Business Networks, Strategic Alliances, Open Innovation and the SME

World Wide Web and the SME

The reasons behind our investigation and presentation of some of the most common characteristics of SMEs, as found in literature and research studies, derives both from the need to set up the theoretical framework for SMEs, as stated at the beginning of this second part of the book, and the need to introduce, explore and suggest how and why networks, co-operative alliances and other forms of co-operation can enhance the innovative abilities of SMEs and their competitiveness. This becomes particularly significant in the era of information and communication technologies and the increased internationalization of competition. In the last section of this chapter we bring forth the concept of open innovation which, in the last few years, has been proposed as a new paradigm for the management of innovation.

In the era of the Internet boom, Dierckx and Stroeken (1999) studied the relationship between information technology and innovation in SMEs on behalf of the Dutch Council for Small and Medium-Sized Enterprises. Amongst other findings, the authors argue that information and communication technology (ICT) can lead to new organizational structures which are flatter and more flexible and also to new forms of labour such as teleworking, freelance work and other new, independent and mobile forms of work. Thus, in the ever increasing competitiveness and internationalization of the market place, information and communication technologies, if ignored, may become a significant threat to a company. In contrast, the same ICT in the hands of a firm that knows how to
anticipate and use them can prove to be valuable opportunities for growth and survival.

Moreover, the advent of the World Wide Web and electronic businesses during the first decade of the twenty-first century, as one would expect, opened up new perspectives for SMEs as it made electronic communication affordable to even the smallest of companies. Companies can send and receive electronic data interchange (EDI) messages to customers and suppliers through the Internet, or via emails and they can also distribute and share information to the parties of interest (for example customers) through web pages (Stefansson 2002).

The most common information and communication technologies used by SMEs are, according to the European Commission (2002), mobile phones, stand-alone PCs, network of PCs, email and electronic data interchange, intranet, Internet connection and an own websites. A size-class pattern in the percentage share of SMEs that are using various types of ICT emerged from this research. Microenterprises (0–9 employees) seem to be slower or more reluctant in adopting ICT. According to the European Commission (2002), nearly 30 per cent of microenterprises do not have an Internet connection, and another 41 per cent do not even have a stand-alone PC. Moreover, only about 17 per cent are using intranet and 37 per cent have their own website. On the other hand, larger SMEs seem to extensively use ICT, as 75 per cent have an Internet connection and nearly 90 per cent have PCs and an installed network within the company.

Despite the obvious size-class pattern, it is interesting to note that microenterprises seem to be rapidly catching up with the rest of the SMEs, at least as far as access to the Internet is concerned. According to the European Commission (2002), during the year 1999, only 40 per cent of microenterprises had access to the World Wide Web, while in the year 2001, the figure had risen to 70 per cent. Furthermore, the large differences that existed between the different sectors of the economy in 1999 (the survey involved the following sectors: manufacturing, construction, wholesale, retail, transportation/communication, business services and personal services) have considerably reduced. In 2001, nearly 70 per cent of SMEs in all sectors had access to the Internet, while business services scored considerably higher, reaching more than 80 per cent of enterprises having access.
The increasing number of SMEs connecting to the World Wide Web every year is a clear indication that they understand the need to use that form of ICT as effectively and as efficiently as possible to increase their competitiveness. Around 65–75 per cent of SMEs use the Internet for distribution of information on products, but even more important to note, about 40 per cent use it to receive orders and another 17 per cent to deliver their products to their customers (European Commission 2002).

After what has been said for SMEs in the preceding pages, the question that now arises is how can SMEs become more competitive and, furthermore, how can they survive the internationalization of business activities, also attributed to the advent of ICT? Should SMEs and, consequently, their entrepreneurs and/or managers proceed to alter their strategic orientation and organizational policies towards co-operative agreements and strategic alliances? And if so, what would be the reasons? In the following pages, we attempt a first glance at how business networks, strategic alliances and the open innovation paradigm can affect the competitiveness of SMEs and their innovative capabilities. We establish a theoretical framework to function as a springboard for the investigation and presentation of the concepts of industrial districts, networks and business clusters that are the primary focus of evaluation and analysis in Part 3 of this book.

