

WORKING WITH MULTIPLE PARTNERS: BALANCING THE EFFICIENCY - FLEXIBILITY TENSION

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ABSTRACT

The skill to partner is a transactional competence manifested through the decision whether to make or buy and whether to do so alone or in a partnership. Similarly, the skill to combine multiple cooperative relationships is a transactional competence and a source of competitive strength. The purpose of this study is to investigate whether firms approach the formation and management of their collaborative relationships in a systematic manner to tap synergies and maximise the overall benefits from their partnering activities. A cross-industry qualitative study was conducted in the computer, telecommunications, and media industries (CTMI) to examine how organizations navigate and utilize multiple relationships.

Based on the findings, this study proposes a portfolio approach to the management of partnerships in highly dynamic industries. The suggested framework has very tangible meaning in the light of practical management, particularly when a focused interest is emerging in technology-intensive industries towards the art to work with multiple partners. Partnerships are a strategic tool, which has proved very useful in dynamic environments, and practitioners must learn to use them skilfully. The proposed framework is based on qualitative data collected in USA and Western Europe.

Key words: Partnerships, partnership webs, portfolios

INTRODUCTION

The adoption of collaborative agreements as organisational forms of economic activity became increasingly popular during the eighties and increased sharply in the early nineties manifested in the strong growth pattern of the number of partnerships formed annually (Hagedoorn, 1996, 2002). In the overall explosion of collaborations, it has been established beyond doubt that partnerships are mainly concentrated in industries with similar structural properties: research intensive, technology- and investment-intensive, highly concentrated, and risky in the sense of variability of firms' rates of return on equity, e.g. computers, telecommunications, biotechnology, where even the most diversified and resourceful firms need to cooperate to attain the required level of knowledge and complex technology development, achieve scale and scope economies, and reduce the technological and market uncertainty (e.g. Teece, 1992, Wang, 1994, Duysters, 1996, Hagedoorn, 2002). Contributions by, among others, Ciborra (1991), Eisenhardt and Schoonhoven (1996), Gomes-Casseres (1996), suggest that partnerships are valued in the high-technology sectors for their learning and flexibility properties. Moreover, technological complexity makes it necessary for firms in these sectors to collaborate with firms from other sectors to obtain access to new knowledge and complementary technologies that allow for different research and product lines to be followed (Hladik, 1985, Link and Bauer, 1989).

A number of authors have been theorizing about inter-firm collaboration from different perspectives and have identified various reasons for entering alliances. The current explanations are centred on factors such as transaction costs, efficiency, market power, and globalisation. Recently, the notion of core competencies has become very popular, i.e. companies aim to do what they do best and outsource through partnerships. The goal of most alliances has been understood as a means to gain access to new complementary capabilities and technology in order to enrich the firms' innovatory and learning process rather than to enhance the overall prosperity of the partners (Cantwell, 1998; Dyer and Sing, 1998; Inkpen, 1998). A number of partnerships are also created to share risks and costs. As projects become ever larger and more complex, even the biggest companies would rather have partners to share the costs of R&D. Others involve players with complementary operations, for example, a producer and a distributor. Companies with compatible products or services find that they can reduce marketing and sales costs, and potentially increase revenues faster if they work together. Partnerships are said to have such virtues as flexibility, speed, informality, and economy.

Partnerships take many forms, may be transient or lasting, and often live beyond the reach of statisticians. Many options, with differing characteristics, are available to collaborating firms - from short term project based cooperation to long term equity-based cooperation. Under the heading of cooperative agreements the economic and business literature groups a whole array of governance mechanisms: licensing, franchising, subcontracting, consortia, trade agreements, joint ventures, equity and non-equity coalitions and strategic alliances. Joint ventures, however, seem to have become an old-fashioned term. Contemporary partnerships involve many different kinds of organizations, multiple different types of organizational and legal structures. It has been argued that joint ventures, which are less flexible, are primarily found in medium-tech and low-tech industries, where technological development is less turbulent and of a more gradual nature (Hagedoorn, 2002). In contrast, contractual partnerships, which can regulate a flexible setting of multiple partners, have become the norm in high-technology industries where companies often forge partnerships with dozens of other companies and establish webs of both intraindustry and interindustry partnerships. Indeed, companies such as IBM and Oracle have partnering built into their operating plans and spend millions each year to develop partnership programs. Software developers create constellations of collaborations. Hence, a distinguishing

feature of many contemporary alliances is that they cannot be understood outside of the broader context of the firm's web of relationships (Doz and Hamel, 1998).

This background suggests that a study of collaborative activities must be sensitive both to the integrity of individual alliances and to the embeddedness of each alliance in the firm's broader range of relationships. The question seems to be no longer whether to form an alliance but how to manage numerous relationships to ensure the most beneficial outcomes for the organization. The skill to partner is a transactional competence manifested through the decision whether to make or buy and whether to do so alone or in a partnership. The skill to combine multiple cooperative relationships appears to have become a source of competitive strength fundamental to survival in the global marketplace. In this context, very interesting, yet unexplored issues are whether firms rationally plan and structure their alliance webs and how strategic consistency is maintained across the firm's partnerships. Despite the abundant theoretical literature on alliances, these questions have been so far largely neglected.

The majority of the extant empirical studies either adopt the alliance as a unit of analysis (e.g. Vanhaverbeke and Noorderhaven, 2001, Marshall, 2004, Linnarsson and Werr, 2004) hence dealing with the organizational, strategic, financial, cultural and so on problems within one single relationship or focus on the generalities of alliances established by a number of companies (e.g. Pennings and Puranam, 2000, Bekkers et al., 2002, Miotti and Sachwald, 2003). Although very useful in certain aspects, the former approach greatly limits the complexity and dynamism of the strategic context in which relationships and firms are embedded. The later approach, on the other hand, typically results in a snapshot of relationships between few variables, assuming away some of the complexity in interorganizational relationships. It is questionable whether the true strategic meaning of partnerships can be observed if the relationships are analysed outside of their context.

