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Service Innovation and international performance

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Preliminary findings on a knowledge intensive business services research

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Abstract

Literature about Innovation, as an antecedent factor of internationalization is not abundant. If co-production means links between business service firms and their clients, it can also be an innovation source for business service firms. Service innovation has mainly been studied as a resulting process in firm of R&D, or ongoing transformation in service offer: our objective is to build and assess a model of determinants to measure their relative impact on innovation. We presented our methodology, the state of art and the preliminary findings of two in depth case studies on international knowledge intensive business service that have based their development on innovation.

Key words: KIBS, Service Innovation, service internationalization

Résumé

Le rôle de l'innovation comme préalable ou facteur porteur de l'internationalisation des entreprises de services a jusqu'à présent été peu étudié. Via la co-production du service avec le client, la demande apparaît comme la source d'une évolution de l'offre qui peut ainsi être innovante. Nous cherchons à montrer que l'innovation peut être un déclencheur de l'exportation pour les services aux entreprises les plus intensifs en connaissances. Cette communication présente la méthodologie d'une recherche en cours et les fondements d'un modèle en construction s'appuyant sur une revue de littérature et deux entretiens approfondis auprès d'entreprises de ce secteur.

Mots clefs : innovation des services, internationalisation, services supérieurs

Innovation policies in most developed countries have been under critics for their weak achievements: in France, innovation is still a laggard policy ; in Europe the Lisbon strategy is a failure apart for Sweden and Finland. Innovation policies are under scrutiny because governments are reluctant to fund programs not dedicated to the satisfaction of demand coming from consumers or from firms. Furthermore, services are not always captured as potential innovators (Nesta, 2008). Our project is in line with this stream of thought, looking at the determinants of innovation located in services offered with products or in the service activities themselves, particularly under the influence of the international demand and of the information and communication technologies facilities.

Service innovation is no longer ignored (Djellal, 2002, Djellal et al., 2004, Gallouj F et al, 2010) since researchers pointed out the potential benefits of outsourced services to users, and the synergies they generate (Djellal and Gallouj, 2007). If there are large differences in the innovation implication among all service sectors (EU 2009), and even inside sub sectors (Sunbo and Gallouj, 1999), the Vence and Trigo's taxonomy (2005) of service innovation patterns shows how important is the innovation process in KIBS. Sundbo and Gallouj (1999) observe that “ these enterprises do not really sell product-services but competencies, abilities to solve problems in different expertise areas”. That is a way to a permanent innovation process. Business services make a powerful contribution to economic development and development planning because of the inextricable relationships they create among families of disciplines (Monnoyer 2010). Their interactions with users and other partners generate what Wood (2008) calls 'hidden innovation'.

Literature has explored technological (product and process innovation) and non technological (delivery, strategic, managerial and marketing innovation) dimensions of service innovations (Sundbo and Gallouj, 1999 ; den Hertog, 2000, Amara and Landry, 2009). Their results suggest that service innovation is multifaceted. Furthermore, Amara et alii provide evidence that some forms of innovation are complementary. That is the case of technological dimensions and strategic, managerial and marketing dimensions. It appears that tacit and codified knowledge that are exchanged between business service firms and their clients or universities may be used to create new strategies Vence et alii, 2007). Edvardsson (2008) suggests a new concept “customer needings” with three dimensions : doing (resource and activity dimension), experiencing (cognitive and emotional aspects), scheduling (time related aspects). But it looks like service innovation has mainly been studied as a resulting process in firm of R&D, or ongoing transformation in service offer.

The role of demand, especially tacit demand, although recognized, has not been enough investigated from our point of view. Our objective is precisely to establish the link between the demand and service innovation in three dimensions: the international demand, the public demand through public tender and the technological demand through service linked to new products. The linkages between demand and innovation are obvious when we observe firms behaviors: firms must satisfy hard to please clients private or public, in a global competitive context. Our objective is to build and assess a model of determinants to measure their relative impact on

innovation. To do this, we plan to create a data bank with the interviews of executives in a selected sample of innovating and international service firms in two countries. We have chosen France and Brazil for convenience reasons, but also because France is one of the most important business services exporting country, and Brazil a new comer on the service international market.

In this paper, we will give the preliminary findings of two in depth case studies on international knowledge intensive business service that have based their development on innovation. We will develop in this paper the following points : the innovation context, the necessity to establish a link between research on innovation and on internationalization and lastly our preliminary research model.

1. The new innovation context

Most developed countries have experienced a dramatic shift from goods to services: service is now a dominant sector in terms of value added and employment. However, most analyses of innovation still focus on goods and not on services. Therefore it is necessary to update our research agenda to complete our knowledge on service innovation. To do so, we need to enlarge our vision of innovation to take into consideration the role of demand.