The Evolution and Internationalization of Competition

This part of the chapter starts with the introduction of the concept of the evolution of competition and how it affects SMEs’ operations and competitiveness. We then discuss the emerging ways for an SME to retain its competitiveness and address the issues of networking, strategic alliances and collaborations between enterprises as well as open innovation. Furthermore, we explore the historical roots of business networks and strategic alliances, and attempt to explain why companies, particularly SMEs, should engage themselves in such activities and pursue co-operative strategies, which will positively affect their innovative performance and competitiveness.

The concept of evolution of competition describes the escalating internationalization of business activities. For example, the unification of 17 out of the 27 member states of the European Union under a single monetary unit (and new legalization) opened up markets for enterprising member states that now have the possibility to compete and seek opportunities not only within the
limits of their countries but also into the unified European market. On the other hand, internationalization poses several threats for the companies that have to realize now that competition could strike not only from other companies located in a certain geographical proximity but potentially from any company operating in the EU. Internationalization or, as otherwise stated, globalization is the evolution of competition. According to Castro et al. (2000), globalization released firms from physical and geographical constraints and from national regulatory frameworks. The authors (2000: 193) suggest that globalization is the outcome of three main processes:

1. The substantial decline of transport costs.

2. The rapid development of telematics, which is the combination and joint development of telecommunication and information technologies.

3. The gradual removal of barriers to trade and to the circulation of capital.

Narula and Hagedoorn (1999) refer to globalization as the increasing similarity in consumption and income levels across countries and the simultaneous increase in cross-border activities of enterprises from these countries. The authors suggest that globalization is mainly associated with the triad of the industrialized countries, the USA, Europe and Japan, and that its effects vary across industries and is particularly heightened in sectors that are capital and knowledge intensive, as well as in sectors that depend on fast evolving technologies.

The internationalization of competition is strongly illustrated in the survey results of the Gallup Organization (2007) for the European Commission and the Observatory of European SMEs. According to the results (2002), 60 per cent of the managers of SMEs stated that competition has intensified during the two year period, 2005–2007. The perception of increased competition is most widespread among SMEs in trade (65 per cent), transportation/logistics/communication (65 per cent) and the financial (64 per cent) sectors.

In response to the intensified competition, SMEs’ managers were asked to outline their strategies for coping with the tighter competition, as shown in the table below.
According to the figures, the primary strategy for SMEs in the EU is to put more effort into the quality of their products/services (64 per cent) and increase product differentiation and look for market niches (62 per cent). In response to the tighter competition, 61 per cent would increase marketing efforts and 53 per cent would cut costs. The fifth solution/strategy adopted by SMEs to overcome the intensified competition is to form alliances with other companies (38 per cent).

INTERNET AND ELECTRONIC MARKETS

The soaring power of computer technology has spawned powerful communication networks that organizations can use to access vast storehouses of information from around the world and to co-ordinate activities across space and time. The world’s largest and most widely used network is the Internet. The Internet is becoming the foundation for new business models, new business processes and new ways of distributing knowledge. Traditional firms are finding they can use the Internet to organize suppliers, manage production and deliver to customers. Internally, companies can use the Internet and networking technology to conduct more of their work electronically, seamlessly linking factories, offices and sales forces around the globe. The Internet has created a universal platform for buying and selling goods. This digital integration both within the firm and outside, from the warehouse to the executive suite and
from suppliers to customers is changing the organization and management of business firms.

As early as the beginning of the 1990s, the Internet was fundamentally changing the worldwide patterns of commerce:

*In 1994, Ford announced that it was merging all its activities, distributed among 30 countries, into a single global operation. It electronically merged its seven automotive design centres on four continents. Ford developed its world car and split vehicle development by vehicle type, not geographic market. At about the same time, IBM reorganised itself by industry type, instead of geography ... large companies are shifting from being geographically specific and product diversified to being product specific and geographically diversified. (Martin 1996: 17)*

According to Laudon and Laudon (2001), the Internet has internationalized the business world and marketplace. The Internet is creating new ways of conducting business electronically since it is providing the underlying technology for it. The Internet can link thousands of organizations into a single network, creating vast electronic marketplaces. An electronic market links together numerous buyers and sellers, producers and customers to exchange information, knowledge, products and services and payments. As the authors argue, through computers and the Internet, the typical marketplace transactions such as selecting suppliers, establishing prices, ordering goods and paying bills have lowered costs and increased speed. The transactions are made electronically regardless of the location of the suppliers, the buyers, the company and the customers and so on.

