

Crossing relationships to develop innovation in supply network.

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Work in progress

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Abstract

More and more firms are searching new business models in order to face the challenge of globalization.

From this perspective firms develop horizontal and vertical relationships in order to increase the value of the offering system. Through relationships with different organizations, firm can share resources, competences and knowledge. The development of these crossing relationships is based on the key role of interaction that generates the outlining of supply network.

In this context the main aim of this work is to investigate the business model adopted by SMEs in order to face the internationalization process developing innovation and managing the relationships in a supply network perspective.

Keywords

Horizontal and vertical relationships, internationalization, supply chain, SMEs, value

Introduction

In a context characterized by high complexity, enterprises are searching new business models in order to face the challenge of globalization (Flint, 2004; Harold et. al., 2000). These developments in the global economy require businesses to be more customer-centric and to re-evaluate the value propositions they present to customers.

From this perspective firms enlarge their business horizons to benefit from collaboration of several firms and organizations that belong to their supply chain. The development of these crossing relationships is based on the key role of interaction and resources sharing that generate the outlining of supply network.

Over time the supply chain management literature has emphasized that through vertical relationships actors can mobilize the resources required to operate on the market (Larson and Starr, 1993). Moreover Kim et al. (2006) outlined the need to overcome the channel perspective considering collaboration also with external and horizontal actors (Lin et al., 2010). Any relationship, and thus innovation performed within relationships, is heavily dependent on developments in a large range of both direct and indirect relationships (Johnsen and Ford, 2000).

In fact interdependence in network, as stated by IMP approach, is multidimensional and refers to links of activities, ties of resources and bonds of actors. Each actor, being member of a network, supports the access to resources controlled by other actors; the actor's behaviour is influenced by bonds. Each business actor is involved with other actors to exploit the heterogeneity of resources by combining them in new ways, as they are linking their own and others' activities differently to exploit and develop interdependencies (Håkansson et al., 2009). The pattern of activities is extended within and over the organizational boundaries and "stretch across the landscape of the network" (Håkansson et al. 2009:99).

In last year Small and Medium Enterprises (SMEs) in particular have to face the challenges generated by globalization, focusing on the mobilization and sharing of resources and market competences of other actors.

In this context the main aim of this work is to investigate the business model adopted by SMEs in order to face the internationalization process developing innovation and managing the relationships in a supply network perspective.

After a literature review, the paper will present a case study referring to an Italian leading SME that operates in the automotive industry.

The development of case study is founded on semi-structured interviews made with key referents of focal firms and key focal actors.

The automotive industry is one of the world's largest by revenue, and it is mainly dominated by multinational companies, with manufacturing facilities. It is a long time that these companies have come to terms with globalization because of their intent to be competitive on the world car market. Nevertheless small companies continue to survive in the market, making the specialization their driving force.

As shown by the case, SMEs can play a key role in innovation network as they are able to facilitate and combine horizontal and vertical relationships with several actors.

The case analyzed shows that innovation is easier to reach with efficiency and effectiveness when firms collaborate with other actors that are part of their value network. The key firms can be considered as key providers of new technology and knowledge, generating product and process innovation.

In particular the focal firms are able to develop relationships with several actors, some of them specialized in different core activities, and others belonging to different industries or services.

Innovation in supply chain: crossing relationships

As well described by Schumpeter, innovation is “a historic and irreversible change in the way of doing things” and “creative destruction” (Schumpeter, 1943), including both product and process innovation.

This process includes “a sequence of events that creates and transform a new idea into an implemented reality” (Van de Ven, 1999: 3).

The above considerations show that innovations require integration and management of the whole innovation chain (Tidd et al, 2005), taking into account that innovation could be generated mainly by suppliers and customers but also universities and public laboratories, competitors and other countries(von Hippel, 1988; Tidd, 2007; Doloreux, 2004; Knight & Harland, 2005).

