EIBA 2009 - Call for Papers

MODELING THE EFFECT OF COOPERATION IN FIRM'S

INTERNATIONALIZATION PROCESS

Figueira-de-Lemos, Francisco

Associate researcher and Docent	Visiting Researcher
Faculty of Economics and Management	Department of Business Studies
Portuguese Catholic University (Porto)	Uppsala University
Rua Diogo Botelho 1327,	Box 513, SE-751 20 Uppsala, SWEDEN
4169 - 005 PORTO - PORTUGAL	Phone: +46 18 471 0000
Phone: + 351 226 196 294	Fax: +46 18 471 6810
Fax: + 351 226 196 291	E-mail: francisco.lemos@fek.uu.se
Mobile: +351 917 644 929	
E-mail: flemos@porto.ucp.pt	Financed by FCT and POCI 2010

Abstract

This paper analyses the potential effect of cooperation strategies on the international growth of the firms, namely using the Uppsala-model variables, commitment, knowledge and uncertainty, to illustrate the benefits of alliances with local partners and international-domestic joint-ventures.

An analytical and graphical exploitation of the Uppsala model's mechanism risk formula (Johanson and Vahlne, 1977; Figueira de Lemos, Johanson and Vahlne, forthcoming) was carried out in order to explain two factors – uncertainty reduction and resource synergies – that motivate firm alliances and other cooperation agreements. The extended results allow the consideration of the approach developed by Oviatt and McDougall (1994) for "International New Ventures" not as a contradictory perspective but as a self-sufficient complement of the Uppsala model.

Key words: internationalization, Uppsala model, Uppsala Model, risk, risk management, contingency, uncertainty, contingent uncertainty, commitment, knowledge.

1. INTRODUCTION

The evolvement of communication tools have supported an unprecedented interactivity between people, allowing firms to negotiate instantly at a distance of a mouse click. The world is changing at such rate that valuable resources quickly turn obsolete. The need to rapidly reallocate resources and regain competitive positioning is catalyzing the emergence of international alliances and joint ventures (Doz and Hamel, 1998; Garcia-Canal et al, 2002). Cooperation, once a necessity to overpass legal barriers, is increasingly becoming a first choice in what concerns firms' strategies to internationalize or expand their foreign operations (Contractor and Lorange, 1988a, 2002).

This paper forwards a model that analyzes international cooperation strategies under the framework of the Uppsala Model. The model core assumes that cooperation synergies have a latent effect on growth and international expansion of the firms. In order to distinguish the effect causes, we have considered two kinds of cooperative arrangements between two firms. One concerns the international alliances where at least one of the partners is local to the host market. The other kind we name "external international" joint ventures, which are cooperative arrangements made exclusively among firms external to the target market. This partner's puzzling exercise is fundamental to achieve synergies. In fact, synergies are positive when the effect of the compounds combination is more than the sum of their individual effects, and thus the need for a model to help managers to decide on which cooperation strategies and partners.

This analytical exercise encloses an interesting deduction at the theoretical level. In the International Business literature, the Uppsala model have been seen by academics

as a fundamental model on the explanation of internationalization process of firms. In fact there is a wide sort of studies validating the Uppsala Model's primary assumptions within the firm's scope. However, in what concerns the model's association to networks and alliances, there has not been so much literature besides that that was produced by its own authors (Johanson and Vahlne, 1990, 2003, 2006, 2009) or its major challengers (Oviatt and MacDougall, 1994, 1999, 2005). Our perspective ties up this gap and prospects a model with the potential to give to managers a tool to decide on which the best partner to each different internationalization scenarios concerning the lack of resources or the lack of knowledge. The conceptual core of the paper appeals to an attractive ground for further research, namely to empirical validation studies.

The next section of this paper brings a short review about internationalization process and network internationalization theories. The third section structures the conceptualization of cooperation effect on the Uppsala Model assumptions. The sections forth and fifth frame the discussion and conclusions respectively.

2. THEORIES IN INTERNATIONALIZATION PROCESS AND NETWORK

The complexity of the firm's internationalization phenomena makes difficult, not to say impossible, the construction of a single theory that explains the whole process, thus research in this field becomes a joint result of several perspectives. The Uppsala model (Johanson and Vahlne, 1977), one of the most widely accepted conceptualizations, accentuates the internationalization process as a learning process. In this perspective, the firm's international growth pace is directly dependent on the knowledge acquisition rate, i.e., as much foreign market knowledge firms acquire the bigger the foreign market commitment they ought to achieve. The relationship is not univocal and an interplay

between knowledge and commitment is established. This model is commonly addressed as an incremental one (Andersson, 1993). Other researchers support that the incremental notion must be circumscribed only to the Establishment Chain (Hadjikhani, 1997) along with other explicit incremental models (Leonidou and Katsikeas, 1996). In fact, incremental models presuppose a never-ending cycle of growth and a deterministic perspective that does not fits on the Uppsala model's essence of progressive adjustments towards the environment changes. Thus internationalization, within the firm's perspective, can be comprehended as a balance exercise between the knowledge and resources committed to a certain market in other to face the different environment contexts.

In this line of thought, internationalization must not be understood only in the firms own scope but also with its surrounding environment. The Uppsala model authors explicit this linkage in their latter notes (Johanson and Vahlne, 1990; 2003; 2006) accusing a strong influence from the industrial network approach conceptualization of Johanson and Mattsson (1988). The firm's internationalization path becomes not only the result of the firm's own efforts but also reflects the relationships with other firms. The international expansion turns to be in some way country independent so firms find themselves internationalized through their business networks even without making a deliberate decision to go abroad but in consequence of their commitment to their network counterparts (Johanson and Vahlne, 2009).

In contrast with the incremental and behavioral conceptualizations, there is not a reference model so widely accepted to explain network internationalization (Ellis, 2000; Johanson and Vahlne, 2006). The network perspectives on internationalization are several as their associations to other business research fields such as transaction cost theory (Johanson and Mattsson, 1987), industrial relationship commitment (Johanson

and Mattsson, 1988), internationalization process (Johanson and Vahlne, 1990), global business networks (Oviatt and MacDougall, 1994; Knight and Cavusgil, 1996; 2004), resources (Coviello and Munro, 1995; Nahapiet and Goshal, 1998; Harris and Wheeler, 2005), task specialization (Larson, 1992) or even network theories (Anderson, Hakansson and Johanson, 1994; Todeva, 2005).

