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**Alliance Capability in Tunisian pharmaceutical industry**

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## INTRODUCTION

A Triple Helix model of university-industry-government as relatively equal, interdependent and interacting institutional spheres is increasingly becoming the requisite basis for innovation and development in a knowledge-based society (Etzkowitz and Dzisah, 2007) in which, the determinants of success of enterprises, and of national economies as a whole, is ever more reliant upon their effectiveness in gathering and utilising knowledge. The crucial role of knowledge is now preached by a variety of academics, business and policy sources. The knowledge-based economy is characterised by the need for continuous learning as a way for enable the organisations to renew themselves and to keep up with competition (OCDE, 1996, Archibugi, and Lundvall, 2002).

In light of that, the current business environment emphasizes the need for a relatively new approach in management that is the natural extension of the resource-based view of organizations (Barney, 1991; Lampella, 2009), namely the knowledge-based view (Grant, 1996). Research on this perspective illustrates that for most firms, knowledge is the most important strategic resource and that the capability to create, integrate and apply knowledge is critical to the development of sustainable competitive advantages (Nonaka, 1994; Kogut and Zander, 1992). This perspective considers knowledge as the most strategically significant resource of the firm (Grant, 1996), and its proponents argue that heterogeneous knowledge bases and capabilities among firms are the main determinants of sustained competitive advantage (Eisenhardt and Santos, 2000). This approach has led to the general prescription that firms should become "learning organizations" to maximize their knowledge base (Bierly and al 2000). Particularly, various scholars have argued that inter-organizational learning is critical to competitive success, noting that organizations often learn by collaborating with other organizations (Dyer and Singh, 1998; Holmqvist, 2003a,b), such as firms, universities or research institutions, and with the support of government (OCDE, 1996). These relationships are in the core of the triple helix model. Industry, which is one of the three helices of the model, is the locus of production. The Government helix is perceived as the source of regulation and contractual relations that guarantee stable interactions and exchange. The university, core helice of the model, is the source of new knowledge and technology (Etzkowitz, 2003).

Inter-organizational learning occurs because of a confrontation and a combination of single formal organizations' experiences and knowledge through alliances. Many studies support this assertion (Ireland and al, 2002; Soekijad and Andriessen, 2003). Their results show that strategic alliances provide firms with access to information and knowledge that contribute to superior adaptation to their competitive environments. They constitute an effective way for helping firms to spread the costs and risk associated with innovation, to gain access to new research results, to acquire key technological components of a new product or process, and to share assets in manufacturing, marketing and distribution. Consequently, hardly a sector of economic activity has remained untouched by the trend of interfirm collaboration (De Man, 2005). During the last two decades, many firms have been forming strategic alliances at an impressive clip. Large firms like Pfizer and Eli Lilly are vying to be the 'preferred partner' in the pharmaceutical industry (Heimeriks and Reuer, 2006).

To take advantage of alliances and develop inter-organisational learning, partners have to possess organizational capabilities. In particular, some authors (Ireland et al, 2002; Yan, 2004; Gonçalves and Gonçalves, 2008) suggest that alliance capability is expected to accelerate inter-organizational learning process.

**In this paper the focus is first on *inter-organizational learning* developed through alliances. We will explore also the role of *alliance capability* in facilitating and accelerating inter-organizational learning and its relevance in managing the alliance portfolio possessed by a firm by taking into account each agreement specificities.**

Our empirical research is based upon a case study related to a Tunisian pharmaceutical firm (TFM). Pharmaceutical industry has experienced a substantial rise in cooperation use across the board since the early 1990's (Adobor, 2005). Alliances are recognized as an important and worldwide mechanism for pharmaceutical firms to succeed in drug discovery, development, and commercialization under the pressure of mass resources needed in R&D and increasingly intense competition in the global drug market (Xu, 2006).

TFM has concluded three licensing agreements: one with French partner (FP) and two with Jordanian partners (JP1 and JP2). Other agreements are made with the academic community: two universities (National Engineering School "NES" and Faculty of Pharmacy "FP") and a Public centre of biotechnology "CBS".

