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KNOWLEDGE TRANSFER AND ORGANIZATIONAL LEARNING IN STRATEGIC COOPERATIVE VENTURES

Murat YÜCELEN
İstanbul Bilgi University, Turkey

ABSTRACT

By means of a questionnaire conducted on a cross-sectional segment of strategic cooperative ventures in Turkey, this paper examines the factors affecting knowledge transfer between alliance partners. Conceptually, tacit knowledge transfer occurs in an environment characterized by ambiguity which in turn, has knowledge tacitness, asset specificity and complexity, prior experience, partner protectiveness, and cultural and organizational distance as antecedent variables. Regression analyses are conducted in order to determine which factors are influential on knowledge transfer processes. Research results are analyzed from a viewpoint of consistency with academic literature in the field of strategic management. The findings of the study highlight means and strategies to be pursued by Turkish companies aiming at effective knowledge acquisition through strategic cooperation in order to improve organizational learning capabilities and gain competitive strength.

INTRODUCTION

Knowledge is increasingly being perceived as an indispensable source of competitive advantage in contemporary strategic management literature. During the past decade, the importance of the effective management of knowledge has been a matter of scrutiny on the part of scholars and professionals alike. The literature on knowledge as a crucial asset in creating sustainable growth and competitive strength ranges from the analysis of the creation and transfer of knowledge among individuals, organizational units and companies, to theories on the means of individual and organizational learning.

One specific area of interest to researchers has been knowledge transfer in strategic alliances. It is generally understood that although alliances may be established for many different purposes, the transfer of knowledge (or know-how) between alliance partners presents fundamental issues deserving investigation. Alliance strategy is one of the most effective means for contemporary firms to obtain valuable know-how in areas in or outside their expertise, without having to renounce their already existant knowledge base and competences. On the other hand, the transfer of "tacit" knowledge is a key factor in the success of the alliance, but due to its unquantifiable nature, it is also difficult to express and complicated to examine. Among other things, the effective transfer of knowledge between alliance partners is heavily dependent on the absorbtive capacity and the nature of the knowledge stock of the respective firms. According to one approach, firms search for new knowledge which is the same or similar type as their knowledge stock, thus making it easier to absorb the new knowledge. Another approach contends that firms search for new knowledge which would be complementary to their existing knowledge base, and this is mainly true for international cooperative ventures. Some researchers who examined knowledge transfer in cooperative ventures have drawn attention to the inertness of knowledge and internal stickiness, two notions which impair the mobility of knowledge between firms. Although there are a multitude of approaches and theories regarding the effective transfer of knowledge among alliance partners, one common understanding is that knowledge is structurally ambiguous. Thus, the state of ambiguity concerning the factors which will increase (or decrease) organizational performance plays an important role on factor mobility, strategic decision making and subsequently organizational learning and this is called "causal ambiguity."

The aim of this research paper is to examine the effectiveness of knowledge transfer between alliance partners operating in Turkey, by means of a questionnaire conducted on a cross-sectional segment of strategic cooperative ventures. For the purposes of this research paper, the term knowledge ambiguity (or shortly ambiguity) refers to causal ambiguity, the inertness of knowledge, the difficulty/ease of knowledge transfer, and the difficulty of imitation of

knowledge by outside parties. Therefore it will be hypothesized that knowledge ambiguity is presupposed to be inversely related with effective knowledge transfer among alliance partners. Conceptually, tacit knowledge transfer occurs in an environment characterized by causal ambiguity which in turn, has knowledge tacitness, asset specificity and complexity, prior experience, partner protectiveness, cultural and organizational distance as antecedent variables. The relation between these antecedent variables and ambiguity will be examined through separate regression analyses in order to determine which factors are influential in knowledge transfer processes and to what extent. Research results will be analyzed from a viewpoint of consistency with academic literature in the field of knowledge transfer.

