

**MPRA**

Munich Personal RePEc Archive

# **Techonology Based Strategic Alliances: A Turkish Perspective**

Cenk Akkaya

Dokuz Eylul University

2007

Online at <https://mpa.ub.uni-muenchen.de/3479/>

MPRA Paper No. 3479, posted 10 June 2007

# **Techonology Based Strategic Alliances: A Turkish Perspective**

G. Cenk AKKAYA

Asistant Professor

Dokuz Eylöl University

Economics and Administrative Sciences

Department Of Business Administration

Izmir-Turkey

cenk.akkaya@deu.edu.tr

## **Abstract**

Strategic alliances can be as simple as two companies sharing their technological and/or marketing resources. In this context, strategic alliances help firms in an entrepreneurial way by allowing them to reorganize their value chain activities more effectively. Business alliances can assist organizations to acquire the means to compete within an ever complex and changing environment and it provide firms with market knowledge, open up access to know-how and technology. This study focuses on the technology related alliances from 2002 to 2005 in Turkey.

**Keywords:** Strategic Alliances, Techology Based Alliances, Compatitive Power

## **1.Introduction**

Technologically and know-how issues have become important strategic concerns for businesses at present. Turkish manufacturers are experiencing increasing rivalry from competitors in Europea and Far East. This competition includes not only quality and costs but also technology from major rivals such as Germany, England and China.

It is belived that customers want technologically sophisticated services and products. In order to counteract low-cost and technological rivalry, I expect that Turkish manufacturers need to consider the developing of original technology and know how.

Business alliances can assist organizations to acquire the means to compete within an ever complex and changing environment. It is widely accepted that cooperative agreements are being signed continuously, and in ever-greater numbers with every passing year. There are a wide variety of such agreements, all of which have fundamental differences in their structure and objectives, but are referred to as strategic alliances, collaborative agreements, or networks or outsourcing. Cooperative agreements have different objectives, depending on what aspect of the value-added chain we are dealing with. This paper focuses on the role of strategic alliances with related to technological transfers and improvements. I intend to explain what the role of cooperative agreements is in this crucial area of technological competence development is, in light of the growth and Turkish Perspective.

## **1.2.Description of Strategic Alliances**

Cooperation tends to be a new concept to most businesses who traditionally use an adversarial to get the best contract or terms of a sale. Negotiating a partnership requires firms to cooperate with other firms, even if they might be their competitors.

Strategic alliances can be as simple as two companies sharing their technological and/or marketing resources (Vyas at all., 1995). Strategic alliances we refer to inter-firm cooperative

agreements which are intended to affect the long-term product-market positioning of at least one partner (Hagedoorn 1993). Strategic alliances permit firms to seek, recognize, and exploit opportunities in two principal ways. One, they let them compete more effectively in their existing industries by changing and improving the way they compete. Secondly, alliances allow firms to broaden their search horizons to spot new opportunities in other industries or technologies (Yoshino and Rangan, 1995).

Strategic alliances help firms in an entrepreneurial way by allowing them to reorganize their value chain activities more effectively (Yoshino and Rangan, 1995). The term strategic alliances includes a wide array of organizational forms ranging from long-term purchasing agreements to co-marketing and licensing agreements, to R&D (research and development) collaboration teams to joint ventures. A strategic alliance is a close, long term, mutually beneficial agreement between two or more partners in which resources, knowledge and capabilities are shared with the objective of enhancing the competitive position of each partner (Speakman et al., 1996). We can identify the following four kinds of benefits associated with forming an alliance:

- Economies of scale of the static and dynamic kind,
- Quick and easy access to knowledge and markets,
- The reduction of the capital requirements and the risks involved in the development of new kinds of technologies,
- The possibility of influencing the structure of competition in the relevant markets

Four critical issues can be identified for the successes of the alliances are (Vyas et al., 1995):

(1) *Goal compatibility*. Short-term and long-term among alliance partners. Without such compatibility, the alliance partners may pull in different directions.

(2) *Synergy among partners*. One is strong where the other is weak. This is the major reason for and the advantage of the alliance. The partnership is efficient, effective and, as a result, much more competitive compared to each alliance partner performing the similar tasks individually.

(3) *Value chain*. Clear understanding of what value each partner will bring to the alliance is the foundation on which trust and relationships are built for future success.

(4) *Balancing contributions of partners in the areas of product development, manufacturing, and marketing are necessary so that no one partner dominates the alliance*. Absence of such a balance may result in the takeover of the weaker partner by the dominant firm or a short-term relationship, usually resulting in breaking the alliance without achieving its full potential.

