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REVISITING ABSORPTIVE CAPACITY IN IJVs IN TRANSITIONAL ECONOMIES

Theme: Learning Across Boundaries

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Abstract

Many theorists describe organizational learning as being comprised of three stages: learning, unlearning, and innovation. Despite its elegance, little is known about the details associated with each stage or the impact on performance. This is particularly critical in the private sector in transitional economies since it affects the regional economic health. The changing institutional environment requires that firms develop new learning capabilities and strategic flexibility. As firms face the obsolescence of their former socialist-style managerial skills, they need to quickly change over to new approaches. One method of quickly acquiring these skills and knowledge is through partnerships with foreign firms. Thus, private firms such as IJVs and SMEs develop competitive advantages by learning from their foreign parents and by creating new learning processes. We report on aspects of a longitudinal study of 10 years in Hungary which has resulted in a National Science Foundation grant. A longitudinal perspective of the knowledge acquisition process, the contribution of the foreign parents, and the development of learning capabilities are possible.

Introduction

Whether the newly created private firms and international joint ventures in the transitional economies have been able to become competitive is of great interest to researchers, policy makers and business people. Theorists have suggested that the most important asset for the firms is knowledge, and the most important capability is how to learn. Yet this is exceedingly challenging since the IJVs and their foreign parents are operating during an unstable institutional context (Meyer, 2002).

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his paper reports on portions of a current project being funded by the U.S. National Science Foundation (Grant SES0080152) and builds on the work of the principal investigator.

We report on some of the results of the current project which was begun in 2000 relating to IJVs. It builds upon earlier rounds of surveys and results in a longitudinal perspective on the knowledge acquisition process in Hungary. In addition to the surveys, the research includes in-depth interviews with eight IJVs. We report here on models of the longitudinal process of knowledge acquisition from the foreign parent.

Knowledge Based Theory of the Firm

One of the assumptions driving the knowledge based theory of the firm is that over the long run, firms, such as MNCs, develop capabilities for enhancing their learning through the evolution of internal processes and for assessing and transferring their knowledge assets. Learning capabilities involve the ability to diffuse knowledge within the firm, to integrate it with organizational activities, and to generate new knowledge. Theorists suggest that learning capabilities entail highly tacit, socially embedded knowledge, and entail the acquisition,

assimilation, transfer and utilization of knowledge (Cohen and Levinthal, 1990; Shenkar and Li, 1999).

Thus, MNCs are made up of many parts that work together as a network, and knowledge is created and transferred to the various parts within this network, including their joint venture arms (Hedlund, 1986; Gutpa and Govindarajan, 2000). Hansen (2002) develops the concept of knowledge networks within a MNC in which the units are related and share inter-unit knowledge. These are networks of lateral and horizontal units that have common goals. His results indicate that in units that shared knowledge, they were able to complete their projects faster and effectively.

Several researchers have addressed the knowledge management and transfer issues in transitional economies (Child and Markoczy, 1993). Tsang (2002) and Simonin (1997) appear to be one of the few researchers that address knowledge transfer from the viewpoint of the foreign parent as the receiver of the knowledge. Most authors have studied the transfer of technology, knowledge, and management practices from the parent firm to the joint venture (Lu and Bjorkman, 1997). These studies suggest that a more fine grained understanding of the knowledge process is still needed, and that knowledge transfer to and out of firms in transitional economies can be of strategic importance (Tsang, 2002; Uhlenbruck et al., 2000) and can affect the survival of the firms (Steensma and Lyles, 2000).

Transfer of Knowledge from foreign parent to Hungarian IJVs

In the case of Hungarian IJVs the foreign parent may be a vital source for both tacit and explicit knowledge. While transfers of technical know-how might occur relatively rapidly at the outset of an IJV, for Hungarian IJV managers and employees to absorb and adapt the administrative and managerial skills of their Western parents, it is likely to require active involvement of managers from the foreign partner(s) so that local employees can develop a knowledge base from being exposed to ideas, concepts and processes over time (Nonaka, 1994). Active participation is also commonly associated with having parents with equal or nearly equal equity participation (Killing, 1983; Salk, 1992).

We are, therefore, concerned with the knowledge acquired from the foreign parent. This knowledge can take the form of tacit, explicit knowledge or a combination thereof. For small or mid-sized organizations, the general management plays an important role for framing and contributing to the organizational knowledge structure.

