proposed in which three attitudinal variables (mutual benefits, commitment, and the predisposition of both

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partners) were introduced as intervening variables into the relationship between behavioral partnership variables (shared knowledge, mutual dependency, and organizational linkage) and outsourcing success. Third, this model was tested using a sample of 225 organizations in Korea that have outsourced their IS functions to external service providers. Finally, the proposed model was compared with a rival model without such intervening variables.

2. Theoretical Perspective

As in any relationship, the interaction between the client and the service provider often goes beyond the rules, agreements, and exceptions specified in a legal contract. There are always elements of trust, commitment, and mutual interest that are intangible and are not easily captured in a contract. Relationships based on a formal contract and rooted in mutual trust give rise to stronger bonds between clients and their service providers [18, 31]. In many cases, organizations seek to create flexible partnerships with their service providers after they have identified the limitations of legal contracts. Consequently, forming effective partnerships might be a key predictor of future outsourcing success [23].

So far, most researchers have examined outsourcing partnership only through analyzing the correlation among partnership-related variables [2, 13, 19, 28] or analyzing the correlation between partnership success and related variables [9, 26, 32] without classifying the variables influencing outsourcing success. Further, previous researchers have failed to distinguish between behavioral partnership variables (e.g., knowledge sharing, high dependency, joint activities) and psychological partnership variables (e.g., high trust, benefit and risk sharing, and commitment). Thus, previous empirical research has generally produced mixed results.

To overcome these limitations, this study adopts behavioral-attitudinal theory as proposed by Kappelman and McLean [16]. Based on the behavioral theory of IS success [33], this extended theory was proposed to provide a better conceptual understanding of IS success by adding a psychological dimension as an intervening dimension between the behavioral one and IS success. For example, user participation is the observable behavior of system users in the information system development process (their participation in IS development and implementation activities), while user involvement refers to a need-based mental or psychological state of system users (their attitude toward the development process and its product). The results of the study by Kappelman and McLean [16] indicate that the behavioral-attitudinal theory is superior to the behavioral theory in predicting the success of IS relationships. That is, the need-based psychological component is more important than the behavioral dimension in understanding IS success and its addition increases the predictive power of the behavioral theory.

Relying on the behavioral-attitudinal theory, the first focus in this study is the relationship between behavioral partnership variables and psychological variables. So far, past research has failed to notice this relationship because the variables have been treated without distinction. The second focus of this study is the relationship between psychological partnership variables and outsourcing outcome variables. The existing literature on partnership seems to take this relationship for granted. It is important, however, to validate whether outsourcing is more successful when high degree of psychological dependency exists.

3. A Causal Model of Outsourcing Partnership

This study, based on the behavioral-attitudinal theory, premises that a proposed model consists of three major parts: attitude-related variables, determinants of attitude-related variables, and outsourcing success. In other words, the observable behavior in an outsourcing partnership between a service receiver and provider influences the depth of the psychological relationship. The depth of the psychological state in the outsourcing partnership is then related to outsourcing success.

To find appropriate variables to describe the proposed model, partnership-related variables - mutual benefits, commitment, predisposition, shared knowledge, mutual dependency, and organizational linkage – were first identified from the related literature in terms of the social exchange theory, which has been mainly applied to the study of outsourcing partnerships.

One important study of partnership relationships was by Henderson [14]. He provided a descriptive model and identified the above six variables as critical partnership determinants based on executive interviews. His study divided partnerships into two categories - Partnership in Context (PIC) and Partnership in Action (PIA). PIC is defined as “the degree to which the partners believe that the partnership will be sustained over time”. This dimension is crucial in establishing the participants’ belief in the longevity, stability, and interdependency. Henderson describes three factors as critical elements of this dimension - mutual benefits,

commitment, and predisposition. He defined PIA as "the ability of the partners to influence policies and decisions that affect the operational performance of the partnership". This dimension looks at the key factors that create day-to-day working relationships. It includes the three factors of shared knowledge, mutual dependency on distinctive competency and resources, and organizational linkage.