Ellram (1991) synthesized existing literature on the benefits of alliances into three categories:

- Financial : focusing on motives that reduce costs and increase profit in the supply process (e.g. joint investment, reduced inventory, stable supply prices).

- Technological: focusing on motives that facilitate the supply process (e.g. sharing technology, joint new product development).
- Management: focusing on motives that simplify the supply process (e.g. supply base reduction, interdependence, loyalty).

Market-entry and market-structure related incentives for alliances refer to the effort to create new markets, to provide international market entry and to search for international expansion of the product range of partnering companies. Apart from these concrete market entry-related motives, strategic alliances can also be used as a scanning device to monitor the environment in which companies operate and to search for possible new opportunities (Hagedoorn and Sadowski,1999).

### **1.3.Technology Ownership**

Although there are many motives for undertaking alliances which Hagedoorn (1993) classifies into those relating to general characteristics of technological development; those relating to the innovation process; and those relating to market access and opportunities. Alliances provide firms with market knowledge, open up access to know-how and technology (Bruton and Samiee, 1998). At the mean time, one of the primary objectives of alliances collaborative ventures is to learn, for the basic reason that the ability of firms to compete effectively for market share is a function of their ability to maintain and renew its firm-specific assets. These assets are commonly referred to as ownership advantages. An important distinction needs to be made about the nature of ownership advantages of companies, which, in knowledge-intensive firms, comprise different forms of knowledge.

There are two types of knowledge that comprise the ownership advantage of firms. First there is technical knowledge which is made up of what might traditionally be defined as technology, both embodied in plant and equipment, as well as the employee-specific knowledge that is only to a limited degree non-tacit. Second, there is organisational knowledge, which comprises knowledge of transactions, both *intra-firm* and *inter-firm*. Technology-based organizations find it increasingly difficult to fund research and development at desired levels on their own (Yang and Taylor, 1999). Especially in high-technology industries which are characterized by ever-shortening technology and product life cycles, firms feel constant pressure to remain flexible in order to quickly to changing market needs and to new technological opportunities (Duysters at all.,2000).

Technology-driven strategic alliances provide firms with benefits such as (Carayannis at all,2000):

- Adequate internal technical capacity,
- Market power,
- Established key linkages to customers, distributors, suppliers, regulators, etc.
- Access to capital markets,
- Potential synergy with current products and operations,
- Better protection of proprietary technology,
- Professional management for later-stage growth,
- Ability to absorb large, fixed transaction costs.

#### **1.4. Research Methods**

This study focuses on the technology related alliances from 2002 to 2005 in Turkey. The empirical study employed a two-phase approach. Phase one consisted of a preliminary analysis conducted on archival data on all the strategic alliances. All strategic alliances data during this time period were retrieved from ICI (Istanbul Chamber of Industry) database. A data entry from was total assets, total exports, total taxes, total income and net profit. Additional information was collected on the industry sectors. Phase two was a questionnaire – based study designed to uncover relationships between the outcomes of strategic alliances and their rivals. The questionnaire was developed based on the literature and theoretical frame works described earlier in this paper.