In a traditional way several scholars emphasize how innovation results from interaction within buyer-seller relations (Sividas and Dwyer, 2000) in the supply chain (Lundvall 1985).

Innovation is traditionally related to the importance of long term relationships between a firm and its suppliers. In a traditional view, the supply chain was originally defined as “the network of organisations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate customer” (Christopher, 1998: 41). In this view supply chains can be considered as sets of manufacturing and distribution organizations that work together to deliver goods to markets (Mak and Ramaprasad, 2003).

Over the time the growing importance of outsourcing has driven management attention over the boundaries of a firm. To reach a competitive advantage a firm has to consider not only its core activity, but all activities realized by interconnected organizations in planning, production, marketing, and distribution. It follows that the notion of supply chain evolves in the concept of value chain (Porter, 1985). This new definition points out that the value is not only generated by firm’s activities, but even by activities carried out by several organizations connected to the firm.

The value chain, that represents a bundle of benefits for business customers, involves many elements, for example product planning, product variety and quality, customer service, order lead time, shipping, warehousing, and inventory management. In addition Hines et al. (2004) identified other activities such as order fulfilment, new product development, research and development, quality control, and the management of cost, information and facilities.

The advantages of the holistic models of business to business value chain are pin point by Evans and Berman (2001). In this perspective the main goals of a value chain are to create value throughout the constellation and to allow each actor part of the constellation to capture a sufficient portion of the overall value (Lin et al., 2010).

Over the past few years Harland et al. (1999) pointout the importance for a firm to integrate its activities with suppliers, manufacturers, and customers (Barringer and Harrison, 2000; Bowersox et al., 2000). Moreover Lambert and Cooper (2000) have incorporated in the supply chain management a synergistic network of multiple businesses and relationships that aims to reach a business process excellence. According to these authors, supply chain management represents a new way of managing the business and relationships with other members of the supply chain.

Several scholars have emphasized the importance of a long-term strategic relationship between a manufacturing and its suppliers (Burt and Doyle, 1994; Choi and Hartley, 1996). The interconnection of relationships generates value creating networks, value chains, value nets and value constellations (Kothandaraman and Wilson 2001, Norman, 2001). From this perspective network interrelationships (external resource sharing) based on linkages with outside sources that result in the creation of a new value chain are becoming increasingly important to realize a competitive advantage.

Innovation in supply networks is often formed from several actors including representatives of firms, universities, technology centers and development organizations (Pekkarinen and Harmaakorpi, 2006). In this way inter-organizational and cross-sector networks facilitate the flows

of information, resources and trust to diffuse innovation (Dewick and Miozzo, 2004) in order to create value for customer.

Universities, research institutes, suppliers, customers and other partners such as private research laboratories and government laboratories had a valuable impact on the knowledge and innovation creation process (Bullinger et al., 2004). Becker and Dietz (2004) explicitly stated that cooperation with different partners on R&D had a positive effect on innovation achievement.

Consequently the involvement of several actors belonging to other networks allows overcoming the traditional perspective of vertical and horizontal relationships.

The interconnection of relationships generates value creating networks, value chains, value nets and value constellations (Kothandaraman and Wilson 2001; Norman, 2001). The network interrelationships based on linkages with outside sources that result in the creation of a new value chain allow the development of innovation, related to product, process and business model.

Innovation is generated also by the choices of business model. Often business models are identified in strategic choices, creating value, capturing value, and the value network. The key drivers of business model are so outlined in the ability of the firm to create unique relationships with several actors and to its ability to choose its role in the value networks. Considering the central role of customer, business model is defined as “the benefit the enterprise will deliver to customers, how firm will organize to do so, and how it will capture a portion of the value that it delivers” (Teece, 2010: 179).

Focusing on business model, scholars are paying more and more attention in the involvement of various organizations, outlining open business model in a new innovation landscape (Chesbrough, 2003). From this perspective the co-operation has become an important way to share knowledge resources in order to generate new ideas and bring them to the market (the “outside-in” approach) (Chesbrough, 2003).

