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# **Organizational Learning and Internationalization Knowledge: A Comparative Study of Family Firms and Non-Family Firms**

## **ABSTRACT**

This paper aims to contribute to the new stream of literature dealing with knowledge in family firms by analyzing the role of organizational knowledge in the internationalization of this type of firm. First, the study will try to emphasize the specificity of family firms as for double-loop learning, knowledge sharing, knowledge tacitness and emergence of internationalization strategy. Then, the influence of these variables on internationalization organizational knowledge and finally on firms' internationalization degree will be assessed.

## INTRODUCTION

Recently, studies about organizational knowledge in the family firm began to proliferate (Cabrera-Suarez et al, 2001; Basly, 2007; Chirico 200; Chirico and Salvato, 2008). Due to its specificities, this entity may exhibit a specific behavior as for the creation, development, sharing, protection and transmission of knowledge. Habbershon and Williams (1999) pioneered the research aiming at the identification of the family firm's specific resources. But, more than specific resources and capacities, the family firm uses a collective tacit knowledge needed to integrate, coordinate and mobilize effectively its resources (Cabrera-Suarez et al., 2002). This paper aims to contribute to this new stream of literature by analyzing the role of organizational knowledge in the internationalization of this type of firm. First, the study will try to emphasize the specificity of family firms as for double-loop learning, knowledge sharing, knowledge tacitness and emergence of internationalization strategy. Then, the influence of these variables on internationalization organizational knowledge and finally on firms' internationalization degree will be assessed.

Research which explicitly conceives firm's internationalization as a process of organizational learning is becoming frequent (Eriksson et al, 2000; Eriksson and Chetty, 2003; Ruigrok, W. and Wagner, 2003; Prashantham, 2005; Hsu and Pereira, 2008). According to this literature, firm's internationalization is as a process of learning and knowledge development and organizational learning is deemed to underlie the process of resource commitment and more generally organizational development on foreign markets. Johanson and Vahlne (1977) took the first steps in taking knowledge into account within the context of internationalization. The stream of literature initiated by these authors analyzes the international development process as a sequence of steps allowing the firm to gain knowledge of international markets. Because of a necessary foreign market knowledge development process, the move from one commitment stage to another as well as the move from a given foreign market to another are done incrementally. Johanson and Vahlne (1977) distinguish between objective knowledge and experiential knowledge. While, the first is a public good and therefore transferable at a weak or null cost, the latter is unique to the firm since it is acquired mainly through market experience. More recently, Eriksson and al. (1997, 2000) analyze more thoroughly the different facets of knowledge relevant to international operations. In addition to operational and institutional knowledge, they emphasize role of internationalization knowledge. In sum, two types of knowledge are together necessary

and underlie the progression of internationalizing firms while choosing entry modes, markets or products to sell abroad. The first is market knowledge which is formed of a set of information pertaining to a specific market or a number of markets. While Johanson and Vahlne (1977) dealt especially with this type of knowledge, the second type of knowledge is organization's international competence which authors call "internationalization knowledge" (Eriksson et al, 1997).

Even if the influence of organization's type or governance on knowledge development is crucial, studying knowledge, and particularly during firm's internationalization, while identifying specific types of firms remains scarce. For instance, we don't know much about knowledge in the family firm despite the valuable recent contributions (Cabrera-Suarez et al, 2001; Basly, 2007; Chirico 200; Chirico and Salvato, 2008). Particularly, the literature argues that the small and medium family firm seems to be closed, hermetic and a rigid organization and consequently averse to knowledge integration. Generally, the interaction between the family and the firm systems is the main factor preventing this organization from quickly adapting to the changing conditions (Moloktos, 1991). Indeed, in order to achieve durability, family SMEs might be conservative and reluctant to strategic change as it could challenge their stability (Gallo and Sveen, 1991). Besides, as they are strongly committed towards independence (Basly, 2007), the development of their resource system and in particular organizational knowledge could be limited.

The paper is structured as follow: after theoretically analyzing variables influencing the development of internationalization knowledge for family firms, a number of hypotheses and an explanatory model are presented. Precisely, we aim to demonstrate that: double-loop learning is weaker for family firms (than for non-family firms), knowledge tacitness is stronger for family firms (than for non-family firms) and knowledge sharing is weaker for family firms (than for non-family firms). Besides, is internationalization strategy more emergent for family firms than non-family firms? Our model hypothesizes, on the one hand, negative influences of internationalization strategy emergence and knowledge tacitness on internationalization knowledge and, and on the other hand, positive influences of double-loop learning and knowledge sharing on this same construct which, in turn, positively influences firm's internationalization degree. The second part of the paper describes the adopted methodology, the sample and presents our results.

## 1- LITERATURE REVIEW

### 1.1- Double-loop organizational learning

Within the organizational learning literature, two dominant approaches schematically are present: behavioral approach and cognitive approach. The latter is based on the study of mental states and representations in order to explain organizational learning. It is about studying modifications of organizational knowledge i.e. cognitive change (Fiol, 1994). The cognitive approach also considers organizational learning as an operation of information processing and new knowledge acquisition. Contrary to the behavioral approach, the change in knowledge states explains the behavioral change.

A hierarchy between two forms or degrees of organizational learning is argued. The first privileges a strong degree of learning to the detriment of the “adaptive” minor learning<sup>1</sup>. For Argyris and Schön (1978), the minor learning or single-loop is an instrumental learning which adapts theories of action or their underlying assumptions without calling them into question. It is about an improvement learning which increases the organization’s stability and reduces behaviors variability (Le Roy, 1999). For Dodgson (1993), simple-loop learning completes and enriches the knowledge base without modifying its nature. On the contrary, double-loop learning implies a change in the theories of action through which the system of underlying assumptions could be undermined. This learning involves a significant cognitive change implying a questioning of theories and existing systems of rules and is less directed towards the “how” than towards the “why” (Roy, 1999). For example, this type of learning threatens the routines known as “defensive” (Argyris and Schön, 1978) which must be exposed in order to be eliminated. For Ingham (1997), double-loop learning should guarantee reaching organizational learning values through a behavioral change having a positive impact on organization’s performance.