Although the mutual influence among the two internationalization perspectives, process and network, their integration in one wider conceptualization seems difficult to manage regarding the dynamic nature of the first and the static character of the second. Nonetheless there are some efforts to relate both theories. While Johanson and Mattsson (1988) attempted to endorse the transition from the Early to the Isolated quadrant with the firm international expansion, Coviello and Munro (1997) advance that the interaction the firms evolve inside the network establishes in the same gradual manner as the market knowledge acquisition.

Networks and international cooperation strategies

If the organizational process is attended, networks can be a virtue of market economy interaction (Coviello and Cox, 2006) when interdependency is attained among actors (Larson, 1992). This notion of interdependency is crucial to perceive the network extent. Networks commonly illustrate a set of generic relationships and in this sense it could be possible to say that networks do not have boundaries. However, it can only be said that a business networks is established among firms when it is possible to recognize interdependency on those firms' relationships (Andersson, Hakansson and Johanson, 1994; Blakenburg-Holm, Eriksson and Johanson, 1996; Eriksson and Johanson, 1999; Todeva, 2005). Moreover, the relationships' primary and secondary functions (Andersson, Hakansson and Johanson, 1994) give to interdependency a

multidimensional sense to business networks, adjoining the focal firm with highly interdependent relationships in an architecture similar to the Eriksson and Johanson's (1999) network business context.

For the above rationale and considering Larson's (1992) relationship construction process, alliances and other cooperative arrangements between firms should emerge among the focal firm's closer actors. On the other hand Koleva, Thrane and Mouritsen (2002) argue that "belonging" to a certain business network does not mean "sharing" the same certain objective, i.e. while cooperation among firms presuppose the same objective persecution, business networks aggregate several firms around one same activity. Thus, partnerships, alliances and other sort of cooperative arrangements can be a subset of business networks (Todeva, 2000, 2005; Todeva and Knoke, 2000, 2004). Nevertheless, and fortunately for incumbent international firms, an alliance may not born among the focal firm's business network, otherwise it could be extremely difficult to establish an international partnership with a local partner, which are precisely the most common international cooperation agreements (Garcia-Canal et al, 2002a).

The goals that motivate international alliances arrangements with local firms are meant to facilitate the entrance in a destination market, either because of the market knowledge possessed by the local partners (Arenius and Autio, 2002; Hennart, Roel and Hagen, 2002) or the transposition of lawful or institutional regulations (Contractor and Lorange, 1988a). In fact, most of the literature on cooperation and international alliances is centered on partnerships with local partners, which contrasts with the research shortness in what concerns studies about cooperation between domestic partners with the purpose of internationalization effort share. This lack of research on "domestic-for-international" alliances gains a larger relevance if we attend to the great

amount of uncertainty and complexity, jointly with the higher costs that the search for international partners entails when compared to the same search within domestic networks (Ellis, 2000). Harris and Wheeler (2005) reinforce this view by arguing that firms prefer the development of international strategies with partners whose strong relationships are based in knowledge and trust, thus making the partnership easier with firms from the home country. Moreover, the long process needed to develop commitment and the acquisition of mutual trust (Johanson and Mattsson, 1988; Larson, 1992; García-Canal et al, 2002a, 2002b) gives pertinence to the idea of starting partnership processes among existing relationships, instead of searching for alliances with unknown partners. In a stage of market entrance, the chances of opportunist behaviors are more likely to occur on relationships with local firms, namely when the differences in terms of information and knowledge are higher. Buckley and Casson (1988) demonstrate that "greenfield" foreign direct investments appear to be as the first option in situations where the cost of building up trust is high or where an eventual partnership agreement imposes that the responsibility of the commercial structure must fall exclusively under the sphere of the local firm.

Although some proclaimed relevance of opportunistic behavior in business relationships on foreign operations, our perspective emphasizes the role of resources and knowledge on the international growth of the firm.

3. CONCEPTUALIZING THE COOPERATION ON THE UPPSALA-MODEL

The resources combination and knowledge integration emerge as two common denominators fundamental to sustain fast internationalization growth. It can be taken from Oviatt and McDougall's International New Ventures (INV) model (1994) that the

firms fast internationalization is due to: i) the flexibility of a structure with a low internalization (see also Anderson and Gatignon, 1986; Shrader, Oviatt and McDougall, 2000; Knight and Cavusgil, 2004) which is only possible to maintain with ii) the combination with other resources that the firm can efficiently use once it can find them where they are more competitive, regardless their home country. This articulation of its own resources and its partners' is carried out with iii) the knowledge acquired inside the INV and resultant of the sharing of knowledge between all the members (see also Knight and Cavusgil, 2004). This synthesis is consistent with the thorough approach that Autio (2005) carried out when making a comparison between the INV models and the incremental models, namely the Uppsala model.

Autio (2005) identifies three potential factors as source of international competitive advantages. The first one consists in the constitution of an asymmetric basis of resources; because the valuable resources are scattered around the world and only firms with an international presence can have access to them, sorting them out and combining them to create value (Barney, 1991; Knight and Cavusgil, 2004). The second factor also derives from the firms' international exposure; called "knowledge revival advantages", it reflects the potential of being present in several countries, consequence of the apprenticeship of new forms of knowledge and its integration, thus regenerating and enlarging the firms' knowledge basis, a perspective also sustained by Knight and Cavusgil (2004). The third one is identified by Autio (2005) in the dynamic of a premature internationalization that gives birth to an attitude of innovation, promoter of proactivity in the firms giving them organizational abilities that are essential in a firm with a low degree of internalization; an approach that has a parallel with the innovation culture of Knight and Cavusgil (2004).
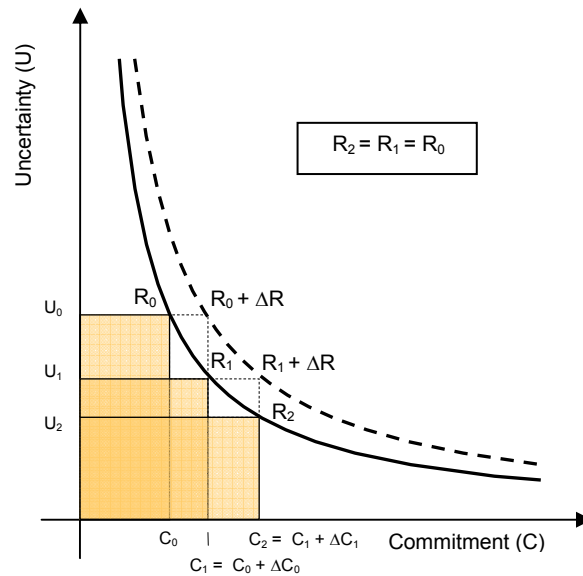
In the same line of thought, Prashantham and Young (2005) support that resources and knowledge emerge as promoters of growth in the INV's once managers use their knowledge about the firm and market to define strategies of resources commitment. Complementary to the emphasis on commitment and knowledge relevance on fast internationalization, these authors also point the theoretical origin of the INV model is sustained on resources' based conceptualizations being born out of Penrose's (1959) firm's growth theory which makes an interesting intersection with the Uppsala model conceptual root.