The new value chain involves all the processes and activities that are important from the beginning to the final customers’ product or service (Lichtenthaler, 2011). Some studies focusing on network analysis of innovation demonstrate that scientific and technological knowledge, and patenting activities are both created and diffused through crucial nodes like universities, research institutions and firms (Maggioni and Uberti, 2008). Firms should look outside for opportunities to collaborate and coordinate with partners to ensure that their supply chain is both efficient and responsive to dynamic market needs (Kim et al., 2006).

The Industrial Network Approach: supply chain and the interaction perspective

In a wide perspective, a vertical supply chain network involves relationships between a manufacturer and its (downstream) customers, and between a manufacturer and its (upstream) suppliers. These relationships are connected among them (Anderson, Håkansson, and Johanson 1994), so the interaction in a relationship has consequences in other relationships.

As emphasized by IMP scholars, interrelationships generate activities links, resources ties and actors bonds. From this perspective a firm develops relationships with actors to share resources and realize activities. Activity links are associated with technical, administrative, commercial, and other activities that can be connected in different ways to those of another company (Håkansson and Snehota, 1995). Consequently the activities of a firm are not isolated as they are interdependent with the activities of counterparts. The linkages between internal and external activities made up the activity pattern.

The activity pattern can be so outlined to a supply chain but also to different supply chains. As pinpointed by IMP scholars, few firms are involved in only one Porter’s value chain (1996). An actor can participate to different supply chains, outlining the supply network as a whole. The conditions for efficiency and effectiveness in a single chain are determined by the way activities and resources

are related to those in other chains, and this is based on a network perspective (Gadde and Håkansson, 2001).

Furthermore the closeness or looseness of the cooperation between firms is affected by the degree of integration within the relationships and the level of interdependences (Håkansson and Persson, 2004). Thus integration is strictly related on the transformation from loose cooperation to a higher level of internal fit (Gadde and Håkansson, 2001).

In general all activities affect and are affected by actors and resources they are associated with. The efficiency and effectiveness of an activity configuration is strongly dependent on its connection to the resource layer of the network (Håkansson et al., 2009). The external resources are in various ways connected to, and combined with, the internal resources. The connections impact both on the value of the resources and both on their combined features (Gadde et al. 2002).

As emphasized by IMP scholars (Håkansson, 1987; Håkansson and Snehota, 1995) networks may impact positively and negatively on the process of innovation, including both product and process developments. As the IMP research indicates, networks may both enable and constrain the process (Håkansson, 1987). Networks can determine dependency on other actors, but at the same time they may support other relationships, and may be exploited through co-ordination strategies.

Established relationships are the most important source of innovation for both buyers and sellers (Håkansson, 1987). For buyers it is a prerequisite for making the best use of a supplier's resources in order to achieve gains in efficiency and development. A long time relationship also enables sellers to create efficient supply systems and to capitalize on development opportunities (Håkansson et al. 2009: 18).

Focusing on long term relationships, continuity affects the character of the business landscape as a whole (Håkansson et al., 2009) and reduces uncertainties for actors involved in relationships. In addition through systematic interaction with suppliers a firm can increase the specialization of activities also with other related companies (suppliers to the suppliers, others customers to the suppliers, etc).

Interdependence in network is, in fact, multidimensional and is referred to links of activity, ties of resources and bonds of actors. Each actor, being member of a network, supports the access to resources controlled by other actors. The use and value of resources depend on the way through which they are combined (Håkansson and Waluszewski, 2002). The three layers provide a holistic view of the business landscape where business relationships play a crucial role (Gadde and Hulten, 2009).