According to the Henderson model, PIC looks at the psychological state of the key contextual factors to establish the participant's belief that the partnership will be sustained over time, while PIA represents the behaviors of the partners to influence policies and decisions through the day-to-day working relationship. Therefore, the Henderson model can be extended into a causal model based on the behavioral-attitudinal theory, where PIA (the determinants of psychological partnership variables) is the antecedent of PIC (psychological partnership variables) and PIC influences outsourcing success (outsourcing outcome variable). The structural equation model representing the causal model appears in Figure 1.

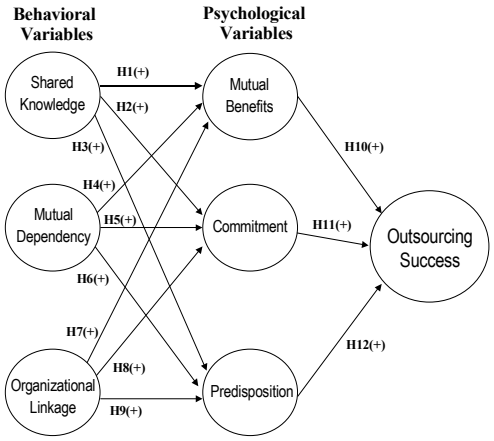

Figure 1. A causal model of an outsourcing partnership

3.1. Psychological factors as intervening variables

Many researchers have considered mutual benefit [21, 25], commitment [5, 17], and predisposition [2, 10] as basic variables, which can be used to classify relationships into transactional style and partnership style categories. These could be described as attitudinal variables showing the psychological state of both partners [14], and play an important role as intervening variables between behavioral variables and the success of outsourcing according to the behavioral-attitudinal theory.

Mutual Benefits One characteristic of a partnership is a give and take philosophy based on the concept of reciprocity [8]. Many studies in the social exchange literature have emphasized the importance of benefit and risk sharing for a successful partnership [21, 25, 28]. According to Henderson [14], managers argue that "it was not sufficient to have a general feeling that the partnership added values. Rather, effective partnerships required explicit articulation and agreement upon the benefits and risks accrued by each member of the partnership".

Commitment Morgan and Hunt [28] theorize that the presence of relationship commitment is central to maintaining successful relationships in marketing. Commitment encourages marketers to work at preserving relationship investments by cooperating with exchange partners, to resist attractive short-term alternatives in favor of the expected long-term benefits of staying with existing partners, and to view potentially high-risk actions as being prudent because of the belief that their partners will not act opportunistically. So, it leads to cooperative behaviors that are conducive to the relationship's success [17, 28].

Predisposition According to Henderson [14], it has two indicators: trust and existing attitudes and assumptions. Trust, a basic concept of social exchange theory, is one of the most desired qualities in any close relationship [2, 9, 31]. The attitudes of management toward cooperative relationships play a major part in their ability to sustain partnership over time [27, 28]. Without predisposition, organizations will cooperate with their vendors only under a system of formal and legal rules. Therefore, predisposition is a basic indicator to categorize a given relationship, and it evolves through mutually satisfying interactions and increasing confidence in the relationship.

3.2. Behavioral factors as antecedent variables

From the literature, we found that shared knowledge, mutual dependency, and organizational linkage have been considered important factors for the success of outsourcing. According to Henderson [14], these variables represent the behavioral constructs to create the working relationship rather than to establish the partners' belief in the partnership's sustainability. This indicates that they should be considered as

antecedents of the psychological constructs, i.e. behavioral factors, in terms of the behavioral-attitudinal theory.

Shared Knowledge It refers to the extent to which critical or proprietary information is communicated between partners [26]. Many researchers report that closer relationships result in more frequent and more relevant information exchanges among high performance partners [24]. Participants are expected to sustain a more effective relationship over time by sharing information and by being knowledgeable about each other's organization. Moreover, sharing allows partners to assign and complete their tasks more effectively, and in turn leads to mutual benefits, commitment and strengthened predisposition of the participants.

Mutual Dependency It results from a relationship in which participants perceive mutual benefits from interactions [5, 26]. Dependency between participants is greater when the size and importance of the exchange are high, when participants consider their partner as the best alternative, and when there are few alternative sources or potential sources of exchange [9, 13, 32]. Mutual dependency thus determines the extent to which a firm will have influence over and be influenced by its partner. Participants can take their intended benefits through the mutual dependency, and the psychological variables then depend on the degree of mutual dependency.