Firm’s internationalization is closely justified by a “higher-order” type of learning. Indeed, such a decision requires reconsidering the dominant logic guiding the firm and internationalization process is more likely to take form following a double-loop learning. A rupture with the models of past and a reflection about new conditions of success

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<sup>1</sup> C. Argyris and D. Schön (1978) : *Single-loop, Double-loop* ; C. Fiol et M. Lyles (1985) : *Behavioral development, Cognitive development* ; P. Senge et ali. (1990) : *Adaptive learning, Generative learning* ; M. Dodgson (1993) : *Tactical learning, Strategic learning*

(internationalization of activities, for instance) are required and need a change of cognitive maps. Generally, such a process needs a catalyst. For example, authors suggest that adopting double-loop learning is more likely during organizational crisis and new distribution of power in firms. More generally, a particular event of failure, managers awakening of the possible firm's decline and sometimes the incorporation of new generation equipped with new perceptions, a critical spirit and good academic training stimulate managers and push them to think of the manner of getting rid of old schemes in order to adhere to new directions.

The crucial role of double-loop learning in developing the firms' knowledge base, particularly during internationalization, needs interestingly to be questioned in the case of family firms. Generally, this type of firm has a tendency to be conservative and independence-oriented. The literature suggests that the family system attempts to create and maintain a cohesiveness that supports the family "paradigm" which is described as the core assumptions, beliefs, and convictions that the family holds in relation to its environment (Gudmundson et al., 1999). Information that is not consistent with this paradigm is resisted or ignored (Davis, 1983). Family firm conservatism limits "variation" and accordingly the extent of knowledge developed by the firm. Indeed, variation, i.e. the diversity of environments to which the firm is exposed, is strongly correlated with the amount of knowledge accumulated and developed (Eriksson et al., 2000). Thus, organizations exposed to a variety of business and institutional actors are likely to develop knowledge of an important set of events and thus learn more than poorly exposed ones. They are more capable to define problems, errors and opportunities than firms whose horizon of action is narrower (Eriksson et al., 2000). Indeed, weak variation implies a limited number of customers, competitors and other institutional actors. Accordingly, conservative organizations carry out only a simple loop learning which does not reform their theories-in-uses since they accumulate little knowledge. In brief, the probable conservative attitude of the family firm could inhibit double-loop learning especially during internationalization. Besides, firms' independence orientation may limit the accumulation of internationalization knowledge because, on the one hand, the firm's horizons will also be limited and little varied, and on the other hand, the potential valuable knowledge contribution of outsiders is excluded.

In sum, it is possible to say that:

H1a: Double-loop learning is weaker in family firms.

H1b: Double-loop learning positively influences firm's internationalization knowledge.

## **1.2- Emergence of internationalization strategy**

The decision of internationalization can be planned and formalized or sometimes improvised. This debate which strongly animates internationalization research rests on a traditional opposition between two approaches of strategy: deliberate and emergent. For example, Yip and ali. (2000) distinguish systematic models of internationalization and those preaching a nonsystematic internationalization. Another example is sequential theories (Johanson and Vahlne, 1977) that have been strongly criticized for that they portray a “mechanical” relation between the firm and its environment. In this approach, the firm does nothing but adapt to its environment and acts incrementally. One final illustration of this debate, in the particular field of exports, are models explaining basically the export decision by unsolicited orders from abroad. The firm's international commitment would then increase slowly as the managers' interest towards internationalization increases. They would thus engage in a deliberate research of relevant information and assessment of export operations feasibility (Cavusgil, 1980). Millington and Bayliss (1990) propose a synthetic vision of the dichotomy between planning and emergence by identifying 3 types of strategies pursued by multinationals. For the authors, new international firms would be weakly inclined to use strategic planning since their international commitment is weak and that they lack the sufficient resources. Thus, an incremental process is more suitable for them. The adoption of formal planning occurs and becomes strong as the firm increases its commitment abroad since its size and its foreign operations complexity increase. On the whole, a positive relation would exist between international experience and investments planning.

An evolution of this debate is illustrated by the emergence of intermediate approaches between planning and step by step action. Within this framework, the development and implementation of strategy rest on the trial and error implementation of deliberate actions (in the sense of procedural rationality) within complex situations (Avenier, 1999). Preaching such a conception of strategy, Axelsson and Johansson (1992) describe the internationalization as a process of orientation, positioning and timing instead of a process of rigorous strategic planning. In the same spirit, Kutscher and ali. (1997) see internationalization as an incremental “planned evolution” punctuated by rapid internationalization episodes. Thus, at the same time internationalization is an emergent and intentional process. On the one hand, internationalization is a result of a certain number of daily decisions, even of low importance, and generally founded

on trial and error procedures. In this sense, it is prone to decision makers' control and managers would be able to give a direction to the emergent aspect of internationalization. On the other hand, internationalization stages and steps could be justified by unexpected internal or external events requiring *ad hoc* decisions. The strategy is conceived like a process of muddling through (Lindblom, 1959).

On the whole, it is likely that internationalization strategy emergence influences negatively internationalization degree through notably its negative impact on the knowledge-base. At the opposite of a planned and more formal approach to internationalization, emergence does not allow for a systematic assessment of strategic options: markets, entry modes or products. Especially, managers privileging a non-planned internationalization strategy would lack knowledge about targeted markets and more generally about internationalization success variables.

Studying planning and strategy development in family firms is not a new research direction (Ward, 1988; Singer and Donoho, 1992). The mainstream research in this field agrees to say that this type of organization, especially of small and medium size, generally exhibits a lack of strategic planning. More generally, SME managers including those leading family-firms are often reluctant to developing written strategic plans. They generally invoke the quick change of environmental conditions as well as the lack of flexibility of such plans. The Arthur Andersen Report on family business in the United States (1997) notes that less of the third of responding firms states having a written strategic plan. According to the report, this lack of planning inhibits the implementation of essential actions to the family firm survival. At the opposite, firms adopting strategic plans implement more easily crucial activities like frequent organization of board meetings, employment of family members according to their competence and finally opening-up to international markets.

In sum, it is possible to say that:

H2a: The emergent development of internationalization is higher for family firms.

H2b: The emergence of internationalization strategy negatively influences firm's internationalization knowledge.