The paper commences by introducing the concept of inter-organizational learning and alliance capability and establishes a connection between them. This is followed by an explanation of the methodology, results and discussion of our case study.

## I- CONCEPTUAL FRAMEWORK

### 1- INTER-ORGANIZATIONAL LEARNING

Learning is at the heart of a company's ability to adapt to a rapidly changing environment. It is the key to being able both to identify opportunities that others might not see and to exploit those opportunities rapidly and fully (Prokesch, 1997, p. 148, cité par Popper et Lipshitz 1998, p. 43). Organizational learning is seen as a dynamic process based on knowledge, which implies moving among the different levels of action, going from the individual to the group level, and then to the organizational level (Bygballe, 2006). Later, studies have included the extension of level of analysis to studies of learning in relationships and networks. Inter-organizational learning is taken to be learning that takes place in the inter-organizational setting.

In the literature, a major interest is granted for the study of organizational learning within organizations (Learning within organizations or intra-organizational learning). Less interest is devoted to the study of inter-organizational learning. Inter-organisational learning is considered as one of the potentially most important developments in organisational learning research. Over the last 10 years, a growing number of organisational learning studies have focused explicitly on interorganisational learning processes, by exploring the unique behaviour of such inter-organisational entities as strategic alliances, joint ventures, networks, and other formal inter-organisational collaborations (Holmqvist, 2003b).

Different researches have argued that learning alliances allow firms to increase the speed of capability development and minimize uncertainty by acquiring and exploiting knowledge developed by others (Lane and Lubatkin, 1998; Rothaermel and Deeds, 2004; 2006).

In knowledge-based economy, the implementation of organizational learning processes as well as those of innovation involves high costs. This is much more justified in industries undergoing rapid change that involves high costs of R&D. In particular, the pharmaceutical industry provides an interesting example. In his study on inter-firm cooperation achieved in this industry, Bélis-Bergouignan (1997) showed that the need to cushion the growing masses related R&D activities led the firm to cooperate with others. These partnerships aim provide firms with the needed skills, coordination of technological complementarities or management of technology transfer. Through inter-organizational learning, partner companies have the opportunity to increase knowledge not previously available within the company. This learning can be achieved by transferring existing knowledge from one partner firm to another partner firm, as well as by creating completely new knowledge through interaction among the firms (Srivastava and Gary, 2005). Bygballe (2006) suggest that inter-organisational learning processes hence involve both learning from and with other actors. The latter means that partner-specific knowledge is created'.

An inter-organizational learning occurs when changes occur in the properties of organizations, such as organizational routines, systems, structures, procedures, patterns that reflect and are reflected in the evolution of action's modes (knight, 2002; Knight and Pye, 2004). It is also considered as the process by which mutual knowledge are represented by rules that are produced and modified (Larsson and al, 1998; Zollo and al, 2002).

Following previous research (Larsson and al, 1998; knight, 2002; Srivastava and Gary, 2005, Bygballe, 2006) we define inter-organizational learning through *the transfer of existing knowledge and skills from one organization to another, as well as the creation of new knowledge and skills, through the interaction between cooperative organizations*. Hence, different kinds of inter-organizational learning may occur due to alliances (Kale and al, 2000; Das and Kumar, 2007). Generally speaking, scholars have identified three different types of learning.

**1.1 The internalization of information, knowledge and/or critical capacities of the partner;** in some cases, companies do not possess internally all the necessary capabilities to implement a particular strategy. In this case, inter-organizational learning, help organizations to use knowledge and access to complementary capabilities of their partners in order to transfer and use them in intra-organizational context (Hamel, 1991; Hennart and Zeng, 2005). Learning can be about the acquisition

of new technical skills or technological capabilities from partner firm, financial expertise, experienced managerial personnel, ways to approach the product development process, access to market and distribution channels (Mowery et al, 1996).