Cooperative Ventures

In this study, strategic cooperative ventures are defined as any business liaison oriented towards the attainment of a common goal, which includes the reciprocal sharing of knowledge in the form of technology and know-how among two or more business partners, and which leads to some form of learning at the organizational level. These ventures would thus include the sharing of data and technical information at the lower end of the cooperative scale, and assets, human resources, capabilities, and strategic know-how at the higher end. Business alliances in the form of contractual agreements and equity participation, joint ventures, joint research and development (R&D), consortiums, co-marketing and strategic outsourcing contracts such as preferred suppliers may be included in the cooperative venture terminology as long as at least one of the following activities is present (Terpstra and Simonin, 1993):

- Technology transfer in the form of know-how
- Joint R&D
- Sharing of complementary assets in order to design, produce or distribute a product

Cooperative ventures may therefore be placed amid a spectrum ranging from arm's length trade relations to mergers and acquisitions, and share the following characteristics (Gomes-Casseres, 2003; 5-8):

- Sharing of responsibilities in the sense of risk and benefits of the partnership
- Preservation of the institutional integrity of the respective partners
- Continuous transfer of resources to the joint projects

Cooperative ventures offer a unique opportunity to firms wanting to acquire valuable knowledge complementary to their competences, or also outside their area of expertise. In either case, the bottom line for firms engaging in business alliances is to achieve their strategic goals by means of reciprocal organizational learning and gaining competitive advantage.

Knowledge

The main research focus of this study concerns the transfer of knowledge between partners in cooperative ventures and what kinds of variables are prominent in this transfer. The role of knowledge as a source of competitive advantage has been widely acknowledged in the literature especially regarding its conjunction with the ways it can be acquired and transferred in cooperative ventures. Knowledge has been defined in various ways by various researchers. A basic definition compartmentalizes knowledge based on its source, as explicit and tacit, where explicit knowledge stands for an easily coded, transferred and decoded type of formal and systematic knowledge, which can often be expressed by means of language, symbols and charts, making it tangible in nature. Tacit knowledge, on the other hand, is created mostly by personal experience, intuition and by learning by doing which makes it difficult to codify and transfer between individuals, organizational units and organizations themselves. Tacit knowledge has also been termed "as embedded knowledge" in the cooperative venture literature, by referral to the type of knowledge which cannot be readily understood and acquired outside of a specific organization's boundaries (Spender, J-C, 1996; 45). Other classifications of knowledge include Winter's (1983) simple-complex, teachable-not teachable, observable-unobservable framework and Hedlund's (1994) definition in the form of cognitive knowledge, skills, and the knowledge embedded in a product or well-defined service. One especially significant approach has been offered by Kogut and Zander (1992; 386) where they distinguish between knowledge based on data (information) and knowledge based on capabilities (know-how). According to the authors, information is "knowledge which can be transmitted without loss of integrity once the syntactical rules required for deciphering it are known. Information includes facts, axiomatic propositions, and symbols... Know-how is a frequently used, but rarely defined term. Von Hippel offers the definition that "know-how is the accumulated practical skill or expertise that allows one to do something smoothly and efficiently" (von Hippel 1988, in Zander and Kogut, 1992; 386). The pivotal word in this definition is accumulated, which implies that know-how must be learned and

acquired." Based on this approach they conclude that "knowledge as information implies knowing **what** something means. Know-how is, as the compound words state, a description of knowing **how** to do something." The authors then move on to describe know-how in more detail:

"Know-how, like procedural knowledge, is a description of what defines current practice inside a firm. These practices may consist of how to organize factories, set transfer prices, or establish divisional and functional lines of authority and accountability. The knowledge displayed in an organizational chart, as in any blueprint, is limited to providing information on personnel and formal authority. The know-how is the understanding of how to organize a firm along these formal (and informal) lines. It is in the regularity of the structuring of work and of the interactions of employees conforming to explicit or implicit recipes that one finds the content of the firm's know-how."

Based on these arguments it can be deduced that know-how constitutes a key form of knowledge which is peculiar to a firm, its organizational units, and the individuals which it comprises. It is this form of knowledge which is embedded in the operations and strategies of the firm, and thus can be regarded as tacit and not easily transferable across organizational boundaries.

