Seeking for Competitiveness – New Service Development in Networks

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Abstract

The purpose of this paper is to give an insight into possibilities offered by the network approach in new service development as a source to increase service providers' competitiveness. The article is based on the existing literature on this topic. The empirical part is based on ARA framework which is first described in the article. The empirical part is a study of resources and activities included in the new service development projects in networks.

Main findings: Competitiveness is today widely believed to be directly connected to innovativeness. Innovation process is argued to succeed only if a wide variety of relevant knowledge will be accumulated and developed, which requires inter-organizational collaboration in the development process. Relationship orientation seems to affect positively not only innovating process but also the overall performance of firms. Network must however be able to adapt to various phases during the new service development process. Flexibility needed for the successful new service development can be acquired through loose contracts between parties and by creating limited projects with limited number of representatives from partner organizations. Trust can be supported by shared learning opportunities.

Important players in development projects include top managers, project managers, product champions, product sponsors, team members, customers, suppliers, competitors and actors from various industries, as well as third parties. Customers are nowadays in a central position when developing new services. However, including customers is not enough, but a network must include various actors who can offer essential resources for the service development process.

Keywords: new service development, service innovation, development networks, network perspective

Introduction

In the beginning of 21st century competitiveness has been one of the major issues in business. Competitiveness is today widely believed to be directly connected to innovativeness (Fischer, 2001; Pittaway et al., 2004). According to Porter and Ketels (2003) competitive advantage is sought through diverse means at different stages of firms' development phases. In the *factor-driven stage* competitive advantage is based on cheap labour and natural resources. This is followed by the *investment-driven stage* where products and services become standardized to gain efficiency in production. Negative characteristics connected to this stage include however financial crises and sector-specific demand shocks. The more sophisticated stage is called *the innovation-driven stage*. At his stage the competitive advantage depends especially on the ability to find the most advanced methods to produce innovative products and services. Slater and Narver (1994) argue that a firm may establish real competitive advantage if it is able to serve not only customers' present needs but also their future needs – with other words, through constant innovating.

As there has been an obvious need to raise innovativeness among companies in recent years, the search for the origins of innovative ideas has been active. Innovation process seems to be the most important part of innovation. Studies have suggested that innovation process can succeed only if a wide variety of relevant knowledge will be accumulated and developed (Fischer, 2001). Many scientific and technological breakthroughs have resulted from contributions of several actors working in networks (Bougrain and Haudeville, 2002). These facts have led to thinking where business networking is emphasized as the means for achieving new innovations (Pittaway et al., 2004).

Innovativeness has been studied widely in the technology industry, and lately in the ICT sector. Even though services today calculate for two thirds of the GDP in most of the developed countries (Earth Trends, 2008), innovativeness in services is an area where the research is so far scarce. The deregulation and globalisation of markets, and the internationalisation of service firms have led to hard competition among service firms. These phenomena place service innovation at the heart of the firm's competitiveness, since new offers need to be brought to markets constantly in a turbulent environment (Stevens and Dimitriadis, 2005) where service life cycle becomes ever shorter (Kandampully, 1999). Research has concluded that new service development (NSD) is the most important factor affecting competitiveness of service industry (Johnson et al., 2000; Fitzsimmons and Fitzsimmons, 2001). In addition, the service component has also become an integral part of most manufactured products, and the source of strategic competitive advantage in manufacturing companies (Grönroos, 2000, p. 6).

At first, research in the field of new service development was based on new product development (NPD) frameworks and findings (Booz Allen Hamilton, 1982; Kline and Rosenberg, 1986; Cooper, 1990; 1994). Callon, Laredo and Rabeharisoa (1996) however identified three fundamental differences that might invalidate the NPD models applied to services. First, inseparability causes simultaneous innovation in the product and in the procedure. Second, product innovation and organisational innovation cannot be separated. Third, the creation of the offer cannot be distinguished from the activity of production and commercialisation. Because of these differences researchers have concluded that the NSD process might be different from the NPD process (Martin and Horne, 1993; Menor, Takikonda and Sampson, 2002). There are however few empirical studies about the service development process which means that no consensus on a well-formalised process has been reached so far (Stevens and Dimitriadis, 2005). This study aims at giving an insight into possibilities offered by network approach in new service development as source of service providers' competitiveness. The article is based on the existing literature on this topic. Network refers here to inter-organizational collaboration leaving thus intrafirm teams outside the scope of the article.