**1.2 Partner-specific learning;** this second type of alliance learning is concerned with partner specific learning. According to Das and Kumar (2007), this type of learning has implications in the short to medium term and may well be the most important component of learning in alliances for several reasons. First, if a firm is learning from its partner, and second, if what it learns about its partner is positive, its motivation to continue with the alliance will be enhanced. In the longer-term, it may add to the propensity for partner collaboration and will also give the partners a potential opportunity to establish routines that may facilitate their collaboration. Kim and Inkpen (2005) noted that through the history of partnership, firms learn about each others' ways of doing business, and interpret each others' acts from experiences. This learning allows partners to revise their expectations and understand those of other partners (Inkpen and Dinur, 1998). Doz (1996) suggests that partner specific learning enables partners to adjust the initial conditions of the alliance (interface structure, definition of tasks, partners' expectations) and make them more effective over time. When partners develop an understanding of attitudes and beliefs of each other, this tends to improve coordination, conflict resolution, gathering information about problems that may arise. In doing so, firms that have worked together in the past will have basic understandings about partner skills and capabilities, which should provide an impetus for learning (Kim and Inkpen, 2005).

**1.3 Alliance management learning:** a third type of learning involves that organisations can learn about alliances (Soekijad and Andriessen, 2003). Alliance management learning is gaining increasing research attention as many firms are pursuing a much more formalized process of managing alliances and developing alliance capabilities (Ireland and al, 2002; Das and Kumar, 2007). This learning may make a member firm more accepting of an exploratory intent in fashioning an alliance with a partner. Furthermore, the firm may become more adept at screening potential partners and in making certain that the alliance develops as intended (Das and Kumar,2007)

Organisations may want to acquire knowledge that can be used for the management of alliances in general (Inkpen and Dinur, 1998). In other words, firms may learn to manage cooperation, or acquire an alliance capability (Anand and Khanna, 2000). The theoretical literature suggests that "competence at managing collaborations has become a key driver of a new logic of organizing" (Powell, 1998, p.231). Like any other competency, the management of alliances is a skill that can be built up and which can become a significant source of competitive advantage (Kale and Singh 1999; Draulans and al, 2003). Alliance management learning is significant because it is an essential ingredient for enhancing an organization's competitive ability over the long haul (Ireland et al., 2002). Therefore, this learning forms the basis for the concept of alliance capability which much more recent theoretical studies suggest that it can be a source of competitive advantage (Kale and Singh 1999; Draulans and al, 2003; De Man, 2005; Rothaermel and Deeds, 2006; Heimeriks and Duysters, 2008).

In the next section, we will study the role of alliance capability, as a dynamic capability, that contributes to the development of inter-organisational learning.

## **2- ALLIANCE CAPABILITY**

In the dynamic markets of today, competitive advantage rest on the ability to constantly develop organizational capabilities that form the basis for products and services offered by the firm. To remain competitive it is insufficient to have strong resources and organizational capabilities (Nielsen, 2006). The firm must also possess strong dynamic capabilities for developing and renewing its resources and organizational capabilities (Teece and al, 1997). The dynamic capabilities focus is the analysis of the fit between the organisation's changing external environment and the dynamics of their portfolio of resources and capabilities. Alliances are believed to be a means for such reconfiguration, and alliancing will next be characterised as a dynamic capability (Gonçalves and Gonçalves, 2008). The concept of dynamic capabilities offers insights into the drivers of competitiveness in different industries, and therefore on the strategic options faced by a firm (Nielsen, 2006). Alliance capability is a dynamic capability, because it is of a higher order, aimed at integrating resources and functional capabilities in order to adapt firms to external dynamics. A firm's alliance capability can be seen as its ability to internalize alliance management knowledge (Heimeriks, 2004) and knowledge from the partner in general.

Duysters and Heimeriks (2002) defines alliance capabilities as a firm's set of micro-level mechanisms that seek to optimize the ex ante resource deployment and asset commitments in its alliances. They

can enhance firm's capability to identify partners, initiate relationships or rebuild an alliance (Spekman and al, 2000).