KNOWLEDGE TRANSFER IN COOPERATIVE VENTURES

When cooperative ventures are investigated from an organizational learning perspective, it can be observed that a firm will seek to acquire the form of knowledge which it needs in order to achieve its strategic goals, but which it does not currently possess (Kogut, 1988). The tendency for a firm to seek new knowledge depends on the nature of its knowledge base and capability to identify, acquire and absorb the new knowledge; the latter has been termed as absorptive capacity or receptivity by Hamel (1990; 85, 96-98) and stands for the capacity of a firm to learn. The relation between the existing knowledge stock of the firm and the form of new knowledge that is being sought has been a matter of controversy. According to one approach, the new knowledge being sought must be in the same or a similar form as the firm's existing knowledge base in order for it to be effectively identified and absorbed with regard the firm's specific internal and external conditions. Another approach stemming from the research literature on international joint ventures states that firms will seek for the new knowledge which is complementary to its knowledge base. In fact, according to Balakrishnan and Koza (1993; 99), "international joint ventures are a special mechanism for complementary assets to be pooled." Thus, knowledge transfer concerns the technology possessed by a firm and the managerial know-how embedded in that technology, in the form of tacit knowledge. Cohen and Levinthal (1990; 135) proposed that tacit knowledge can only be acquired by experiencing it inside the boundaries of a firm. According to Kogut (1988), equity-based ventures are the most appropriate form of cooperation for the transfer of tacit or embedded knowledge because this type of knowledge is not in a form in which it can be readily gathered and transferred, thus making it "partially imitable." Contractual ventures which do not allow for the imitation of the venture partner's capabilities are therefore not an appropriate form of cooperation to achieve knowledge transfer, whereas equity-based ventures provide a greater opportunity for imitation. This is due to the fact that in this type of cooperation the management teams and technical employees of the partnering companies spend long hours working together and obtain the opportunity to observe, understand and internalize each others' organizational routines. Further research by Zander and Kogut (1995) showed that from the viewpoint of strategic management, the knowledge embedded in products and technologies ("tools") is more easily imitable by competitors compared to the same in organizational processes and routines ("tasks"). On the other hand, knowledge embedded in the social network ("individuals") of the firm is rarely imitable by competitors and moreover difficult to be transferred even inside the boundaries of the firm itself.

This difficulty of imitation of tacit knowledge is largely attributed to its ambiguous nature, in the sense that knowledge is relatively inert and does not readily move from an originator to a receiver. The fact that knowledge is inert (Kogut and Zander, 1992; 387) and is not readily mobile inter-organizationally has been widely recognized in the literature and defined as "internal stickiness" by Szulanski (1996; 29), "difficult to imitate" by Foss, Knudsen and Montgomery (1995), "inert" by Porter (1994), and "sticky information" by von Hippel (1994).

Along this line of thinking, by means of a questionnaire and empirical analysis, this research aims at investigating the transfer of knowledge among partners in cooperative ventures in Turkey. In order to achieve this, a model which investigates the factors affecting the transfer of knowledge must be constructed.

Theoretical Framework

The effective transfer of knowledge depends on how

easy (or difficult thereof) it is for it to be transmitted, interpreted and absorbed (Hamel, Doz and Prahalad, 1989; 134, 138). To that end, the inherently ambiguous nature of knowledge and the difficulty of its imitation are parallel to the degree to which it is tacit and creates individual, departmental and organizational barriers to its transfer. Reed and DeFillippi (1990) attribute the inability of competitors to observe and understand key competences as sources of competitive advantage to strong barriers to imitation and call this "causal ambiguity." Causal ambiguity has been used in the literature to explain the ambiguity regarding the relation between cause and effect or action and results. With respect to alliance partners, the notion and nature of ambiguity (i.e., the extent to which technological and process know-how is tacit) can help explain the difficulty underlying the transfer of knowledge between them. Due to the fact that what makes the replication or imitation of knowledge by competitors is its ambiguous nature, the same factor can be considered as what impairs reciprocal learning in collaborative ventures. Simonin (1999; 597) acknowledges that "when the degree of ambiguity associated with a partner's competence is high, chances of effectively repatriating and absorbing the competence are rather limited." Therefore ambiguity must be negatively related to knowledge transfer.

Simonin (1999) identifies further antecedents of ambiguity: Tacitness, asset specificity and complexity based on Reed and DeFillippi's (1990) research, and experience with the competence, partner protectiveness, cultural distance and organizational distance between partners based on the academic literature.

Tacitness has been defined as "the implicit and noncodifiable accumulation of skills that results from learning by doing" by Reed and DeFillippi (1990; 89). The authors conclude that a high degree of tacitness raises the barriers to the imitation of competences by competitors. In an empirical study of innovations by Swedish companies, Zander and Kogut (1995) verified that the degree to which new product development capabilities are easily codified and taught (i.e., explicit), significantly shortens the time to transfer and imitate the capability. Therefore, tacitness must be positively related to the ambiguity of knowledge.