Methodology

This article is based on the existing literature. Empirical part of the article deals with service development in networks, i.e. inter-firm collaboration when developing new services. As this theme is studied from the network perspective view, first the network approach and ARA framework are shortly discussed. The articles in the empirical part of the study have been published in scholarly journals and they discuss some topic directly related to new service development in networks. The articles were searched through EBSCOhost, ProQuest ABI/INFORM Global and SagePremier by pre-defining the journals where the search was executed, in order to find as correct matches as possible. The journals used during the search were:

- European Journal of Innovation Management
- Industrial Marketing Management
- Industry and Innovation
- International Journal of Innovation Management
- International Journal of Service Industry Management
- Journal of Services Marketing
- Journal of Service Research
- Service Industries Journal

The words used in article search included the following:

- service development or service innovation
- AND net, network, partnership, relationship, collaboration, cooperation, inter-organizational or co-innovation.

The titles of articles were first scanned to see whether they would fit the current search. In case of doubt, abstracts and keywords in the articles were consulted. In case this did not clarify the suitability of the article, the full paper was reviewed in order to ensure that the found articles really included information directly connected to NSD in networks. Only those articles have been included in this review which could be found as full text. All the articles were printed and read thoroughly through in order to clarify the precise topic of the article, its focus, empirical context and major findings and conclusions. Altogether 23 articles were analyzed.

Table 1. Articles dealing with inter-firm service development in scholarly journals

Author's name	**Topic of the article**	**Year**	**Name of the journal**	**Business sector studied**
Eisingerich, Rubera & Seifert	Effects of inter-organizational relationship commitment on service firms' focus on innovation and performance	2009	Journal of Service Research	professional service firms
Eisingerich & Bell	Reasons why some firms succeed in business-to-business contexts and some fail to address changing customer needs	2008	Journal of Services Marketing	information technology and biotechnology
Kristensson, Matthing & Johansson	Customer involvement in technology-based service development	2008	International Journal of Service Industry Management	telecommunications
Möller & Svahn	Management challenges of emerging new business fields by using the network perspective	2008	Industrial Marketing Management	conceptual paper
Ojasalo	Management of innovation networks	2008	European Journal of Innovation Management	information technology
Heikkinen, Mainela, Still, Tähtinen	Managerial action-based roles for managing service development nets	2007	Industrial Marketing Management	telecommunications
Mohannak	Forms of organizing SME cooperative networks and their benefits on innovating	2007	European Journal of Innovation Management	information technology
Matthing, Kristensson, Gustafsson & Parasuraman	Employing customers to generate new service ideas in technology-based services	2006	Journal of Services Marketing	telecommunications
Panayides	Relationship orientation as an antecedent to innovativeness	2006	European Journal of Innovation Management	logistics services

Windahl & Lakemond	Significance of relationships in developing integrated service solutions	2006	Industrial Marketing Management	capital goods industry
Alam	Customer integration in the fuzzy front-end stages of new service development	2005	Industrial Marketing Management	financing
Mattson, Sundbo & Fussing-Jensen	Roles of attractors and scene-takers in collaborative networks between tourism and other firms	2005	Industry and Innovation	tourism
Tether	Service development practices of firms in Europe	2005	Industry and Innovation	construction, industry, trade and other services
Linnarsson & Werr	Innovation of services in alliances	2004	European Journal of Innovation Management	telecommunications and information technology
Marshall	Initiation and early development of collaborative inter-organizational relationships in innovation and new business creation	2004	European Journal of Innovation Management	telecommunications
Matthing, Sandén & Edvardsson	Customer participation in new service development	2004	International Journal of Service Industry Management	telecommunications
Perks & Riihela	Inter-functional integration in new service development	2004	Service Industries Journal	postal services
Syson & Perks	Innovation process within networks in development of new services	2004	Journal of Services Marketing	financing
Magnusson	Benefits of involving users in service innovation	2003	European Journal of Innovation Management	telecommunications
Magnusson, Matthing & Kristensson	Benefits of involving users in service development	2003	Journal of Service Research	telecommunications
Alam & Perry	Input of customers at various stages of the new service development process	2002	Journal of Services Marketing	financial services
Kandampully	Role of technology, knowledge and networks in innovation of a service organisation	2002	European Journal of Innovation Management	conceptual paper
Martin, Horne and Schulz	Customer participation in business-to-business service innovation	1999	European Journal of Innovation Management	consulting services