Organizational Linkage It as the extent to which there exists joint effort and cooperation between two organizations [5]. Organizational boundaries become penetrated by the integration of activities such as long-range planning, product design, value analysis, the structure of the quality control system, training and education. They found that organizational linkage became a process in which the organizations both solved problems of immediate concern and positioned themselves to deal with long-term organizational change. Therefore, linkage can provide a mechanism for agreeing on mutual benefits, and for creating a common goal for the participants.

3.3. Outsourcing success as a dependent variable

Outsourcing success can be defined as "the level of fitness between the customer's requirements and outsourcing outcomes". To examine the impact of the psychological variables on outsourcing success, outsourcing success will be measured in terms of both business and user satisfaction.

Outsourcing is motivated by the promise of strategic, economic, and technological benefits. The business success of outsourcing can then be assessed in terms of achieving these benefits [10]. Outsourcing success can also be assessed by the quality of the offered services because organizations pursue outsourcing for higher quality services. A cost-conscious outsourcing decision without analysis of the quality of service frequently leads to high costs and low user satisfaction [11, 21]. Therefore, a proper analysis of the service quality before building a relationship with the service provider is imperative for a successful outsourcing project.

4. The Rival Model

The strongest test of the proposed model is to identify and test competing models that represent different hypothetical structural relationships [12]. Thus, this competing models strategy was adopted as a means of evaluating the proposed versus rival models. In the proposed model, shared knowledge, mutual dependency and organizational linkage influence outsourcing success through the intervening variables. The model does not have direct paths between any of the behavioral variables and the outcome variables, despite the fact that the behavioral variables have been associated with outsourcing success in past research.

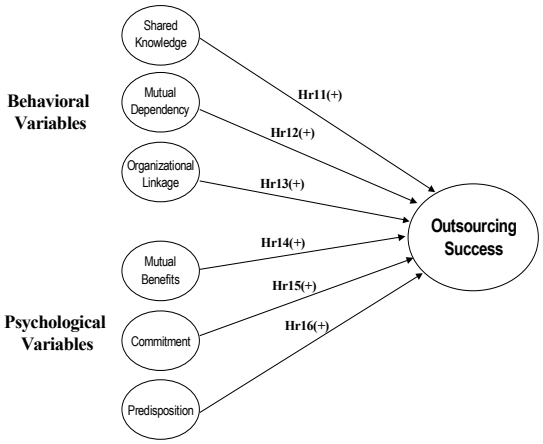

Figure 2. A rival model of an outsourcing partnership

On the other hand, the rival model, as in Figure 2, has no indirect effects. The psychological variables are not allowed to intervene in any of the relationships. It posits only direct paths from each partnership variable

to outsourcing success, making mutual benefits, commitment, and predisposition similar to the three antecedents. Based on the behavioral theory of IS success proposed by Swanson [33], this model is implied by the numerous discussions and empirical studies that have identified shared knowledge [20, 27], mutual dependency [2, 9, 26] and organizational linkage [5, 7, 13] as independent variables directly influencing the outsourcing outcome.

5. Research Methodology

In this study, a field survey method was adopted. The unit of analysis was the outsourcing relationship between a customer and a service provider, focusing on the customer's perception of the relationship.

5.1. Measures and pretests

This study adopted the constructs that have already been used and validated by other researchers (e.g., Lee and Kim, 1999). In this research, perceptual measures were employed for all variables. For example, the measure of predisposition was based on the commitment-trust theory of Morgan and Hunt [28] in which trust evolves through mutually satisfying interactions and increasing confidence in the relationship. According to Ganesan [9], mutual dependency between participants increases when the size and importance of the exchange are high, when participants consider their partner as the best alternative, and when there are few alternative sources or potential sources of exchange.

To examine the impact of the behavioral and psychological variables on outsourcing success, outsourcing success was measured in terms of both business satisfaction and user satisfaction. For business satisfaction, Grover, Cheon and Teng [10] instrument was adopted to assess the degree to which the strategic, economic and technological benefits of outsourcing were achieved. User satisfaction was measured with an adapted version of the instruments [21] used by Bailey and Pearson [3] and Baroudi and Olson [4].