An alliance capability is difficult to obtain or imitate and has the potential to enhance the performance of the firm's alliance portfolio, to anticipate problems and explore new opportunities; to exploit each alliance fully; and to mobilise resources and seek synergies in the current portfolio (Heimeriks and Duysters, 2008). Moreover, recent theoretical work has emphasized that alliance management can contribute to a firm-level competitive advantage (Ireland et al, 2002; Rothaermel and Deeds, 2006) and recognize it as the ability of an organization to manage alliance successfully (Draulans and al, 2003). Recently, borrowing mainly from the organizational learning, we posit that alliance capability is expected to accelerate inter-organizational learning.

Effective organizational learning will enhance firm's alliance capability. A firm with strong alliance capability can conduct organizational learning more effectively and at the same time deal with relationship with alliance partner better. There is positive feedback loop between organizational learning and alliance capability. For the firm, it is possible to find the advantages of partner and know what is worth learning from partner (Yan, 2004).

This capability contribute to the identification of new partners; increased knowledge of markets; support for product introduction; analysing new markets (Gonçalves and Gonçalves, 2008). Recent research, grounded in theory about capability building (e.g. De Man, 2005; Rothaermel and Deeds, 2006), shifts the attention on alliance capability as a firm-level dynamic capability that enables a firm to integrate, build and reconfigure internal and external competencies to address rapidly changing environments in order to create innovative forms of competitive advantage given path dependencies and market positions. So, by studying alliance capability, not the relationship will be studied, but the ability of the individual partner to manage the relationship. The focus is on the internal operations of an alliance partner and the accumulation of alliance knowledge inside the individual organization (De Man, 2005). Indeed, this capability studies the experience firms have with alliances (Das and Kumar, 2007), the knowledge they have built up about them and the alliance management tools they have implemented (Kale and Singh, 1999; Kale and al, 2002; De Man, 2005; Rothaermel and Deeds, 2006). In-keeping with theory, alliance capability is studied by looking into two major components: *alliance experience* and *organizational processes* that may allow the firms to profit from such experience (De Man, 2005).

### **2.1 Alliance experience;**

The literature recognizes that prior experience may enhance a firm's alliance capability (Das and Kumar, 2007). In line with previous research, we define alliance experience as the lessons learned, as well as the know-how generated through a firm's former alliances (Kale and Singh, 1999; Kale and al., 2002). These lessons and know-how are likely to become embedded in the minds of the individuals involved. This provides a basis for an organizational routine with respect to performing a certain task or activity (Nelson and Winter, 1982).

Alliance experience engenders the development of 'common perspectives' (Nonaka, 1994, p. 24), enabling a firm to absorb new knowledge more effectively (Heimeriks and Duysters, 2008). Most experience benefits appear to be based on learning-by-doing through repeated engagements. Repeated engagements in strategic alliances allow the firm to create codified routines, policies and procedures as well as tacit knowledge with respect to the entire range of alliance management, beginning with partner selection and alliance formation to alliance management and finally alliance termination (Rothaermel and Deeds, 2006). A firm with greater alliance experience should be able to manage a larger number of alliances effectively (Dyer and Singh, 1998). Involvement in more alliances helps companies to develop a tacit proficiency in managing this form of collaboration (Cohen and Levinthal, 1990). Prior empirical work has produced some evidence that experience in alliances can positively affect a firm's rate of patenting, new product development and stock-market value created (Anand and Khanna, 2000). From a resource-based view and dynamic capability view, experience is posted to influence inter-organizational learning, as contingencies can be better anticipated and responded to (Anand and Khanna, 2000; Kale and al, 2002). In spite of the fact that accumulated experience can positively influence learning, learning curves vary significantly among firms (Pisano and al, 2001).

### **2.2 Organizational processes**

Adding to alliance experience is not sufficient. Companies need to focus on mechanisms that formalize lessons learned and transfer alliance best practices inside companies (De Man, 2005).