As shown in the table 1, first article found in article search dealing with service development through inter-firm collaboration was published in 1999. This article studied customer participation in service innovation process. Customer involvement in the NSD has been a constant topic over the years: eight out of 23 articles discuss this topic. Topic studied in recent years is management of service development networks. Some papers discuss the effects of relationship orientation on service innovation, and the forms of organizing cooperative networks and their process. Telecommunications industry is the most studied service business under the NSD in networks. Other common business fields are information technology (IT) and financing.

Most articles on the NSD in networks have been published in the European Journal of Innovation Management. As management issues have started to draw attention in the NSD in recent years, the Industrial Marketing Management journal has published a few articles on the topic. Several other journals have published one to three articles each.

New service development from the network perspective

Reasons for developing new products and services in networks

Pittaway et al. (2004) see that innovation is about both the generation and the exploitation of new products, processes, services and business practices. De Brentani (2001) classifies service innovations into innovative and incremental services. Innovative services are new to the market and very new to a firm, while incremental services are significantly less new to the market and the firm. Tether (2005) suggests that service innovations are often continuous, as the firm gradually learns new things and addresses evolving needs among its customers over a longer period of time.

Traditionally, innovations have been regarded as physical devices that individual companies develop. This view has however changed dramatically over the past 20 years. The main reason is the growth of knowledge-based service economy, where innovations are often based on knowledge developed and owned by several firms worldwide (Ven, 2005). Products and services become at the same time increasingly modular (Pittaway et al., 2004). Companies thus need to create, access, transfer and integrate knowledge that may exist in organizations anywhere in the globe, including the firms with which these companies collaborate or compete, such as suppliers, customers, universities, research institutes and rivals (McDonough, Athanassiou and Barczak, 2006). In this new situation firms face increasing requirements to collaborate and thus form networks with other firms both on formal and informal basis (Fischer and Varga, 2002). The need to network reaches today across the majority of business sectors.

The reasons for collaboration among firms in innovating and product development have been studied since 1980's. Typically firms seem to collaborate in order to share risks, obtain access to new markets and technologies, speed products and services to markets, and pool complementary skills (Powell, Koput and Smith-Doerr, 1996). Inter-organizational relationships have been argued to have a special significance for service firms, because their natural relational processes between exchange partners influence their ability to customize and integrate services and goods to develop new customer solutions (Eisingerich, Rubera and Seifert, 2009). According to Kandampully (2002), technology, knowledge, and networks represent a set of factors that fuel innovation in service organisations. Their combination gives a firm the ability to focus on the future needs of customers and thereby stay innovative. Proactive understanding of customers is regarded important also in the lately presented service-dominant logic perspective on innovations (Michel, Brown and Gallan, 2007). If the service-dominant logic view will be adopted by researchers and firms, service development through inter-firm collaboration will be emphasized ever more.

Previous research has confirmed that by including various perspectives and knowledge domains in an innovating process, complex problems may be better solved (Lipnack and Stamps, 1993; Parker, 1994), the level of creativity can be increased, customer focus can be improved, development times may be reduced (Parker, 1994), communication can be improved (Lipnack and Stamps, 1993) and boundary spanning may be increased (Boussaurra and Connor, 1995; Lipnack and Stamps, 1993). New product development in networks also reduces the risks and costs of product development (Bruce and Biemans, 1995; Biemans, 1992). Above all, alliances tend to be increasingly common way of organizing uncertain exploration phase of radical innovations. And as firms are increasingly specializing in their core-competencies, the need for cooperation in innovating process emerges in many development projects (Linnarsson and Werr, 2004). Through networking, service leaders have not been only able to develop service packages but, in the process, they have created new markets, which has often initiated the growth of a whole new industry (Kandampully, 2002).