3.1 The Uppsala Model's risk Formula

One of the most important concepts on the Uppsala Model is the Internationalization Mechanism (IM). This mechanism supports the interplay between knowledge and commitment starts with the firm's market current activities once it consist the basis of knowledge acquisition. The accumulated knowledge reduces the perceived uncertainty (U) of the external market creating the conditions to increase the commitment (C) then circumscribing a cycle translated in an increasing spiral of knowledge and commitment. Johanson and Vahlne (1977:p.30) reveal this cycle within a plain mathematical expression: $\mathbf{R_i = C_i \times U_i}$.

To make this merger between the Internationalization Mechanism and the Risk Formula (RF) clearer, we have turned into a graphical analysis the equation system that translates the risk mechanism functioning. With the basic premise of market's risk maintenance, the risk (R), while a product function of two variables, follows graphically a hyperbolic convex function to its origin. The two extremes are easily extrapolated themselves by the substitutability relationship established between commitment and uncertainty: when the firm commitment tends to zero, the uncertainty will tend to the

infinite and vice versa. This relationship is well illustrated in the risk curve (graph 01), showing an imperfect substitution process between the C and U variables. The risk value is the same along the curve, thus we ought to call it as an iso-risk curve[1].

Graphic 01 - Risk Mechanism (Uppsala-model)

The interaction between commitment and knowledge/uncertainty reflects what Johanson and Vahlne's (1977: p. 28) define as a direct relationship. The international involvement is translated in the increasing of the resources commitment along with the knowledge accumulation (Johanson and Vahlne, 1977; Petersen, Pedersen and Sharma, 2003).

At the time firm enters the foreign market, the accepted risk will have an initial value of R_0. This variable, in turn, is a function of both the initial amount of resources C_0 that the firm settles to enter in the destination market and the level of that market uncertainty U_0. The risk function represented by the R_0 curve is quantified through the shadowed rectangle area. Since R_0 is an iso-risk curve, the phenomenon that induces an increase or a decrease on risk will result in a shift to its right or left respectively. For

---

[1] The iso-production curves (Q), and the factors capital (K) e labour (L) are analogical, with the Risk level (R) and the variables Uncertainty (U) and Commitment (C). The shape of the curve that we have adopted shows the imperfect substitution between the variables C and U which resembles Cobb-Douglas' production function with A, α and β parameters equal to the unit.

example, the increase of the operations scale has an immediate consequence in risk level, increasing it as well.

The increase on risk ΔR represented by the shadowed area, establishes a direct correlation with the commitment increase. The spontaneous knowledge accumulation is not possible, so this risk increase can be easily understood once uncertainty will remain unchanged at the zero instant. Nevertheless, Uncertainty turns to be a variable whose adjustment is more complex and not so immediate. Its variability is inversely correlated with the acquired knowledge (Forsgren, 2002) and this goes through a learning process that requires time (Johanson and Vahlne, 1977, 1990; Forsgren, 2002).
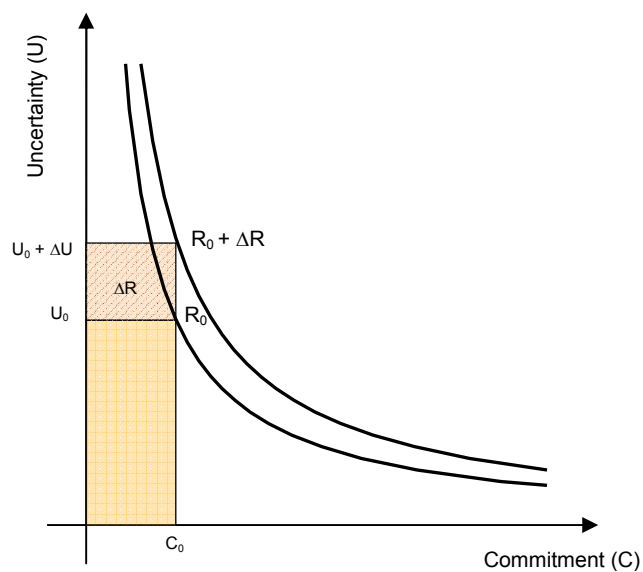
The knowledge obtained through experience, not only reduces the external operations' risk but it also consists in a mean of knowledge acquisition and opportunities awareness that combines internal and external resources (Eriksson et al, 1997). The committed resources will provide the acquisition of knowledge which will reduce the uncertainty until the risk returns to the initial level. This perspective shows the assumption of risk avoidance present in the Uppsala's Model (Johanson and Vahlne, 1977, 1990; Oviatt and McDougall, 1994; Petersen, Pedersen and Sharma, 2003). The decision maker, rationally (Hadjikhani, 1997), manages risk through an incremental process of decisions in which the acquired information by the investment in a certain stage is used to the following stage (Johanson and Vahlne, 1977; Atkins and Anderson, 1999; Forsgren, 2002) leading to a risk aversion process and aiming a strategy of minimum risk acceptance (Atkins and Anderson, 1999) as illustrated in Graphic 04.