#### **1.5. Sample**

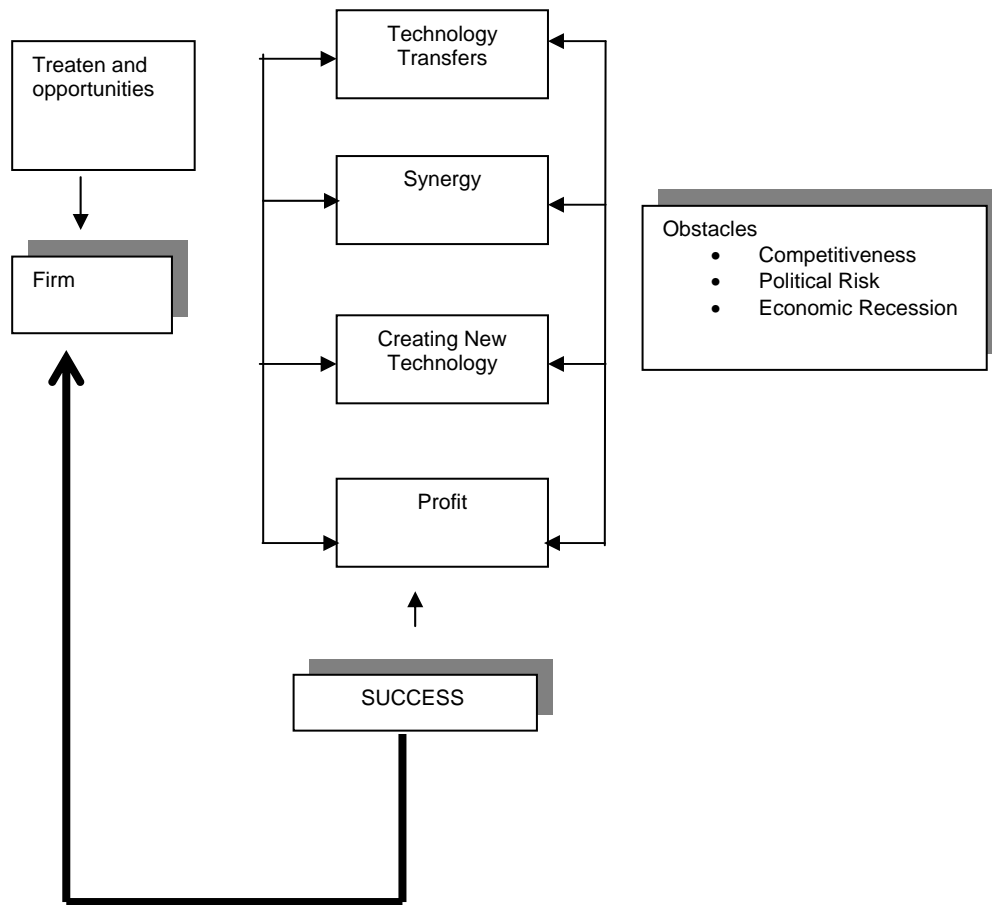
Alliances were systematically collected from ICI database. The questionnaire was sent to senior executives in charge of the alliance operations. Senior executives were identified from sector databases. In this context we determined 80 strategic alliances. The goal was to achieve at least 50% response rate. After the survey strategy, the total number of returns is 40, or 50% of the surveys sent.

A comparison was made to assess the non-response bias, there could be significant difference between the respondents and the nonrespondents. Results from chi-square tests over year of filing and industry sectors indicate that there is no significant difference between respondents and non-respondents.

#### *Definitions of Variables and Model*

The dependent variable in this study is the alliance outcomes. The alliance outcomes are measured by level of objective achievement (technology transfer and creating new technology). Respondents were asked to evaluate individual objectives on a 5 Likert Scale. Technology transfer can be defined as the transfer of intellectual property (patents, copyrights, trade secrets, know-how, et.) from the laboratory to the marketplace. It encompasses all the various life cycles of a product, from the initial thought through design to marketing and selling the product. In this context you can see model of the study at Figure 1.

The model of the study sees below



**Figure.1. Achievement of the Technology Based Alliances**

Recent research has indicated that alliances can be viewed as mechanisms to acquire know-how and to learn from other firms. for example, propose a topology of alliance types that emphasizes differences in the role of knowledge. The types of knowledge resources exchanged in alliances can range from intangible, tacit resources such as employee expertise or company brand name, to tangible, physical resources such as equipment, components, or products. The management and implications for value creation, we argue, are dependent on the nature of the knowledge resource exchange between alliance partners (Parise and Henderson;2001).

Meanwhile, achievement of the technology based strategic alliances depend on technology transfer level and new technology development oppotunities. Therefore the basic references of this study, if a local partner get technology via transfer or joint research and development, I will be successful. In this concept I examined study results.

### **1.6.Study Results**

The survey resulted in 40 responses were useful. Of the 40 alliances, all of them were international alliances and 30 alliances in which all partners were E.U. companies. 10

alliances in which all partners were USA and Canadian companies. Table.1. shows that sectors of alliances.

Table. 1. Sectors of Examined Alliances

Sectors	Number of Strategic Alliances (n=40)
Textile	2
Packing	3
Otomotive	4
Publication	2
Food	4
Air and Space	3
Iron and Steel	3
Metal	5
Chemistry	3
Communication	4
Cement	4
Banking	3

Table.2. Percentage uses of technology transfers through alliances

Type of Transfer	Average use (%)
Creation of New Technology	25
Know-how and Patent	60
Sharing of Mature Technology	15

Table.3. List of benefits received by alliance partner

Strategic alliance partner received	Number of firms
Technology/intellectual property	14
Equity	32
Licenses	10
Trade secrets	7
Patent rights	13
Copyrights	2

My first finding is that 25 per cent of the total number of strategic alliances achieved aim of creation of new technology. This is important results for local partners. The another finding is 60 percent of the local partners get know-how and patent via strategic alliances. Especially research and development cost very high for Turkish firms. Know-how and patent agreements are vital fort local partners in international competition.