Network approach and the ARA framework in new service development

The economic network approach provides a model to analyse the relation between economic networks and innovation (Oerlemans, Meeus and Boekema, 1998). Networks include two dialectical processes: competition and cooperation. The network approach emphasises cooperation, complementarity and coordination (Easton, 1992, p.23). Industrial networks consist of networks as relationships, networks as structures, networks as positions, and networks as processes (Easton, 1992, p.4). When applying a network perspective in the new product development research, a relationship view of the company's environment is adopted (Rogers and Kincaid, 1981).

A network may be defined as all the linkages between actors in a system (Rogers and Kincaid, 1981). According to ARA framework of the IMP School, the components of a network consist of *actors, resources and activities* (Håkansson, 1982) which are related to each other in the overall structure of networks.

Actors are those that perform activities and control resources. In networks actors specialise to perform certain activities. To be able to perform the activities they establish a certain resource structure (Lundgren, 1992, p. 162). Actors implement activities to employ resources with the aim to change other resources, and at the same time actors use resources to perform activities (Håkansson and Johanson, 1992, p. 28). In the network context actors can be studied at different levels, from individuals to groups of companies (Oerlemans, Meeus and Boekema, 1998). Actors are described as goal oriented, the general goal aiming to increase their control over the network in order to achieve other goals. Network control includes control over resources and activities, where control of activities is acquired through control over resources and knowledge (Håkansson and Johanson 1992, pp. 28-29). Innovation is argued to occur in a network between the firms. Innovation is regarded as impossible without network mobilisation, i.e. changes in network structures as well as changes within the firms involved. This is based on the findings signalling that during the innovation process firms must adapt old relationships and internal activities and develop new relationships (Easton, 1992, p.24).

When applying ARA approach to the new service development, special emphasis is set on the role of *resources* and their exchange between actors (Syson and Perks, 2004). In addition to the traditional concept of physical resources, present view of Resource Based Theory also includes *capital and people, structure, processes, skills, competencies, knowledge and relationships* in the scope of resources (Kandampully, 2002). The recently presented service-dominant logic argues that "the basic unit of exchange are operant resources having always an effect, such as skills, knowledge and competencies, which can be changed directly, or through education, or by embedding them into objects" (Michel, Brown and Gallan, 2007). Easton (1992, p.24) states that innovating in a network requires right resources in the right combinations. Håkansson and Snehota (1995) indentify three resource-based aspects of innovation in a network perspective: knowledge development, resource mobilisation and resource coordination. The network perspective has been adopted to the NSD research as an attempt to take account of the complex range of inputs in the innovation process (Syson and Perks, 2004).

An *activity* means combining, developing, exchanging, or creating resources by one or several actors. Two main kinds of activities are distinguished: transformation activities and transfer activities. Transformation activities change resources in some way. Transfer activities transfer direct control over a resource from one actor to another. Transfer activities link transformation activities of different actors to each other. Actors, who have a relationship with the actor directly controlling the resource, can control the same resource indirectly. The design of activities and use of the resources are bound together by the knowledge and experience of present and earlier actors, which forms the knowledge structure (Håkansson and Johanson, 1992, pp. 30-34).

The operation and development of the network is the result of the *power* and *interest* dimensions (Easton 1992, pp.22-23). Atmosphere of the relationship can be described in terms of power-dependence relationship which exists between the companies. Power-dependence relationship can be defined through the state of cooperation between actors, overall closeness of the relationship, as well as through companies' mutual expectations. Power structures have a profound influence on the operation of a network. A major question posed here is what kind of power individual actors bring to a particular relationship. Mutual expectations refer to the assumed behaviour by one actor towards other actors under a particular set of circumstances (Easton & Araujo, 1992, pp.69-70).

As the network perspective focuses on inter-organisational relations, the emphasis is placed upon *trust* as a basis for cooperation. Trust is an essential part of an integration process of a network. Trust is found to be based on the actors sharing same values and norms that are considered significant by them. Over time the degree of trust may change. In the network perspective, trust is built up through exchange of resources (Hertz, 1992, pp.109-111).