These mechanisms are expected to accelerate learning process as they help institutionalize alliance knowledge throughout the firm (grant, 1996; Heimeriks, 2004).

In fact, alliance capability would also rest upon proactive efforts to accumulate and leverage alliances associated with prior experience (Kale and Singh, 1999). Several activities (creating a repository or database containing the firm's entire cooperation history, informal conversations and discussions between managers, formal mechanisms such as of alliance committees, training programmes, having an alliance specialist in a company, the presence of an alliance department, etc) can help identify best practice on what was done right or wrong in similar situations in the past. These lessons facilitate, in turn, effective action and decision-making in on-going and future alliances and stimulate the exchange of alliance best practices (De Man, 2005; Kale and Singh, 1999; Kale and al., 2002).

The aim of the empirical study is to investigate inter-organisational learning developed by a Tunisian pharmaceutical firm (TFM) through its different cooperative agreements (*industry-industry cooperation, and firm-university cooperation*) and to explain the relationship between inter-organizational learning and alliance capability.

We will first focus on alliances concluded in the industry context. Then we move to studying alliances made with university.

## **II - EMPIRICAL STUDY; METHODOLOGY, RESULTS AND DISCUSSIONS**

This study is conducted within the pharmaceutical industry. Theoretical and empirical researches have currently identified the important role of alliances in global industries in 1990's such as the pharmaceutical industry (Bogner and Thomas, 1996; Rothaermel and Deeds, 2006). The globalization of markets, increasing financial pressures and struggling product pipelines are forcing pharmaceutical companies to reconsider strategies to survive. Indeed, the establishment of alliances allows pharmaceutical companies to address many of these challenges. Pharmaceutical industry has experienced a substantial rise in alliance use across the board since the early 1990's (Adobor, 2005). Alliances are recognized as an important and worldwide mechanism for pharmaceutical firms to succeed in drug discovery, development, and commercialization under the pressure of mass resources needed in R&D and increasingly intense competition in the global drug market (Xu, 2006). Alliances are entered into with pharmaceutical companies, with biotechnology firms, or with research universities. Indeed, many universities conceive of their traditional mission of educating students and advancing understanding to have broadened to include patenting and commercializing research discoveries (Stuart, 2007).

The Tunisian pharmaceutical industry has a significant growth over the past twenty years. In 1987, there were only three laboratories covering only 8% of needs against thirty in 2004. In 2007, this number has increased to 40 due to the increasing number of cooperations with foreign laboratories, local firms and universities (Ministry of public health, 2008). This industry employs 3700 people and covers from 40 to 45% of market needs. The licensed products represent 60% of total production and generic products correspond to 40%.

### **1- RESEARCH METHOD AND APPROACH**

The approach adopted in this paper is qualitative related to single case study conducted within a Tunisian pharmaceutical firm (TFM). Case studies allow to gather considerably detailed data enabling (Yin, 1989) a deep understanding of the sequences of events but sacrificing the ability to achieve statistical generalisability (Nordin, 2006). They are especially appropriate for exploring new areas and when the researcher is interested in questions concerning how and why (Yin, 1989). In particular, Smith and al (1995) call for more longitudinal case studies that are capable of capturing the complexities and dynamics of cooperation.

This study is conducted within Tunisian pharmaceutical firm (TFM). TFM was created in 1982. In 1993, TFM has beginning drug's production due to alliances involving licensing agreements made with foreign partners. These forms of alliances involve the expectation of a somewhat longer-term relationship. They also entail knowledge transfer and other mutual obligations between parties that call for ongoing interactions, some knowledge transfer, and occasional short-term personnel exchanges (Contractor and Ra, 2002). As royalties linked to sales are often involved, there is incentive for the licensor as knowledge supplier to render assistance to the licensee (TFM).

The first licensing agreement (with participation in capital 3%) is conducted with a French partner (FP) in 1993. Two other licensing agreements (without participation in the capital) with partners from the

South (Jordanian partners JP1 et JP2) are created in 2000. Within these alliances drugs produced are in liquid, paste and suppository form.