This study argues that it is important to see each partnership as a function of the firm's overall configuration of strategic choices and relationships. Against this background, the aim of this study is to investigate whether firms approach the formation and management of their collaborative relationships in a systematic manner to tap synergies and maximise the overall benefits from their partnering activities. Synergies are understood here as relatedness (Rumelt, 1974) and complementarity between partnerships, which result in their combined contribution to the

firm's performance being greater than the sum of their separate contributions. The areas of relatedness that have the potential for creating synergy can be organized into three categories: synergy by leveraging resources, i.e. achieving resource reallocation and resource replication; synergy by aligning positions, i.e. improving bargaining position and competitive position; and synergy by integrating activities, i.e. sharing or linking value-adding activities (De Wit and Meyer, 2005).

The computer, telecommunications and media industries (CTMI) were selected as a focal point of this research for their technology-intensive properties and high density of collaborative relationships.

THEORETICAL BACKGROUND

There is a vast literature that attempts to explain, from a theoretical perspective, why firms enter into partnerships and what are the implications of such relationships for the partners, the industry, and the society at large. Two broad categories of literature are considered to have influenced partnership studies most significantly: the transaction costs view and the strategic management view. Both streams focus on the internal organization of the firm's activities in the context of markets or industries respectively. However, while the transaction costs arguments emphasize the importance of rational calculation and efficiency, management theorists have traditionally focused on the firm's strategic intent and the sustainability of its competitive advantage.

Transaction Costs Approach

Generally, transaction cost theory investigates how firms can increase efficiency by using different ways to organize a transaction, including arm's length markets and internal administrative organizations or hierarchies (Williamson, 1975, 1985). Hence the relative costs of carrying out a transaction under each organizational structure determine the boundary between the market and the firm (Coase, 1937; Williamson, 1975). The most appropriate governance mechanism is selected according to its efficiency in managing transactions with the lowest possible costs. Partnerships are a hybrid form of organization between the market and the hierarchy because they partially internalise an exchange (Williamson, 1985) and will be preferred 'when the transaction costs associated with an exchange are intermediate and not high enough to justify vertical integration' (Gulati, 1995, pp. 87). Partnerships are deployed when internalisation cannot be implemented for lack of resources or presence of

institutional barriers, or when arm's length transactions cannot cope with complexities, e.g. in sharing R&D activities or when the subject of exchange is specialized, intangible, inimitable, or embodied in organizational routines (Williamson, 1975, 1985).

The main drawback of the transaction cost approach is its preoccupation with the importance of rational calculation in understanding organizational structure and practice. It gives little attention to the possibility that outcomes may reflect the concentration of power among some actors, such as corporate managers, rather than efficiency. The later argument is particularly relevant to partnerships where decisions are often made not on efficiency basis but rather on the basis of 'social networking'. All economic relations require an overlay of social relations and vertical integration occurs in the absence of such relations (Granovetter, 1985).

Moreover, the transaction costs view predominantly envisages the incremental growth of the firm while in industries characterized by rapid development of new products and technologies immediate benefits are often gained at the expense of future technological dynamism and things do not proceed only incrementally. In those dynamic industries the risk of missing a market opportunity is reputed to be higher than the hazard of giving up proprietary know-how. Most scholars now accept the prescience of Schumpeter's (1942) observation that competition posed by new products is fundamentally more important than that of marginal changes in the prices of existing products. In fast-moving industries partnerships provide a shortcut to radical change and a primary mechanism by which firms formalize their links to external sources of development (Wilson, 1987). Therefore, transaction costs may be more relevant in some types of partnerships while in others the strategic aspect may be more relevant, e.g. in the form of gains from future positional advantage.

Strategic Management Approaches

The fundamental question in the field of strategic management is how firms achieve and sustain competitive advantage. The most influential approaches taken by strategic management scholars with regard to partnerships can be broadly arranged into three categories: resource dependence theory, dynamic capabilities school, and business networks theory.

Resource dependency theory is a rational choice theory and, like the transaction costs theory, rests on the assumption that organizations principally base their

decisions upon economic efficiency. However, unlike traditional industrial economics, which rely heavily on the analysis of the competitive environment, the resource-based view focuses on the efficient management of the resources possessed by the firm in order to attain competitive advantages (Grant, 1991, Peteraf, 1993). The ways in which firms combine and utilize resources influence their adaptation to the environment (Hannah and Freeman, 1977). Performance is based on the strategic differentiation that a firm achieves in the marketplace through developing 'a bundle of unique resources and relationships' (Rumelt, 1984, pp. 557), which cannot be easily imitated by competitors.

Imperfect mobility, imperfect imitability, and imperfect substitutability have been identified as resource characteristics fundamental to partnership formation (Barney, 1991; Peteraf, 1993). Imperfect mobility refers to the difficulty, as well as the nontrivial costs, of moving certain resources from one firm to another. For example, some resources, e.g. firm reputation and organizational culture, are simply not tradable while others, e.g. tacit knowledge, lose much of their value if moved from their current organizational context and resources used in conjunction. Whereas imperfect mobility is concerned with barriers to getting the resources from the owners, imperfect imitability and imperfect substitutability refer to barriers to obtaining similar resources from elsewhere (Barney, 1991; Peteraf, 1993). Finally, causal ambiguity, or the lack of transparency about how a particular bundle of resources are responsible for competitive advantage, constrains imitation and substitution, and augments the need for partnering (Lippman and Rumelt, 1982). Hence, partnerships are employed as mechanisms to secure access to scarce resources (Pfeffer and Salancik, 1978) or extract further rents from existing resources, for which market transactions are difficult to organize. Partnerships are a means of resource accumulation (Kogut, 1988), which evolve on the basis of the rational choices managers make in response to environmental changes and uncertainty.