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ome of the first research done on IJV learning from foreign parents has focused on the structures and processes needed. Lyles and Salk (1997) found that an IJV's capacity to learn is associated with the flexibility of its structure and its use of mechanisms like articulated goals and objectives to focus both IJV and foreign-parent managers on the knowledge to be transferred. They further asserted and found that active involvement by the foreign parent--in terms of providing management training in the IJV and having a division of labor that explicitly mandates transfers of competencies and technology from the foreign parent--were significantly associated with both learning and with their measures of IJV performance. Conflicts identified as cultural in nature had a negative impact on learning from the foreign parent, but only significantly in the case of 50/50 equity arrangements. Finally, the high

learners in their sample (upper 1/3) made significantly more use of foreign parent expatriates than did low learners.

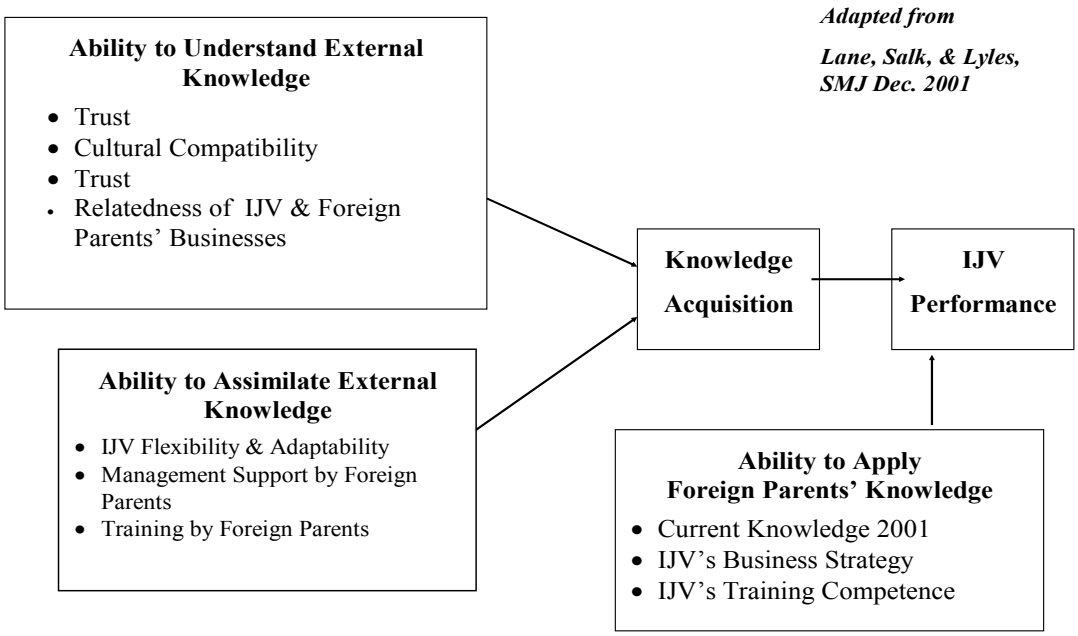
The importance of having a learning intent and commitment to the IJV create levels of interaction and targeting of knowledge to be transferred. Transfers of personnel were also found to be important. Other factors also matter, particularly those related to the relationships between the IJV organization and its parents and between the parents themselves. Prior research suggests that two aspects of those relationships in particular, trust between the parents and the IJV's capacity for learning from specific parents, may play a particularly important role in facilitating parent-IJV learning (Lyles et. al. 2003).

Lane, Salk, and Lyles (2001) utilize the concept of absorptive capacity to study knowledge transfer in Hungarian joint ventures in 1996. Cohen and Levinthal (1990: 128) formulated the concept of the general ability 'absorptive capacity,' a firm's ability "to recognize the value of new, external knowledge, assimilate it, and apply it to commercial ends." They suggest that absorptive capacity is a by-product of prior innovation and problem solving, and is itself dependent on the absorptive capacities of the organization.

Lane and Lubatkin (1998) extend the absorptive capacity concept by providing evidence that an organization's capacity to learn is not absolute but rather varies with the learning context. Hamel (1991) observed that alliance partners vary in the "transparency" of their organization and of their skills, and argues that this transparency influences learning between partners. A "student firm's" ability to learn from a specific "teacher firm" is dependent on (a) its familiarity with the new knowledge offered by the teacher firm, (b) the compatibility of the student and teacher firms' values and norms, and (c) the similarity of the student and teacher firms' operational priorities or "dominant logics" (Prahalad and Bettis, 1986; Bettis and Prahalad, 1995). Thus, effective knowledge transfer is largely determined by the recipient firm's relative absorptive capacity.