### 1.3- Knowledge tacitness

The organizational learning and knowledge-based literature often put forward the primarily tacit nature of organizational knowledge. Without reconsidering the old philosophical debates relating to knowledge, it is possible to see that the current literature refers to Polanyi (1948) when it is about distinguishing between explicit and tacit knowledge. Tacit knowledge is the set of knowledge which is implemented in a performance while remaining unaware of by operators and other people (Coriat and Weinstein, 1995). For Nonaka and Takeuchi (1998), tacit knowledge is very personal and difficult to formalize, communicate and share with others. It takes root in experience and personal action as well as in ideals, values, intuitions and emotions. Sometimes, it could be “known” though not transmissible in an articulated way even less recordable. It could however be transferred and possibly adopted through processes of demonstration, learning and progressive experimentation. At the contrary, explicit knowledge can be expressed by words and numbers and easily communicated and shared in form of data, scientific formulas, codified procedures and universal principles. More generally, the literature argues that a continuum between tacitness and explicitness of knowledge exists. The more it is complex, hard to be articulated and taught, the more knowledge is tacit (Zander and Kogut, 1995). Deepening further the analysis, Nonaka and Takeuchi (1998) show that tacit knowledge includes two aspects:

- A technical aspect relating to the skills and often called know-how. A craftsman, for example, develops an expertise after years of experience but he’s unable to articulate the technical and scientific principles dissimulated behind what he knows.

- A cognitive dimension including the strongly established mental schemes, models, beliefs and perceptions (Nonaka and Takeuchi, 1998). Cognitive dimension reflects our image of the reality (what is) and our vision of the future (what must be). These implicit models influence deeply our perception of the world (Nonaka and Takeuchi, 1998).

An important consequence of organizational knowledge tacitness is that it is not easily transferable. For Nelson and Winter (1982), a big part of human knowledge is contextually limited, firm specific and tacit. So it is difficult to be articulated and transferred. Badaracco (1991) speaks about knowledge entrenchment in order to underline the low potential of knowledge migration because of its rooting in complex social interactions and relations within the organizations. Lam (1998) speaks about knowledge “embeddedness” which covers two elements: the degree of “tacitness” and the degree of “collectiveness”. Embeddedness of knowledge is the

extent to which knowledge is rooted in organizational routines, work practices and human relations networks. Generally, tacitness is a character which may inhibit the development of organizational knowledge especially due to the constraints it may impose on knowledge transfer between individuals. In particular, tacitness is supposed to act negatively on the development of an internationalization knowledge base.

The importance and role of tacit knowledge in family firms deserves a deep attention. In these firms, the typical paternalistic management implying centralization of power and decision allows obviously for organizational flexibility but, at the same time, influences learning and knowledge development processes which are centered on the family sphere. The family holds the monopoly of knowledge acquisition, sharing and transfer within the organization. In other words, taking advantage of its rights of decision and control, the owner-family dominates knowledge management. Overall, because of its founding natural characteristics, the family firm is quite inclined to privilege knowledge protection mechanisms and is encouraged to nurture mechanisms which reinforce causal ambiguity (Cabrera-Suarez and ali, 2001). Internalization of strategic knowledge would be primarily the fact of the owner-manager and his family (Tsang, 2002). Consequently, there would be a conscious will of the top family management not to engaging a process of articulation and to avoiding formalization. In short, family firms show an inclination to concentrate knowledge management processes around its tacit dimension by encouraging its development at the expense of explicit knowledge even if the weak externalization coupled with the avoidance of knowledge sharing outside the family may cause serious risks. In sum, it is possible to state that:

H3a: Tacitness of organizational knowledge is higher for family firms.

H3b: Tacitness of organizational knowledge negatively influences firm's internationalization knowledge.

#### **1.4- Knowledge sharing**

For the knowledge to constitute a competitive advantage, it has to be shared between individuals and disseminated within the organization. As said before, the tacit component of knowledge needs to be articulated in order to be transferred. A second means of sharing could

be socialization. At the organizational level, socialization is a process of experience sharing allowing for new tacit knowledge creation such as mental models and technical skills (Nonaka and Takeuchi, 1998). At the individual level, tacit knowledge could be acquired directly from other individuals without using language but through experience (observation, imitation and practice). Indeed, for Nonaka and Takeuchi (1998), without a form of shared experience, it would be difficult for an individual to be projected in the thought processes of another. In short, knowledge sharing requires a transfer of explicit knowledge and also the potentially-articulable component of tacit knowledge. Then, a socialization process may be necessary to transfer non-articulable component of tacit knowledge. Sharing and dissemination are of particular importance as for internationalization knowledge. For example, Ghoshal, Korine and Szulanski (1994) observe that informal networking through direct contacts between managers and work team is the main factor determining knowledge flows within the multinational. More generally, it is necessary to share and disseminate internationalization knowledge in order to develop it more and more.

The internationalization of the family firm constitutes an interesting particular case for studying the impact of sharing on knowledge. As said in the previous section, in these firms, the family may concentrate knowledge management in its hands. In addition to strong voluntarily maintained tacitness, the controlling family may inhibit socialization of strategic knowledge out of the family circle. In spite of the potential contribution they could provide to the knowledge base development, outsiders are likely to be excluded. The essence of knowledge, i.e. its tacit component, being mainly acquired by family members, it would be logical to limit its diffusion to outsiders. Firms whose “familiness” (Habbershon and Williams, 1999) is weak would behave differently and tolerate strategic knowledge sharing with outsiders. This sharing should have a beneficial effect on the building and development of the organization’s knowledge base because of the variety and richness of externals’ contributions. In sum, it is possible to hypothesize that:

H4a: Sharing of organizational knowledge is weaker for family firms.

H4b: Sharing of organizational knowledge positively influences firm’s internationalization knowledge.

## **1.5- Internationalization Knowledge**

Internationalization knowledge was rarely studied or even clearly defined. To introduce this concept, authors conceive internationalization as a process of organizational learning and knowledge development (Eriksson and ali., 2000). “Market knowledge” studied by Johansson and Vahlne (1977) is compounded of objective knowledge, on the one hand, and experiential knowledge, on the other hand. Whereas market knowledge refers primarily to relevant information about markets and allowing for the penetration, establishment and exploitation, internationalization knowledge is the competence accumulated by the firm and knowledge carried by women and men who manage and take part in international activities. Indeed, firms’ international expansion does not depend on the only knowledge relating to a specific market but on various aspects of knowledge pertaining to international activities. Eriksson and ali. (1997, 2000) analyze thoroughly the different dimensions of knowledge in the context of internationalization. In addition to operational and institutional knowledge, internationalization knowledge is crucial. Autio and ali. (2000) explain the rapid international growth of entrepreneurial firms by the high international knowledge. Because it is difficult to obtain and reproduce, Knight and Liesch (2002) argue that tacit internationalization knowledge provides a competitive advantage for the internationalizing firm.

