
Editorial: business partnerships: the formal, the informal, and the local

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Since the first half of the 1980s, when the first data were put together to map the sudden burst of inter-firm cooperation in Europe and the USA, it has been established that partnerships constitute an important mechanism of business interaction, learning, and resource and market access around the world. A set of developments in the global economy has underlined the explosion of business partnerships since the late 1970s:

- *Globalisation.* Transnational companies have pushed into new product and geographical markets relentlessly.
- *Technological change.* The pace of technological advance has accelerated significantly, partly as a result of increasing competition through globalisation. In addition to being an outcome of competitive pressures, however, technology is an enabler of globalisation. Technological capabilities have diffused around the world more widely than ever before.

- *The notion of 'core competency'*. Increasing international competition and faster pace of technological advance have robbed firms of their ability to be self-sufficient in everything they want to do. The popular concept currently is to do internally what a company does best and outsource the rest through partnerships.
- *Economic liberalisation and privatisation*. This process has led to unprecedented international flows of capital and financial resources. Cross-border mergers and acquisitions and other kinds of foreign direct investment have achieved all-time records. Developing countries have managed to increase their share of the intake (but the distribution among them is highly skewed).

Special attention has been paid in the literature to the characteristics of knowledge-based partnering among firms, universities, and other research organisations [1–4]. Such partnering has supplemented traditional mechanisms of technology transfer (e.g., including licensing, the acquisition of capital goods, and the transfer of complete technology packages) by many semi-formal and formal new mechanisms for gaining access to technologies and markets. The new mechanisms entail the formation of dense webs of inter-organisational networks that provide the private sector with the necessary flexibility to achieve multiple objectives in the face of intense international competition. The result has been an increasing interdependence on a global scale that few firms interested in long-term survival and growth can escape.

Although indicative of a broad and important phenomenon, evidence of formal partnerships (alliances) should be interpreted carefully. Not only is the underlying data subject to significant biases, the nature of recorded partnerships has been changing dramatically. Rather than equity-based (such as traditional joint ventures), the vast majority of partnerships during the past twenty years has been contractual agreements (such as joint R&D, technology exchange agreements, and various types of sourcing relationships) catering to the pressing need for strategic flexibility in high-tech sectors. Analysts may, in fact, have overreached in paying too much attention to what can be measured – formal forms of partnering like those above, involving explicit contracting among parties – and relatively inadequate attention to various forms of informal partnering among organisations and individuals. Anecdotal evidence indicates that informal partnering probably accounts for a very large share of partnering activity in industry, especially when it comes to small and medium-sized enterprises (SMEs) located in proximate geographical areas.

Formal and informal partnering could indeed be perceived as a continuum where formal enterprise cooperation, clustering, and informal networking are complementary modes of operation. Formal partnership requirements – including strategy formulation and significant partner contribution in tangible and/or intangible resources – may be placing the bar too high for the majority of firms that are small and lack the requisite managerial and negotiating expertise. That, however, leaves a whole lot of other cooperative interactions for these economic agents to pursue. It now seems probable that more informal partnering through networks and clusters is a way for many firms in developing countries, for example, to increase their sophistication and become stronger and more competitive, thus gradually preparing for more formal partnerships. UNCTAD very appropriately has emphasised the continuum of partnerships, networking, and clustering [5].

The papers in this collection address several critical issues in relation to collaboration, both formal and informal, including evaluation, technology transfer, networking, clustering, regional partnering. The first three papers distinguish between publicly and privately funded partnerships and appraise the benefits of participation, especially as they relate to the building-up of intangible (knowledge) assets. The following two papers use large sets of publicly funded R&D agreements in Europe to evaluate the effectiveness of this policy in creating viable networks across the European Union and in promoting cohesion among various geographical areas of the Union. The last couple of papers broaden the discussion by blending in informal forms of partnering and regional and institutional considerations.

Matt and Wolff classify formal inter-firm agreements into two types: publicly funded collaborations funded by research and development programmes vs. spontaneous, privately funded joint research projects. They suggest that the two organisational modes demonstrate distinct characteristics. Government-sponsored agreements generally concern peripheral activities, are subject to predefined coordination rules, tend to focus on exploratory work, and result primarily in unilateral learning (done at the level of one partner). Privately funded alliances focus on more critical activities for the participating organisations, are subject to tailored operating rules and may activate interactive learning which generates valuable, collective, specific assets. Two case studies in fuel-cell technology are used to demonstrate the theoretical propositions.

Kastelli, Caloghirou and Ioannides deal with one of these types of agreements. They explore the process of knowledge creation and capability development in the context of publicly subsidised cooperative R&D agreements. A dataset constructed on the basis of a large survey of cooperative agreements concluded by European firms is used to provide evidence on the relationship between the benefits from engaging in cooperative research and a set of factors that describe the technological and organisational capabilities of the participating firms and the constraints arising in the context of cooperation. The authors propose an enhanced notion of absorptive capability as an enabling condition for effective exploitation of a firm's involvement in R&D cooperation.