The 'dynamic capabilities' approach to corporate strategy introduced by Teece and Pisano (1994) underlines the importance of dynamic change and corporate learning. The literature on dynamic capabilities is tightly related to the resource-based view of the firm and is often referred to as a part of it (Hodgson, 1998). The development of this framework flows from a recognition that strategic theory is replete with analyses of firm-level strategies for sustaining and safeguarding extant competitive advantage but has performed less well with respect to assisting the

understanding of how and why some firms succeed in building competitive advantage in regimes of rapid environmental change while others do not. Teece et al. (1997) define dynamic capabilities as the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments.

The dynamic capabilities approach views partnerships primarily as organizational modes that facilitate the transfer of knowledge and corporate learning (Hamel et al, 1989; Kogut and Zander, 1993), a means of internalising core competencies, and a route to acquire the skills of another firm (Hamel, 1991). It is not so much the cost of the knowledge transfer (which would be the focus of the transaction cost approach) but the effectiveness of the transfer that creates the need for collaboration. Partnerships enable firms to learn and enter new technological areas (Dodgson, 1991), and to deal more effectively with technological and market uncertainty. In sum, partnerships are an important part of the firm's learning process whereby the firm discovers new opportunities in a flexible setting of a multitude of changing partnerships. However, despite its emphasis on knowledge accumulation, this approach sheds little light on the issue of information valuation in potentially knowledge-rich partnership, e.g. early on in an alliance, its participants cannot be certain about the future value of the knowledge that might be gained from collaboration.

Finally, a number of authors have proposed that the main competitive advantage of contemporary firms stems from their participation in networks of units. The network perspective (Johanson, 1987, Hakansson, 1989, 1992, Jarillo, 1993, Forsgren and Johanson, 1994) attaches considerable importance to the social and cognitive ties that are formed between firms engaged in business relationships in industrial markets. The development of firms' operations is seen as strongly influenced by gradually developed collaborative relationships. Hence, a major objective of the network analysis is to reveal how business processes shape and are shaped back by network structures (Forsgren and Johanson, 1994). Activities performed by one agent have to be continuously adapted to the needs of the others in the network and vice versa (Hakansson, 1989). Thus the business network approach stresses on-going interaction rather than strategic decision-making (Johanson and Vahlne, 1990).

Three categories of theoretical rationale explain the formation of strategic networks: efficiency, synergy, and power (Jarillo, 1988). Networks can achieve efficiencies via scale and scope economies and via the reduction of transactional inefficiency in the open

market. The network arrangement allows the firm to concentrate on those parts of the value chain that better reflect its competitive advantage. Thus firms within a network are able to capture the benefits of specialization, focus, and scale. Networks achieve synergies through linking and exploiting the different competencies of a group of firms within a quasi-organizational framework (Miles and Snow, 1984). Thus, similarly to the dynamic capabilities view, the notion of business networks implies that contemporary firms compete primarily on the basis of combining competencies and capabilities. The network is a new form of organization and strategy. Successful firms embed themselves in webs of cooperative relationships, developing strategies together with their partners and competing against other networks (e.g. Gomes-Casseres, 1996, Weidenbaum and Hughes, 1996). Firms are proactive agents who strategically manage their relationships to reduce uncertainties, gain competitive advantages, avoid costs, and manipulate resource exchange. A combination of multiple cooperative relationships can be deployed as a source of competitive strength.

Fifty years ago scholars in economics and sociology struggled with the complexity and multifaceted character of partnerships and viewed them from a singular perspective based on a researcher's host discipline (Warren, 1967). The field has progressed since from a series of disciplinary bases towards more integrated theory approach to alliances. Any literature taxonomy is partially an arbitrary exercise, and the one presented here is no exception. Contemporary authors recognize that partnerships are evolutionary and complex institutions and use a mix of theoretical perspectives to understand the formation, evolution, operation, and outcomes of partnerships.

Indeed, the theoretical approaches outlined above have often used arguments from one another to support various arguments. In this sense, they can be seen as complementary rather than mutually exclusive. The core concepts from the four schools of thought discussed here can be seen as illustrating the multidimensionality of interorganizational relationships, namely: (1) partnerships are a hybrid form of organization, which partially internalises the transaction and is used when internalisation is not possible for lack of resources or presence of institutional barriers; (2) they are also mechanisms for creating the most value out of the firm's existing resources by combining them with other firms' resources; (2) partnerships are vehicles facilitating the transfer of knowledge and corporate learning, and the internalisation of core competencies; (3) and they are a form of organization focused on achieving

efficiency, synergy, and power, and managed strategically by the organization. The first two concepts focus on efficiency and rational choice, while the latter two concepts emphasise the flexibility of a multitude of partnerships. All in all, the theoretical debates focus on what is the organizations' primary goal for engaging in collaborative relationships, whether they should do so, and to what extent. In the mainstream literature these debates have been referred to as the paradox of competition and cooperation (De Wit and Meyer, 2005).

However, even the advocates of the embedded organization perspective engage little with the question of how organizations can manage numerous relationships to maximize the benefits from cooperation. Indeed, are organizations proactive agents who strategically manage their webs of relationships to tap synergies and, if so, how is this done in practical terms? These questions appear to be particularly relevant in dynamic technology-based industries where the question is no longer whether to cooperate but how to work successfully with multiple partners.

METHODS

This study is concerned with the need to gain a full and true understanding of reality, rather than the need to establish universal applicability. Hence a qualitative methodology, capable of capturing the perspective of the players, was considered most appropriate. To account for inter-industry variations, a comparative research design was adopted.