In the USA and in Finland, this new approach has been resumed by the Ten Types of Innovation model due to Larry Keeley in the USA and reframed by the TEKES institute in Finland. This model classifies innovation in two categories: the first one, "From the firm to market » includes innovation in the service process and in the service offering. The second category, « From the market to firms » includes service finance and delivery. These classes group together different elements. The first category « From the firm to market » is similar to the traditional value added analysis and is meant to identify the strategic advantages and competences of the firm.

PROCESS		OFFERING		
Innovation process	Core process	Product/service performance	Service system	Customer service
How a company organizes to support innovation	Proprietary processes that add value	Basic features, performance, and functionality	Extended system that surround an offering	How your service satisfies your customers

The second category « from the market to firms » groups innovations done to satisfy clients or to participate in networks to build external relations.

DELIVERY			FINANCE	
Channel	Brand	Customer experience	Business model	Value networks
How to connect your offering to clients	How to express your offering's benefit to customers	How to create an overall experience for customers	How the enterprise makes money	Enterprise structure and value chain

Product-centered firms spend the majority of their innovation effort on product performance and on the associated elements. Conversely, the lower emphasis is on finance and delivery. Analyses on service innovation show that it is « the market to firms » context which is predominant with innovations on the customer experience, valued networks, business model and brand.

The TEKES Institute analysis on US innovation during the 2005-2007 period shows key éléments :

- Customer is the new central point of innovation and has taken the place of competitors to settle the overall strategy and the innovation strategy of firms.
- Entrepreneurship is a driving force of innovation in service sector where the capital needs are less important than in manufacturing.
- Most innovations are substitute for others tasks in the value chain.
- Communication and information technologies are essential for service innovation.

Others researches on innovation have identified the tendency to mix innovation in goods and in services and the growing blurring of frontiers between the manufacturing sector and the service sector, particularly for producer services (Miles, 2001). This is a locus of a debate between pure theory on service innovation tenants and theory of assimilation of services to goods researcher. To go into in this debate is out of our project but it is necessary to pinpoint that this context creates a real difficulty for firm to assess service innovation value. As for innovation policy, we have to admit that there are only few public programs to promote service innovation but all innovation policies admit the blurring of frontiers between goods and services.

Research on service innovation economics has shown up the role of technical systems as a source of innovation (Barras,1986), but also the importance of innovations in methods and organization (Gallouj, 2002 & 2003). From a methodological perspective, these research works had to overcome analytical difficulties specific to services due to the immaterial nature of their production, to their interactivity and to the contribution of clients to the final outcome of the service delivery. These works identified several types of innovation: radical, improvement, incremental, *ad hoc*, recombination and formalization.

Taken from a managerial point of view, we have a stock-list of impact points of innovation; from an economic point of view, we dispose of a typology of innovations and sources of innovation. We have now to link these approaches to internationalization.

2. - The link between service innovation internationalization research

We propose in our project to define and assess a theoretical model in order to identify and measure the determinants of the linkages between service innovation and internationalization. These two axes of development have always been considered separately. Bringing them together should enable us to understand better, from the conceptual and managerial point of view, the relationships which these two dynamics share. Service innovation obviously has consequences for the international development of service firms. But internationalization is also a powerful driver for service innovations and notably so in business to business services. The actual internationalization of firms is an economic context which generates a high pressure to innovate.

Also faced with a great variety of forms, research on service internationalization used a quite similar approach. The first step was to describe the different types of internationalization: role and type of international networks, solutions adopted to master the difficulty to keep high quality standards in different cultural environments, use of information and communication technologies (ICTs), replacing or simply supporting traditional networks, have been highlighted, and so have the firm's strategies concerning what service they offer abroad, but also how they organize their relations with clients.

The connection between innovation and internationalization becomes evident when observing the business world: globalization is the rule, whether it is commanded by markets or competition. Business to business services must satisfy increasingly "worldwide" clients by tackling international competition stirred by the generalization of deregulation policies. In the same time innovators may propose very specified offers to a market which is no longer divided in small countries areas. A niche may be very profitable, when the market is an international one.

In such a context, the quest for lower costs is often supported by innovation in methods but is reinforced by growing internationalization, which may well entail some scale economies (Ghemawat, 2007). The search to standardize offers is a very similar process. The quest for reducing costs is a tendency which remains fundamental for firms, but changes in the market can provoke more basic innovations. New countries are emerging on the world's economic scene, and expectations for better adapted, more "localized" offers can be observed. A new dialectic may therefore exist, inducing more radical innovations to be implemented.