Figure 1

An Absorptive Capacity Model and Performance in IJVs



Lane, Salk, and Lyles (2001) expand this further by assessing the knowledge transfer from foreign parents to their Hungarian joint ventures. They develop the three aspects of absorptive capacity and measure the impact on the knowledge acquired by the joint venture. These three aspects are: Identification, Assimilation and Utilization. Lane et. al. (2001) show that the first two aspects of absorptive capacity directly influence knowledge acquisition. In particular, they find support for the knowledge understanding and application predictions, and partial support for the knowledge assimilation prediction. Cultural Compatibility, IJV - Foreign Parents Relatedness, Flexibility, Foreign Parent Training, and Prior Knowledge from Foreign Parents are significantly related to Knowledge Acquisition. Unexpectedly, the results suggest that trust and management support from foreign parents are associated with IJV performance but not learning. Thus, trust, management support, current knowledge acquired, strategy and IJV training, are associated with JV Performance.

We revisit the model of analysis of Lane, Salk and Lyles (2001) with the current 2001 data set and use it as a method to assess the current IJVs based on their reported knowledge transfer process. We consider IJVs from a knowledge-based perspective and assess how the foreign parent support provided to the IJV plays a role in the performance of these IJVs. This knowledge-based perspective considers the resources and capabilities of the IJV and, in particular, the transfer of critical know-how from the foreign parent to the IJV (Mowery, et. al.,

1996). This perspective presents the view that an organization's idiosyncratic know-how and its ability to exploit and replicate knowledge are fundamentally responsible for organizational success. Cohen and Levinthal (1990) would describe this as the assimilation and utilization of the knowledge.

A question that is frequently raised is: what is the impact of the domestic parent on this process. Unfortunately, 64% of the IJVs in the 2001 database had difficulty responding to questions focusing on domestic partners, their relationship with the IJV, and their contribution to organizational learning. The main reason is that as the transition in Hungary has progressed, the local Hungarian partner frequently began solely an investor and was not actively involved in the management of the joint venture. In the remaining 36% of the cases, responses of "not similar" were predominant, even in regard to industry sector. Thus, most of the JVs indicated that they had little knowledge transfer from their domestic parents.

Hypotheses

Empirically, we extend the research by resurveying the Hungarian enterprises studied by Lyles and Salk (1996) and by Lane, Salk, and Lyles (2001). Figure 1 shows an adaptation of their model indicating the variables and relationships. Note that our sample is a subset of theirs, those IJVs that participated in the 1993 and 1996 surveys. Thus, where Lyles and Salk (1996) and Lane, Salk, and Lyles (2001) tested their predictions using a relatively young sample, we test ours using a 2001 sample of firms most of which were established at the time of the transition. Most of the firms were at least 8 years old when the data for the current project was collected. Below are hypotheses for the current paper:

H1: *Learning structures and mechanisms, including organizational flexibility and adaptability, relatedness, and managerial involvement by foreign partners will be positively associated with knowledge acquisition and performance.*

H2: *Trust, Management support, current knowledge, strategy and training by the joint venture will be positively associated with IJV performance.*

H3: *Those IJVs indicating a process of high or continual Knowledge Acquisition will be better performers than those IJVs that indicate little Knowledge Acquisition.*

Methodology

Survey Data Collection

Phase I involves the collection of empirical data from approximately 200 IJVs in Hungary at three different times periods (1993, 1996, 2001). Analysis of earlier results of the data collection are reported in Lyles and Salk (1996), Steensma and Lyles (2000), and Lane,

Salk, and Lyles (2001). For this paper we are reporting on some of the first results of the 2001 data collection that document the status of the IJVs previously surveyed in 1996.

The original approach to the sampling technique generated a stratified sample that is comprised of representative small- or medium-sized joint ventures, based on industry and the foreign partner's country-of-origin. The initial sampling criteria and sample were developed with the assistance of a Hungarian government agency, and then the sample stratification was based on statistics provided by Hungary's Central Statistical Office. These statistics furnished the percentage of IJVs in each industry as well as the percentage involving firms from the various foreign locales. The firms that participated were identified through directories, contacts, and the 1996 Hungarian database. Thus, the current analysis is based on 120 IJVs from the 2001 survey.

Data Procurement and Administration

We report on the data collected through survey data and in-depth interviews conducted in 2001. The survey data was obtained through structured interviews. Care was taken to minimize the chance of interviewer bias by using a structured and standardized interview process. In brief, the structured interviews resulted in the accumulation of data for each IJV, detailing its founding, management, control and ownership, competitive strategy, parental relationship, and performance. This was first done in 1993 and was repeated in 1996 and in 2001. Where possible, we attempted to improve on the measurement of the variables but not to vary from the spirit of the concept being measured.