Research Instrument & Selection of Respondents

Face-to-face semi-structured, open-ended, in-depth conversational interviewing was adopted for this study because it has the potential to generate rich and detailed accounts of the interviewed individuals' experience. It is also flexible enough to allow the discussion to lead into areas which may not have been considered prior to the interview but which may be potentially relevant to the study. There is no definitive answer in the literature to the question how many in-depth interviews should be conducted. However, thirty interviews are considered typical (Oppenheim, 1994). Guiding questions were prepared to reflect insights gained from the reviewed industry and academic publications. The questions were purposely designed in most general terms to allow conducting multiple site research and generating data comparable across industrial sectors.

In terms of region, the research focused on Western Europe and US, which together represent a diverse

collection of technically and economically advanced countries where: (a) the CTMI are characterised by intense competition; (b) CTMI companies are at the frontier of new technology developments; and (c) CTMI markets in these countries are well developed. To incorporate variations in size and profitability, a diverse sample of US and Western European companies was identified through the Hoover's online database whereby major industry type was defined at the four-digit SIC code level.

It is often problematic for the researcher to identify a key informant who can provide the most relevant information. The choice of respondents for this study reflected the requirement that these individuals were involved in or very much aware of their company's partnering activities and strategic decision-making. Hence senior executives responsible for partnership operations and strategic planning were targeted as respondents.

Data Collection

Thirty-five interviews were conducted in thirty companies (Table 1). The data collection was completed over a five-month period. Eighteen of the companies were domiciled in the US and twelve in Western Europe.

The interviews were tape-recorded and transcribed for analysis into 448 single-spaced typed pages. Each interview began with brief professional histories of the interviewees. These narratives were used as bases for follow-up questions for the remainders of the interviews. The interviews ranged in length from 60 to 180 minutes. Interviewees were encouraged to develop their views around the open-ended questions. Recorded data were transcribed in full directly following each interview in an effort to ensure as much accuracy as possible in terms of their interpretation.

It must be noted that the conducted interviews captured a broad picture of alliance formation and implementation because most of the respondents had occupied senior positions in a number of companies not only within their industry but also in other industries and were able to reflect on their overall experience.

Table 1 Data Collection - Summary

Industry	US	Europe	Total
Computer	10	0	10
Telecom	4	9	13
Media	4	3	7
Investors & Analysts	4	1	5
Total:	22	13	35

Data Analysis

Qualitative data analysis most generally comprises a searching out of underlying themes in the materials being analysed. Experienced qualitative researchers have expressed a number of concerns regarding the use of ethnographic software for qualitative analysis, most importantly fragmentation of the textual materials resulting in loss of the narrative flow of interview transcripts and events, and decontextualising of the data (for a list of opinions see Bryman and Bell, 2003, pp. 446). It is, in fact, widely accepted that most of the features that might be needed in conducting qualitative data analysis are achievable through powerful word-processing software such as Word for Windows (Maylor and Blackmon, 2005).

Unstructured approach to the data analysis was adopted for the purposes of this research, using Kolb's learning cycle model to assist the process. The Kolb's learning cycle adopts a pragmatic approach, suggesting that learning takes place as a continual movement from concrete experience to reflective observation, to abstract conceptualization, to active experimentation and back to concrete experience (Kolb, 1985).

The comparative nature of this research required the interview data to be initially broken down into categories corresponding to different aspects of partnership formation for each of the three industries in order to look for patterns and reoccurring events and behaviours. Consequently, more general expressions of the categories were formulated to sum up patterns of behaviour. The responses were coded according to industry and numbered for identification. For validation purposes, most of the respondents were given copies of the provisional analysis, and their opinion was asked with regard to the truthfulness of the interpretation and the developed suggestions.

FINDINGS & PROPOSITIONS

In concert with previous research (e.g. Gomes-Casseres, 1996, Weidenbaum and Hughes, 1996, Doz and Hamel, 1998), the findings show that firms in CTMI develop numerous partnerships, which enable them to respond to unfolding events quickly and adequately, to maintain or improve competitive position, and to ensure further growth while retaining flexibility. Yet, contrary to the business network perspective, which portrays firms as proactive agents who strategically manage their networks, this research has found that few firms have a systematic approach to partnerships. No significant industry variations were found. However, the findings were found to vary

according to the size of the studied organizations. Indeed, previous research have found that large firms resort more to cooperation and the reasons for cooperation differ as between large and small firms (e.g. Bayona et al., 2001).

The few firms that were found to have a clearly defined strategy and a structured approach towards partnerships were typically large while SMEs usually adopted an ad hoc approach. Most often there was no actual strategic alignment of the company alliances neither at the business level nor at the corporate level. Firms typically planned and evaluated each partnership separately to fill gaps in product lines, extend geographical reach, or bring better component versions but there was very little evidence that any effort was made to capitalize on potential synergies. The strategic positioning of the collaborations to one another was unclear, and there were co-ordination problems.

The data, however, indicate that, regardless of their size, firms recognize the need to replace the opportunistic approach to collaboration with careful planning, monitoring and coordination. Even firms, which adopt an ad hoc approach towards partnerships, realize that a web of well-synchronized partnerships would permit them to better utilize their resources and manage their markets. Yet, at present this realization remains wishful thinking. Despite the realization that partnerships tend to bring much more value if they are closely coordinated, even the large enterprises that make attempts to synchronize their collaborative activities do not devise these configurations as strategic tools. Although firms do develop criteria for partner selection and recognise the potential benefits from a systematic approach, partnerships are still conceived in a rather opportunistic way. Naturally, the everyday management of partnerships is performed on an individual basis.

Moreover, the data suggest that some major challenges arise when a firm participates in a number of partnerships. These challenges are mainly related to the need to deal with the often contradictory interests of the partners. The problem becomes even more complicated when some of the partners are, in fact, competitors between themselves.