In this context, the more connections a relationship has, the greater the possibilities are to learn (Håkansson et al., 1999). Considering the evolutionary process in distribution, intermediaries can revise their key roles in the transition process toward dynamic supply networks by focusing not only on the material flows, but also on the knowledge flows. As such, the strategic positioning of an actor is defined by the organisation's ability to activate interactions that support the sharing and creation of resources. In this sense, the relationships in supply chain can be considered a mechanism for knowledge co-ordination and for information sharing in the network (Holmen and Pedersen, 2003). The way in which resources are used and developed depends on the interactions among the organisations throughout the network (Ford et al., 2003), particularly focusing on the side of the network that the firm considers relevant, as identified in the network context. Change or stability in one or more relationships can lead to different and/or more extensive outcomes in the network as a whole (Ford et al., 2002; Andersson et al., 1994).

Research approach

The main goal of this work is to investigate the business models that could be adopted by a firm in order to develop innovation. In particular the focus on relationships developed by a focal firm with

key actors of a supply network that is made up by several firms and other stakeholders, in order to share resources and develop activities to promote open innovation in international contexts.

To reach this aim we investigated an Italian SME operating in automotive industry.

The automotive industry is one of the world's largest by revenue, and it is mainly dominated by multinational. The manufacturing facilities are spread across many countries. It is a long time that these companies have come to terms with globalization because of their intent to be competitive on the world car market. Several brands have been acquired by large firms; nevertheless small firms continue to survive in the market, making the specialization their driving force. These brands produce mostly sports cars or otherwise intended for particular users.

We can notice that the largest concentration of manufacturers is in the United States, Western Europe (Germany, France, Italy) and the Far East (Japan and South Korea and more recently China). Even Russian and Indian industries are beginning to fit into the global car market, although their activity mainly focuses on assembling products under license or on manufacturing models designed to their local user base.

The leaders of the automotive industry today face many challenges: increasing needs and expectations of customers, emerging technologies and increased competition. The competitive advantage can be reached only through the ability to create value by innovation. But innovation can be obtained (with efficiency and effectiveness) by creating and exploiting relationships along the local and transnational supply chains.

This is particularly important when a firm operates in markets with high geographic and cultural distance. This is the reason why we analyzed this firm that is involved in China. In Asia in fact relationships (even personal) and trust are the necessary condition to make business, except for opportunistic trades (Battaglia, Cedrola, 2010).

FAAM Group can be considered as an emblematic case that shows how a medium enterprise can maintain a high level of volume even if in a crisis period. This result is generated by the development of an open business model.

The turnover of FAAM has shifted from 61,860,770 euro (2009) to 76,547,178 euro (2010). The firm after a period of loss -1,178,241 euro (2009) reached a net profit of 275,608 euro (2010).

In addition to this the innovation introduced by FAAM is well used in the transport industry considered as critical industry in crisis period.

We choose a case studies approach because it enabled us to study contemporary phenomena in a real-life setting characterized by blurred boundaries between context and phenomenon (Eisenhardt, 1989; Yin, 1994, 2003). Using this method we investigated how networks work in different settings and contexts (Ford et al., 2002; Dubois and Gadde, 2002; Halinen and Törnroos, 2005), considering operational links (Dubois and Gibbert, 2010). As especially suitable for case studies in business network research (Dubois and Gadde, 2002), we adopted an abduction process that enables data-driven theory generation (Järvensivu and Törnroos, 2010).

The company has been interviewed several times; in-depth interviews to top managers, that lasting from 60 to 120 minutes, have been focused on:

- The company and its business model (the origin and evolution of the company, its organization, and its offer)
- Strategies and decision-making for internationalization in general, and in particular for the Chinese market
- Collaborative relationships throughout the supply chain (which actors are involved and what their role is, their activities, shared resources, types of relationships held)
- Competences that are necessary for successful entry into China.

The interviews were conducted face to face and via videoconferencing. The average duration of each interview was an hour and around 6 meetings were held. All the interviews were recorded, transcribed, coded (Lockyer, 2004; Lee and Andrew, 2005) and independently analyzed by the members of the research group-

The preliminary research results were submitted to a scientific audience via seminars and conferences, which “helped us to improve the transparency and acceptance of our evidence-based arguments” as highlighted by Järvensivu and Törnroos (2010).