The risk reduction to the initial value, provided by the uncertainty decrease, places the firm in a suitable position to set a new increment on resources which corresponds to a new investment phase in the foreign market. The firm will only take another step when the risk becomes lower than the tolerated market risk (Johanson and

Vahlne, 1977; Hadjikhani, 1997). This investment raise will then increase the firm's market knowledge that will resound in uncertainty reduction and, consequently, in the risk reduction to the initial stage. This cycle, presented in Graphic 05, shows a market involvement strategy of risk maintenance. The discontinuous line R+ΔR shaped by the variables products C+ΔC and U outlines an iso-risk curve that shows the risk level the firm tolerates in that specific market. This sequence has a parallel to the model's internationalization mechanism, i.e., the market knowledge increase leads to the reduction of uncertainty and to a higher commitment.
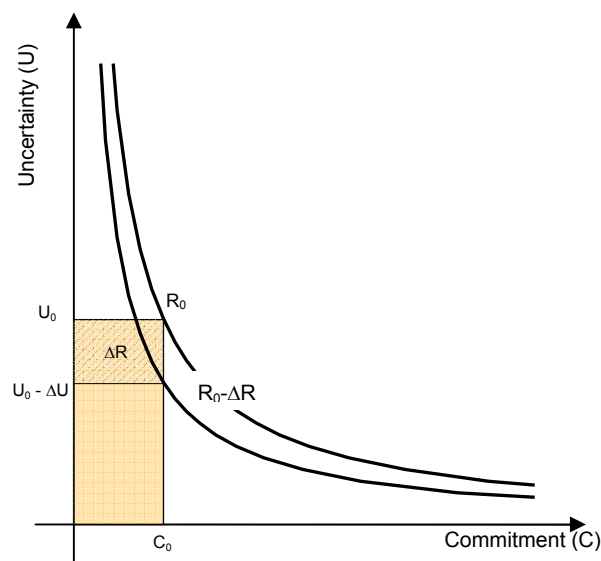
3.2 Risk Management in the Internationalization process

On the other hand, the risk increase is a phenomenon that goes beyond the operations' scale increasing in the foreign market. On the same direction provided by Forsgren (2002), the perceived risk is essentially ruled by market knowledge level, thus risk behaviour suggests a direct correlation with uncertainty (Anderson and Gatignon, 1986). This variation can be represented graphically (Graphic 02).

Graphic 02 - Risk Increase (Uncertainty)

The risk increase as shown in graphic 02 corresponds to a situation which occur when a) the entering risk is underestimated by managers; b) the market entrance of new competitors; c) the introduction of new technology by competitors (Johanson and Vahlne, 1977) or even in situations of extreme conjuncture as a revolution or political regimen changes. The contrary is also possible. An uncertainty decrease without variation of the firm resources affect to the host market (graphic 03) can be exampled throughout an economic liberalization process or even a market integration process.
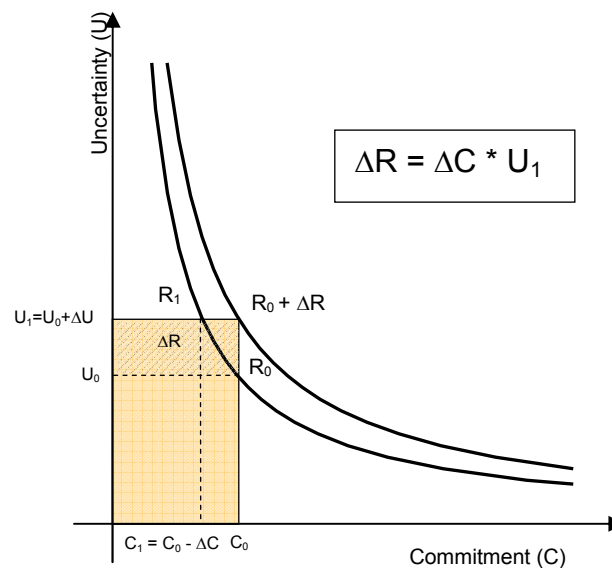

Graphic 03 - Risk Reduction (Uncertainty)

The risk decrease induced by the operations scale increase has a more complex behaviour. In order to accomplish this, the integration with the market will have to produce effects in the uncertainty (Atkins and Anderson, 1999); in other words the risk reduction is only possible if the knowledge obtained by the operations increase outcomes in such an uncertainty reduction that compensates the initial effect induced by the risk increase.

The two variables, Commitment and Uncertainty, enclose a substantial difference among each other. The first one consists in a variable internal to the firm whilst the second one is a variable whose variation factors are primarily external to the

12

firm. This difference, essential to understand how the entrepreneur manages risk clears that a firm can only operate the risk level adjustment through the commitment side. The commitment's reduction will not fit the firm expected behaviour if uncertainty does not suffer any kind of alteration. It has been shown above that uncertainty's changes produce direct effects in the risk increase or decrease. If the firm realises that the knowledge obtained through commitment is not enough to acquire the necessary skills to deal with the phenomenon that causes that uncertainty increase, the firm will decide to what is readily available to diminish risk: the immediate commitment decreasing.

Graphic 04 - Risk Decrease (Commitment)

3.3 The Cooperation effect

Extrapolating the mechanism basic formula to the international business scope, the variables, C and U, have effects at risk level that can be analogous to business networks' concepts, whether by the reducing effect of the market perceived uncertainty, whether by the resource combination (Oviatt and McDougall, 1994; Shrader, Oviatt and McDougall, 2000). The graphic-analytical analysis that follows, demonstrate
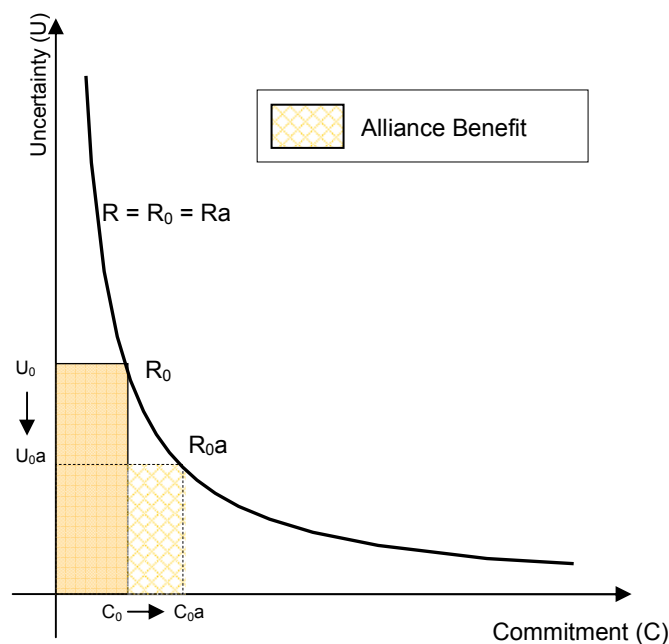
cooperation effects in the firms' internationalization process and is based on the principle that resources are limited and demand the market entry.