Based on the transaction cost literature, asset specificity has been referred to as the transaction-specific skills and assets that are utilized in the production processes and provision of services for particular customers (Reed and DeFillippi, 1990; 89). Dedicated assets such as plants specifically designed for the production of goods and services for a specific customer would produce ambiguity for rivals insofar as these specific assets would not be directly observable like physical assets (Reed and DeFillippi, 1990; 92). The resources and skills deployed in the business transactions with the customers can become highly specific and interdependent over time, and this would cause asset specificity to create difficulty of imitation by competitors. From the viewpoint of cooperative ventures, asset specificity may be a barrier to the transferability of embedded skills and resources (i.e., competencies) and a source of ambiguity.

According to Reed and DeFillippi (1990; 91) core competences that are complex can cause ambiguity because they would include a large number of interdependent technologies, organizational processes and routines, and individual or team expertise, namely know-how. The dispersion of know-how among individuals and units makes its totality unknown to any one individual and creates ambiguity. Therefore complexity is positively related to ambiguity.

It was mentioned above that according to one point of view, firms will seek to acquire new knowledge which is related to its knowledge base. Having prior experience with a certain technology or process puts the firm at ease with understanding and absorbing its derivations or related innovations. This is why many alliances are formed between companies active in the same sector or in the same value chain. It can thus be postulated that a firm's prior related knowledge largely determines its absorbtive capacity with regard to seeking, understanding and implementing new knowledge (Cohen and Levinthal, 1990; 128). Simonin (1999; 601) states that "learning is limited by the degree of experience of the knowledge seeker and the greater the level of prior experience of the knowledge seeker with the underlying knowledge domain, the less ambiguous the knowledge to be transferred." Therefore prior experience must be negatively related to ambiguity.

Knowledge asymmetry and trust in collaborative ventures has been a matter of discussion. Many alliances dissolve due to unsuccessful implementation of joint projects and the failure of at least one of the partners to fulfill the projected tasks. There are many ways in which collaboration can be hindered by partners and sometimes this can be achieved via the protection of valuable know-how present in the knowledge stock of the firm. Some firms adopt voluntary measures such as the adoption of strict policies to protect their core competences and to hide

technological and process-related knowledge which may be of competitive value. This is quite a common measure because many alliances are formed by parent companies which are actually competitors with respect to their grand strategies. Partner protectiveness, be it voluntary or involuntary, will be positively related to ambiguity and create barriers to knowledge transfer.

Research has pointed to the fact that organizational and cultural differences account for the lack of success in many joint ventures, be it on an organizational or national basis. Mowery *et al* (in Simonin, 1999; 602) concluded that distance and cultural differences between partners are key obstacles to interfirm knowledge transfer. Choi and Lee (in Simonin, 1999; 603) hypothesized that "the greater the difference between the partners in terms of corporate, national, organizational and professional culture, the greater the difficulty of transferring knowledge through cooperative interorganizational relationships." Thus the lack of cross-cultural skills and understanding, physical distance, language differences and firm-specific differences in the organizational cultures of alliance partners will have a negative impact on knowledge transfer by increasing ambiguity.

METHODOLOGY

In order to test the hypothesized relations between these variables, the Foreign Companies in Turkey, Yearbook 2005 was utilized as the primary source of information on cooperative ventures in Turkey. Prepared by Commercial Intelligence Service, which is a unit of Business Monitor International, this document contains brief information on foreign companies' activities in Turkey, the form of partnerships and contact addresses of their primary executives. Foreign companies in the form of 100 percent direct investment, distribution offices and licensing/franchising agreements were omitted as they would not qualify as cooperative ventures that include meaningful knowledge transfer. This database was further cross-checked with International Investors Association of Turkey's (YASED) Foreign Capital Investment List to account for any changes, omissions or updates. CEOs, Vice Presidents, General Managers and Assistant General Managers were primarily targeted and contacted as potential respondents due to the fact that they would be the ones who would be most involved in and competent regarding the workings of the alliance and its effects (if any) on the parent companies.