These primary data were combined with secondary data gathered from the firm’s website, reports, trade press and other internal documents. A holistic description of the network generated by multiple sources of evidence (Järvensivu and Törnroos, 2010) has been required to reach the aim of the research.

Interviews have been conducted from July 2009 to July 2012. Different business roles have been analyzed through interviews with CEO, marketing managers, brand managers, export area managers.

FAAM: business model for innovation

The company, which operates in the market for black start and industrial batteries, has always been distinguished by its high quality and technological development linked to production and to new product solutions. At the end of the 80’s, this family firm created a division for the production of environmentally friendly vehicles.

Founded in 1974, FAAM has developed a strong research culture with continuous and significant investments in people, and in the design and testing of ground-breaking logistics technology.

Since 2000 FAAM has been working on Fuel Cell technology applications, both for transport and for stationary use, achieving major breakthroughs in the creation of hydrogen-powered vehicles, such as the Smile Fuel Cell - used in Beijing Olympic Games.

In 2008 FAAM has created an innovative system, which is based on the promotion of high-efficiency traction batteries combined with a high efficiency battery charger. The system, created and patented by the firm, was tested by the University Politecnica of Marche; this system generates 27% energy savings as compared to its main competitors. Using the know-how acquired from 20 years of experience in producing electric traction vehicles, and from a partnership with the University of Camerino, FAAM has created BMS, Energy Management Systems for lithium batteries, which in addition to battery reliability ensures maximum performance with high safety standards.

In 2009 FAAM signed an agreement with MagnetiMarelli, which involves joint product development and marketing. The agreement is aimed at providing competitive offers in a high-tech industry in which, in the future, a primary strategic importance will be taken by sustainable mobility and hybrid and electric propulsion. This innovation is not only concentrated on developing new products but also on keeping a diverse culture and using a new model of doing business.

Nowadays the firm has four production factories: two in Italy, one in China (Yixing) and one in Uruguay (Mercosur Region). FAAM operates in China since 1995 (Joint Ventures with Chinese firms) and with own plant since 2005. The entry into the market without intermediaries allowed a more direct knowledge of the context and of the variables to succeed in China, such as quality, price, service and loyalty relationships. In this regard fundamental were the contacts with the Municipality of Yixing, where FAAM is located. This relationship was based on the Municipality’s interest in attracting investments in technology for political objectives. The choice of the location followed a deep analysis of macro and micro environmental elements, and took into account the growing awareness of the local community of Yixing for environmental issues, availability of infrastructure and services, company’s proximity to customers. Aware of the high cultural distance between Italy and China, the management of the company in China has been put in the hands of local people. In fact the President of the Chinese branch is local, and only the managing director (son of the Italian president of FAAM Group) is Italian. People is well trained and prepared, also aligned with the traditional value of the Company, representing a well cohesive team. Considering

the marketing mix key components, FAAM in Yixing focuses on technical assistance, high quality of products offered at the lowest prices. Five service points were created to provide a complete and accurate service fitted on the needs of local customers, and in accordance with the traditional philosophy of FAAM. These five service points are managed by independent agents or distributors of FAAM. Chinese people who provide services according to the rules of FAAM Group.

The activity of FAAM is based on values and not only on return of investments and profits. "Today's market is very challenging. Winning is only possible if you compete on values. FAAM's successful experience is testimony to that challenge. We work constantly to ensure that we encourage and reinforce social, environmental and regional respect. All of us at FAAM believe in giving back to the community. Our commitment to social values, as well as our commitment to the highest quality product, permeates the company at all levels and is formalised in our company's mission statement: Working harder with less effort to give our Partners and Customers the best technology and quality at the best price for the next 450 years".