In the particular case of family firms, authors argue that their probable conservatism and strong independence orientation negatively influence the internationalization knowledge they could accumulate (Basly, 2007). First, family SME don’t recognize the valuable contributions of external financial contributions (debt and equity sharing) and follow a conservative financial behavior (Hirigoyen, 1985). It privileges internal financing which implies an inward orientation and a weak development of the knowledge base as it prevents from the penetration of a potentially relevant external cognitive contribution. In addition, debt avoidance, even if it limits the risk of information and management cognitive schemas leakage towards bankers implies a lot of disadvantages relatively to the firm’s knowledge base. Indeed, banker’s contribution could be valuable since he can take part in the development of the knowledge base through adhering or enriching the management vision and cognitive maps (Charreaux, 2002). External ownership also makes it possible to extend the knowledge base as external shareholders could exert their influence on the development of the vision of the firm and play a significant role in providing proposals for investment opportunities. In sum, financial independence is likely to limit the amount of

internationalization knowledge for the family firm. Besides, human independence, implying mainly internal recruitment and managerial responsibility succession, has a notable negative impact on the development of the internationalizing small and medium family firm's knowledge base. Finally, comparatively to their non-family counterparts, family-controlled firms are reluctant to assimilate external knowledge in general because of a weak co-operative orientation, a disinclination to integrate economic networks (Donckels and Fröhlich, 1991) and more generally a tendency to avoid formal business relations or partnerships.

In sum, we could state that:

H5a: The extent of developed internationalization knowledge is weaker for family firms.

H5b: Internationalization knowledge positively influences the degree of internationalization of the firm.

In sum, figure 1 summarizes the main proposed hypotheses.

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Insert Figure 1 about here  
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## **2- METHODOLOGY AND EMPIRICAL RESULTS**

The model hypotheses permitted to build a questionnaire survey. The questionnaire was pre-tested in order to check for the validity of content. The collection of responses was carried out exclusively through web-site questionnaire. Instead of building sample on the basis of an *a priori* selected definition of family firm, these entities were identified from the final sample. Privileging a self-identification approach of family firms, we integrated in the survey a question dealing with the firm's status (independent family firm, nonfamily firm, controlled firm or subsidiary) which would allow for an effective discrimination between family and non-family firms. Then, a process of screening was carried in order to isolate two sub-sets (family firms and non-family firms). The contacted population is formed on the basis of various sources (Kompass database, French associations of exporting firms, CCI French exporting firms files) and is composed of internationalized, exporting or international firms, without being able *a priori*

to qualify them as family firms or non-family firms<sup>2</sup>. Two emailing waves were made during the period May 2002-July 2002. Key informants i.e. top managers and ideally family members in family firms were asked to connect to and answer the web-survey.

## 2.1- Sample description

168 completed responses were received. Indeed, the chosen means of contact (web-based survey) results in a high rate of non-response compared to a classic mail survey. Taking into account 2441 non-delivered emails (because of false or non-updated addresses at the time of the survey), a response rate of 2,12% is observed<sup>3</sup>.

128 firms identify them-selves as family firms. TABLE 1 summarizes some descriptive statistics about our sample. Family firms seem to be older. The oldest family firm was founded in 1789 (whereas the oldest nonfamily firm was in 1888). On average, family firms are founded in 1952 whereas nonfamily firms are in 1975. Consequently, the average age for family firms is approximately 50 years against 27 years for nonfamily firms. A test of means comparison through ANOVA makes it possible to say that this observation is not due to chance ( $F = 10,997$ , sig: 0,001).

Family firms seem to operate abroad on average for 29 years approximately against a 20 years duration for nonfamily firms. For each firm, we calculated the time elapsed between the setting-up year and the starting year of internationalization. An interesting result needs to be mentioned: the average time is approximately 7 years for nonfamily firms whereas it is approximately 21 years for family firms. The ANOVA confirms that this difference is significant ( $F = 8,961$ , sig: 0,003). This result corroborates the results of former studies which argue that family firms launches out relatively late to foreign markets (Gallo and Estapé, 1992; Gallo and Luostarinen, 1992).

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Insert Table 1 about here  
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<sup>2</sup> In fact, two “populations” were contacted: First, a 9590 French Exporting firms database (Export turnover equals at least 5% of total turnover) constituted from the Kompass France database; then, a 764 quoted family firms database (according to the criteria of equity control – at least 33% of equity being held by family members - and management). The total population is 10354 firms.

<sup>3</sup>  $168/(10354-2441)$

The average export turnover is about 42% for nonfamily firms while it is only 33% for family firms (See TABLE 2). A test of ANOVA shows that this observation could not be due to chance ( $F = 3,342$ , sig: 0,069). In accordance with prior studies, our research shows that family firms are less internationalized than non family-firms (Zahra, 2003; Gallo et Estapé, 1992, ..).

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Insert Table 2 about here  
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## 2.2- Constructs measurement

Constructs measurement is based on the one hand on scales existing in the literature and on the other hand on the development of new scales. Indeed, several empirical studies were first used to build the questionnaire. Besides, new scales were developed through the literature review and a preliminary exploratory study. All the scales, except for the internationalization knowledge scale (3 points Likert scale), were based on a five points Likert scale. To test our model, three control variables were introduced: technological intensity, age and delay. This latter variable is the time elapsed between firm's setting-up and internationalization. The degree of internationalization is measured through one single indicator: export turnover<sup>4</sup>.

The assessment of constructs reliability was carried out. It is a required condition preceding the stage of model assessment. Indeed, the causal analysis must first ascertain the relevance of the measurement model. First, this analysis is based on "conventional" statistical analysis of psychometric scale purification. Then, a confirmatory analysis grounded on structural equation modeling is used. Several exploratory factor analyses were carried out in order to obtain stable and interpretable structures from the initial scales. A recapitulation of the retained scales at the end of this phase is shown in the following TABLE (See TABLE 3). All Cronbach's Alpha are superior or near the threshold of 0,6 admitted when developing new scales.

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<sup>4</sup> Following Sullivan (1994) this choice is criticizable as internationalization could not be a unidiemensional construct. In fact, four indicators were initially introduced (export turnover, foreign assets, foreign personnel, foreign subsidiaries) but the latter three were removed because the bulk of responding firms were small or medium with no significant multinational activities. Export turnover seems to better reflect the internationalization degree of our responding firms.

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Insert Table 3 about here  
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A confirmatory factor analysis was carried out in order to validate the factorial structure of the model constructs, except for the internationalization knowledge. Indeed, we choose to use a single indicator for this variable during the explanatory phase of the study. The aggregation of the 16 items contributing to this construct was made necessary because of the strong correlations between them. However, the use of a single indicator in structural equations models is likely to imply identification problems (Roussel and ali., 2002). Accordingly, for that the causal model to be assessed, we had to fix to zero the error variance of the single indicator in order to identify the model<sup>5</sup>.