Management of the project involved cooperation between one of the authors, an institute in Hungary, and a group of carefully selected and trained Hungarian interviewers. The interviewers were bilingual and could conduct the interviews in the language most comfortable to the IJV manager. The informants were the presidents, general managers or managers of the IJVs. Ideally, multiple informants would have been used but given the size and nature of the study, this was prohibitive. There is, however, previous support for relying on the IJV general manager (GM) for subjective data. Lyles and Salk (1996) and Geringer and Hebert (1991) find a significant correlation between the parent's assessment of IJV performance and the GM of the IJV. Moreover, Child, et al. (1997) found significant inter-rater reliability among IJV management for the assessment of parental influence.

Like a preponderance of other survey research, this study relied on data collected from a single respondent raising the possibility of common method variance (Harrison, Mclaughlin, & Coalter, 1996). Steps were taken to both limit and assess these effects. For one, multiple item constructs were used. Response biases have been shown to be more problematic at the item level than the construct level (Harrison, et. al., 1996).

Variables

The measures were gathered from the 2001 contact with the IJV. For those measures comprising scales constructed from multiple questionnaire items, consistency was assessed using confirmatory factor analysis.

Flexibility and Adaptability: This scale was adopted from Lyles and Salk (1996) who used it as a scale of Capacity. It was measured using a three-item scale of Likert-type items based on the extent to which the IJV is flexible and adapting to change, is creative, and rewards performance (alpha = .67). Since this construct was used in the previous surveys, we decided to include it even though it is slightly below the recommended alpha value of .7.

Foreign Parental Management Support: Support is a seven-item scale that summarizes the extent to which the foreign parent contributes to the IJV in the following areas: managerial resources, administrative support, emotional support, product-related technology, manufacturing-related technology, on-going manufacturing support and time (1=little, 5=extensive; alpha= .86).

IJV Learning From the Foreign Parent: This scale summarizes the extent to which the IJV learned from the foreign parent (Lyles & Salk, 1996; Lane, Salk & Lyles, 2001), and is a six-item scale summarizing Likert-type responses to the question. To what extent have you learned from your foreign parent: (a) new technological expertise, (b) new marketing expertise, (c) product development, (d) knowledge about foreign cultures and tastes, (e) managerial techniques, and (f) manufacturing processes (1=little, 5=to a great extent; alpha=0.78).

Foreign Parent Training. The extent to which managers in the IJV were given education and Training by Foreign Parents was measured by two items (1=little, 5=great extent; alpha =0.72).

Cultural Compatibility of the domestic and foreign parents was measured by a two-item scale on the extent to which cultural misunderstandings and cultural differences have been issues in the IJV and results in a negative variable (alpha = .87).

The *Relatedness of IJV's and Foreign Parents Businesses* was measured by the extent to which managers agreed that the joint venture related to the foreign parent along four measures: technology, customers, products, and industry (1=very different, 5=very similar; alpha =0.84).

Strategy: Lane, Salk, and Lyles (2001) argue that a differentiation strategy for small-to-medium sized JVs is appropriate. We use their definition to further test their model. The degree to which the IJV's Business Strategy entailed differentiation was measured using a six-item scale of 5 point Likert-type items on the degree to which the IJV emphasized over the past two years: developing new products, promotion and advertising expenditures above industry average, a broad product line, extensive customer service capabilities, highly trained personnel, and strong influence over the channels of distribution (alpha = .72; possible range 6 - 30).

*IJV Training and Development Competence***:** This was measured using a two-item scale of 5 point Likert-type items on how effective the IJV was in the prior year in providing adequate worker training and improving management skills (alpha = .72; possible range 2-10).

Foreign parent decision influence: We collected measures of the degree of influence over specific areas and issues of joint venture management (Child, Yan and Lu, 1997; Lin, Yu, and Seetoo, 1997). The joint venture managers were asked to evaluate the influence that the Hungarian parent, foreign firm, and IJV managers had over eight issues by dividing 100% influence across the three groups. The issues of interest included financing, product technology, process technology, operations, sales/marketing, management decisions, administrative support, and pricing decisions. The values on these issues for the foreign parent were combined. (alpha =.89)

Trust. The *Trust* variable has four items administered by Nooteboom et al. [1997]. These five-point Likert-type items were focused on the IJV manager's confidence that participants in the IJV relationship will not act opportunistically. The managers were asked to rate the following statements as true in terms of their relationship with their foreign parent: (1) Because we have been doing business for so long, we can understand each other well and quickly; (2) In our contacts with the foreign parent, we have never had the feeling of being misled; (3) In this relation, both sides are expected not to make demands that can seriously damage the interests of the other; and (4) In this relation, informal agreements have the same significance as formal contracts. (1=little, 5=to a great extent; alpha = 0.86).