The earlier IMP research has revealed that the networks have both positive and negative effect on innovation: on the other hand networks may enable the innovation process, and on the other hand constrain it (e.g. Håkansson, 1989; 1987). First, it has been argued that there is a fundamental tension between the dynamics of innovation and the logic of alliances (Bidault and Cummings, 1994). The more radical the innovation is considered the more freedom and flexibility it is argued to demand. Innovating also requires extensive and open communication between partners. Alliances are however typically described as requiring well-defined situation including a clear formulated contract between partners (Linnarsson and Werr, 2004). Second, Ojasalo (2008) notes that companies involved in service development in the network context may have very different reasons and orientations to participate which may complicate cooperation. Third,

innovations are typically uncertain in outcomes which increases the risk of premature termination of the project (e.g. Marshall, 2004). Fourth, as the relationships are based on exchange in the NSD process, actors must gain access to each other's resources to gain value from the relationship (Syson and Perks, 2004). Should the needed resources not be made available by the network participants, the innovation will fail (Easton 1992, 24). The (economic) value of the resources thus depends on the other resources with which they are combined in the development process (Oerlemans, Meeus and Boekema, 1998).

Services can be viewed as processes rather than objects which sets special requirements to a new service developer. Attention needs to be drawn to the processes involved in a service delivery. Actions of customers and employees need also to be considered, as well as the management of those activities. Services are mostly interactive, and they are developed and consumed as a process including several actors (Syson and Perks, 2004). There is continuing process of interactions between firms in the business networks. This interaction process offers opportunities for innovations (Easton, 1992, p. 24). Inter-personal and inter-organisational relationships are thus of value throughout the service development process. On the other hand, as service firms constantly adapt and develop their activities to provide solutions for varying and changing customer needs, it is not always easy to differentiate between service variations and innovations. A new service variant for a customer may later lead to major changes in firm's business (Tether, 2005). A network approach can be valuable in studying the interaction processes with and between internal and external actors that are central to service development activities (Syson and Perks, 2004).

Resources and activities in connection to the NSD in networks in current literature

In the following we discuss more precisely the various resources and activities in connection to the development of new services in networks. Discussion is based on the existing literature on the NSD in networks which is still very limited in amount as seen earlier in the methodology chapter

Eisingerich, Rubera and Seifert (2009) and Panayides (2006) argue that firms focus more intensively on service innovation if they are committed to their inter-organizational relationships. Windahl and Lakemond (2006) state that a firm which is able to manage, use and exploit inter-organizational relationships, is likely to succeed in developing integrated service solutions. As a consequence, focusing on service development helps the firms to perform better than those not focusing on the NSD. To be able to exploit fully the knowledge and resources gained from relationships, firms should however also create a culture that embraces and rewards service innovation (Eisingerich, Rubera and Seifert, 2009). These studies thus emphasize relationship orientation thinking and putting relationships at the centre of firm's strategy when developing new services.

The study carried out by Marshall (2004) revealed that the formation process of inter-organizational relationships (IORs) in response to new business opportunities is multi-level and fairly explorative one. Multi-level refers to the fact that the process needed to coordinate and develop has two dimensions: first, actors negotiate, make commitments and act in order to develop their relationship (called N-C-E cycle), and second, effort is made to develop new services. "Explorative" means that the appropriate alliance strategy can hardly be identified prior to its execution. Madhok and Tallman (1998) suggest that alliances should be viewed from the process perspective which means that alliances are evolving and their success depends on the ongoing process. The focus of the research should thus be the alliance's adaptability. Alliance should be also re-evaluated regularly which gives all parties possibility to adapt their engagement to their present valuation of the collaboration (Linnarsson and Werr, 2004).

Linnarsson and Werr (2004) argue that flexibility needed in new service development can be reached by creating a loose alliance contract allowing enough flexibility in the initial phase of the development process. This can however be reached only when the partners trust each other, and the trust reaches up till the highest management level. Trust seems to be supported by shared learning possibilities during the development process. Flexibility can be also enhanced by creating limited projects involving only two or three representatives from each partner organization. Project teams seem to benefit from being freed from normal organizational routines and given considerable freedom in the development project.

There are multiple players whose actions influence service development work in the network. Literature recognizes as important players top managers, project managers, product champions, product sponsors, team members, customers, suppliers, competitors and actors from various industries, as well as third parties. The importance of above mentioned players is discussed under.