Partner Selection

Seabright et al. (1992, pp. 124) note that the criterion for partner selection is 'the fit between one organization's resource needs and another's resource provision, relative to an opportunity set.' Indeed, the data suggest that the partner selection stage is a combination of rigorous assessment processes and opportunity. Firms approach this stage in a rational

way and establish unambiguous selection procedures to increase the chances of teaming up with a suitable partner and, hence, increase the chances of partnership success. The selection process starts with defining the goals and objectives that the firm aims to achieve. Potential partners are identified in the targeted markets and grading criteria are developed according to the particular strategic objective. The partner selection is then conducted at two levels: the relationship level and the company level.

The selection at the relationship level is a combination of immediate commercial considerations, such as revenue sharing and marketing contribution, and assessment of the long-term value and opportunity associated with the particular partner. Generally, the ranking starts with assessing the distinctive competitive advantages of the potential partners, for example unique position in the market place, global presence, unparalleled products, ability to provide new ways for delivering products to consumers, or capacity to take their allies into new markets. The potential partner must have technology, capabilities or processes that can contribute to the development of joint output, which will create value for the firm's customer base. The value of the potential partner is also related to the possibility to collaborate on more than one project or in more than one area. The ranking at the relationship level is completed with assessing the impact of each potential partnership on the firm's existing relationships and the balance of power in the potential partnerships. These findings indicate that organizations do recognize at some level the interactive properties of their relationships and the need to make full use of their potential.

At the company level, a promising partner should be able to demonstrate financial stability; good reputation and credibility; integrity and reliability; flexibility; strategic, organisational and cultural fit; and a track record of productive success in partnering. Limited experience in partnering is recognised as largely contributing to the potential partner's perceived uncertainty, which in turn affects the level of trust between the partners. The later is particularly important if the organization is engaged in multiple collaborative relationships. Finally, personal networking and geographical proximity are considered. Geographical proximity is particularly relevant in the case of long-term supplier-buyer partnerships, in which constant interaction and support is often required.

Collaborating with key competitors or sharing partners with them is avoided. Hidden competitive agenda can destroy even the most promising collaboration. The far-reaching consequences of such collaboration must

be thoroughly evaluated and perhaps only the prospective partner with the greater potential - should be considered. Collaboration with competitors is also avoided, particularly if the collaboration project concerns a market, which is core for both the firm and the potential ally. Some competitive overlap is acceptable as long as it is limited, not extremely intense, and it is not the core business of the partners. Pre-market cooperation with competitors is also acceptable if the benefits significantly exceed the risks. If a partnership with a competitor is formed, project segregation is imposed and the boundaries between the areas of cooperation and competition must be clearly defined as precautions against opportunistic behaviour.

Using these criteria, the potential partners are ranked against the company objectives according to their short term and long term potential to help the firm achieve its goals. New technologies must not be necessarily forced through existing partners because they might not be the best fit. Partner segmentation for every new product and every new technology ensures the selection of the most suitable ally for each particular project. The partner segmentation and selection take place at the business strategy level. Once a decision has been made, the responsibilities for building, managing and monitoring the partnership are delegated to the relevant business unit.

However, despite the rigorous assessment processes in place, there is little evidence that organizations employ any systematic approach to ensure coordination and synchronization of their partnerships that can deliver synergetic effects in terms of leveraging resources, aligning positions or integrating activities.

Portfolio Approach to Partnerships

The portfolio approach originates from the financial literature and argues that if there is a sufficiently large number of projects or assets in which to invest and if the returns of these assets are independent of each other, i.e. risk is unsystematic, then the simplest risk management device is to diversify. In other words, the firm can develop a portfolio of assets sufficiently large for the possibilities of gain to offset the possibilities of loss. Theoretically, if one asset falls in value, this is countered by a rise in the price of another. If the number of assets is insufficiently large, however, the mechanism does not fully remove the risk. This argument can be applied to any portfolio of assets, including partnerships, whereby even if the number of partnerships is not sufficient to fully remove the risk of failure, the portfolio approach will, in

theory, reduce the risk and improve the overall performance of the firm's collaborations.

Examining the applicability of the portfolio approach to the firm's partnerships starts with the assumption that the firm's ability to develop core competencies is constrained and limits the feasible degree of product and market diversity it can achieve. This is the argument for the need of the firm to focus on its core competencies. Yet, numerous firms have assets in a variety of product markets and geographical markets. Unless the firm operates a multidomestic strategy, whereby its operations in across national boundaries are completely autonomous and independent of each other, these assets are likely to be all linked in the firm's value chain. Essentially, this means that poor performance in one area will inevitably have an impact on all areas, i.e. in most situations all risk is systematic and cannot be completely removed. Nevertheless, if a particular product market is exhausted or further growth is limited, the firm must introduce new products or reach into new markets in order to continue growing. With a balanced portfolio of products at different points of their life cycle the firm can sustain its growth. Moreover, at any time the firm must be able to simultaneously introduce new products and cease the production of old ones. This is the logic behind the product portfolio approach in the strategic management literature and this logic can be transferred to the design and management of partnership webs.

Most firms in technology-intensive industries have more than one partnership. The findings of this research show that this holds true for different sets of partners, e.g. a firm usually has more than one supplier or more than one distribution partner, etc. Some large firms have dozens or even hundreds of partners. Thus the relationship perspective on partnerships is a limited one while the portfolio perspective offers a number of advantages in planning and managing the firm's alliances. This research confirms that, indeed, organizations are beginning to recognize that fortifying their businesses with multiple collaborative relationships along the value chain can deliver superior combinations of technology and product development, functional integration, marketing and distribution, service and maintenance.

Above everything else, however, the portfolio approach is a risk minimising device, which can be very useful in the context of increasing technological, product and market uncertainty in the CTMI. Partnerships often take long to develop and even longer to deliver financial benefits. In addition, there are great variations between relationships in terms of duration and productiveness. Applying the portfolio approach to

partnerships can greatly contribute to the efficient utilization of the value-creation potential of the firm's resources through allowing synergetic access to multiple markets, assets and capabilities, and through securing risk and revenue distribution. Managing the firm's partnerships as a portfolio can act as a flexible platform for integrating the core technologies and capabilities of the firm and its partners.