Performance: Past research has indicated a correlation between objective and perceptual measures of performance (Geringer and Hebert, 1991; Hansen and Wernerfelt, 1989). Thus, performance was measured by asking the respondents to rate their IJV performance at time one on a scale of (1) poor to (5) excellent for a seven-item Likert-type scale, including increasing business volume, increasing market share, achieving planned goals, and making profits. This scale was then standardized. (alpha = 0.82).

Models of Knowledge Transfer. The models of the Knowledge Transfer process were obtained by asking the managers to indicate which diagram of ten different ones illustrated the knowledge acquired from the foreign parent since the beginning of the joint venture to now. The models were then combined by the location of the end points as high or low knowledge transfer (see Figure 2).

Control Variables

The sample selection process controlled for employee size and location. All of the IJVs were SMEs and were started around the time of economic liberalization. Thus, we consider three control variables: industry, age, and size. To facilitate the estimation of a manageable model relative to our sample size, we initially examined the relationship between the control variables and IJV outcomes. Preliminary cross-tabs analysis indicated that firms from one industry, services, had outcome rates that significantly differed from the outcome rate of the overall sample. Thus, this dummy variable (0 = not a member of industry, 1 = member of industry) was integrated into the overall model. Size is measured as the log of the IJV's capitalization in forints (the Hungarian currency).

Data Analysis

We tested our propositions 1 and 2 using multiple regressions. Our analysis is divided into two parts. The first stage of our analysis was tested by including several stepwise regressions using Knowledge Acquired dependent variable. We do have some departure from the Lane et. al. model: We utilized multi-item measures of trust and of relatedness, and do not use the variable of prior knowledge. The second stage was tested by regressing Knowledge Acquired, Strategy and IJV training against IJV Performance 3 was tested by grouping the sample based on their indication of the process of Knowledge Acquisition and using ANOVA or Chi-Square tests to determine differences among the firms using each model.

Results

Table 1 reports the means, standard deviations, and correlation coefficients between the dependent, independent, and control variables. We ran separate analyses for performance and knowledge acquisition. Tables 1 and 2 report the results of the hierarchical regression models.

Please refer to Tables 1, 2 and 3 at the end of this paper

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he change in explained variance between the 4 models testing the dependent variable Knowledge Acquired from the Foreign Parents and Performance is significant across both dependent measures. This provides general support for the Absorptive Capacity model as a means of assessing Knowledge Acquisition and Joint Venture Performance.