3. – Methodology

Our approach is conceptual and exploratory, to analyze the relationships between innovation and internationalization, to distinguish clear profiles and specific contexts and draw up the managerial implications from them. To do that we have begun an

exploratory survey and we deliver the first results based on two in depth case studies. We contemplate to expand the case studies to a ten firms sample size, then confirm the findings through a quantitative survey with a questionnaire passed to a sufficient number of firms to be able to analyze the answer with a structural equation model with the AMOS software. Our two firms are knowledge intensive business service firms located in the south of France, one is a consultancy and training firm operating in the petroleum sector, more precisely in the drilling sector; the second one does testing of molecular medicine in the heart-attack medical treatments.

4. - Preliminary findings

Several results can be drawn from our interviews which can be summed up:

- Innovation is an antecedent factor of internationalization

This question has mainly been studied in the literature under the impact on innovation orientation on the internationalization process theme (OVIATT & Mc DOUGALL, 1994; MELIA et al, 2010). To innovate, firms have to develop capabilities to transform their resources and structures, so innovation orientation can accelerate the internationalization process. Most service firms sell only one of their services on the international market. The service chosen has been designed for so and so country. Without this innovation there will be no internationalization process (Leo et alii, 2002). In the two firms we have analyzed, we found innovation as a founding process on which the firms have been established and developed. For both of them there was no sense to create a firm just for a national market. There was always a foot loose dimension in the business project that allows such a strategy. This dimension appears as a catalyst of internationalization. Without it the path to foreign market seems more arduous.

- The design of innovation is an application of the knowledge of entrepreneurs

The C-K theory, developed by HATCHUEL & WEIL (2003) and applied by LENFLE & MIDLER (2010), represent the design reasoning process of innovator. For these authors, any innovation design starts when the body of knowledge at the disposal of innovators does not help resolving the question they have to treat. The “concept” (C) is an object included in the knowledge (K) but with properties not present in K. The design of innovation is thus the transition from the desired state to the realization state, resulting from a continuous interaction between the universe of concept and the one of knowledge.

Sundbo and Gallouj (1999) consider that the innovation process in services is mostly a coupled process in which the employees (including managers at all levels) are involved and function as corporate entrepreneurs and start the process. As it is very rare to find a R&D department in service firms, it means that the knowledge of entrepreneurs and employees is the settlement of service innovations. Many data are now available, but to transform these data in a business service needs a personal knowledge to catch the information and the ability to built a process to use them (Monnoyer 2010).

In our two firms, innovators are expert of their field, holding doctorate degree and work experience. They have chosen very carefully their teams. The improvement of

their services is linked with the team competencies. For the drilling consultancy firm, it is the absence of professional and up-to-date data base which impedes the delivering of consultancy work which is the starting point of the design of innovation and lastly of the firm. For the medical testing firm, it is a new regulation which defines new tests and process guidelines to be done before medicine marketing which is the starting element of the innovative firm. Both innovators have drawn in their knowledge to conceptualize their innovation and their supporting firm.

- Professional standards have a positive impact on firms performance

Research has shown that standards in general have a positive impact on company trade performance (Blind (2010)). In the two analyzed firms, standards are a starting point of innovation for the testing service firm, but also for both firms, an opportunity of development to gain new clients and new markets. To pass successfully the quality standard of BPL (Good laboratory processes) gives to the firm an international reference position very appreciated by clients. Standards in drilling practices are at the same time a subject of training and a consultancy theme because many petroleum companies ask their contractors to show their proficiency and obey to the standards. The two firms participate actively in formal standardization processes: the international development is supported by their capacity to integrate new standards, either private or public, for new clients. Standardisation often compels the firm to redefine its core service concept even on its home market; but a standardised service will significantly facilitate further international development with a better remote control of the homogeneity and quality of the services delivered. Even when they adapt to the client needs, the two firms are striving to offer a standardized adaptation that is an adapted delivery process on a standardized core service.

- Innovation and internationalization need a networking support process

As indicated by MONNOYER (2010), the innovative firms need a high degree of openness to the technological, social and industrial developments in their environments. Openness is difficult for entrepreneur for lack of time, small experience and lack of personal contacts. We found that the success of the two innovative firms result in great part of the personal network of the founders which is a source of cost economies and a generator of business.