Besides, some other relations were added in order to achieve model convergence. Indeed, we had to correlate e4 and e7<sup>6</sup>, on the one hand, and e9 and e10<sup>7</sup>, on the other hand. These correlations could be justified theoretically as some underlying significance is common to tacitness and sharing first and then to double-loop learning and emergence. In addition, one Heywood case was observed<sup>8</sup> and required to fix the error variance of the concerned item to a “small positive value” (Bollen, 1989) i.e. 0,05.

In TABLE 4, we observe that all the unstandardized regression weights are significant except for DLL2 which significance is a bit lower (p:0,012).

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Insert Table 4 about here  
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The observation of the standardized regression weights (See TABLE 5) leads to think about some probable convergent validity difficulties as the factor loadings of TACIT1, SHAR1

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<sup>5</sup> This was also made for the construct « degree of internationalization » as it was measured through a single indicator.

<sup>6</sup> i.e. the error variances of items TACIT1 and SHAR1.

<sup>7</sup> i.e. the error variances of items DLL1 and EMERG2.

<sup>8</sup> When the estimated error term for an indicator for a latent variable is negative, this value is called a "Heywood case.". Heywood cases are typically caused by misspecification of the model, presence of outliers in the data, combining small sample size (ex. <150) with having only two indicators per latent variable. Here, if not constrained, the error variance of Item EMERG1 would be negative.



and EMERG2 are less than the commonly admitted threshold of 0,5. However, we decide to keep these items because of their theoretical importance.

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Insert Table 5 about here  
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The following TABLE synthesizes the obtained global fit indices for the measurement model. Overall, the obtained values meet the commonly admitted standards and thus the measurement model is accepted.

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Insert Table 6 about here  
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The computation of the indices of reliability and validity for the various scales is summarized in TABLE 7.

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Insert Table 7 about here  
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The literature assumes good reliability if the value of Ksi Rhô is higher than 0.7. Here, all the retained scales globally satisfy this condition. The constructs of “Tacitness” and “Sharing” seem less reliable than the other scales but are not poorly measured since Rhô is higher than 0,5. Besides, Rhô of convergent validity is good if it’s higher than 0.5. Even if this condition is not met as for “Tacitness” and “Sharing”, we decide to keep them in order to test structural relations as their Rhôs are very near of the threshold.

All scales have to prove discriminant validity. A comparison between variances extracted for each construct and squared inter-construct correlations shows that for all cases these correlations are inferior to variances extracted. This analysis confirms the discriminant validity of scales.

## **2.3- Results and implications**

### **2.3.1- A comparison between family firms and non family firms**

Observing variable measures leads us to reach preliminary results and formulate some interesting conclusions. First, as expected, the obtained statistics show stronger double-loop learning for nonfamily firms (See TABLE 8). Although double-loop learning is over 3 times stronger in average for non-family firms, this result is non-significant. We could not state with certainty that family firms are more reluctant to radically modify their strategies and their visions of the world. We could say that hypothesis H1a is not supported.

As expected, we also note a low average intensity of internationalization strategy emergence for nonfamily firms. This suggests that these latter would privilege a planning orientation as for strategic decision making and in particular for internationalization. The ANOVA shows some significance ( $F = 3,130$ , sig: 0,079) for this result and allows us to say that studied family firms exhibit a stronger strategy emergence while internationalizing their activities. Thus we have support for H2a.

Once again, as expected, the degree of organizational knowledge tacitness on average seems higher for family firms. The ANOVA is significant and permits us to validate this assumption ( $F = 6,454$ , sig: 0,012). Thus we have support for H3a. As described earlier, these entities seem to favor and encourage tacitness as this could preserve their competitive advantage and ensure their durability. As for knowledge sharing, it seems on average weaker for family firms. Even if this result is expected, it is not statistically significant according to ANOVA's criteria. Therefore, the hypothesis H4a is not supported.

Finally, we note that on average non-family firms develop more internationalization knowledge. Again, this is an expected observation. Unfortunately, it is non-significant so the hypothesis H5a is not supported.

Last but not least, statistics show that technological intensity is stronger in the case of nonfamily firms. The significant ANOVA ( $F = 4,744$ , sig: 0,031) seems to corroborate the generally accepted though criticized assumption which considers that family firms operate in "traditional" businesses and innovate less than other firms.

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Insert Table 8 about here  
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### 2.3.2- Explanatory Model

After assessing for scales reliability and validity through exploratory and confirmatory factor analyses, the model was tested through structural equation modeling (AMOS). The process of definition, comparison and choice of models was done mainly on the basis of the criterion of the  $\chi^2$  value which, despite its disadvantages, allows for obtaining a rapid assessment of fit quality. Furthermore, an approach needed to reduce the risk of under-identification was adopted. Indeed, we had to fix to one the first parameter, i.e. the first loading of the first indicator of a latent variable.

Several iterations were carried out in order to obtain the best interpretable model. Refinements were operated on the basis of initial theoretical construction and various models were compared. The retained model is presented in figure 2.

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Insert Figure 2 about here  
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The retained model presents a good fit with empirical data and could be interpreted (See TABLE 9).

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Insert Table 9 about here  
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The examination of results allows suggesting that as for the studied sample (See TABLE 10):

- Double-loop learning does not significantly influence internationalization knowledge. We even observe a weak negative influence contrarily to expectations. However, we could observe a positive direct effect even it is weakly significant between double-loop learning and internationalization degree (Estimate = 6,265, CR = 1,563, p = 0,118). Overall, then, the influence of double-loop learning on

internationalization should not be neglected even if, in our sample, the mediating role of internationalization knowledge could not be proven. Hypothesis H1b is not supported.

- Internationalization strategy emergence negatively influences internationalization knowledge (Estimate = -0,405, CR=-2,432, p=0,015). This gives support to our hypothesis H2b. In our sample, the emergent orientation and absence of planning while internationalizing proves detrimental for the internationalization knowledge base development.
- Knowledge tacitness doesn't link directly to internationalization knowledge. Instead, it influences negatively the technological intensity of firms (Estimate = -0,890, CR=-3,530, p=0,00), this latter influencing positively the internationalization degree. Thus, we could not find support for hypothesis H3b. This relation is not really surprising as the more the organization privileges knowledge tacitness (or even prevents from its articulation), the less it would be technology-intensive. Moreover, as expected technological intensity, and products knowledge-intensiveness in particular, play an important role in determining firm's internationalization degree (Autio et alii, 2000).
- Knowledge sharing doesn't influence internationalization knowledge. Its effect is more limited as it only negatively interacts with tacitness, this latter influencing technological intensity of firms (See TABLE 10). Thus, we could not find support for hypothesis H4b. However, the observed covariance (Estimate = -0,172, CR = -2,542, p = 0,01) is interesting because it corroborates what the literature calls "knowledge embeddedness" : the more the knowledge is tacit, the less it is shared and the more it is shared, the less it is tacit.