A) International Alliances with a local partner

Literature on internationalization has consistently exposed that the entry in a foreign country requires an apprenticeship period that firms self-establish (Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977; Woodcock, Beamish and Makino, 1994). At this entry stage, the performance is weak because firms strive to penetrate the market to reach scale and scope economies. The financial performance is also weak and unstable, namely because it requires time so firms can adjust to markets and new organisational processes or simply because they have entered in the market in an inadequate mode and need time to correct it (Woodcock, Beamish and Makino, 1994).

This initial underperformance is largely due to the fact that when the firms start to operate in a foreign market, they do not have the knowledge as their host competitors do (Johanson and Vahlne, 1977; Anderson and Gatignon, 1986; Oviatt and McDougall, 1994; Llaneza and García-Canal, 1998; Shrader, Oviatt and McDougall, 2000; Knight and Cavusgil, 2004), so the search for an alliance with local partners firstly aims foreign market knowledge acquisition (Coviello and Munro, 1995; Valdéz-Llaneza and García-Canal, 1998; Shrader, Oviatt and McDougall, 2000; Arenius and Autio, 2002; Hennart, Roehl and Hagen, 2002). However and because partnership usually implies profit sharing, the firm's option to internationalise in alliance implicitly means that the amount of the profit share is lower than the cost of achieving the necessary knowledge to lay down the perceived risk bellow the level of that the firm is willing to accept to enter that foreign market .

Overall, if we exclude the countries where entrance is constrained to lawful and political barriers, the local partner provides the market knowledge that allows the foreign firm to face a strange market with less uncertainty from which it would have in a solo entrance (Shrader, Oviatt and McDougall, 2000). The resort to this partnership acts as a warranty to the foreign firm initial credibility and decrease market entrance costs, time and risk (Coviello and Munro, 1995). Such effects come perceptible in the graphic-analytical modelling of the internationalization mechanism (Graphic 05).

Graphic 05 - Effect of Local Alliance

The alliance's effect is immediate and is featured with the uncertainty reduction (Mascarenhas, 1982; Anderson and Gatignon, 1986). This phenomenon is similar to that succeeds in networks were firms gather information on potential markets in order to reduce their perceived risk about those markets (Johanson and Mattsson, 1988; Coviello and Munro, 1995, 1997; Ellis, 2000; Harris and Wheeler, 2005). The consequent risk decrease allows the firm to get into a higher commitment in the foreign market until it reaches the level of risk that the firm has proposed to accept at the entry stage.

B) "External international" joint-ventures

In local alliances the main goal seems to be the immediate acquisition of market knowledge. In a joint-venture, where the most pertinent variable is resource shaped, it is possible to extrapolate those two variables behaviour in a similar way to the one applied for local alliances. In this resource perspective the joint-ventures with local partners are excluded in order to isolate the resources effect and some considerations are needed to be distinguished: i) the cooperation agreement is processed between two similar firms [a and b]; ii) the knowledge acquisition is equally processed in both firms; iii) the knowledge is indivisible and has no losses between the two firm structures. In these assumptions framework, at the initial instant of cooperation (period zero), the market risk will be translated by the expression: $R_0c = C_0c * U_0$; in which: $C_0c = C_0a + C_0b$, i.e., the joint-venture commitment in the foreign market is the sum up of both firms' commitment.

As market operations proceed, the higher scale of commitment will lead to the knowledge acquisition in a higher amount than the firms would be able to reach on their own. Thus, and considering a perfect knowledge transfer between firms, the individual perception of the market uncertainty's level will be the same for both and will directly reflect the jointly accumulated knowledge. In the moment the two firms split up (represented as period 1 in graphic 11), they will have an amount of individual knowledge equal to the knowledge they jointly obtained. However, each firm commitment, because it may be divisible, will be halved of the one during cooperation, in other words, $C_1 = C_1c / 2$; which is demonstrated as follows:

$$R_1 = R_0 \Leftrightarrow R_1 = R_1c / 2 \Leftrightarrow R_1 * 2 = R_1c \Leftrightarrow C_1 * U_1 * 2 = C_1c * U_1c$$

16

And considering that $U_1 = U_1c$, facing the fact that the market uncertainty U remains unaltered with the split up of the firms

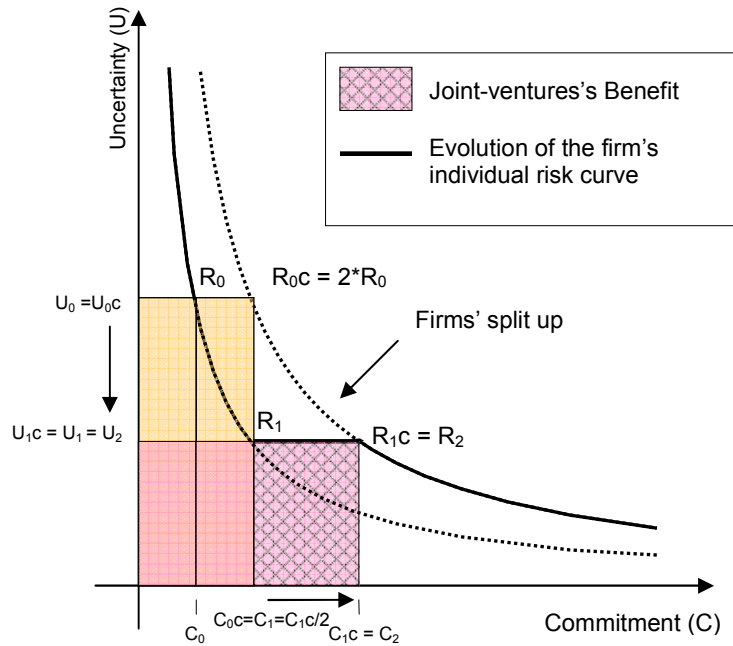$$C_1 * 2 = C_1c \Leftrightarrow C_1 = C_1c / 2$$

This sequence, rendered in the firms' formula of individual risk, results in the individual reduction of the firms' risk into half once the individual perception of uncertainty did not suffered changes with the split up process. In a rational perspective, being the risk positioned in an inferior level in comparison to the one firms had proposed to accept jointly, they will resort, individually, to the instrument that allows them to adjust the risk level, i.e., they will increase their market commitment to the double:

$$R_2 = R_1c \Leftrightarrow C_2 * U_2 = C_1c * U_1c$$

If we have in mind that $U_2 = U_1c$ and considering the fact that the market's uncertainty U is unaltered with the firms' split up, the commitment will be traduced by

$$C_2 = C_1c = 2 * C_1$$

The individual commitment [investment] so achieved with cooperation becomes the double of what the firms would separately do, thus demonstrating cooperation's leverage effect presented in Graphic 06.