The questionnaire included 3 to 5 questions on each of the variables derived in the previous section. Simonin's (1999; 621-623) questionnaire was taken as a basis for the preparation of the questions, with additions and omissions to account for the differences between the English and Turkish languages and comfort the perceptions of Turkish managers. Respondents were asked to select a checkbox on a 7-point Likert scale, where 1 denoted fully disagree and 7 fully agree; 4 meant neutral. The questions were then re-translated into English to see whether they lost their meaning and further fine tuning in the Turkish wording was performed. A preliminary survey was conducted on-site in 8 shipyards in the Tuzla shipbuilding area where large scale ship building projects are undertaken and local and international collaborations are common. 12 top-level executives and managers responded and provided verbal feedback. The questionnaire was finalized by taking into account these valuable comments. 850 questionnaires were sent out via e-mail to the identified collaborative ventures. In the two to three weeks following the first contact, identifiable individuals were called by telephone and reminded to fill out the questionnaire. Finally 149 responses were received, 30 of which were unusable, lowering the workable number of responses to 119, resulting in a return rate of 14 percent.

Results

The data was loaded to SPSS version 13 and organized, reverse coding was done where needed. Preliminary reliability analysis revealed acceptable Cronbach Alpha values for the variables (Table 1). The independent variable Complexity did not receive an alpha coefficient because it was surveyed based on only one question.

Table 1: Reliability Analysis Results

Variables	**Cronbach Alpha** values (á)
Ambiguity (dependent/independent)	0,76
Knowledge Transfer (dependent)	0,66
Tacitness (independent)	0,86
Asset Specificity (independent)	0,85
Complexity (independent)	-
Prior Experience (independent)	0,81
Partner Protection (independent)	0,82
Cultural & Organizational Distance (independent)	0,81

In order to counteract the possibility of correlation between certain variables, factor analysis was considered. KMO and Bartlett' tests were performed to make sure that the data was appropriate for factor analysis. The KMO measure for sampling adequacy provided a value higher than the generally accepted 0.60 and Bartlett's test was significant (Table 2). Based on this assurance, factor analysis was performed and revealed four major factors (Table 3).

Table2: KMO and Bartlett's Tests

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.677
Bartlett's Test of Sphericity	Approx. Chi-Square	358.239
	df	55
	Sig.	.000

Table 3: Total Variance Explained

Component	Initial Eigenvalues			Initial Eigenvalues			Initial Eigenvalues		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.937	35.794	35.794	3.937	35.794	35.794	3.937	35.794	35.794
2	1.842	16.741	52.535	1.842	16.741	52.535	1.842	16.741	52.535
3	1.571	14.277	66.812	1.571	14.277	66.812	1.571	14.277	66.812
4	1.120	10.182	76.994	1.120	10.182	76.994	1.120	10.182	76.994
5	.806	7.328	84.323	.806	7.328	84.323	.806	7.328	84.323
6	.449	4.079	88.402	.449	4.079	88.402	.449	4.079	88.402
7	.371	3.376	91.778	.371	3.376	91.778	.371	3.376	91.778
8	.329	2.995	94.774	.329	2.995	94.774	.329	2.995	94.774
9	.228	2.072	96.845	.228	2.072	96.845	.228	2.072	96.845
10	.177	1.608	98.454	.177	1.608	98.454	.177	1.608	98.454
11	.170	1.546	100.000	.170	1.546	100.000	.170	1.546	100.000

The first factor revealed that experience and organizational proximity were significantly grouped under the same factor. Thus the variable to be used in the regression analysis becomes "experiential proximity." The second factor was clearly "tacitness." Asset specificity and complexity formed the third factor, "specific-complexity." "Protection" was the fourth factor that emerged from factor analysis.

Next, two-tier regression analyses were performed. In the first regression analysis the independent variable was ambiguity and the dependent variable was knowledge transfer. In the second multiple regression analysis, the four factors were independent variables and ambiguity was the dependent variable. Table 4 shows the abridged results of these regressions.

Hypotheses	Independent Variables		Dependent Variables	Beta	T	Sig
H1	Ambiguity	→	Knowledge Transfer	-,646	-7,072*	,000
H2	Experiential-Proximity	→	Ambiguity	-,293	-3,057*	,003
H3	Tacitness	→	Ambiguity	,357	3,717*	,000
H4	Specific-Complexity	→	Ambiguity	-,457	-4,766*	,000
H5	Protection	→	Ambiguity	,061	,641	,524
	*p<0,01					

In the first regression, a highly significant negative relation between ambiguity and knowledge transfer was confirmed and H1 accepted. The R^2 value for the multiple regression analysis was 0.44 and the significance was .000, providing acceptable overall values. Experiential proximity has a negative sign and is highly significant, which means that this independent variable is negatively related to ambiguity, and H2 is accepted. Tacitness is positively related to ambiguity and H3 is accepted. Specific-complexity is significant but with a negative sign which means that this independent variable is negatively related to ambiguity, thus H4 is rejected. Protection has a positive sign but is not significant, therefore a statistically significant positive relation between this independent variable and ambiguity cannot be confirmed and H5 is rejected.