The first step towards developing a systematic approach to alliance management must be to distinguish between the different levels of partnering activities. The scrutiny of the data suggested that the collaborative relationships need to be planned, monitored, and evaluated at three levels: (1) Dyadic level, i.e. a single relationship between two companies. Dyadic ties are often overlapping, e.g. two firms can form between themselves a number of contractual alliances with different scope and purpose; (2) Partnership level, i.e. the partners and relationships within an individual alliance. Many alliances are formed by more than two partners and comprise of a number of dyadic relationships; and (3) Partnership web level, i.e. all the collaborations of the firm or the business unit. To function as a portfolio, the goals, resource needs, and potential benefits, including revenues, of the firm's partnerships must be coordinated at the partnership web level. While the business strategy will have to consider the management and utilization of all three levels, the corporate strategy will be mainly concerned with the partnership web level.

The next step in designing a portfolio is to articulate the issue of choice. The most common approach is to use a matrix such as the Growth Share matrix. One way to categorize the firm's partnerships is according to type of value chain activities, e.g. Sales, Product & Technology Implementation, R&D, and Services & Production (Exhibit 2). The basic idea is that the portfolio management of partnerships should focus on achieving synergetic effect through leveraging resources and aligning positions across the value chain activities, linking and sharing them where possible. The overall configuration of the portfolio, including new partner selection and effort invested in particular partnerships, must reflect the strategic direction of the organization.

To complete the matrix, some basic partnership profiles need to be outlined. For instance, qualified partnerships, key partnerships and top partnerships can be distinguished to cater to the requirements, area of activities, scale and contributions of each partnership, and level of capabilities of the partners. Qualified partnerships will incorporate alliances on a national scale which are limited to only one of the four activity

categories. Key partnerships will be considered the ones that cover more than one category of activities, e.g. joined R&D and product/service offerings. The partners in this category will be transnational companies and key players in their market segments. Finally, top partnerships will be considered the ones with a high degree of strategic relevance. These partners will be international market leaders, which cooperate with the firm across several activity categories, and implement jointly defined business goals based on agreed balance scorecards. Further categorisation may be appropriate, for instance, according to resourcing and financial performance to assist the optimisation of the firm's resource planning. It must be noted that this portfolio layout is suggested only for illustration purposes. The appropriate layout of the particular firm's alliance portfolio will depend on the firm's strategy focus, size, organizational structure, scope and diversity of activities.

The findings of this study show that organizational fit is considered one of the important criteria for partner selection. Organizational fit implies that the partners' strengths and weaknesses are dissimilar and, hence, complementing one another and producing a synergetic effect. Companies with identical strengths are likely to suffer disagreement over their respective contributions to the partnership, while allies with identical weaknesses will suffer from lack of essential resources. For instance, a marketing collaboration requires both partners to have strong marketing capabilities but they must differ and complement each other in product lines, customer bases or distribution channels for the collaboration to work. In reality, there will be always areas where either a necessary strength is missing or there is an organizational overlap. It is paramount, however, to identify the missing strengths beforehand and examine the possibilities of offsetting against them in order to minimise the organizational misfit. Similarly, for the overlapping areas the partners should look into possibilities to leverage their combined resources rather than begin power games.

Table 2 Alliance Portfolio Matrix (example)

Profiles Value chain activities	Qualified partnerships	Key partnerships	Top partnerships
Sales			
Product and technology			
R&D			
Services and production			

Continuous monitoring and coordination of the alliance portfolio can deliver significant synergies across partnerships and across value chain activities hence contributing to the more efficient utilization of the partners' resources. The positioning of the alliances to one another must be clear to reassure the partners and assist the building of trust. The performance of the individual alliances must be constantly monitored and assessed to ensure timely intervention if necessary and investigation into the reasons for underperformance. Portfolio monitoring has the potential to screen for improvement in the potential of existing partnerships and opportunities for extending the relationships to another area or business unit, to stimulate the development of selected key partnerships, to establish best practices, and initiate processes of learning and change.

Last but not least, partnering is complex and hard, and this study has found that it requires constant balancing not only within and across relationships but also across the firm's departments. Ongoing interaction and coordination must apply between the management of the different partnerships and groups of partnerships as well as between the firm's internal businesses and divisions. Firms must be aware of conflicts at three levels: (1) internal competition between the business units within the firm for a particular partnership; (2) conflicts between the firm and its partners; and (3) tension among the allies of the firm, typically caused by uncertainty over market interests and business practices. There is no single formula for resolving these conflicts but, generally, looking into them on a case-by-case basis while considering the overall balance of benefits both within and across relationships, having more than one partner but not too many in each area, negotiating acceptable compromises, keeping customers' needs in the forefront, and not engaging in exclusive deals, might prevent some problems.

To conclude, the corporate strategy ought to provide the general framework for partnering activities through balancing the strategic goals, the general resource allocation and the financial potential of the partnerships as a portfolio. The business strategy, on the other hand, will be responsible for the day-to-day management, control, monitoring and implementation in addition to the financial and strategic portfolio coordination within the business unit.

CONCLUSIONS

Alliances are first and foremost, strategic vehicles for accomplishing vital corporate objectives. As previous studies have suggested (e.g. Katila and Mang, 2003), the ability to collaborate has a learning curve and is an important transactional competence with tacit dimension, which directly impacts the competitive strength of the firm. The industry patterns of competition and demand differ; hence there are variations in the importance of partnerships, their processes and structures. Hence it is difficult to formulate what is best in collaborating activities - one size will not fit all. Neither it is valuable to look at partnering activities only as sequences of rational well calculated moves because such approach lacks understanding of the vision, the value proposition, and the interactions between both organizations and individuals. Nevertheless, a balanced systematic approach to partnerships will allow firms in dynamic technology-intensive industries to manage more efficiently their resources and their markets, and to balance the tension between efficiency and flexibility.