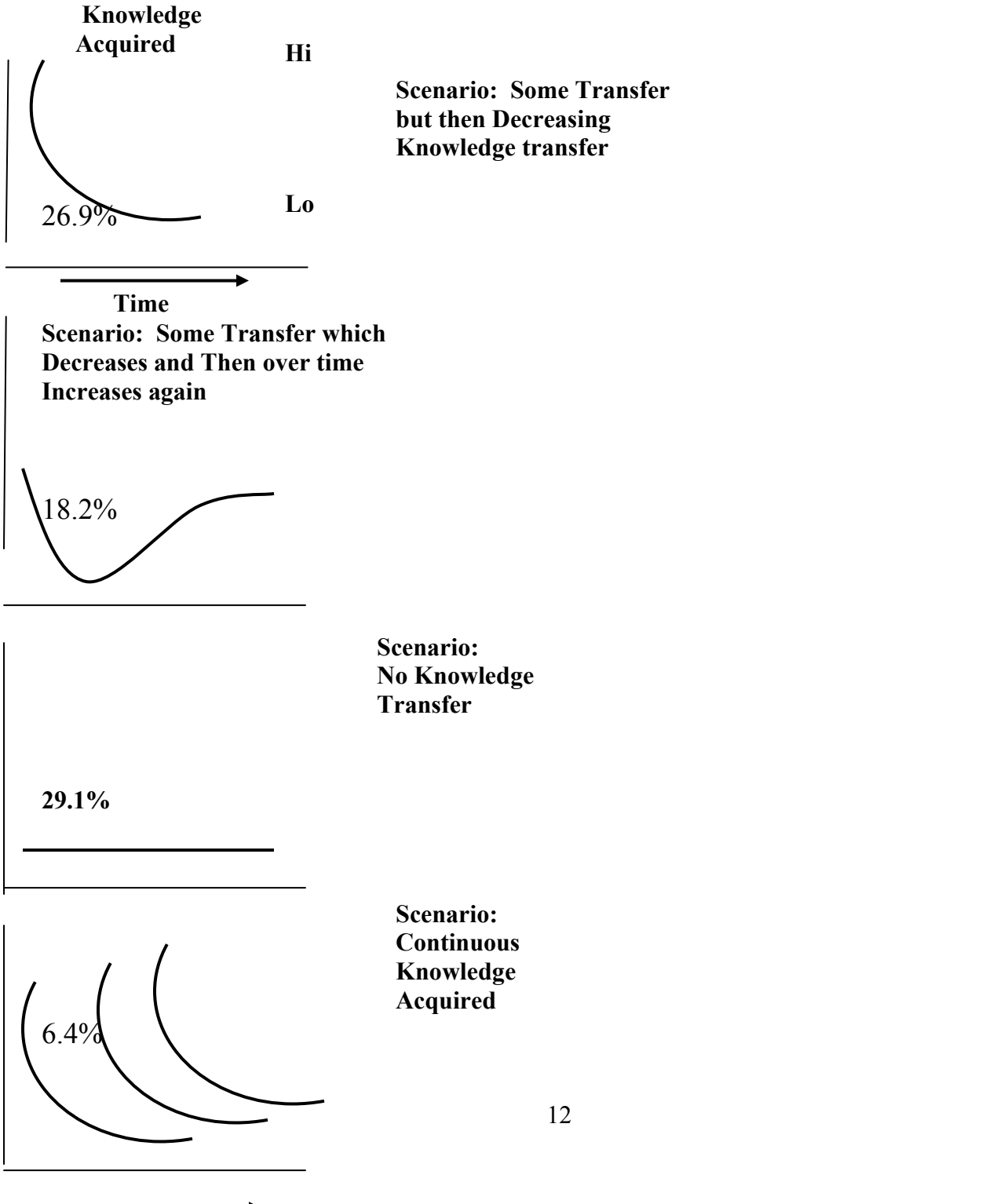
Hypothesis 1 suggested that the Understanding and Assimilating Foreign Parent Knowledge will be significant and similar to the Lane, Salk and Lyles' results. Our results do differ somewhat from their results. Our results indicate that Trust, Foreign Parent Decision Influence, Flexibility, Management Support, and Foreign Parent Training are all at least moderately significant when run in the individual models. When run together, Trust and Management Support contribute the most to the relationship with Knowledge Acquired. Neither of these was significant in the Lane, Salk, and Lyles' analysis.

An explanation for these results may be that as the IJVs have matured, there may be less reliance on the foreign parent for training and less impact of the factors proposed by Cohen and Levinthal's Absorptive Capacity model. An extension of our study would be to test these in terms of direct longitudinal data to see if they change over time. The trust measure, on the other hand, is made up of different items than that used by Lane, Salk and Lyles who used only a one-item measure. We think that maybe our measure is capturing a truer measure of the trust between the joint venture and its foreign parent. There is a rich source of literature suggesting that trust should influence the sharing of knowledge so we will confident that our results make sense (Day and Teng, 1998; Inken and Currall, 1997).

For Hypothesis 2 testing IJV Performance, we find that the Strategy and IJV Training Competence are significant, but not current Knowledge from the Foreign Parent. Furthermore the measure of Strategy is negatively related to Performance. Lane et al. (2001) suggest that in the transitional environment, it is better for the small IJVs to use a differentiation strategy. What our results may be capturing are a maturing of the institutional environment and a change in the competitive capabilities of the local IJVs so that the firms have overtime developed competitive capabilities for different strategy approaches—not just a differentiation strategy. Again this lends itself to future research explorations. What we find as a surprise is the current Knowledge Acquired is not significantly related to the IJV performance. This differs from the results of both Lyles and Salk and Lane et. al.