DISCUSSION

In this empirical study aiming to examine factors affecting knowledge transfer in cooperative ventures,

interesting results were achieved and some key concepts developed in the knowledge and strategic management literatures were confirmed. In cooperative cases where ambiguity regarding the partners' tangible and intangible assets, resources and competences is high, the transfer of knowledge in conjunction with these variables will be impaired. In order to overcome this barrier to knowledge transfer, it can be recommended that partners clearly define their joint strategic goals and how they are to be achieved, by keeping open and effective communication lines. The notion of reciprocal trust is crucial in order to decrease ambiguity and in order to overcome the probable barriers that trust may cause, joint work teams can be created. Partners must clarify the alignment between their actions and the results to be achieved to each other. This can help observe and understand each others' competences more clearly, so that reciprocal knowledge transfer can begin at least in the form of imitation. The key to this form of understanding is that partners possess the motivation and top management support to achieve the desired level of knowledge transfer. Having prior experience related to the know-how to be transferred and organizational distance (proximity) emerged as key notions that decrease ambiguity. Similarities in organizational/national cultures and ways of working will be of aid to effective knowledge transfer.

An interesting find has been that the specificity and complexity of assets does not create ambiguity. Though this unexpected result may be due to a flaw in the questionnaire, it has to be remembered that any technology or know-how can be imitated in the long run. Firm boundaries and competitive advantages erode over time which leads to the possibility of imitation by partners or competitors. Moreover, this result should not be attributed to all skills and competencies but only to technology and know-how as worded in the questionnaire. During the face-to-face interviews conducted at the beginning of this research, many top level executives agreed that especially in the manufacturing sector, international ventures in Turkey are mostly dependent on the machinery provided by the partner and focus on assembly rather than R&D and new product/technology development. This reality may account for the fact that in these cooperative manufacturing activities only the final technology is utilized by the local partners, without the transfer of the know-how involved in the creation of the technology. If this is really the case, then the result that the asset specificity and complexity of the know-how to be transferred does not cause ambiguity and impair knowledge transfer would be logical, because no real know-how transfer is applicable in such cases. Another reason for the unexpected result may be due to the wording of the survey questions about these variables, where the main query focused on the "partner's" investment in technology and human resources and complexity of these resources. Because the respondent selection criteria included large firms with a high turnover, the source of technology and know-how may have been these companies themselves, and their smaller sized partners may not have been considered as having specific and complex assets.

Partner protectiveness had a positive relation with ambiguity as hypothesized; the reason why it was not statistically significant may have been due to the wording of the survey questions, and these questions may not have been clear enough to explain this independent variable. Another reason may be that protectiveness may not be visible and understandable at all times, or it may become clearer after the partnership has ended. These factors may have contributed to its statistical insignificance in this study and the notion of partner protectiveness, be it obvious or latent, deserves further investigation, especially by means of a longitudinal study. Also, it is recommended that the addition of the concept of reciprocal trust between alliance partners would be beneficial to the research model.

CONCLUSION

This study was an attempt at verifying the academic literature on knowledge transfer in collaborative ventures in the Turkish business context and the results largely supported the findings predating it. The emergence of knowledge as a key source of competitive advantage has been widely recognized in academic and business circles alike but its inherently ambiguous nature makes it difficult to be observed and analyzed, especially in the context of alliance strategies where a multitude of latent variables exist. The question as to how collaboration and the effective management of knowledge can be directed at enhancing organizational learning and gaining sustainable competitive advantage remains to be answered as witnessed in the myriads of publications on the subject, reflecting various points of view, both from technical and humanistic aspects. Concurrently, at least half of these ventures fail in the first few years of operation due to the costs exceeding the benefits. It is hoped that research into such questions will highlight the means and strategies to be pursued by Turkish companies aiming at effective knowledge acquisition through strategic cooperation in order to improve organizational learning capabilities and gain competitive strength in the global arena.

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