The most important elements in innovations management are according to Ojasalo (2008), planning, control, and trust when working in the network context. They are important for both coordinating activities in

the development process and for the protection of intellectual properties of innovations, which are an important part of service innovations. Trust seems to be based to large extent on earlier cooperation between actors. Service development networks tend to avoid hierarchies because they easily lead to lack of access to external resources and slow down the development process. Networks however need a project manager with the highest authority in the network. Heikkinen et al. (2007) discovered twelve different managerial roles in a service development net. Some roles influenced the task of the net, some had effect on the course of the net, and some roles were played by an actor outside the net. Heikkinen et al. argue that a net is managed through the roles in which an individual, company, and network actors act in a certain time. Influence of each actor is dependent on his role, and stage of the development process.

Further, it has been found out that the most central collaborative activities needed to manage customer and supplier collaboration in innovation networks, include uniting, timing, mobilising, communicating, exchanging knowledge, exchanging human resources and synchronising. Uniting refers to identifying and selecting collaboration partners. Timing means involving partners just in time in the project. Mobilising includes establishing basic rules and arrangements for risk sharing, benefits, and objectives. Communicating means exchange of ideas, concepts, policies, and performance information. Knowledge exchange includes for example technical and customer knowledge. Synchronising consists of activities, resources, systems and procedures which need to be mutually adapted (Johnsen and Ford, 2001).

Results in innovating are always uncertain which means that resource allocations need to be constantly negotiated and power struggles occur. To obtain necessary resources, the innovation project needs a product champion and product sponsor. Product champion is a person or a team strongly connected to innovation and prepared to defend it whenever needed. The product champion needs a product sponsor to support him. The product sponsor is a member of the senior management who is able and willing to protect the innovation project. Product champion and sponsor roles are sometimes made joint involving managers from both partner organizations, which increases understanding of the other organization (Linnarsson and Werr, 2004).

Already in 1970's researchers highlighted the important role of customers or users in innovation process (e.g. Hippel, 1978). According to Easton (1992, p. 24) inspiration for innovation is often offered by third parties, such as customers. Alam and Perry (2002) suggest that firms should develop a long-term relationship with customers and regard them as partners in the NSD. Alam (2002) revealed six key objectives for involving users in the NSD. First, user involvement allows developing differentiated new services with unique benefits and better value for the users. Second, user involvement tends to reduce the NSD cycle time. Third, user involvement allows educating a new service for users. Fourth, when involving users in the NSD process, innovation diffusion occurs more rapidly. Fifth, user involvement improves public relations before the introduction of a new service. Sixth, producer-user relationships will be improved through user involvement. Customers may also bring skills, knowledge and resources for the development process. Some of the research has revealed that focus of the user involvement should be capturing users' latent needs. Both Kristensson, Matthing and Johansson (2008) and Matthing, Sandén and Edvardsson (2004) note that users learn about their own needs while engaged in various activities. The best service ideas seem to originate from real-life situations and problems, rather than from brain-storming activities. However, problems have also occurred when involving customers in the NSD. The study made by Martin, Horne and Schultz (1999) argued that customers may lack knowledge and skills to participate in the NSD of the company. Magnusson (2003) found out that customers were more creative than professionals when innovating new services but their ideas were seldom applicable.

The service-dominant logic perspective gives, however, new insights into customer participation, highlighting the customer-centric view, such as value co-creation. The focus is thus no more only on firm resources and the satisfaction of firm value. Value is instead added when customers themselves improve their co-creation of value and thus become the central part of the NSD (Michel, Brown and Gallan, 2007).

Windahl and Lakemond (2006) argue that including only end-customers to solutions development is not sufficient. Focus must be instead on the wider business network. For example, the integration of suppliers in the innovation process has been regarded as one of the most important factors in innovating (Kaufmann and Tödtling, 2001; Romijn and Albu, 2002). It improves innovation performance and productivity (Pittaway et al., 2004). According to Syson and Perks (2004) the nature of resource exchange with suppliers in the service development process differs considerably from the resource exchange during the physical product development. During the NSD, supplying firms mainly offer intangible resources, including skills, information, knowledge and experience. Since such resources are embedded in the organisational structure and routines, it may be challenging for another firm to access or make use of the other party's resources. Perks and Riihela (2004) argue that including external partners in service development may complicate firm's

internal inter-functional involvement in the project. According to survey made among European firms (Tether, 2005) traditional service firms use cooperation arrangements with customers and suppliers more often than manufacturing firms when developing services.