The Internet has allowed in great part for the internationalization of competition. In the traditional sense of a marketplace, typically geographically oriented, corporations knew who their competition was. In today’s Internet market, much unexpected competition can come from anywhere because it depends on knowledge that can be transmitted anywhere and because of the elimination of national boundaries. The Internet is used to find the lowest possible price of goods and services, to link cheap labour countries to western societies, to use low salary designers, educated workers and experts from around the globe in order to create competitive advantages for the company.
Business Networks and Strategic Alliances

One of the policy approaches to improving the industrial competitiveness and innovation of small and medium-sized enterprises (SMEs) is that this can be accelerated through inter-firm collaboration (Piperopoulos 2007). High costs of new product, market and technology development may act as barriers to the innovative capabilities and performance of small firms (Aaboen et al. 2006). When SMEs share competencies and knowledge it becomes possible to tackle jobs that no single SME could tackle alone. In the best cases, the assembly of core competencies from different SMEs enables them to build a team of organizations and individuals who together have the highest level capabilities and to collaborate and compete in markets that they would be unable to pursue if they operated solely and independently. Networks provide firms with access to knowledge, resources, markets and technologies (Inkpen and Tsang 2005). This is increasingly essential for excellent competition and innovation.

As we have discussed in the previous part of this chapter, today’s networks, the Internet, video conferencing and computerized tools make possible flexible but tightly coupled linkages between corporations. Companies are increasingly using information systems and the Internet for strategic advantage by entering into strategic alliances with other companies in which both firms co-operate by sharing resources or services. Such alliances are often information partnerships in which two or more firms share data for mutual advantage. They can join forces without actually merging:

American Airlines has an arrangement with Citibank to award one mile in its frequent flier program for every dollar spent using Citibank credit cards. American benefits from increased customer loyalty, whereas Citibank gains new credit card subscribers and a highly creditworthy customer base for cross marketing. (Laudon and Laudon 2001: 60)

Some companies are extending their enterprise systems beyond the boundaries of the firm to share information and co-ordinate business processes with other firms in their industry. Industrial or business networks link together the enterprise system of firms in an entire industry. Internet technology has fuelled the growth of industrial and business networks because it provides a platform where systems from different companies can seamlessly exchange information. According to Laudon and Laudon (2001: 91):
Procter & Gamble (P&G) the world’s largest consumer goods company has been developing an integrated industry-wide system that coordinates the grocery store point-of-sale systems with grocery store warehouses, shippers, its own manufacturing facilities, and its supplier or raw materials. This single industry-spanning system effectively allows P&G to monitor the movement of all its processes from raw materials to customer purchase. Typically, there are two kinds of industrial networks. Vertically organised industrial networks as the one just described and horizontally organised industrial networks that link firms across an entire industry. For example, General Motors, Ford and Daimler-Chrysler created a common Internet purchasing system to help them obtain parts and other goods on-line from suppliers, in order to reduce costs and save time from their cooperation.

Strategic alliances are increasingly gaining favour over go-it-alone strategies for organizations in order for them to achieve fast economical growth (Hoffmann and Schlosser, 2001). The new competition, according to Rosenfeld (1996), is among alliances of firms and not among individual firms. According to the literature and empirical studies (Hoffmann and Schlosser 2001, Narula and Hagedoorn 1999, Prabhu 1999), co-operative alliances are particularly acute in sectors that are capital and knowledge intensive, as well as in sectors that depend on fast evolving technologies. The scholars suggest that this phenomenon is most prominent in industrial sectors where new product developments are high and where access to new technology is vital. Prabhu (1999), for example, argues that 60 per cent of Japanese firms expected to be highly dependent on external technology sources and half of the major US firms are expected to increase their participation in joint ventures and alliances primarily for access to new technology. Moreover, Hoffmann and Schlosser (2001) suggest that alliances are most important manoeuvres in industries like information and communication technologies, manufacturing and trade and services.