Graph 06 - Joint-Venture Effect

This last graph analytically shows that internationalization becomes possible for a firm that has limited resources but is willing to accept the risks concerned with those resources (Woodcock, Beamish and Makino, 1994).

4. DISCUSSION AND FURTHER RESEARCH

The Uppsala's internationalization mechanism underlies risk as a consequence of bounded rationality (Cyert and March, 1963). This basic assumption of risk (Hadjikhani, 1997; Figueira de Lemos, Johanson and Vahlne, forthcoming) provides a special meaning to the path dependency of firm's commitment on foreign markets from their previous market experience. The firm experience gives the inputs to calculate the market risk more accurately, i.e. the more experience the firm acquires from a certain market, more capable it will be to manage the risk level in that market. Consistently, the experience path shapes the firm's knowledge, which, in turn will design the firm's commitment set. The relation is bi-univocal since the commitment choices will have an

impact on the design of the knowledge stock (Johanson and Vahlne, 1977). Therefore, the previous analytical demonstration of the risk formula not only gives substance to the well known variables of knowledge and resources as determinants to the internationalization process but also highlights the interdependent balance of those variables towards the management of the risk level that the firm is willing to accept (Figueira de Lemos, Johanson and Vahlne, forthcoming).

Still on the risk scope but shifting to the cooperation stream, a wide range of academic research support the alliances between firms as an instrument to share the risk of internationalization (Mascarenhas, 1982; Anderson and Gatignon, 1986; Contractor and Lorange, 1988b, 2002; Todeva, 2005) that consubstanciates our graphical demonstration, namely the formula risk variables. The cooperative arrangements enable the completion of resources and knowledge (Contractor and Lorange, 1988b; Valdéz-Llaneza and García-Canal, 1998; Doz, Santos and Williamson, 2001; García-Canal *et al*, 2002; Todeva and Knoke, 2004), and, consequently, a higher (joint) commitment in the international markets.

The commitment side is the easiest one to understand the role of networks and alliances as enablers of the firm's growth. In fact, Shrader, Oviatt and McDougall (2000) demonstrates the correlation between the levels of resources and growth, showing that joint ventures or subsidiaries totally owned by the firm are the preferable ways to enter when the goals of growth are high; a perspective also consolidated by Anderson and Gatignon (1986). In the same sense yet adding the knowledge dimension, Rialp, Rialp and Knight (2005) designed an exploring model of the firms' fast internationalization phenomenon from the analysis of thirty eight relevant academic works about INV and Born Global developed between 1993 and 2003. In this model, two factors - resources and knowledge - are identified as essential elements of analysis

about the phenomenon of firms that internationalize from inception, besides other factors (external to the firm) such as the economical sector, geographical location and interconnection between domestic and international networks.

This consistency of the resources and knowledge variables in the international growth pace is also reflected in the mechanism risk formula (Figueira de Lemos, Johanson and Vahlne, forthcoming). The hyperbolic shape of the risk curve shows the different rate on the resource establishment towards the knowledge level. In a left to right reading it can be perceived that in the upper side of the curve it is needed a great stock of knowledge to realize a minor commitment. As for the lower side of the curve, with a minor increase on knowledge it is possible to engage in extensive commitments. Therefore, the internationalization pace analysis reinforces the Uppsala's Model adequacy to explain the effect of cooperation strategies in the development of the firms' internationalization process.

In extension to this conceptual result, we claim the Uppsala model's ability to explain the fast internationalization phenomena and the reason why the Johanson and Vahlne's (1990, 2003, 2006) "replies" have never closed the Oviatt and McDougall's (1994, 1999) challenges which, in turn, have never totally isolated the Uppsala Model's assumptions in the phenomenon of INV's fast internationalization. In line with Autio (2005) proposal, we sustain that both perspectives point out networks as operational support for the firms' fast internationalization, whether (i) by the business opportunities attraction or; (ii) by the articulation of resources. These are two conceptual guidelines that fit in the same matrix. The fact is that knowledge and resource commitment are the fundamental variables of Johanson and Vahlne's internationalization mechanism and the basis of Oviatt and McDougall's model, whose roots are grounded in the same conceptual view (Prashantham and Young, 2005) and support the evidence to explain

why the INV assumptions seem so obvious to apply to the Uppsala Model's risk formula.

Further Research

The analytical and graphical demonstration of the Uppsala model's mechanism risk formula referred above, assumed some few of restrictions that would be appropriate to explore in an empirical basis. Those restrictions, limited the scope of the cooperation research within i) two similar firms, considering that the ii) acquisition of knowledge is equal for both firms and that that iii) knowledge is indivisible and not suffer any losses between firms after the split up. The first one is an unavoidable limitation in face of the inevitable heterogeneity between organizations. However, the other two can be evaluated through quantitative research as we explain below.

In order to quantify the cooperation effect on firm's international growth, it can be forward a methodology supported on a set of longitudinal data capable to evaluate the enrolment of the commitment shared between partners. The time period has to be long enough to allow the cooperation effect verification on the firm international growth in comparison to what would happen in an isolated course. The measurement of commitment can be quantified through the investments' dimension, as indicated by Johanson and Vahlne (1990), or the assets dedicated to the market (Hadjikhani, 1997) or, even, the sales' volume (Autio, Sapienza and Almeida, 2000; Oviatt and McDougall, 2005). This last one may be preferable due to the easiness to obtain data and to avoid the problem of intangible assets quantification (Hadjikhani, 1997). The statistic procedure would consist on the comparison between the joint commitment values regression line with the results of the same linear regression concerning the individual commitment values (after the split up of the joint-venture). If the lean of this last line

shows bigger than the first one, then it will be possible to confirm the increase effect of the international cooperative initiative.