Another important finding is that fourteen local partners got technology and intellectual property, ten partners got licences, seven partners got trade secrets, thirteen partners got patent rights and two partners got copyrights via strategic alliances. Variables in the survey were analyzed to understand the relationship between them. Pearson correlation matrixes were used to compute the correlations between each of variables.

Table.4. Pearson Correlation Matrix

	Independet Variable	$\beta$	F	t	Sig. P< 0.05
Dependent Variable					
Allinces Maturity	Technology Transfer	,430	6,596	2,568	,016
Differentiation of Products	Creating New Technology	,687	5,958	4,064	,000

The correlation between alliances maturity and technology transfer is 0.430. Therefore the alliances maturity an important factor for transferring of technology. The correlations between differentiation of products and new technology is 0.687. Differantiation of products another important factor for increaseing creating new technology oportunites.

## Conclusion

In this modern age building stronger domestic and international business is a commercial necessity. The trend toward strategic alliance is clear. Deregulation, the emergence of regional trading blocs, the ease of technology transfer, and the internationalization of markets have prompted firms to look at each other in a different light as allies rather than adversaries.

The Turkish firms have used strategic alliances to gain competitive advantages in world markets. Turkish firms are starting to grasp the importance of employing this technique to deal with foreign competition and to enter foreign markets. The emergence of truly global markets will only add to the number of companies who see strategic alliances as a means to compete in an ever more competitive world market. This increase in an organization's intelligence through these alliances relationships will ensure a secure future from firms and a sustainable competitive advantage. Result of the study two important findingd determined. The first one, local partners get important technological benefits from strategic alliances and the second one, alliances maturity and differantiation of products are important two factor technology transfer and creating new technology.

## References

- Akkaya** G. Cenk; Türkiye'deki Startejik İşbirliklerinin Rekabet Gücü ve Finansal Başarıları Üzerine Bir İnceleme, D.E.Ü. S.B.E., Yayınlanmamış Doktora Tezi, 2002
- Akkaya** G. Cenk; In the Light of EU, an Examination on Competitive Power and Organizational Success of Strategic Alliances: A Case of Turkey, Fifth Annual Mediterranean Social and Political Research Meeting Conference Paper, 2004
- Bruton** D. Garry, **Samiee** Saeed; Anatomy of a Failed High Technology Strategic Alliance, Organizational Dynamics Vol.27, 1998
- Carayannis** G. Elias, **Kassicieh** K. Suleiman, **Radosevich** Raymond; Strategic alliances as a source of early-stage capital in new technology-based firms, Technovation Vol.20, 2000
- Duysters** Geert, **Kok** Gerard, **Vaandrager** Maaike; Crafting Successful Strategic Technology Partnerships, 2000



**Ellram L.** , A managerial guideline for the development and implementation of purchasing partnerships', *International Journal of Purchasing and Materials Management*, Vol. 27 No. 3,1991

**Hagedoorn John**; 'Understanding the rationale of strategic partnering: Interorganizational modes of cooperation and sectoral differences'. *Strategic Management Journal* Vol.14,1993

**Hagedoorn John, Sadowski B.**; The Transition from strategic technology alliances to mergers and acquisitions: an exploratory study, *Journal of Management Studies* Vol.36, 1999

**ICI Industry Database**, 2002-2005

**Parise S., Henderson J. C.**; Knowledge resource exchange in strategic alliances, *IBM Systems Journal*, Vol.40 No.4, 2001

**Spekman R.E., Isabella L.A., MacAvoy T.C. and Forbes T.**, 'Creating strategic alliances which endure', *Long Range Planning*, Vol. 29 No. 3, 1996

**Vyas Niren, Shelburn William, Roger C. Dennis**; An analysis of strategic alliances: forms, functions and frameworks, *Journal of Business & Industrial Marketing*, Vol.10,1995

**Yang Xiaohwa, Taylor Marilyn**; Assessing the effects of structural and project characteristics on r&d strategic alliance performance: a unified approach, *Journal of High Technology Management Research* Vol.10, 1999

**Yoshino M. Y., Rangan U.**; *Strategic Alliances*, Harvard Business School Press,1995