Small Firms Networks

Before the evolution of competition as described earlier and the advancement of ICT, the case of inter-firm collaboration, which could be assigned the role of catalyst, was noted, among other places, in Europe and specifically in northern Italy in the 1970s where it was common for small, artisan firms to band together and to stake out remarkable strong market positions, even in
traditional industrial markets. These family-owned manufacturing companies owe much of their success to their interdependencies, collective vision, tight-knit infrastructure of trade and business associations and membership service centres as Rosenfeld (1996) points out. Perrow (1992: 455–456) identifies the Small Firms Network (SNF) accordingly:

The firms are usually very small – say 10 people. They interact with one another, sharing information, equipment, personnel, and orders, even as they compete with one another. They are supplied by a smaller number of business service firms (business surveys, technical training, personnel administration, transport, research and development, etc.) and financial firms. There are, of course, suppliers of equipment, energy, consumables, and so on, as well as raw material suppliers. Finally, while producers may do their own marketing and distribution, it is more common for there to be a fair number of quite small distributors, which is especially striking because SFNs typically export most of their output. The small firms are surrounded by an infrastructure that is essential for their survival and for their economies of network scale: local and regional government provides roads, cheap land, educational services, and even financing; trade associations provide economic information, training, financing, and marketing services; and both of these along with unions monitor unfair business and labour practices. SFNs do not exist in heavy industry or extractive industry, and in final assemble for large goods such as autos we have the nondependent subcontracting form rather than a true SFN. SFNs are said to exist in clothing, food, light machinery, electronics and small-to-medium-sized electronic goods, ceramics, furniture, auto components, motorcycles, small engines, machine tools, robots, textile and packaging machinery, mining equipment, industrial filters, and agricultural machinery. But it is not clear from the literature that in all cases networks of small firms are involved, though networks exist in most … a well-known example would include the textile firms in Prato and Modena in Northern Italy. (Perrow, 1992: 455–456)

The success of the noted co-operation amongst a variety of northern Italy firms soon forced governments in many other countries to adopt the underlying environment and the infrastructure that was necessary for encouraging co-operation between SMEs. According to Rosenfeld (1996), in 1989 the Danish Technological Institute developed a programme that was immediately adopted by the Ministry of Trade and Industry that was based on three features:
1. Training programmes for people that would facilitate co-operative ventures and for people that would identify opportunities.

2. Publicity campaign.

3. Encouragement of three or more firms to co-operate in the design, development and implementation of activities by providing them the necessary funds.

According to the author, Denmark has created what has nowadays been commonly accepted as the international term for these kinds of co-operation networks. The author goes on to suggest that the Denmark case, in conjunction with the Italian case, inspired other countries such as Spain, the United Kingdom and Portugal to implement similar programmes for SMEs’ networking. In fact, in Europe, several government agencies and private foundations have since experimented with and consistently tried to support, stimulate and accelerate different forms of inter-firm collaboration, or as otherwise stated business networks. The assumption behind such efforts and programmes is that co-operative behaviour will help SME firms to first survive in their market place, innovate through collaborative research and development projects and shared knowledge, and then successfully compete with larger enterprises.

According to Goffee and Scase (1995), the aim in the business world is to combine operational efficiency and cost effectiveness, attributes commonly associated with large-scale organizations, with flexibility, responsiveness and innovation, characteristics conventionally linked with smaller enterprises. The ideal for the authors (1995: 159) is to achieve global organization and local responsiveness simultaneously:

*Networks are faster, smarter and more flexible than reorganisations or downsizing ... in effect, a network identifies the ‘small company inside the large company’ and empowers it to make the four-dimensional trade-offs – among functions, business, units, geography and global customers – that determine success in the marketplace.*

The authors argue that organizations are, or at least should be, focusing upon areas of core strength and competence and spinning off, outsourcing and subcontracting all other activities. In this business network, organizational changes and strategies will depend on forming alliances and empowering
relations with small businesses that would form a constellation around the core enterprise where boundaries are ambiguously defined and constantly shifting.

**Hoffmann and Schlosser’s Strategic Alliance Theory**

Co-operation has been studied from a number of different perspectives. According to Hoffmann and Schlosser (2001: 358–359), the three most prominent theories that explain the potential reasons for an SME to form a co-operative alliance are:

1. The *transaction cost* theory recommends choosing the organizational mode that minimizes the sum of fixed and continual transaction costs. In the case of medium-asset specificity, alliances are considered the most transaction-cost-efficient organizational form.

2. The *resource-based* view of the firm explains firms as bundles of resources, that is, of all assets and capabilities a company possesses. From this perspective, alliances arise when a firm needs additional resources that cannot be purchased via market transaction and cannot be built internally with acceptable cost (risk) or within an acceptable amount of time.