Relationships have always had a great importance for the firm, and they pervade the whole supply chain.

Analysis

FAAM Group, with over thirty years' experience in the production of energy storage systems and environmentally-friendly vehicles, has been working on the "Innovation in Energy". Since its foundation, the main aim of the firm has been the development of integrative/alternative solutions for saving energy with respect to the environment. FAAM's mission is based on high-efficiency storage systems and with experience in different types of systems; it now offers energy storage solutions based on lithium technology, which reach an efficiency of 99% compared to alternative solutions that at best have an efficiency of 85%.

The "Innovation in Energy" means innovation in strategy founded on the combining of international and national relationships, as well as horizontal and vertical relationships.

The innovation in strategy is related to market and internationalization strategy.

Going more in depth in innovation in strategy, **FAAM has made investment in internationalization strategy**. The main relationships developed by FAAM involve Chinese local suppliers, municipalities, technological and manufacturing business partners.

Focusing on Chinese local Suppliers, in these production relationships, local suppliers were chosen on the basis of qualitative standard requirements. The local production and the proximity support the development both of quality and of key products for Chinese market. These relationships with suppliers led innovation to the market because they allow taking root in the area, with a suitable product and the right service, with relations also rooted through the involvement of local staff.

Moreover FAAM develops tight connections with the market through two key top managers. The President in China, a Chinese woman, and the Entrepreneur and vice director (Italian man living in China). They develop deep relationships with their partners outside in the market and with institutions. These bring market innovation facilitating sales and marketing relations.

Focusing on Market innovation, five service points located in China were developed under agreement with distributors and agents to provide local assistance. FAAM developed strong relationships with distributors and agents throughout assistance and training that allow to support market development. This strategic relationship is a more innovative approach to relate with the territory. The services are provided and managed by local points.

The development of this international innovation is founded on **national collaboration with several actors, in an open innovation perspective**.

In the development of innovation a key role has been undertaken by R&D department. The FAAM R&D department is engaged in the development of cell chemistry to find the best solutions for each application, the development of battery management systems for thermal conditioning system cells

(BMS). Moreover FAAM R&D department is responsible for the design of customised solutions for clients in several types of applications, from automotive (cars and trucks) to industrial applications (forklifts, floor scrubbers, agricultural machinery, and construction) as well as stand-by applications, military equipment, racing cars and motorbikes.

Notwithstanding only the cooperation between R&D department and leading Italian universities, allowed the creation of a battery capable of producing 27% energy savings. The FAAM-patented system was tested by the Università Politecnica delle Marche. The system increased efficiency of the battery pack and Energy station. Moreover a Monitoring System with wireless Web access verifies the operation of the battery in real time and accrued savings.

In addition to this, FAAM has invested in the search for innovative lithium battery storage systems as solutions for sustainable mobility and the need for high-performance storage systems. Lithium batteries can store five times more energy than conventional lead batteries, without maintenance.

These activities have enabled FAAM to develop a top-level expertise in the design and manufacture of battery packs. All systems were first developed and tested on FAAM production vehicles and then the technology was made available to all customers.

The high technological level of these solutions has been recognised by large groups such as MagnetiMarelli, a world leader in the supply of electronic components for vehicles, that chose FAAM as a partner to face the great challenge of becoming a top global player in components for electric vehicles.

The increasingly requirements to reduce emissions that pollute the atmosphere require massive exploitation of renewable energy sources.

Since it is lithium, it lasts longer than a lead battery, but it all depends on the chemical composition. FAAM produces batteries ranging from ten to twenty to even forty years of life. The framework of the total project involves installing a central supervisor for the Smart Grid connected to substations that in turn communicate with several storage centers. The latter accumulate energy can be directed to homes or entire neighbourhoods.