Figure 2

Diagram that Best Illustrates the Knowledge Acquired from the Foreign Parent



Models of the Process of Knowledge Acquisition Over Time

Hypothesis 3 suggests that those IJVs that confirm that they have had knowledge acquired from the foreign parent should perform better than those saying that they had no knowledge transfer. Figure 2 presents four models identified by the respondents as diagrams that represent the process of knowledge acquisition since the start of the joint venture to recently. The top diagram, called "Some", represents a high level of knowledge transfer in the beginning and then little knowledge transfer recently. This represents 26.9% of the firms. The second diagram, "High", shows that the knowledge transfer did go down but it has rebounded and increased over time. Eighteen percent of the firms indicated this scenario. The third diagram, "None" shows a steady line indicating little or no knowledge transfer over the life of the joint venture. Twenty-nine percent of the firms used this classification. The bottom diagram "Continual" shows a series of learning curves and a continual learning pattern. Only six percent of the firms choose this as representing their knowledge acquisition process.

Table 4

Models of Knowledge Acquisition and Absorptive Capacity

Absorptive Capacity	No Knowledge Transfer	Some Knowledge Transfer	Continual Knowledge Transfer	High Knowledge Transfer	Sig.
Recognize					
FP Decision Influence	49.54*	111.32	56.67	245.22	.01
Related Business	10.93*	16.22	17.00	16.27	.01
Cultural Compatibility	3.29*	3.84	3.78	3.47	n.s.
Trust	16.63	16.63	15.67	17.63	n.s.
Assimilate					
Flexibility	11.75	12.63	12.67	12.19	n.s.
FP Management Support	10.34*	16 .62	16.33	19.44	.01
FP Training	2.51*	4.55	4.89	5.03	.01
Utilization					
Strategy	19.48*	21.79	20.67	20.63	.01
JV Training	6.41	6.68	6.33	6.94	n.s.
Performance	24.98	25.85	24.83	25.59	.01

Joint Venture Knowledge Acquired	8.19*	17.84	17.33	18.72	n.s.

Table 5
Descriptions of "No Knowledge Acquisition from Foreign Parent"

Industry

		Frequency	Percent	Valid Percent	Cumulati
Valid	Chemical/Pharmaceutical	3	7.3	7.3	7.3
	Electronics	2	4.9	4.9	12.2
	Transportation	2	4.9	4.9	17.1
	Agriculture	3	7.3	7.3	24.4
	Construction	3	7.3	7.3	31.7
	Service/Financial	3	7.3	7.3	39.0
	Computer/Software	2	4.9	4.9	43.9
	Machinery	10	24.4	24.4	68.3
	Automobile/Components	1	2.4	2.4	70.7
	Food Processing	2	4.9	4.9	75.6
	Textiles/Clothing	2	4.9	4.9	80.5
	Other	8	19.5	19.5	100.0
	Total	41	100.0	100.0	

Type of Company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Manufacturer	25	61.0	61.0	61.0
	Service	11	26.8	26.8	87.8
	Retailer	2	4.9	4.9	92.7
	Wholesaler	2	4.9	4.9	97.6
	Construction	1	2.4	2.4	100.0
	Total	41	100.0	100.0	

Hungarian equity holders are

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	State Owned Inv Org	2	4.9	6.9	6.9
	Stockholders	1	2.4	3.4	10.3
	Other	25	61.0	86.2	96.6
	No Hungarian owners	1	2.4	3.4	100.0
	Total	29	70.7	100.0	

Missin g	System	12	29.3
Total		41	100.0

Table 5 cont.

Greenfield

		Frequenc y	Percent	Valid Percent	Cumulative Percent
Valid	Yes	7	17.1	17.1	17.1
	No	34	82.9	82.9	100.0
	Total	41	100.0	100.0	

# of employees from foreign partner

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	37	90.2	90.2	90.2
	1	3	7.3	7.3	97.6
	2	1	2.4	2.4	100.0
	Total	41	100.0	100.0	

Domestic/Foreign equity distribution as of 2001

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	>51% Domestic	27	65.9	65.9	65.9
	>51% Foreign	12	29.3	29.3	95.1
	50/50 JV	2	4.9	4.9	100.0
	Total	41	100.0	100.0	

# of Partners as of 2001

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	2.4	2.4	2.4
	2	15	36.6	36.6	39.0
	3	13	31.7	31.7	70.7
	4	8	19.5	19.5	90.2
	5	3	7.3	7.3	97.6
	17	1	2.4	2.4	100.0
	Total	41	100.0	100.0	

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Table 4 shows the results of the ANOVA and Chi-Square tests to determine the differences in

the characteristics among the four groupings. Basically it seems that the firms who report "no" knowledge acquisition was significantly different from the others in terms of Foreign Parent Decision Influence, Related business areas to the foreign parent, cultural compatibility, Foreign Parent Management Support, Foreign Parent Training, Strategy and of course, Knowledge Acquired. These firms have significantly different relationships with their foreign parents than the other firms.