This study proposes that the firm's web of collaborative relationships can be systematically employed as a way of organizing to widen the range of options, technological and strategic, available to the firm. A portfolio approach to the management of partnerships in dynamic technology-intensive industries will have very tangible meaning in the light of practical management, particularly when a focused interest is emerging in those industries towards the art to work with multiple partners. Business leaders make decisions under conditions of great uncertainty in an attempt to anticipate changes and stay ahead of the technology curves changing their environment. The ability to innovate and further develop and apply new technologies is fundamental to building strength and power critical to business success and survival in the global marketplace. Partnerships are a strategic tool, which has proved very useful in such environments, and practitioners must learn to use them skilfully. Balancing numerous relationships require development of particular capabilities and must be incorporated in the strategy literature.

REFERENCES

- Barney, J.B. (1986) Strategic factor markets: expectations, luck, and business strategy, *Management Science*, 32 (10), pp. 1231-1241
- Barney, J.B. (1991) Firm resources and sustained competitive advantage, *Journal of Management*, Vol. 17, pp. 99 - 120
- Barney, J.B. (1992) Integrating Organizational Behaviour and Strategy Formulation Research, in P. Shrivastava, A. Huff and J. Dutton (Eds.), *Advances in Strategic Management*, 8, pp. 39 - 61, JAI Press
- Bayona, C., García-Marco, T., Huerta, E. (2001) Firms' motivations for cooperative R&D: an empirical analysis of Spanish firms, *Research Policy* Vol. 30, Iss. 8 , pp. 1289-1307
- Bekkers, R., Duysters, G., Verspagen, B. (2002) Intellectual Property Rights, Strategic Technology Agreements And Market Structure, *Research Policy*, Vol. 31, Issue 7, pp. 1141 - 1161
- Bryman, A. and Bell, E. (2003) *Business Research Methods*, Oxford University Press, New York
- Cantwell, J.A. (1998) Introduction, *Journal of Economic Behavior and Organisation*, 35, pp. 133-137
- Chandler, A.D. (1977) *The Visible Hand: The Managerial Revolution in American Business*, Belknap/Harvard University Press, Cambridge
- Ciborra, C. (1991) Alliances as Learning Experiments: Cooperation, Competition and Change in high-tech industries, in L. Mytelka (ed.) *Strategic Partnerships and the World Economy*, pp. 51 - 57, Pinter
- Coase, R.H. (1937) The Nature of the Firm, *Economica* (New Series), 4, November, pp.386 - 405
- Cohen, W. and Levinthal, D. (1989) Innovation and learning: the two faces of R&D, *The Economic Journal*, 99, pp. 569-596
- De Wit, B. and Meyer, R. (2005) *Strategy Synthesis*, Thomson Learning
- Doz, Y. and Hamel, G. (1998) *Alliance Advantage: The Art of Creating Value Through Partnering*, Harvard Business School Press
- Duysters, G. (1996) *The Dynamics of Technological Innovation*, Brookfield, VT: Edward Elgar
- Dyer, J.H. and Sing, H., (1998) The relational view: co-operative strategy and source of interorganisational competitive advantage, *Academy of Management Review*, 23, 4, pp. 660-679
- Eisenhardt, K. and Schoonhoven, C. (1996) Resource-based View of Strategic Alliance Formation: Strategic and Social Effects in Entrepreneurial Firms, *Organization Science*, Vol. 7 No 2, pp. 136 - 150
- Forsgren, M. and Johanson, J. (1994) *Managing Networks in International Business*, Gordon and Breach Science Publishers
- Gomes-Casseres, B (1994) Group Versus Group: How Alliance Networks Compete, *Harvard Business Review*, Vol.72, N 4, Jul-Aug, pp.62-74
- Gomes-Casseres, B. (1996) *The Alliance Revolution: The New Shape of Business Rivalry*, Cambridge, MA: Harvard University Press
- Granovetter, M. (1985) Economic action and social structure: The problem of embeddedness, *American Journal of Sociology*, 91, pp. 481 - 510
- Grant, R.M. (1991) The Resource-Based Theory of Competitive Advantage: Implications for Strategy Formulation, *California Management Review* (Spring), 33, (3), pp. 114 - 135
- Gulati, R. (1995) Does familiarity breed trust? The implication of repeated ties for contractual choice in alliances, *Academy of Management Journal*, 38, pp. 85-112
- Hagedoorn, J. (2002) Inter-Firm R&D Partnerships: An Overview Of Major Trends And Patterns Since 1960, *Research Policy*, Vol. 31, Iss. 4, pp. 477 - 492
- Hagedoorn, J., (1996) Trends and Patterns in Strategic Technology Partnering Since the Early Seventies, *Review of Industrial Organization*, 11, pp. 601 - 616
- Hakansson, H. (1989) *Industrial Technological Development: A Network Approach*, Routledge
- Hakansson, H. (1992) *Corporate Technological Behaviour. Co-operation and Networks*, Routledge
- Hamel, G. (1991) Competition for Competence and International Partner Learning within International Strategic Alliances, *Strategic Management Journal*, Vol. 12, pp. 83 - 103
- Hamel, G., Doz, Y. and Parahalad, C. (1989) *Collaborate With Your Competitors and Win*, Harvard Business Review, January - February, pp. 133 - 139
- Hannah, M. and Freeman, J., (1977) The Population Ecology of Organizations, *American Journal of Sociology*, Vol. 82 No 5, pp. 929-964
- Hladik, K. (1985) *International Joint Ventures*, Lexington Books, Lexington, Massachusetts
- Hodgson, G.M. (1998) *Competence and contract in*