3. According to the emerging *knowledge-based* theory of inter-firm collaboration, alliances provide the best context for creating value by exchanging or combining dispersed knowledge. Firms that face high environmental uncertainty especially can utilize alliances to enhance and speed organizational learning, reshape their environment and reduce strategic uncertainty.

In their study, Hoffmann and Schlosser (2001) examined several attributes of the strategic alliances of SMEs in the Austrian economy. According to the authors, more than 99 per cent of Austrian companies are SMEs, which represents the typical structure of any western type of economy. These companies represent almost 60 per cent of the total turnover of all Austrian companies and employ more than 65 per cent of all workers. In Austria SMEs needed to adjust to the market conditions and competitive situations, particularly due to the unification of the European Union and the globalization of markets. From an initial random sample of 1000 SMEs, only 164 responded,
of which 70 were engaged in a co-operative alliance. The following tables describe the most important attributes of the analyzed companies.

### Table 7.1 Attributes of companies

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Number of employees</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commerce</td>
<td>35.7%</td>
<td>1–9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Run by owners</td>
</tr>
<tr>
<td>Trade</td>
<td>31.4%</td>
<td>10–99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Run by professionals</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>20.0%</td>
<td>100–500</td>
</tr>
<tr>
<td>Services</td>
<td>12.9%</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Hoffmann and Schlosser 2001: 366*

### Table 7.2 Field of co-operation, objectives and configuration types

<table>
<thead>
<tr>
<th>Field of co-operation (more than one field of co-operation could be stated)</th>
<th>Objectives (more than one objective could be stated)</th>
<th>Configuration type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales and logistics</td>
<td>Market entry</td>
<td>76.8% Contractual alliances</td>
</tr>
<tr>
<td>Production</td>
<td>Cost reduction</td>
<td>72.5% Joint ventures</td>
</tr>
<tr>
<td>Procurement</td>
<td>Access to new technologies</td>
<td>46.4% Minority shareholding</td>
</tr>
<tr>
<td>Administration</td>
<td>Risk diversification</td>
<td>21.7% Other</td>
</tr>
<tr>
<td>R&amp;D</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Hoffmann and Schlosser 2001: 367*

Even though the authors did not use the definitions of SMEs as proposed by the European Commission, a clear size-pattern emerges. Only 2.85 per cent of microenterprises were involved in strategic alliances, while for small and medium-sized enterprises the percentage was about 50 per cent. Moreover, the attributes identified, for example, cost reduction, R&D, access to new knowledge, and so on, are in line with the three theories outlined earlier for the reasons an SME could enter into a co-operative alliance.

As explained earlier, governments in the majority of the European Union member states are developing policy schemes, training and funding
programmes to induce SMEs to establish alliances in order to overcome their resource shortages and increase their viability in these difficult and competitive times. Inter-firm collaborations, such as strategic alliances and joint ventures, have become important management instruments that SMEs adopt, or should adopt, to improve their competitiveness and innovative capabilities by providing access to external resources, providing synergies and fostering knowledge sharing, learning and creative change, the prerequisites to innovation. Alliances bridge the gap, according to Hoffmann and Schlosser (2001), between the firm’s present resources and its expected future requirements.

The Open Innovation Paradigm

*Companies that don’t innovate die. This is not news. In the current environment, however, to innovate effectively, you increasingly must innovate openly. (Chesbrough 2006: xiii)*

Since the seminal work of Henry Chesbrough in 2003, *open innovation* has been proposed as a new paradigm for the management of innovation and has emerged as one of the most debated topics in innovation and management research and literature (Chesbrough 2003; Christensen et al. 2005; Gassmann 2006). It is defined as the use of, ‘purposive inflows and outflows of knowledge to accelerate innovation and to expand the markets for external use of innovation, respectively’ (Chesbrough et al. 2006: 1). According to Chesbrough and Growther (2006), open innovation has two dimensions:

1. *Inbound open innovation* refers to the acquisition and transfer of external technologies, ideas and knowledge into the firm through, for example, R&D contracts, university collaborations, in-licensing, mergers and acquisitions, and so on.

2. *Outbound open innovation* refers to the transfer of technology, ideas and knowledge to external firms and their commercial exploitation through, for example, out-licensing, joint ventures, venture spin-outs, and so on.