The “bus project” for instance has been developed by MagnetiMarelli, Pininfarina and Gruppotorinesetrasporti. FAAM develops batteries, MagnetiMarelli provides electronics, Pininfarina brings out vehicles, while Torinese Trasporti Group provides knowledge and competences related to transport services. The main steps of the project can be thus synthesized in: substitution of battery (with lithium) and revamping (bus transformation with an internal combustion engine). There are hybrid bus characterized by advanced engines.

Other project related to grid technology involves EnelGreenpower, Pramac that provides generators and Cile Government that provides sponsorship.

All these actors cooperate in order to construct hybrid power station. FAAM provides grid connected technology. In addition to this there are providers of raw materials such as lithium, aluminium, copper, cobalt. Moreover there are also providers of electronics, chemical, together with university and research centres.

Both vertical and horizontal relationships are precious resources because they stimulate innovation and the growth of its business.

Innovation is related to the chain members' values that are associated with the pursuit of new market opportunities. The values characterize the evolution of firms and their differentiation in the offering system. The reaching of competitiveness through values also emphasizes the key role of the entrepreneur as source of innovation. To exploit innovations opportunities firms need to cooperate together with different stakeholders that involve private and institutional/public actors.

H1 The firm invests in the development of external relationships to share resources and generate value, in order to develop strategic innovation. The strategic innovation, related to market and internationalization, involve actors characterized by different core activities.

H2 Business Relationships with several stakeholders characterize a business model oriented to internationalization strategy. The combining of horizontal and vertical relationships, of national and international relationships, allow to enhance innovation at the different steps of the supply chain that is founded on an internationalization process.

Focusing on the main relationships developed by the focal firm, a key relationship is developed with MagnetiMarelli.

MagnetiMarelli is an international Group committed to the design and production of hi-tech systems and components for the automotive sector. The main features of the Group can be synthesized in: more than 34.000 employees, 83 production units, 12 R&D centres and 26 application centres. The Group has a presence in 18 countries and supplies all the most important car makers in Europe, North and South America and Asia.

MagnetiMarelli mission, as a worldwide automotive parts supplier, is to make its key technologies available to its final customers at an affordable price, by matching high quality and a competitive offer, technology and flexibility. MagnetiMarelli is providing its know-how and wide-ranging expertise in electronics, through a process of ongoing innovation and environmental sustainability in order to develop intelligent systems for active and passive vehicle safety, onboard comfort and powertrain technologies.

MagnetiMarelli and FAAM outline similar aims (not identical) finalized to develop innovation.

FAAM and MagnetiMarelli believe that the continuous and constant presence on site is key to learn, interact, share and develop relations. Both companies started gradually their “way to China” to understand the real picture directly and on the field. This permitted to get important insights.

Differences between the two companies refer first of all to the place (location) where they carry on their product development and to the way they put in place to start relationships.

FAAM has a direct relation with the car manufacturer: they sell directly. For the after-market customers the two companies operate differently. FAAM thanks to the relations build in the field realized a network of distributors all around China: they directly sell and provide pre and after sales services.

In FAAM innovation is centered in Italian offices, and major collaborations in this direction were put in place to guarantee the development of the local territory. Over time collaborations extended to other Italian Regions and abroad to Uruguay and China. In all cases they developed the territory around the plant creating an “industrial district”.

Focusing on technological and manufacturing business partners, technology innovation is related to product and processes innovation. As described above, MagnetiMarelli is a technological business partner that performed product and production innovation with FAAM. Previously this firm was only a competitor. Now it is a partner because the two firms have a unique specialization to share: FAAM is a leader in black starts and industrial batteries, MagnetiMarelli in electronics. With the new solution they provide an offer to their traditional markets: in the automotive sector products are branded MagnetiMarelli, in the industrial vehicles sectors the official brand is FAAM, well known on those sectors. Furthermore in order to develop and test the products FAAM developed key relationships with Universities and other firms like Ansaldo Power Train. Relations are crucial to innovate, because as stated by the President Federico Vitali “None of us is as strong as all of us”..