What is surprising however is that there are no significant performance differences among the groups. In other words, the "no" knowledge acquired group performed as well as the other groups, and actually slightly better than the "Continual" group. Thus our Hypothesis 3 is not supported. Of course, this has meant that we were very curious to find out "Why?"

We attempted some further analysis to determine the description of the "none" group (see Table 5). It is not significantly different from the other groups in terms of industries, type of firm (Manufacturing vs. service). One characteristic that seems to be a possibility is that in the "None" group, 66% of the firms had the domestic ownership as majority ownership so foreign involvement would be low.

Conclusion

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he results of our analysis indicate that the Absorptive Capacity concepts have a significant relationship with the dependent variables of Knowledge Acquisition and IJV Performance. Although we show some differences from the Lane, Salk, and Lyles' model, basically the premise of the concepts apply.

The one major change from their analysis is that we find no direct relationship between the Knowledge Acquired and IJV Performance. We show this in the results in the regression model shown in Table 3 and we also show this through the performance of the "None" model. We can hypothesize for future research that one of the reasons for this is that the IJVs are developing their own internal knowledge development capabilities and do not need to rely on knowledge acquired from their foreign parents as much as they did at the beginning of the transition.

We continue to be enthusiastic about the knowledge perspective as applied to MNCs and to foreign firms investing abroad. We demonstrate that active involvement of the foreign parent is critical to the transfer of knowledge to the joint venture. We still do not know however how the reverse knowledge transfer works and if the joint ventures have to be closely linked to the parent firm for knowledge to flow upward. The perspective of time and the longitudinal nature of knowledge processes are critical elements within the knowledge-based theory of the firm and this remains an area open to future research.

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TABLE 1

Descriptive Statistics and Correlations

	mean	s.d	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Cultural Compatibility	3.55	2.05														
2. Total Current Learning	14.74	7.3	-.16													
3. Performance	25.40	5.41	.07	-.11												
4. Trust	Between Parents	16.42	3.79	-.36***	.50***	.08										
5. FP Decision Influence	121.81	174.85	.11	.19†	.11	-.04										
6. Flexibility of IJV	12.22	2.34	-.22*	.19	.44***	.44**	-.25*									
7. FP Training	4.01	2.35	-.11	-.02	.09	.31***	.26*	.06								

8. Management Support	15.19	7.21	-.08	.63***	.16	.38***	.45***	-.01	.74***				
9. Strategy	20.61	4.81	-.07	. 14***	-.09	-.01	-.01	.14	.18†	.07			
10. JV Training	6.63	1.53	-.14	.01	.21†	.15	.38**	.28**	.50***	.16	.15		
11. Relatedness	14.78	4.86	-.12	.16	.16	.14	.07	.26*	.35**	.26*	-.02	.24*	
12. Size (log)	10.35	2.47	.05	-.01	.14	-.15	-.01	-.01	-.04	-.09	-.04	-.01	-.20†
13. Age	14.28	18.88	.12	.06	-.13	. 12	.08	-.19†	.15	.19†	.09	-.01	.15	-.20†	
14. Service/Financial	.05	.24	.04	-.05	-.06	.22*	-.10	-.16	.02	-.05	,01	-.02	-.01	.08	.05

† $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

TABLE 2
Multiple Regression Analyses for Knowledge Acquired from Foreign Parents

VARIABLES	MODEL 1 □	MODEL 2 □	MODEL 3 □
Controls			
Size (log of capitalization)	.12	.05	.08
Age	-.12	.-.05	-.13
Service Industries	.06	.07	.11
Understanding Foreign Parent's Knowledge			
Trust Between IJV's Parents	.46 ***		.34 **
Cultural Compatibility	-.01		.02
Foreign Parent Decision Influence	.18 *		-.03
Relatedness of IJV & Foreign Parent	.12		..05
Assimilating Foreign Parent's Knowledge			
IJV Flexibility & Adaptability		.14 †	-.01
Management Support by Foreign Parent		.46 **	.36 **
Training by Foreign Parent		.20 †	.16

Adjusted R^2	.28	.39	.46
F	5.55 ***	11.02 ***	6.53 ***

TABLE 3
Multiple Regression Analyses for IJV Performance

VARIABLES	MODEL 4 □
Controls	
Size (log of capitalization)	.43 †
Age	.08
Service Industries	-.06
Applying Foreign Parent's Knowledge	
Current Knowledge from Foreign Parent	-.01
Strategy of IJV	-.18 *
Training Competence of IJV	.53 **
Adjusted R^2	.31
F	5.82 ***