When focusing on the internationalization degree as a dependent variable, we observe, in addition to the positive and nearly significant influence of technological intensity, that:

- As expected, internationalization knowledge positively and significantly influences the internationalization degree (Estimate = 8,171, CR = 4,302, p = 0,00) confirming its crucial role in the international development of firms. Thus, H5 is supported.
- The age of firms positively and significantly influences the internationalization degree (Estimate = 0,195, CR = 2,947, p=0,003). This result is not surprising but confirms prior studies which explain that firms age implies more experience and

especially more resources enabling to reach higher levels of international involvement.

- The time elapsed between the setting-up year and the starting year of internationalization (Delay) negatively and significantly influences the internationalization degree (Estimate = -0,284, CR = -2,825, p=0,005). This result confirms also the idea that the more a firm takes a long time to internationalize the more it becomes accustomed to its domestic market and consequently the less it would internationalize.

Some other interesting results deserve to be mentioned. Apart from the strong and significant influence of “age” on “delay” (Estimate = 0,457, CR = 12,615, p=0,00), we observe an interesting positive influence of “emergence” on “delay” (Estimate = 5,450, CR = 1,971, p=0,049). This leads us to think that the more a firm adopts an emergent orientation the more time it will spend on domestic markets before deciding to go internationally. It is then possible to see that internationalization strategy emergence influences the internationalization degree both through inhibiting the development of internationalization knowledge and also by lengthening the delay preceding the internationalization trigger.

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Insert Table 10 about here

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Insert Table 11 about here

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Insert Table 12 about here

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### **2.3.3 Discussion**

Our research shows that family firms are less internationalized than non family-firms. This result is in accordance with prior studies which tests for exports amount (Donckels and Frohlich,

1991; Gallo and Estapé, 1992) or for internationalization degree (Luostarinen et Hellman, 1995 ; Simões et Crespo, 2002). For Zahra (2003), family firms not only are less internationalized, but also they target fewer countries than non-family firms. This is due to their inward orientation explained by the owner-family desire to make the business durable.

Our sample's family firms exhibit a stronger strategy emergence while internationalizing their activities than non-family firms. As explained by Tsang (2002), this means that their managers don't rely on plans but merely use intuition and lead a process of muddling-through while developing their firms internationally. Contrarily to their non-family counterparts, no real strategic intent is present but the internationalization process is a simple adaptation or response to unsolicited orders from abroad. As expected, this strategy emergence negatively influences internationalization knowledge for our sample's family firms. The rationale behind this result is that muddling-through may be beneficial on the short run but for that the firm could develop internationally, a deliberate internationalization strategy needs to be devised and implemented by managers. Furthermore, the results show that internationalization strategy emergence may lengthen the delay preceding the internationalization trigger. This result allows justifying the longer delay preceding internationalization for family firms compared to non-family firms. This could be understood as the lack of strategic planning results in a focusing on day-to-day operations and implies postponing major development choices as internationalization of activities.

Another interesting result is that the degree of organizational knowledge tacitness on average is higher for family firms. This was expected as family firms tend to protect their knowledge base, particularly their founding know-how, by encouraging mechanisms strengthening tacitness. Yet, the weak knowledge articulation coupled with the avoidance of knowledge sharing outside the family may cause serious risks. Notably, the weak importance of organizational protection mechanisms and the strong reliance on individual memory may entail a risk of deterioration inherent to the eventuality of a sudden loss of a key member of the family and the company.

Overall, the mediating role of internationalization knowledge was not corroborated by our results. We don't find support for the hypothesis of a positive influence of double-loop learning on internationalization knowledge. However, double-loop learning seems to directly influence internationalization degree. Moreover, knowledge sharing, on the one hand, and knowledge tacitness, on the other hand, don't directly influence internationalization knowledge. They only interact while influencing technological intensity of firms which positively impacts internationalization degree. Logically, knowledge sharing and knowledge

tacitness are negatively related: the more the knowledge is tacit, the less it is shared and the more it is shared, the less it is tacit.

When focusing on the internationalization degree as a dependent variable, we observe as expected, a positive and significant influence of internationalization knowledge confirming its crucial role in the international development of firms. The influence of firms' age is also confirmed. The results finally confirm the idea that the more a firm takes a long time to internationalize the more it becomes accustomed to its domestic market and consequently the less it would internationalize.

Overall, our results suggest that, in order to develop internationally, family firms need to:

- adopt a strategic planning orientation in order to hasten internationalization,
- integrate internationalization as a part of their strategic plans so that international choices would be deliberate,
- rely on their knowledge-based capabilities and particularly know-how,
- implement efficient knowledge management mechanisms so that organizational knowledge could be articulated, capitalized, shared with decision-makers and disseminated throughout the organization.

## **CONCLUSION**

This paper tried to explain the internationalization degree of family firms through a number of their specific characteristics. Thanks to an empirical study of a French sample of family and non-family firms, variables dealing with organizational learning and knowledge development were used within an explanatory model.