Based on the literature and the authors' experience in the outsourcing industry, a 5-point Likert-style questionnaire was developed, including 25 items that measured the psychological and behavioral variables and 39 items measuring outsourcing success. Among the 25 items, 6 items were removed to improve the face validity based on the comments gathered from interviews with seven IS professionals. The second pretest, which focused on the questionnaire's internal validity, involved 36 organizations in Korea. We interviewed two to five individuals in each organization from among representatives in charge of the firms' IS operations, persons who manage their vendors, and end-users of the outsourced systems.

Responses were analyzed for the discriminant and convergent validity of the target constructs through factor analysis and item-to-total correlation. Items whose item-to-total correlation score and factor loading values were lower than 0.5 were dropped from further analysis. Analysis was performed on the 19 items that measured the psychological and behavioral variables and on the 39 items for outsourcing success. During the factor analysis, one item related to shared knowledge that had a factor loading of lower than 0.5 was dropped. There were no items with factor loadings and item-to-total correlations lower than 0.5 for outsourcing success. The levels of internal consistency (Cronbach's alpha) were also all acceptable.

5.2. Data collection

Data was collected using a self-administered questionnaire. The primary source of the sampling frame was a list of the 1,000 large firms reported in the *Maeil Business Newspaper*, which is the leading business daily newspaper in Korea. 22 service providers in the IS industry were removed from the sample and another 120 large firms obtained from the *Annual Corporation Reports* published by *Maeil Business Newspaper* were added. These firms were checked in the *Book of Listed Firms* published by the *Korea Stock Exchange* to obtain the name of the IS executive in each firm. Finally, the survey questionnaire was mailed to 1,098 corporate-level IS executives of the firms.

To increase the response rate, based on Dillman [6]'s Total Design Method, a postcard follow-up was conducted one week after the original mailing and the same questionnaire was mailed again four weeks after the original mailing. After the three rounds of solicitation, 292 responses were received representing a response rate of about 27 percent. Among them, 48 responses that did not have an IS outsourcing arrangement were discarded; 19 responses were eliminated from the analysis due to incomplete data; and 225 responses could be used for the final analysis.

5.3. Reliability and validity

This study adopted a two-stage analysis of structural equation modeling in which the measurement model was first estimated, much like the factor analysis, and

then the measurement model was fixed in the second stage when the structural model was estimated [1]. The rationale for this approach is that accurate representation of the reliability of the indicators is best accomplished in two stages to avoid the interaction of the measurement and the structural models. Confirmatory factor analysis was first conducted on each construct independently to validate the scale, since each variable was measured by multi-item constructs. Secondly, an overall confirmatory factor analysis was conducted on all items, which showed the first- and second-order factor loading. Internal consistency for all constructs was investigated using the composite reliability (0.745~0.931) and variance extracted measure (0.507~692).

6. Analysis and Findings

The proposed model and the rival model were analyzed with the maximum likelihood estimates produced by LISREL VIII [15] with the sample correlation matrix for all indicators used in this study as the input matrix. Before performing the LISREL analysis of the three models, it was necessary to determine if key statistical assumptions had been met, such as the independence of the observations, random sampling of respondents, linearity of all relationships, and the distribution characteristics of the data [12]. Although the structural equation programs do not have built-in diagnostic procedures for testing these assumptions, they can be tested with conventional methods. The first two assumptions were easily met. The mailing of surveys to individuals in different organizations assured that the observations were independent, and the use of a commercial mailing list can be construed as a random sample of respondents.

Linearity of all relationships were assumed, but is not easily established. A linear pattern was observed in the standardized residuals for all variables in the LISREL analysis [15]. To ascertain the distributions' characteristics, means (2.70~3.68), standard deviations (0.68~1.15), kurtosis (-1.08~1.53) and skewness (-0.88~0.45) were calculated for all analysis variables. These results suggest that all of the variables used in the LISREL analysis showed moderate kurtosis and skewness. Finally, the normality was examined via the three means. First, a normal q-q plot was created for each variable. A visual check of all normal plots appeared to indicate that the data was approximately normal. Second, a simple histogram of each variable was prepared. All variables displayed a central tendency, which is a peak frequency somewhere in the middle of the distribution. Third, the Kolmogorov-Smirnov (K-S) test for normality was performed on all variables. Although 28 of 33 variables passed the K-S test at a significance level of 0.01, the rest of the variables passed this test at the significance of 0.05.