As service firms expand their portfolio of offerings and face the need to offer larger service packages to customers, they increasingly depend on resource exchange with their competitors in the NSD. Competitors can act as a source of know-how, experience, contacts and information. The problem is, however, that competitors may not want to loose control over such resources which may be part of their core competency (Perks, 1998).

Research on innovation systems has revealed that innovation will take place more effectively when the knowledge is exchanged between systems, for example, between different industries, regions or between science and industry. Thus diverse partners should be included in the innovation network (Kaufmann and Tödtling, 2000; 2001; Ritter and Gemünden, 2003). Formal and informal communication between actors that posses different information, skills, and values seem to increase the chance of unforeseen novel combination of knowledge, which can lead to radical innovations (Pittaway et al., 2004). According to Michel, Brown and Gallan (2007) innovations are increasingly created through multiple actors forming innovative value constellations, no more by the simple firm-customer dyad. Innovations often link the complementary knowledge and skills of actors to create a network of operant resources. According to Möller and Svahn (2009) firms should adapt the network perspective especially during the birth of radically new business fields, because the development phases are constituted by complex inter-organizational linkages among firms, government agencies, universities and research institutions, industry associations and supra-national organizations. Larger manufacturing companies seem to have good connections to public actors and universities which means that collaboration between them is often an integral part of firm's operation when developing services, whilst SMEs and traditional service companies often lack such contacts (Mohannak, 2007; Tether, 2005).

Third parties share a dual role in promoting innovations. They may act as neutral knowledge-brokers, but they can also help to establish informal relationships, which are the basis for the development of network relationships. Professional associations, trade associations, consultants and public authorities make important contributions to the network infrastructure (Pittaway et al., 2004).

CONCLUSIONS

This article discussed the new service development from the network perspective and gave an insight into present research published on this topic in scholarly journals. Innovation in networks has been emphasized lately as an important source of competitiveness in firms since innovation, which has been described as the sophisticated form to acquire competitiveness, is increasingly based on knowledge accumulation and development. Some research fields see that new service development does not differ from new product development but this article brought out some major differences discovered between service and product development, such as simultaneous innovation of service product and procedure, and unseparability of service product and organizational innovation.

Kandampully (2002) argued that technology, knowledge, and networks are the most important elements is service development as they give the possibility to concentrate on the future needs of customers. Networking has helped service firms even to give emergence to whole new industries. Networks were discussed in this article based on ARA framework consisting of actors, resources and activities. Syson and Perks (2004) state that when applying ARA approach to the NSD, special emphasis is set on the role of resources and their exchange between actors, i.e. interaction processes central to service development. Resources are here understood broadly, including not only physical resources, but also for example people, processes, skills, competencies, knowledge and relationships which today form an important part of exchangeable resources in the NSD.

Relationship orientation was argued to affect positively not only innovating process but also the overall performance of firms (Eisingerich, Rubera and Seifert, 2009; Panayides, 2006; Windahl and Lakemond, 2006). Inter-organizational relationship formation process is however multi-level when developing new services jointly (Marshall, 2004). Adaptability of the network was thus emphasized (Madhok and Tallman, 1998). Flexibility needed for the successful NSD can be acquired through loose contracts between parties and

creating limited projects with limited number of representatives from partner organizations. Trust can be supported by shared learning opportunities (Linnarsson and Werr, 2004).

Several articles discussed the various players important for the NSD network. Most important elements of innovation management were according to Ojasalo (2008) planning, control, and trust. Heikkinen et al. (2007) argued that some managerial roles influence the task of the development net, some affect the course of the net, and some roles are played by actors outside the net. Product champion is needed to defend the NSD project and product sponsor protects the project (Linnarsson and Werr, 2004). Customers are nowadays in a central position when developing new services. However, including customers is not enough. Suppliers are an important part of development process as they can offer several necessary resources. Competitors play sometimes an important role when offering larger service packages to customers (Perks, 1998). Knowledge should, however, be exchanged also between different industries, regions and between science and industry. Communications should be both formal and informal, which has proven to increase radical innovations (Pittaway et al., 2004). Third parties are important in helping to establish new relationships and distributing knowledge (Pittaway et al., 2004).

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