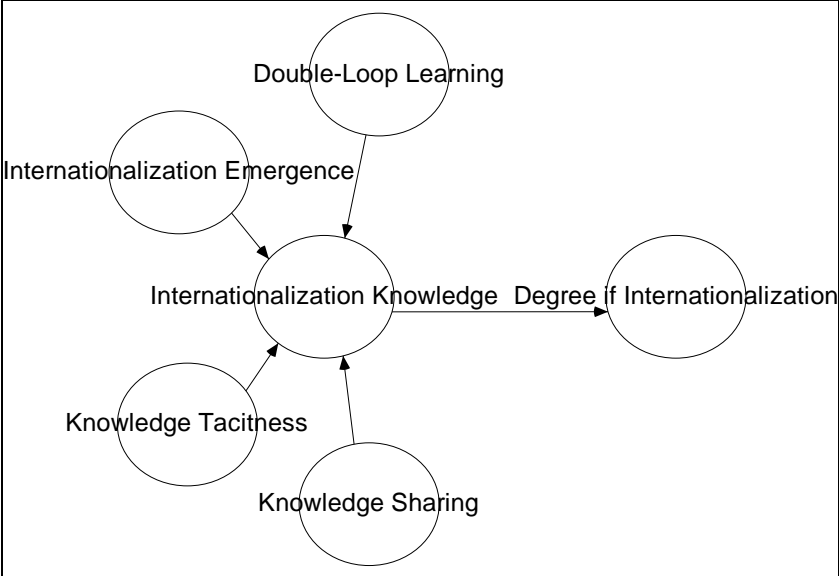
Despite its value, this study has many limitations. A major limitation is the lack of a synchronic approach as the dependant and independent variables are measured at the same moment. A more longitudinal approach would be valuable to analyze the causal relationships between the independent variables and internationalization knowledge and degree of internationalization. A second limitation is the sample size which limits the generalizability of results. In the same vein, because of the small sample size (128 family firms and only 40 non-family firms), a multi-group analysis using structural equation modeling could not be made. This could be a valuable analysis that permits to compare metric invariance, i.e. regression

weights for example, between two sub-samples of firms. This research could also be improved by integrating supplementary explanatory variable as the controlling generation or governance mechanisms (such as the reliance on a board of directors). Other factors such as perceptions of managers about internationalization benefits, or resources controlled by the firm constitute important variables that have to be taken into account in a future research. Besides, our research does not account for some external variables explaining knowledge development and internationalization degree as size of foreign markets, for instance.

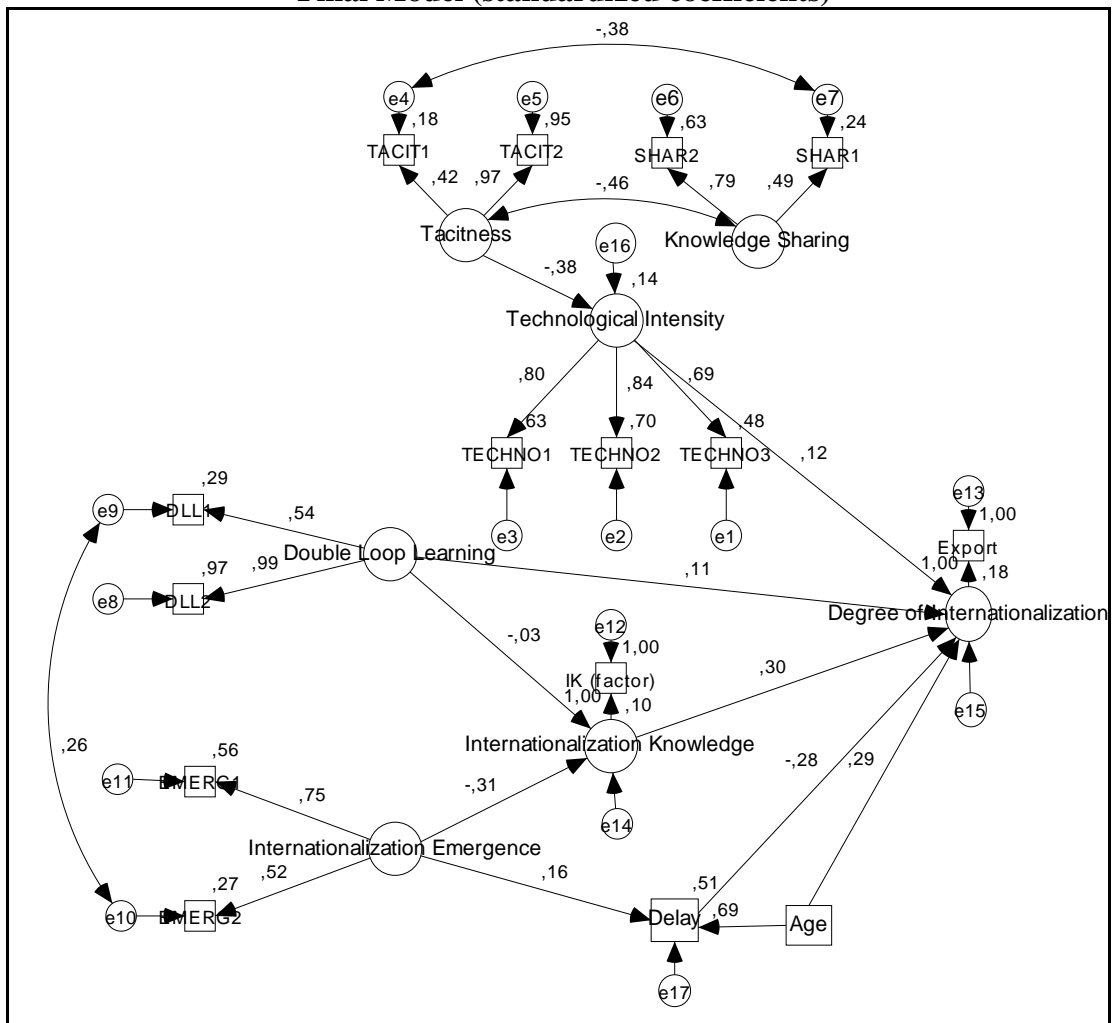


**TABLES AND FIGURES**

**FIGURE 1  
Theoretical Model**



**FIGURE 2**  
Final Model (standardized coefficients)



**TABLE 1**

|                      | Non-family firms |         |           | Family firms |         |           |
|----------------------|------------------|---------|-----------|--------------|---------|-----------|
|                      | Minimum          | Maximum | Mean      | Minimum      | Maximum | Mean      |
| Foundation           | 1888,00          | 2000,00 | 1974,9750 | 1789,00      | 1990,00 | 1951,8672 |
| Internationalization | 1888,00          | 2000,00 | 1981,6750 | 1798,00      | 2002,00 | 1973,4812 |
| Delay                | , 00             | 44,00   | 6,7000    | , 00         | 166,00  | 20,5104   |
| Duration             | 2,00             | 114,00  | 20,3250   | , 00         | 204,00  | 28,5431   |
| Age                  | 2,00             | 114,00  | 27,0250   | 12,00        | 213,00  | 50,1328   |

**TABLE 2**

| Export (%)       | Minimum | Maximum | Mean    |
|------------------|---------|---------|---------|
| Non-family firms | 1,00    | 92,00   | 41,6175 |
| Family firms     | , 10    | 100,00  | 32,7883 |