Like many other pharmaceutical and biotech companies, TFM has cultivated extensive cooperations within the academic community. These partners are essentially two universities (National Engineering School "NES", Faculty of Pharmacy "FPM") and a Public centre of biotechnology "CBS". In the past decade, Tunisian universities have become much more proactive in their commercialization and cooperative efforts. As considered as a place of acquisition and creation of new knowledge, Tunisian university plays an increased role in the "longlife learning". The investment in formation and research, which are the mission of the university, represents nowadays a central source of creation of potential value (Khefacha and Belkacem, 2009). Tunisian university plays so a key role in the organization of foray on skills and human resource requirements for the modern economy (European communities Report, 2006).

Data were collected through series of 6 interviews conducted with staff from different functions within TFM. Semi-structured interviews were used to interview employees in the field of inter-organizational learning and alliance capability and which allowed me to interpret the findings. These interviews lasted between 1 and 2 hours. These included three person from R&D Function (2 pharmacists and 1 engineer), 3 managers. In the interviews, the focus was on the three types of inter-organizational learning that are developed through different alliances implemented by TFM and on alliance capability and its role in developing these learning. The data are analyzed by using coding and categorizing method.

## **2- RESULTS AND DISCUSSIONS**

### **2.1 TFM-Industry alliances**

Inter-organizational learning developed by TFM is originated from their different cooperative agreements within the industry. In the pharmaceutical industry, it is known that the pharmaceutical activities are organized around a variety of values related to discover, develop, and deliver the innovative pharmaceutical therapies. For realising these activities, alliances are acknowledged to be a significant aspect of pharmaceutical firms (Xu, 2006), and notably for TFM's business that currently has more than 4 active relationships.

***The internalization of information, knowledge and/or critical capacities of the partner:*** TFM do not possess internally all the necessary capabilities to produce the particular drugs which are essentially in liquid, paste and suppository form.

Alliances with the French and Jordanian partners have as objectives to support TFM with the proceedings and technologies used to produce these drugs. In other words, TFM is seeking to gain access to new drug discovery and development technologies.

These alliances allow TFM to exploit faster and more effectively the results of basic research conducted in partner's laboratories, which in turn lead to efficiency gains for the firm and particularly to develop inter-organizational learning. These learning are about the acquisition of new technical skills or technological capabilities from partner firm in order to enhance the significance of core technologies and to upgrade core competencies of TFM. At this level we note that learning generated from these licensing agreements, are expected. In the context of these alliances are generated the substantive knowledge that partners use in achieving their business objectives.

***Partner-specific learning;*** Other learning is developed by TFM and "which does not lack significance" (Tunisian manager). Through visits by the partners representatives to TFM, some knowledge are acquired about them and about how to improve the collaboration. These knowledge are judged by the Tunisian managers to be important for the evolution of collaborations develops. These learning are developed mainly through events such as official meetings and training sessions.

During the history of partnership between TFM and the FP, firms learn about each others' ways of doing business, and interpret each others' acts from experiences. This learning allows them to revise their expectations. As a result, FP and TFM has decided to establish a second alliance agreement as they develop an understanding of attitudes and beliefs of each other that contribute to improve coordination. So learning generated is used by partners to enhance their own strategy and operations. For Neuville (1997), Das and Kumar (2007), these meetings can, in the long term, strengthen

relationships between the partners and expand their relational network. By using a large-sample survey data, Kale and al (2000) noted that regular contact and communication lead to greater sharing and learning and facilitate internalisation of each others' knowledge, know-how. It also helps to learn how to work together.

**Alliance management learning:** Throughout cooperative agreements made by TFM with pharmaceutical firms, TFM has developed learning about alliances. One manager reported that through agreements with the different partners, TFM has learned to manage cooperation, and acquire an alliance capability. From alliances with pharmaceutical partners, TFM has developed experience in managing licensing agreements. This experience is related to lessons learned, as well as the know-how generated through TFM's former alliances. This experience contributes to help TFM's managers to better understand the implications of contingencies for the relationship, and for its future contractual relationships.