6.1. Testing the proposed model

The exogenous constructs were allowed to be correlated by freeing the ϕ matrix. The overall model fit was good. Considering the three basic measures of absolute fit such as the likelihood-ratio chi-square, the goodness-of-fit index (GFI) and the root mean square residual (RMSR), the proposed model was tested. The chi-square was non-significant ($\chi^2_{(155)} = 255.63$, $p>0.10$), and the value of goodness-of-fit index, GFI, was acceptable (0.904), and the standardized residuals were generally small and non-significant. In light of the input correlation matrix, the RMSR's value (0.051) of the proposed model is close to zero and acceptable. With the overall measures of fit, a model should be estimated in comparison to a null model, which is a single-factor model with no measurement error. The adjusted goodness-of-fit index (AGFI) and Tucker-Lewis index (TLI) values, 0.865 and 0.934, are acceptable, but the value of normed fit index (NFI=0.886) falls slightly short the desired threshold of 0.9. The proposed model's comparative fit index, CFI, of 0.948 indicates a good fit. For parsimonious fit measures, one applicable measure for evaluating a single model is the normed chi-square measure. The value (1.649) of the proposed model was found within some threshold limits (1.0 ~ 2.0 or 3.0).

The squared multiple correlation (SMC) for the structural equations for outsourcing success was high. Over two-thirds of the variance (SMC=0.712) in outsourcing success was explained by the direct effects of mutual benefits, commitment, predisposition, and indirect effects of shared knowledge, mutual dependency, and organizational linkage. With the exception of mutual dependency-related three paths, 9 of the 12 hypothesized paths in the proposed model are supported at the α=0.01 level as in Figure 3 (including the hypothesized path between commitment and outsourcing success at the α=0.05 level). The standardized estimates for the 9 significant paths ranged from 0.219 to 0.688 (mean= 0.450). All SMCs of the proposed model explain over half of each variance, as the SMCs reveal: 0.628 (mutual benefits), 0.565 (commitment), 0.503 (predisposition), and 0.712 (outsourcing success). The power (0.812) of the proposed model has enough ability to detect model

misspecification.

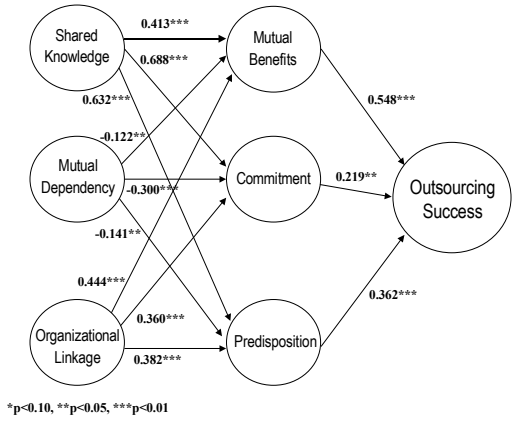

Figure 3. LISREL analysis of the proposed model

6.2. Testing the rival model

The final approach to model assessment is to compare the proposed model with a series of competing models, which act as alternative explanations to the proposed model. This is particularly relevant in structural equation modeling because a model can have an acceptable fit, but acceptable fit alone does not guarantee that another model will not fit better (Hoyle, 1995). In this study, we compare the proposed model with its rival model on the following criteria: (1) overall fit measures of the model-implied correlation matrix to the sample correlation matrix; (2) percentage of the model's hypothesized paths that are statistically significant; (3) ability to explain the variance in the outcomes of interest as measured by SMC of the outcome variable; and (4) model power to represent the ability to detect and reject a poor model.