- the theory of the firm, *Journal of Economic Behaviour and Organization*, 35, pp. 179-201
- Inkpen, A.C. (1998) Learning and knowledge acquisition through international strategic alliance, *Academy of Management Executive*, 124, pp. 69-80
- Jarillo, J. (1988) On Strategic Networks, *Strategic Management Journal*, Vol. 9, pp. 31 - 41
- Jarillo, J. (1993) *Strategic Networks. Creating the Borderless Organization*, Oxford, Butterworth-Heinemann Ltd
- Johanson, J. (1987) Anarchists and Organizers: Entrepreneurs in a Network Perspective, *International Studies of Management and Organizations*, Vol. 17(1), pp. 49 - 63
- Johanson, J. and Vahlne, J.E. (1990) The Mechanism of Internationalization, *International Marketing Review*, Vol. 7, No 4, pp. 11 - 24
- Katila, R. and Mang, P., (2003) Exploiting technological opportunities: the timing of collaborations, *Research Policy*, Vol. 32, Iss. 2, pp. 317-332
- Kogut, B. (1988) Joint ventures: theoretical and empirical perspectives, *Strategic Management Journal*, 9, pp. 319-332
- Kogut, B. and Zander, U. (1993) Knowledge of the firm and the evolutionary theory of the multinational corporation, *Journal of International Business Studies*, 24, pp. 625-645
- Kolb, D.A. (1985) *Experiential Learning*, Pearson, Englewood Cliffs, NJ
- Link, A., Bauer, L. (1989) *Cooperative research in US manufacturing*, Lexington Books, Lexington, MA
- Linnarsson, H. and Werr, A. (2004) Overcoming the innovation-alliance paradox: a case study of an explorative alliance, *European Journal of Innovation Management*, Vol. 7, N 1, pp. 45-55
- Lippman, S A. and Rumelt. R. P. (1982) Uncertain imitability: An analysis of interfirm differences in efficiency under competition, *Bell Journal of Economics*, 13, pp. 418-438
- Marshall, C. (2004) The dynamic nature of innovation partnering: a longitudinal study of collaborative interorganizational relationships, *European Journal of Innovation Management*, Vol. 7, N 2, pp. 128-140
- Maylor, H. and Blackmon, K. (2005) *Researching Business and Management*, Palgrave Macmillan, New York
- Miles, R.E. and Snow, C.C. (1984) Fit, failure and the hall of fame, *California Management Review*, XXVI, pp. 10-18
- Miotti, L. and Sachwald, F. (2003) Co-operative R&D: why and with whom? An integrated framework of analysis, *Research Policy*, Vol. 32, Iss. 8, pp. 1481-1499
- Mitchell, J.C. (1983) Case and situation analysis, *Sociological Review*, 31, pp. 186-211
- Oppenheim, A.N. (1994) *Questionnaire Design, Interviewing and Attitude Measurement*, Pinter Publishers Ltd
- Pennings, J. and Puranam, P., (2000) Market Convergence & Firm Strategies: Towards a systematic analysis, Paper presented at the Organization Science Winter Conference, Keystone, CO, USA
- Penrose, E. (1959) *The Theory of the Growth of the Firm*, Wiley, New York
- Peteraf, M.A. (1993) The cornerstones of competitive advantage: a resource-based view, *Strategic Management Journal*, 14, pp. 179-191
- Pfeffer, J. and Salancik, G. (1978) *The External Control of Organizations: A resource dependence perspective*, Pearson Education, NJ
- Prahalad, C.K. and Hamel, G. (1990) Core Competence of the Corporation, *Harvard Business Review*, 3, pp. 79 - 91
- Rumelt, R. (1984) Towards a strategic theory of the firm, in Lamb, R. (Ed.), *Competitive Strategic Management*, Prentice-Hall, Englewood Cliffs, pp. 556-570
- Rumelt, R. P. (1974) *Strategy, Structure and Economic Performance*, Harvard University Press
- Schumpeter, J.A. (1942) *Capitalism, socialism and democracy*, Harper & Row, NY
- Seabright, M. A., Levinthal. D. A. and Fichman, M. (1992) Role of individual attachments in the dissolution of interorganizational relationships, *Academy of Management Journal*, 35, pp. 122-160
- Teece, D. (1992) Competition, cooperation, and innovation, *Journal of Economic Behavior and Organization*, 18, pp. 1-25
- Teece, D. and Pisano, G. (1994) The dynamic capabilities of the firms: an introduction, *Industrial and Corporate Change*, 3, pp. 537-556
- Teece, D.J., Pisano, G. and Shuen, A., (1997) Dynamic capabilities and strategic management, *Strategic Management Journal*, 18(7), pp. 509-533

- Vanhaverbeke, W. and Noorderhaven, N.G. (2001) Competition between Alliance Blocks: The Case of the RISC Microprocessor Technology, *Organization Studies*, Vol. 22, Iss.1, pp.1
- Wang, J.C. (1994) Cooperative research in a newly industrialized country: Taiwan, *Research Policy*, 23, pp. 697-711
- Warren, R.L. (1967) The Interorganizational Field as a Focus for Investigation, *Administrative Science Quarterly*, 12, pp. 396 - 419
- Weidenbaum, M. and Hughes, S. (1996) *The Bamboo Network: How Expatriate Chinese Entrepreneurs Are Creating a New Economic Superpower in Asia*, The Free Press, New York
- Williamson, O. (1975) *Markets and Hierarchies: Analysis and Antitrust Implications*, New York, The Free Press
- Williamson, O. (1985) *The Economic Institutions of Capitalism*, New York, Free Press
- Wilson, D. (1987) *The Effects of Organizational Structures and Technology Transfer as Strategic Alliance Success*, Sloan School of Economics, Massachusetts Institute of Technology