Nakamura and Nakamura deal with the other type of agreements: it studies technology transfer in international collaborative agreements and the performance of participating companies. An important finding is that management and protection of proprietary intangible assets such as technology and management skills is important for firms considering international expansion via joint ventures. Joint venture partners have incentives to appropriate intangible property; and many governments try to assist domestic firms maximise such spillovers (at the receiving end) in the belief that they contribute substantially to long-term economic growth. On the basis of a substantial sample of Japanese manufacturing companies that had engaged in international joint ventures, the paper presents empirical evidence that intangible asset transfer from foreign to host country partners contributes to the performance of the host country partner firms.

Breschi and Cusmano use a large dataset of research ventures subsidised by the European Union between 1992 and 1996 (3rd and 4th Framework programmes) to provide a first assessment of the emergent European Research Area, exploring topological features and dynamics of the network. The empirical analysis points to the emergence of a dense and hierarchical network across Europe that involves private sector companies, universities and other public research organisations. A highly connected core of frequent participants emerges in the analysis. This core takes leading roles within consortia and is linked to a large number of peripheral actors, forming a giant component

that exhibits the characteristics of a 'small world'. The authors point to the important implications of such a configuration for the current European policies promoting networks of excellence. It is a clear possibility that the same dynamics will emerge. Moreover, the existing 'fabric' that was woven in the previous Framework Programmes is expected to exert significant influence on the creation of new network structures in the current sixth programme.

Constantelou, Tsakanikas and Caloghirou examine a central objective of the European Framework Programmes: the promotion of socio-economic 'cohesion' among the regions of the Union. In particular, the authors examine whether the Framework Programmes for Research and Technological Development have prompted the cooperation of research teams from country members in ways that break the traditional boundaries between the more advantaged European north and the less advantaged south. Drawing on an extensive database of 9,335 collaborative research ventures covering 64 major programmes over a 15-year period (1984–1998), the paper presents the linkages established among different agents (firms, universities, other research institutes) and tries to identify patterns in the formation of the collaborative consortia at the national level. The analysis points to a picture of significant collaborative activity among clusters of neighbouring countries that are found in similar states of economic and technological development. Actors from neighbouring countries are found to collaborate more often.

Lynn Mytelka examines the relationship between clustering and formal, long-distance partnering from the perspectives of evolutionary economics and innovation systems. The paper brings together management approaches and regional economic theories to analyse the preference for colocation in clusters and the complementarity between long-distance and local partnering by 25 biotechnology SMEs located in six French clusters. The author stresses the finding that the static advantages of infrastructure or a pool of skilled labour advanced in the cluster literature are no longer important once the start-up moves out of an incubator or ceases to share facilities with a laboratory there. The companies stressed that it was not the 'skills' that mattered as much as their newness. Thus it was not simply the pool of trained scientists but rather the ability to access a continuous flow of new knowledge in the form of seminars and degree candidates or newly minted PhDs for their closeness to the frontier of knowledge and the originality of their thinking. This special knowledge competence and not merely the skills that come from education and training are what research-oriented clusters provide. Although the surveyed firms overwhelmingly located in cluster where knowledge flows of this sort were present, the choice of a specific cluster was far more a function of the origin of the firm as a spin-off from a university, research institute or enterprise within that cluster.

Finally, DelaMothe and Mallory's paper on collaboration extends beyond the traditional focus on firm behaviour and corporate strategy. Alliances are said to be not simply a feature of inter-firm relationships. They are not restricted to R&D consortia or to knowledge transfer relationships between private and public institutions. Rather, the authors argue that alliances can help understand the dynamics of larger innovative communities such as cities. Alliances are used as strategies to achieve local growth. The authors argue for strategies that the community develops to achieve a knowledge-based, high value-added future. Success factors include local development: leadership (which includes community vision), infrastructure (both physical and smart), money (including a full range of financial instruments such as access to venture capital as well as inbound foreign direct investment), people, and technology.

References and Notes

- 1 Examples of recent surveys of the literature can be found in [2–4].
- 2 Caloghirou, Y. and Vonortas, N.S. (2000) *Science and Technology Policy Towards Research Joint Ventures*, Final Report of the STEP-TO-RJVs Project SOE1-CT97-1075, Targeted Socio-Economic Research Programme (TSER), European Commission, DG Research.
- 3 Hagedoorn, J., Link, A.N. and Vonortas, N.S. (2000) ‘Research Partnerships’, *Research Policy*, Vol. 29, Nos. 4–5, pp.567–586.
- 4 Jankowski, J.E., Link, A.N. and Vonortas, N.S. (2001) (Eds.) *Strategic Research Partnerships*, National Science Foundation, Arlington, VA.
- 5 United Nations Conference on Trade and Development (2000) *Development Strategies and Support Services for SMEs: Proceedings of Four Intergovernmental Meetings*, United Nations, New York and Geneva.