In 2003, Henry Chesbrough coined the term ‘open innovation’ to describe an emerging shift in innovation paradigms from closed/secret, in-house/ internal R&D of new products and services to open innovation models that combine internal and external ideas, knowledge and technologies to create and
commercialize new products and services. For most of the twentieth century, a strong, internal R&D capability was associated with successful innovativeness. Companies assumed that the right way to innovate was to generate your own ideas, develop, produce and market the product and finance and support the whole process from A to Z. This process, which has been extremely successful for the majority of the companies (e.g., Xerox PARC, IBM, Bell Laboratories, General Electric, etc.) to sustain their competitive advantages, was labelled by Cherbrough (2003) as ‘closed innovation’.

However, the business and innovation environment has changed rapidly in the past few decades, as we have discussed throughout Part 2 of this book. Ideas and knowledge are widely disseminated and distributed around the world (in large part due to the development of information and communication technologies), while highly experienced and skilled individuals are more mobile than ever before. Thus, the logic of closed innovation, the traditional vertical integration model, is largely challenged. The comfortable and dominant monopoly positions of large Goliath-type multinational companies are threatened by the smallest David-type start-up or spin-off companies. According to Chesbrough et al. (2006: 1), ‘open innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology. It is a model that seeks to make the most of organizational networks, such as suppliers, customers, public and private research centres, institutions, universities even competitors in order to enhance the innovation capabilities of the firm.’ In other words, the firm should constantly seek to form partnerships with a diverse variety of players/actors in the market and business environments rather than rely on its own internal four walls and its R&D department as in the closed innovation paradigm.

Van de Vrande et al. (2009) draw on a sample of 605 innovative Dutch SMEs to find out that mainly medium-sized companies are increasingly adopting open innovation practices during the last seven years, but smaller companies are also trying to catch up. The authors argue that open innovation practices in SMEs focus mainly on market-related targets, that is, to open up new markets, serve customers more effectively and efficiently, maintain growth and commercialize their innovations (SMEs are using twice as much inbound than outbound innovation practices). Bianchi et al. (2010) focus on one Italian SME in the packaging sector to develop a methodology to assist SMEs to put outbound, open innovation into practice. The authors illustrate a quick and
friendly-to-use approach to identify opportunities for out-licensing an SME’s technologies to other firms.

INNOVATION THROUGH PARTNERSHIPS, COLLABORATIONS AND ALLIANCES

To gain access and utilize these external sources of ideas and knowledge, firms need to develop certain abilities. Cohen and Levinthal (1990: 128) were the first scholars to define these abilities as a firm’s absorptive capacity, ‘the ability of a firm to recognise the value of new, external information, assimilate it, and apply it to commercial ends’. Companies use their R&D facilities and capabilities to identify, monitor and exploit external knowledge and technologies. Zahra and George (2002) extended the theory by specifying four distinct dimensions to absorptive capacity: acquisition, assimilation, transformation and exploitation. An innovative firm needs to engage in continuous learning and flow of information, knowledge and ideas with its environment, hence, its R&D cannot rely on conducting internal developments based on knowledge they already possess, rather they have to look outside to incorporate externally generated knowledge.

Eric von Hippel (1988) was the first scholar to note the idea that users and consumers are the real creators of innovations instead of the suppliers of these innovations. He identified four external sources of knowledge and innovation: (a) suppliers and customers; (b) university, government and private laboratories; (c) competitors; and (d) other nations. Powell (1990, 1996), Gerlach (1992) and Gomes-Casseres (1997) argue that firms increasingly use (or at least should use) alliances, networking, licensing agreements and joint-ventures (as well as informal, arms-length relationships) as a fruitful means of seeking out and incorporating external expertise and knowledge into the innovative processes of the firm.

Stuart (2000) suggests that partnerships, collaborations and alliances provide the necessary innovative capacities for the firms (especially SMEs) to sustain the fierce competition and attract customers and corporate partners. In complex and turbulent environments where firms become more and more widely dispersed around the globe, collaborations with suppliers, customers, universities, research institutes or even competitors have become important management instruments for companies to improve their competitiveness and innovativeness by providing access to external resources, providing synergies and creating, accessing, transferring and integrating new knowledge to the
firm (Muller and Zenker 2001). In fact, Koschatzky (2001: 6) found that, ‘firms which do not cooperate and which do not exchange knowledge reduce their knowledge base on a long-term basis and lose the ability to enter into exchange relations with other firms and organizations’.