By chance, the effect of that increase can be perceptible without the splitting up hypothesis occurrence. As suggested by Buckley and Casson (1988), the firms can take advantage of the knowledge acquired in partnership and use it for its own interests. In this rationale, the firm can use the indivisible part of knowledge acquired with common operations as a warrant to individually increase actual commitments or future investments in a certain market. After some time in partnership, firms gain the knowledge enough that allows them to individually invest in the host market, namely choosing those that would not collide with the partnership interests. The expected result is the international growth boost of the firm through the individual reuse of the knowledge acquired in partnership. In that situation the comparison would be done between the inclination of the regression lines of the joint-venture and each firm's sale values ensemble in that market.

The different partnerships, local or exclusively external to the host market, and the relative lay of the regression lines can give an interesting framework about the mechanism of balancing resources with knowledge along the internationalization process.

5. CONCLUSIONS

An important contribution of this paper is the revelation of the Uppsala Model ability to explain cooperation as an increasing factor of the firms' international growth. In fact, in the Internationalization Business literature is common to find the Uppsala model referenced as the broadest conceptualization of international growth of the firms. What

is not so common is to realize that model association to the internationalization phenomena explanation within the business networks and firm alliances scopes (Johanson and Vahlne, 2009).

In order to demonstrate this ability, we have made an analytical exploitation of the Uppsala Model's risk formula (Figueira de Lemos, Johanson and Vahlne, forthcoming) to prospect a model of cooperation framework in its two variables: commitment and uncertainty. These two variables have been respectively related to resources and knowledge, which, in turn, are found to be major determinants on networks and alliance design. From the several cooperation agreements we have selected the alliances with a local partner and the international joint-ventures without local partners with the purpose to determinate, analytically and separately, each variable contribution – knowledge and resources – in the firms' international growth.

The graphic-analytical demonstration manifests interesting results for the two different cooperation arrangements. It shows that alliances with local partners are adequate when aiming the achievement of immediate knowledge, whether the joint-venture with external partners can be more suitable when the size of operation/resources is determinant to make a consistent entry in the foreign market.

At the managerial level this model of cooperation designing can be an effective tool to help manager's decisions on international alliances and joint ventures combinations. For instance, the alliances with a local partner may consist in the wisest approach to engage in culturally distant markets. On the other hand, in markets that seem closer to the home country, the "external international" joint ventures may be the best arrangement to the entry phase, namely if those markets demand for sizeable operations. Then, resources dimension may play a most important role than the knowledge acquisition. This last cooperative arrangement turns to be even more

interesting in "domestic-for-international" joint ventures. Indeed, the effective and efficient share of resources is many times the evidence of a useful and solid interdependency already tested in the domestic market. Therefore, the international projection of the domestic relationships may gain pertinence in spite of all the historic potential that those relationships have in the efficient coordination of the different firm's resources.

In some final considerations - when some speculation is allowed - the conceptual exercise accomplished in this paper enables us to prospect a different trend in internationalization research rather than the dominant stream on international alliances with local partners (Llaneza and García-Canal, 1998). The exponential growth of Chinese economy along with the known ability of Asian firms to work in networks (Prashantham, 2004) enables to predict that the "domestic-for-international" cooperation, which has been occupying a marginal place in academic research, may now have the chance to become more relevant in the International Business literature.

6. REFERENCES

Anderson, E. and H. Gatignon (1986) Modes of foreign entry: A transaction cost analysis and propositions. Journal of International Business Studies, 17: 1-26.

Anderson, O. (1993) 'On the Internationalization Process of Firms: A Critical Analysis', Journal of International Business Studies, 24 (2), 209-231.

Arenius, P. and E. Autio (2002) 'International Social Capital and Its Effects on Resource Acquisition in Born Global Firms', Working Paper Series, No 91-WP-2002-04, Helsinki University of Technology.

Atkins, M. and A. Anderson (1999) Risk, Uncertainty and the Entrepreneurial Vision, Risk Management (Bas) 1, 35-48

Autio, E. (2005) Creative Tension: the Significance of Ben Oviatt's and Patricia McDougall's article "Toward a Theory of International New Venture", Journal of International Business, 36 (1), 9-19.

Autio, E., H. Sapienza, and J. Almeida (2000) Effects of age at entry, knowledge intensity, and imitability on international growth. Academy of Management Journal, 43: 909-924.

Blomstermo A., K. Eriksson and D. D. Sharma (2004) 'Domestic Activity and Knowledge Development in the Internationalization Process of Firms', Journal of International

Entrepreneurship, 2(3), 239-258.

Boter, H. and C. Holmquist (1998) Industry characteristics and internationalization Processes in small firms, em Haathi, A., Hall, G. and Donckels, R. . (eds.) The Internationalization of SMEs. The INTERSTRATOS Project. London; New York: Routledge, 19-42.

Buckley, P. and M. Casson (1998) Analyzing foreign market entry strategies: Extending the internalization approach. Journal of International Business Studies, 29: 539-562

Contractor, F. J. and P. Lorange (1988) Competition vs. Cooperation: A Benefit/Cost Framework for Choosing Between Fully-Owned Investments and Cooperative Relationships, in Beamish, P. W. (eds.) Strategic Alliances, Cheltenham, UK, Northampton, MA, USA: Edward Elgar Publishing, 5-18

Coviello, N. and H. Munro (1997) 'Network relationships and the internationalization process of small software firms', International Business Review, 6 (4), 361-386.

Coviello, N. E. and H. J. Munro (1995) 'Growing the entrepreneurial firm: Networking for international market development', European Journal of Marketing, 29 (7), 49-61

Cyert, R. and J. March (1963) A behavioral theory of the firm. Englewood Cliffs, NJ: Prentice Hall.

Dana, L.P., H. Etemad and L. P. Wright (2004) Networking as a Means to Value Creation, em: Value Creation in Entrepreneurship and SMEs/Wertgenerierung durch Unternehmertum und KMU, Rencontres de St-Gall 2004, St. Gallen: Verlag KMU HSG

Ellis, P. (2000) 'Social Ties and Foreign Market Entry', Journal of International Business Studies, 31(3), 443-469.

Eriksson, K., J. Johanson, A. Majkgård and D. D. Sharma (2000), 'Effect of Variation on Knowledge Accumulation in the Internationalization Process', International Studies of Management & Organization, 30(1), 26-44.

Erramilli, M. K. (1991) 'The experience factor in foreign market entry behaviour of service firms', Journal of International Business Studies, 22(3), 479-501.

Figueira de Lemos, F., Johanson, J. and Vahlne, J-E. 'Risk Management in the Internationalization Process of the Firm: A note on the Uppsala Model', Journal of World Business (forthcoming).