Table 1 shows the results of comparison between the proposed model and the rival model. All absolute fit (GFI, RMSR, NCP) and incremental fit measures (AGFI, TLI, NFI, CFI) favor the proposed model as we expected. Although the parsimonious goodness-of-fit index (PGFI=0.643) of the rival model is slightly higher than that of the proposed model (0.642), only one (16.7%) of its six hypothesized paths is supported at the α=0.05 level in the rival model as in Figure 4. In contrast, 9 (75%) of the 12 hypothesized paths in the proposed model are supported at the α=0.01 level. Importantly, three non-significant paths between mutual benefits, commitment, predisposition and outsourcing success of the rival model show significant direct effects in the proposed model, and three hypothesized paths between shared knowledge, mutual dependency, organizational linkage and outsourcing success of the rival model show more significant indirect effects in the proposed model (shared knowledge: 0.606, mutual dependency: -0.184, organizational linkage: 0.460).

The squared multiple correlation (SMC) for outsourcing success in the rival model indicates that over two-thirds of the variance (SMC=0.745) was explained by the direct effects of shared knowledge, mutual dependency, organizational linkage, mutual benefits, commitment, and predisposition. The incremental to SMC for outsourcing success was only 0.033. When comparing between models, differences of 0.06 to 0.09 are proposed to be inductive of substantial model difference [12].

As is obvious from Figures 3 and 4, there is a difference in parsimony between the proposed and rival models (12 versus 6 paths). Because CFI does not account for the parsimony differences, we compare the two models using PNFI and PGFI. Because PNFI and PGFI used in comparing models with differing degrees of freedom are determined by both the goodness-of-fit of the model and its parsimony, one commonly finds that goodness of fit indices in the 0.90s translate to parsimonious fit indices of less than 0.60 [29]. As shown in Table 1, there are no difference of PNFI and PGFI's values between the proposed model and the rival model despite the fact that the proposed model has twice the hypothesized paths of the rival model. The power of the rival model is acceptable although it falls slightly below the desired level 0.8. When comparing between models, the proposed model has higher power than the rival model.

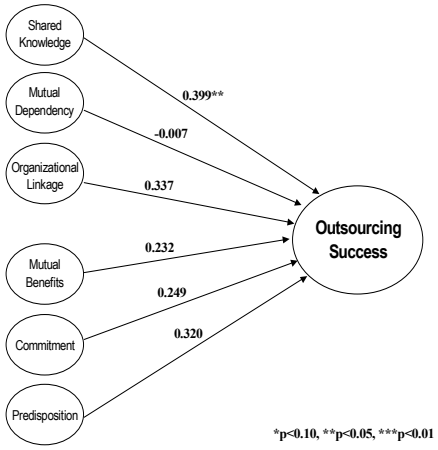

Figure 4. LISREL analysis of the rival model

Table 1. Comparison between the proposed model and rival model

Comparison Measures	Recommended Level	Proposed Model	Rival Model
1. Goodness-of-fit Measures			
Absolute Fit Measures			
.Chi-square ; df		255.63; 155	331.98; 149
(p-value)	P > 0.05	(P > 0.10)	(P = 0.00)
.Goodness-of fit index (GFI)	> 0.9	0.904	0.871
.Root mean square residual (RMSR)	Close to 0	0.051	0.067
.Noncentrality parameter (NCP)	Minimum value	100.63	182.98
Incremental Fit Measures			
.Adjusted goodness-of-fit index (AGFI)	> 0.9	0.865	0.825
.Tucker-Lewis index (TLI) or (NNFI)	> 0.9	0.934	0.894
.Normed fit index (NFI)	> 0.9	0.886	0.852
.Comparative fit index (CFI)	Maximum value	0.948	0.914
Parsimonious Fit Measures			
.Normed chi-square	1.0 ~ 2.0/3.0	1.649	2.228
.Parsimonious goodness-of-fit index (PGFI)	Maximum value	0.642	0.643
.Parsimonious normed fit index (PNFI)	Maximum value	0.695	0.695
2. Percentage of the significant paths			
. Direct Effect	% (Sig. / All)	75% (9 / 12)	16.7% (1 / 6)
. Indirect Effect	% (Sig. / All)	100% (3 / 3)	-
3. Ability to explain the variance (SMC: Squared Multiple Correlation)			
. Outsourcing Success	Close to 1	0.712	0.745
4. Power of model			
. Degree of model power	> 0.8	0.812	0.783