H3 The development of innovation (product, process, strategy) in supply chain is founded on key dyadic relationships

Conclusions

The statements evidence a progressive complexity that can be faced in different ways by firms that focus on relations as key elements of their business model.

SMEs develop innovation throughout interconnected relationships with several stakeholders. Considering the SMEs features, the development of innovation is focused on commercialization phase, on the management of relationship with customers, but also on different phases involving manufacturers, suppliers, and other organizations.

The development of innovation is related to the features of relationships, of actors and of resources provided by organizations. Long lasting relationships support the sharing of values and objectives, and the development of business. Mobilization and sharing of resources involve all the actors of the supply chain. In many cases the firm interacts with actors of other supply chains. These relations allow to enhance the business horizon and to ameliorate efficiency and effectiveness of the company. Relationships along the supply chains facilitate product, process and market innovation. The international context is a challenge to be faced focusing on the mobilization and sharing of resources and market competencies of other actors.

Key resources in innovation development are a combination of different knowledge among firms and interactive learning deriving from collaboration of several players at different managerial levels.

As an example of the latter statement, FAAM gives relevant importance to the combination of different knowledge deriving from different business parties. This combination is crucial to innovate (FAAM and MagnetiMarelli lithium batteries).

Moreover, innovation generation in a supply chain context has increasingly been recognized as an outcome of interaction between a firm and various outside entities. From this perspective innovations originate not only from the buyer (von Hippel 1987, 1988) but mainly from manufacturer-customer relationships and manufacturer-supplier collaborations. Furthermore as stated by Anderson and Lilliecreutz (2003), the value 'thinking' in a supply chain is important when to focus on the customers' needs for continuous improvement

The inter-firm co-operation and information transfer within supply chains are considered very important to develop innovation: Information provision by upstream and downstream supply chain parties moderates the effect of internal deliberate learning mechanisms on value innovation ability (Berghman et al., 2012).

As well outlined by Roy et al. (2003) innovation generation involves a multiplicity of organizations, circumstances, and settings (Leonard-Barton 1995; von Hippel 1994; Wind and Mahajan 1997).

The analysis of the case, as well as the evidence of other companies operating in China (Cedrola et al., 2010), confirm that a deeper understanding of interactions and relationships is a vehicle of development and innovation. This is particular important when firms decide to invest in geographical and cultural distant Countries such as China. In this Country the relations are not a facilitator of business, but are a necessary condition to succeed in the market. In fact firms that approached China with opportunistic business models are now in the condition to abandon or to keep for the survival the original Joint Ventures.

In 2009 FAAM signed an agreement with MagnetiMarelli, which involves joint product development and marketing. The agreement is aimed at providing competitive offers in a high-tech industry in which, in the future, a primary strategic importance will be taken by sustainable mobility and hybrid and electric propulsion. This innovation is not only concentrated on developing new products but also on keeping a diverse culture and using a new model of doing business

As shown by the case, SMEs can play a key role in innovation network as they are able to facilitate and combine horizontal and vertical relationships with heterogeneous actors.

In the development of innovation the leading relations have been established with:

- Suppliers, chosen by the management considering the length of relations, trust and geographical proximity
- Local subcontractors
- Distributors and agents, that are often involved in training and entertainment activities
- Customers (collaboration and attention to specific needs for automotive producers – after sale services for end users and distributors)

- Employees, to enhance their satisfaction, to build their identification in the firm

The case analyzed shows that innovation is easier to reach with efficiency and effectiveness when firms collaborate with other actors that are part of their value chain. The key firms can be considered as key providers both of new technology and both of knowledge, generating product and process innovation.

In particular the focal firms are able to develop relationships with several actors, some of them specialized in different core activities, and others belonging to different industries or services.

This research could be the starting point for further research through which investigating the features of innovation business models for SMEs operating in other industries. Moreover in further research the investigation could go more in depth in the analysis of different actor's business perspective.

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