Forsgren, M. (1989) Foreign Acquisition: Internationalization or Network Interdependency, In Hallen, L. and Johanson, J. (eds.), Networks of Relationships in International Industrial Marketing, JAI Press, Greenwich

Forsgren, M. (2002) 'The Concept of Learning in the Uppsala Internationalization Process Model', International Business Review, 11(3), 257-278

Haahti, A., V. Madupu, U. Yavas and E. Babakus (2005) 'Cooperative strategy, Knowledge intensity and export performance of small and medium sized enterprises', Journal of World Business, 40, 124-138.

Hadjikhani, A. (1997) 'A note on the criticism against the internationalization process model', Management International Review, 37, 43-66.

Harris, S. and C. Wheeler (2005) 'Entrepreneurs´ relationships for internationalization: functions, origins and strategies', International Business Review, 12, 697-717.

Hennart, J.-F., T. Roehl and J. M. Hagen, (2002) Are Joint Ventures with Local Firms an

Efficient Way to Enter a Culturally Distant Market? The Case of Japanese Entry into the United States, Working Paper, WP 2002-27, Cornell University

Johanson, J. and J. Vahlne (1977) The internationalization process of the firm. Journal of International Business Studies, 8: 23-32.

Johanson, J. and L-G. Mattsson (1987) Interorganizational Relations in Industrial Systems: a Network Approach Compared with the Transaction Cost Approach, International Studies of Management and Organization, 17 (1), 34-48.

Johanson, J. and L-G. Mattsson (1988) 'Internationalization in Industrial Systems - A Network Approach' in Hood, N. and Vahlne, J-E. (eds.), Strategies in Global Competition, Croom Helm, New York.

Johanson, J. and J-E. Vahlne (2003) 'Business Relationship Commitment and Learning in the Internationalization Process', Journal of International Entrepreneurship, 1 (1), 83-101.

Johanson, J. and J-E. Vahlne (1990) 'The Mechanism of Internationalization', Internal Marketing Review, 7 (4), 11-24.

Johanson, J. and J-E. Vahlne (2006) 'Commitment and Opportunity Development in the Internationalization Process: QA Note on the Uppsala Internationalization Process Model', *Management International Review*, 46 (2), 1-14.

Johanson, J. & Vahlne, J-E. (2009) The Uppsala Internationalization Process Model Revisited – From Liability of Foreignness to Liability of Outsidership. *Journal of International Business Studies*, 40 (9).

Johanson, J. and F. Wiedersheim-Paul (1975) 'The Internationalization of the Firm: Four Swedish Cases', Journal of Management Studies, 12 (3), 305-322.

Knight, G. A. and S.T. Cavusgil (2004) 'Innovation, organizational capabilities, and the born-global firm', Journal of International Business Studies, 35, 124-141

Larson, A. (1992) 'Network dyads in entrepreneurial settings: a study of the governance of exchange relationships', Administrative Science Quarterly, 37 (1), 76-105.

Leonidou, L. and C. Katsikeas (1996) The export development process: An integrative review of empirical models. Journal of International Business Studies, 27: 517-531.

Llaneza, A. V. and E. García-Canal (1998) 'Distinctive Features of Domestic and International Joint Ventures', Management International Review, 38, 49-66

Mascarenhas, B. (1982) 'Coping with uncertainty in international business', Journal of International Business Studies, 13 (3), 87-98

Oviatt, B. and P. McDougall (1994) Toward a theory of international new ventures. Journal of International Business Studies, 25: 45-61.

Oviatt, B. M., and P. P. McDougall (1999) 'A framework for understanding accelerated international entrepreneurship', em R. Wright (Ed.), Research in Global Strategic Management, 23-40. Stamford, CT: JAI Press

Oviatt, B.M. and P. P. McDougall (2005) 'The Internationalization of Entrepreneurship', Journal of International Business Studies, 36, 1-7.

Pedersen, T. and B. Petersen (2004) 'Learning About Foreign Markets: Are Entrant Firms Exposed to a "Shock Effect"?', Journal of International Marketing, 12 (1), 103-123.

Penrose, E. (1959) The theory of the growth of the firm. New York: Wiley.

Petersen, B. and T. Pedersen (1999) 'Fast and slow resource commitment to foreign markets. What causes the difference?', Journal of International Management, 5, 73-91

Petersen, B., T. Pedersen and D. D. Sharma (2003) 'The Role of Knowledge in Firms' Internationalization Process. Wherefrom and Whereto?', in Blomstermo, A. and D. D. Sharma (eds), Learning in the Internationalization Process of Firms. Cheltenham, UK: Edward Elgar.

Prashantham, S. (2004) 'Local Network Relationships and the Internationalization of Small Knowledge-Intensive Firms', The Copenhagen Journal of Asian Studies, 19, 5-26

Prashantham, S. e Young, S. (2005) 'Distinguishing Among Early-Internationalizing Firms: The Role of Commitment', Working Paper, 2005/5, University of Stratchclyde.

Reeb, D. M., C. C. Y. Kwok and H. Y. Baek (1998) 'Systemathic Risk of the Multinational Corporation', Journal of International Business Studies, 29 (2), 263-279.

Shrader, C. R., B.M. Oviatt and P. P. McDougall (2000) 'How New Ventures Exploit Trad-Offs among International Risk Factors: Lessons for the Accelerated Internationalization of the 21st Centuty', The Academy of Management Journal, 43 (6), 1227-1247.

Törnroos, J.-A. (2002) "Internationalization of the Firm-A theoretical review with implications for business network research", Proceedings of the 18th IMP Conference, Dijon, 9-11th September, France

Trappey, C. V., S. Tsui-Yii, A. J.C. Trappey (2007) Modeling international investment decisions for financial holding companies, European Journal of Operational Research, 180, 800–814

Wiedersheim-Paul, F., H. C. Olson and L. S. Welch (1978) 'Pre-Export Activity: The First Step in Internationalization', Journal of International Business Studies, 9 (1), 47-58.

Woodcock, C. P., P. W. Beamish and S. Makino (1994) 'Ownership-Based Entry Mode Strategies and International Performance', Journal of International Business Studies, 25 (2), 253-273

Young, S. (1987) 'Business Strategy and the Internationalization of Business: Recent Approaches', Managerial and Decision Economics, 8 (1), 31-40.