As suggested by the pharmacists interviewed, experience with French partner has contributed to accelerate learning about knowledge and competencies needed for drugs producing with the Jordanian partners. It is suggested that there are differences in alliance experience between French and Jordanian partners.

Some mechanisms implemented have played a significant role in accelerating learning process. Through informal conversations and discussions between managers, formal mechanisms such as of alliance committees, training programmes facilitate effective action and decision-making and stimulate the exchange of alliance best practices. They are helping also in identifying the design of the future possible alliances with the French partner.

**The role of alliance capability in inter-organizational learning development through Firm-industry alliances:** TFM's alliance management Model is organized around an experience developed mainly through alliances with pharmaceutical firms and the use of some organizational mechanisms. In light of that, the alliance capability developed is the basis for internalising knowledge needed for core competencies needed by TFM. Alliance capability allows TFM to enhance value of specialized capabilities deployed along the process of drug producing. This capability is positively influencing inter-organizational learning from pharmaceutical partners and at the same time deal with relationship with FP better. It motivates also TFM to go into a new alliance with a local pharmaceutical firm (in 2010) in order to extend its drugs' producing portfolio. This agreement will be concluded in order to produce some drug's categories in dry form.

In line with Das and Kumar (2007), alliance management learning may make a member firm more accepting of an exploratory intent in fashioning an alliance with a partner. Furthermore, the firm may become more adept at screening potential partners and in making certain that the alliance develops as intended. Zollo and al (2002) suggest the development of routines which undergird the way partners interact among themselves. Every time partners add another collaborative agreement, they have an opportunity to reinforce and adapt these interorganizational routines, which can progressively smooth their interaction patterns. The development of this form of understanding of each other's behaviours and beliefs tends to help mitigate coordination, conflict resolution, or information-gathering problems, which in turn facilitates iterative learning and adjustment cycles (Doz, 1996).

Inter-organizational learning and alliance capability developed on the basis of alliances with pharmaceutical firms appears to be different across partners from industry and those from the academic community.

## **2.2 TFM-University alliances**

While the alliance literature has been more focused on partnerships between pharmaceutical firms and biotechnology companies, the extensive connections between universities and companies have been featured in the growing literature on university–industry relations. Formal and informal relations with universities are increasingly established (Stuart et al, 2007). Aware of the university-industry-government relationship's role as a model of innovation that captures multiple reciprocal relationships at different points in the process of knowledge capitalization (Etzkowitz, 2002), Tunisian government try to strengthen the Triple Helix of university-industry-government by improving cooperation between industry and university (Khefacha and Belkacem, 2009). In light of that, some alliances exist between TFM and the Tunisian university.

Alliances made by TFM with academic community are characterised as short term alliances. In the literature these latter are defined as "the pooling of separate functions, activities or business units,



which are directed at a specific objective...are often of a temporary nature and do not affect the primary mission and the ownership and control of the participating firms" (Gerybadze, 1995, p. 75). These alliances are different from strategic alliances at three points. Following Gerybadze, (1995) and (Bignoux, 2006), short term alliances are considered to be temporary. The partners, from the time of inception, have a clear idea of when they want the alliance to end. Second, the partner firms do not exchange resources with firms outside the dyad. Resources are shared exclusively with the partner involved in the dyad. Third, the alliance does not affect the ownership and control of the participating firms. The participating firms share resources for a predetermined time period and separate once the objectives of the alliance have been achieved. Partners may also separate at the end of a pre-arranged period of time even if the objectives have not been achieved.