- Innovation does not solve international contact constraints

Modes of entry have been identified as a critical determinant of international expansion (Philippe et alii, 2010). The need for contact with the client does not create the same constraints in every service activities, but co-production is always the rule (Eiglier and Langeard, 1987). "Business" service providers often "move" to meet their clients, and in some countries it is a long way to obtain an order. The impact of information technologies will depending on the type of services, since the possibilities of alternatives to movement (of either staff or clients) will not have the same importance. Lastly the forms of businesses abroad are more flexible, for many business services do not require heavy structures.

These two firms have no real choice: they have to be present on foreign markets because these markets offer better growth perspectives than domestic market where new market shares are increasingly difficult to conquer or are too small to survive: firms willing to expand and develop are actually compelled to diversify if they stay in

their home country. They can maintain the specialization which makes their strength by spreading their development onto foreign markets, selling the same service abroad.

For the drilling consultancy company, permanent client contact is of paramount importance. The network is heavily used to establish contacts, then to deliver the service (training or consultancy) in the foreign language through experts from the client country. Even at home, the contact person is a national from the client countries. When the firm has set a stable turn over in the foreign country, the question of a local subsidiary appears. The choice of a delivery network, if not obligatory really seems to be an efficient mode once international transactions are established on a long term footing.

For the testing lab, the contact question is different: the preliminary commercial contact is often established through world medical conference. Once the contract is signed, the service is done in France where the equipment is localised but the question of client contact remains: the movements of home based service personnel to foreign clients are numerous but also foreign clients come especially in France to meet the firm executives.

These relationship modes are backed-up in all the cases by the use of means of communication, whether they are traditional or not: Phone and/or fax, new means of telecommunications (Internet, EDI and Data Banks) are used, which clearly shows the high-speed break through of these technologies and their adaptation to the needs of this type of firm.

Other particularities can be observed according to the type of country within which the services are delivered: Western Europe appears to be a proximity market for both firms: movement of personnel can suffice to deal with clients. North America markets present a similar profile but regulation differences and jet lag set to operate on these markets via an agent or a service delivery network. Having a network seems to be more necessary in developing countries and the subsidiary form seems to be privileged there more than the joint-venture, which may be harder to control.

- **International dynamism lays down in subsidiary**

The lack of a network considerably hinders development potential, even whether the testing service firm can partially compensate this absence by using ICT and movement of personnel: it appears to be less handicapped but do not reach high levels of dynamism. In the countries where it has invested through subsidiaries, the consultancy firm is obtaining its best results. This well and truly confirms that this sort of network is the most completed and the most adapted to international service development (Leo et alii, 2002). For the other firm which cannot envisage the creation of a subsidiary, the door to dynamism is still ajar.

- **ITC is a powerful means to guarantee the service quality**

ITC has introduced unprecedented organizational possibilities by enabling the uncoupling of different stages in the service delivery process and the spatial dissociation of back and front offices. These technical developments transform the problem of the international development of services. Up to now research work has

mainly revolved around the development of networks abroad and on the means to be implemented to enable a service delivery organization to perform in different environments. Presence on the foreign market assembles a whole assortment of practices situated half-way between “pure” export and local implantation and which do not all undergo the same degree of financial implication. This financial aspect in fact covers an essential difficulty in services: the reproducibility at a constant level of quality of a service in an establishment other than the company’s headquarters. This difficulty already exists on a national level but is amplified on the international scene because of differences in culture and difficulties in communication (Sutthijahra S, et alii, 2009).

For the testing lab, it is compulsory to obtain an up to date information about national standards on BPL through data bank. The drilling consultancy firm offer an Internet service called Planet Petroleum in which all the know-how of the firm is accumulated: it is at an e-manual for petroleum including geology, geophysics, drilling and production, a training courses support and a computer oil business game. Made for professionals, executive and experts as well as general executive of the oil industry, it allows self-instruction and permanent backing of the trainees.

But the evolution of the web designers abilities is also a way to intensify the intelligibility of the characteristics of the services offered (Monnoyer 2010, 2). For the client the screen is no longer a place for data, but also a place to think, to analyze and sometimes to rebuild his own offer.

Conclusion

If service innovation is no longer ignored, it looks like service innovation has mainly been studied as a resulting process in firm of R&D, or ongoing transformation in service offer. Our objective was precisely to establish the link between the demand and service innovation in three dimensions: the international demand, the public demand through public tender and the technological demand through service linked to new products. In this paper, we have given the preliminary findings of two in depth case studies on international knowledge intensive business service that have based their development on innovation :

- Innovation is an antecedent factor of internationalization
- The design of innovation is an application of the knowledge of entrepreneurs
- Professional standards have a positive impact on firms performance
- Innovation and internationalization need a networking support process
- Innovation does not solve international contact constraints
- International dynamism lays down in subsidiary
- ITC is a powerful means to guarantee the service quality

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