7. Discussions and Conclusion

In the outsourcing partnership, what are the roles of the psychological variables such as mutual benefits, commitment, and predisposition? Are these variables just three independent variables that affect outsourcing success or are they central to the outsourcing partnership's success? Establishing that mutual benefits, commitment, and predisposition are key variables that affect a successful outsourcing relationship, we developed a causal model based on behavioral-attitudinal theory, containing 12 hypotheses that were tested in the context of the outsourcing relationship. Structural equation modeling supports 9 of the 12 hypotheses. The hypothesized antecedents (shared knowledge, mutual dependency, and organizational linkage) explain over half the variance in the psychological variables (mutual benefits, commitment, predisposition), while the psychological variables explain over two-thirds of the variance in the outsourcing success. Among the psychological variables, mutual benefit had the greatest impact on outsourcing success. This means that mutual benefit is the most important predictor for reaping maximum benefit from outsourcing in terms of both user and business satisfaction.

Although the customary goodness of fit measures shows an acceptable fit for both the proposed and rival models, overall fit measures favor the proposed model. Examining the paths not supported in the rival model also indicates that the proposed model is closer to representing the outsourcing reality. While the behavioral and psychological variables have been widely recognized as important for outsourcing partnership, the proposed model shows that the antecedents (behavioral variables) influence outsourcing success significantly, but through the intervening variables of mutual benefits, commitment, and predisposition. Indeed, all three of the indirect effects of the antecedents on the outsourcing success are significant.

For parsimony, the overall fit of the rival model is similar to that of the proposed model while the proposed model has twice the paths of the rival model. Since the objective of parsimony is not to minimize the number of coefficients or to maximize the fit but to maximize the amount of fit per estimated coefficient [12], we choose the model that has the maximum value of overall fit among competing models if parsimonious fit values are equally acceptable. Besides, the power of the proposed model is higher that that of the rival model. In short, among the seventeen measures over

four criteria, twelve measures favored the proposed model.

The relationship between mutual dependency and psychological variables is interesting. They are both counter-intuitive and inconsistent with the previous research [2]. However, it is possible that these results may reflect Korea's unique outsourcing situation and environment. In Korea, integration of affiliated firms' IS departments into a group IS company has been the major trend among the Korean conglomerate groups. The IS companies of the conglomerate groups hold about an 80% share of the Korean outsourcing market [22]. This phenomenon results from the "guaranteed" IS outsourcing contracts they secure from the other firms in their group. This means that a group IS company operates as a monopoly provider of IS services to its affiliated firms without any competitive pressure from external IS firms. As a result, affiliated firms of the conglomerate group suffer from their lack of choice in IS solutions and their inability to be treated as "real" customers. Such situational factors may have contributed to the negative associations between mutual dependency and the psychological variables, reflecting the Korean outsourcing situation.

Identifying mutual benefits, commitment, and predisposition as intervening variables is critical to the study and management of outsourcing partnerships. For researchers, if the psychological variables were merely considered as three independent variables related to outsourcing success, their effects would probably be ignored when studying outsourcing partnerships. This failure to reflect their effects would result in a flawed conclusion regarding the impact of the psychological variables on outsourcing success. For managers, these results imply that mutual benefits, commitment, and predisposition are key to understanding the process of outsourcing partnership development in order to establish high-quality partnerships with service providers. Therefore, managers should be aware that an outsourcing relationship is not a static challenge but a dynamic process involving continual interaction and change.

This study has the following limitations. First, it was a cross-sectional research that did not consider the feedback effect of the psychological variables and outsourcing success over time. Ideally, we need a longitudinal research that tracks the outsourcing partnership over time. Second, we surveyed one individual in each organization who was a representative in charge of the firm's operations or managing their service provider. While effort was made to minimize it, selection bias could still exist due to the use of single respondent from each organization.

On the basis of this research, we may suggest several directions for the future research. First, outsourcing success can be contingent on diverse factors, including environmental uncertainty, technological substituability, IS maturity, corporate philosophy, and others. Nevertheless, this study did not consider these contingency factors. Studies that examine such factors can provide deeper understanding of the outsourcing phenomena. Second, this study examined the proposed model from the customer's perspective. Analysis of the outsourcing relationship from the service provider's perspective seems crucial for developing a more robust outsourcing partnership over time.

8. Acknowledgement

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