Since 1992, TFM has concluded three Short-term alliances with Tunisian universities (National Engineering School "NES", Faculty of Pharmacy "FPM"). Others cooperation exist with a Public centre of biotechnology "CBS". This institution is expected to be playing a significant role in the development of scientific research in biotechnology. These alliances are formed for a pre-determined period of time for the purposes of achieving activities related to R&D or to use equipments that exist in universities. In line with (Bignoux, 2006), exchange partners in these short-term alliances have less recourse to a specific type of reciprocal action.

Our findings show that learning and developed through these short term alliances are judged by the pharmacists and the engineers interviewed not having the same importance in comparison to learning generated from alliances with pharmaceutical firms. These learning are limited to the use of equipments in universities and CBS. The Staff from TFM receive training to learn how to use the new equipment.

More anecdotal evidence suggests that these short-term alliance are more difficult to manage than alliances with the French and the Jordanian partners. Hence, in line with the findings by Bignoux (2006), this study finds that these alliances encourage independent behaviours and have limited recourse. The short-term nature of these alliances limit reciprocal activity since such alliances are limited to one type of reciprocal action, known as specific reciprocity. The study findings show also that these short-term alliances interrupt the development of alliance experience and so the establishment of organizational processes which contribute to transfer alliance best practices inside TFM. In this sense, the short term alliance experience is elementary to nurture an alliance capability and consequently the learning process.

In their study about alliances between biotechnology firms and universities, Lane and Lubatkin's (1998) shows that compared to the three different types of partners a biotechnology firm faces, alliances with universities and other research institutions would require the greatest amount of a biotechnology firm's alliance management capability since the difference between non-profit and for-profit institutions tend to be more fundamental than differences among various types of for-profit institutions. As argued by Rothemels and Deeds (2004), universities often appear ill-prepared to transact with commercial entities although research universities are increasing their commercial involvement (Thursby and Thursby, 2002).

Although investment in scientific research has risen in Tunisia, this case evinces that public research is still largely failing to meet private sector needs and applications, and gateways between universities, the private sector and international R&D activities are weak (Strategy paper 2007–2013, 2009).

## **CONCLUSION AND IMPLICATIONS**

We are interesting in the situation where one organization acquires knowledge from another organization, its alliance partner in specific, and define that as the process of inter-organizational learning. The focus is on the different kinds of inter-organizational learning that can be developed by partners. Partners can acquire knowledge needed to achieve their business objectives, e.g., technological, managerial know-how, and market knowledge. Partner-specific knowledge, which can be of crucial importance for how the collaboration develops, as well as knowledge that may be helpful in collaborative relationships in general (alliance management learning) (Janowicz-Panjaitan and Noorderhaven, 2008).

In line with Das and Kumar (2007), we have attempted to sketch the complex dynamics of inter-organizational learning. This framework suggests that the management of alliances is likely to be determined by how effectively the alliance partners manage the three types of learning. Moreover, it is

the ability to productively manage all the three types of learning that would impact on how the partners interact and determine how the alliance will evolve over time. To take advantage of alliances and develop these learning, partners have to possess organizational capabilities. In particular, we posit that alliance capability is expected to accelerate inter-organizational learning process. This research has attempted to explore a relationship that exists between inter-organizational learning and alliance capability.

Through the case study, we show that the different kinds of inter-organizational learning are well developed throughout the field of alliances conducted with pharmaceuticals firms than alliances with the academic community. With respect to organizational learning theory, this study finds evidence of how organizations learn. This study founds support of the importance of alliance capability in the development of inter-organizational learning. This capability is played a significant role in developing these learning due to alliance experience developed through licensing agreements and some organizational mechanisms of alliance management. This study extends also, our understanding of both major components underlying alliance capability (alliance experience and organizational processes of alliance management) as the catalysts driving this capability.

The contribution of this empirical research is to show that alliance capability is path dependent, developed over the time and based on prior experience. In comparison to alliance capability developed through alliances made with pharmaceuticals firms, this one is less developed throughout alliances with the academic community due to the short term character of these alliances. In the context of the study, it was obvious that some alliance characteristic's (strategic or short term alliances, partner from industry or from the academic community) may even have an effect on alliance capability development.

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