**TABLE 3**  
**Summary of measurement scales**

| <b>Variable</b>                       | <b>Number of initial items</b> | <b>Number of retained items</b> | <b>Cronbach's Alpha</b> |
|---------------------------------------|--------------------------------|---------------------------------|-------------------------|
| <b>Double-Loop learning</b>           | 2                              | 2                               | 0,690                   |
| <b>Internationalization Emergence</b> | 2                              | 2                               | 0,563                   |
| <b>Tacitness</b>                      | 2                              | 2                               | 0,577                   |
| <b>Sharing</b>                        | 2                              | 2                               | 0,573                   |
| <b>Technological intensity</b>        | 5                              | 3                               | 0,812                   |
| <b>Internationalization Knowledge</b> | 16                             | 16                              | 0,877                   |

**TABLE 4**  
**CFA Regression Weights**

|          |                                     | <b>Estimate</b> | <b>S.E.</b> | <b>C.R.</b> | <b>P</b> |
|----------|-------------------------------------|-----------------|-------------|-------------|----------|
| TECHNOL1 | <--- Technological Intensity        | 1,000           |             |             |          |
| TECHNOL2 | <--- Technological Intensity        | ,876            | ,093        | 9,428       | ***      |
| TECHNOL3 | <--- Technological Intensity        | ,687            | ,079        | 8,651       | ***      |
| TACIT1   | <--- Tacitness                      | 1,000           |             |             |          |
| TACIT2   | <--- Tacitness                      | 1,880           | ,467        | 4,029       | ***      |
| SHAR1    | <--- Knowledge Sharing              | ,606            | ,180        | 3,368       | ***      |
| SHAR2    | <--- Knowledge Sharing              | 1,000           |             |             |          |
| DLL1     | <--- Double Loop Learning           | 1,000           |             |             |          |
| DLL2     | <--- Double Loop Learning           | 1,591           | ,631        | 2,522       | ,012     |
| EMERG1   | <--- Internationalization Emergence | 1,000           |             |             |          |
| EMERG2   | <--- Internationalization Emergence | ,406            | ,071        | 5,684       | ***      |

**TABLE 5**  
**CFA Standardized Regression Weights**

|  | <b>Estimate</b> |
|--|-----------------|
| TECHNOL1 <--- Technological Intensity      | ,799            |
| TECHNOL2 <--- Technological Intensity      | ,820            |
| TECHNOL3 <--- Technological Intensity      | ,707            |
| TACIT1 <--- Tacitness                      | ,480            |
| TACIT2 <--- Tacitness                      | ,846            |
| SHAR1 <--- Knowledge Sharing               | ,491            |
| SHAR2 <--- Knowledge Sharing               | ,821            |
| DLL1 <--- Double Loop Learning             | ,648            |
| DLL2 <--- Double Loop Learning             | ,821            |
| EMERG1 <--- Internationalization Emergence | ,976            |
| EMERG2 <--- Internationalization Emergence | ,404            |

**TABLE 6**  
**Measurement model Fit indices**

| Fit indices |                       |                  |
|-------------|-----------------------|------------------|
| Absolute    | $\chi^2$<br>(ddl=845) | 67,61 (P =0,016) |
|             | GFI                   | 0,946            |
|             | AGFI                  | 0,890            |
|             | RMSEA                 | 0,055            |
| Incremental | NFI                   | 0,872            |
|             | CFI                   | 0,950            |
| Parsimony   | $\chi^2/ddl$          | 1,503            |
|             | PNFI                  | 0,503            |

**TABLE 7**  
**Measurement model fit**

|                            |                     | Technological Intensity | Tacitness | Sharing | Double-loop learning | Emergence |
|----------------------------|---------------------|-------------------------|-----------|---------|----------------------|-----------|
| <i>Reliability</i>         | Ksi Rhô             | 0,819                   | 0,625     | 0,613   | 0,704                | 0,682     |
| <i>Convergent validity</i> | Rhô vc <sup>9</sup> | 0,603                   | 0,473     | 0,457   | 0,546                | 0,557     |

**TABLE 8**  
**Variables mean scores**

| Variable                              | Mean       |
|---------------------------------------|------------|
| <b>Double-Loop Learning</b>           |            |
| Non-Family Firm                       | , 0151795  |
| Family Firm                           | -, 0047436 |
| <b>Internationalization Emergence</b> |            |
| Non-Family Firm                       | -, 2426412 |
| Family Firm                           | , 0758254  |
| <b>Tacitness</b>                      |            |
| Non-Family Firm                       | -, 3450368 |
| Family Firm                           | , 1078240  |
| <b>Knowledge sharing</b>              |            |
| Non-Family Firm                       | , 2337234  |
| Family Firm                           | -, 0730386 |
| <b>Internationalization Knowledge</b> |            |
| Non-Family Firm                       | , 2023721  |
| Family Firm                           | -, 0632413 |
| <b>Technological Intensity</b>        |            |
| Non-Family Firm                       | , 2972793  |
| Family Firm                           | -, 0928998 |

<sup>9</sup> Variance extracted.

**TABLE 9**  
**Explanatory Model Fit indices**

| Fit indices |                      |                   |
|-------------|----------------------|-------------------|
|             | $\chi^2$ (ddl=81)    | 124,12 (P =0,001) |
| Absolute    | GFI                  | 0,917             |
|             | AGFI                 | 0,877             |
|             | RMSEA                | 0,056             |
|             | NFI                  | 0,817             |
| Incremental | CFI                  | 0,925             |
|             | $\chi^2$ /ddl        | 1,532             |
| Parsimony   | PNFI                 | 0,631             |
|             | Explanatory capacity | $\sum R^2$        |

**TABLE 10**  
**Regression Weights**

|                                |      |                                | Estimate | S.E.  | C.R.   | P    |
|--------------------------------|------|--------------------------------|----------|-------|--------|------|
| Internationalization Knowledge | <--- | Internationalization Emergence | -,405    | ,166  | -2,432 | ,015 |
| Delay                          | <--- | Internationalization Emergence | 5,450    | 2,765 | 1,971  | ,049 |
| Delay                          | <--- | Age                            | ,457     | ,036  | 12,615 | ***  |
| Internationalization Knowledge | <--- | Double Loop Learning           | -,059    | ,156  | -,377  | ,706 |
| Technological Intensity        | <--- | Tacitness                      | -,890    | ,252  | -3,530 | ***  |
| Degree of Internationalization | <--- | Internationalization Knowledge | 8,171    | 1,899 | 4,302  | ***  |
| Degree of Internationalization | <--- | Technological Intensity        | 2,996    | 1,862 | 1,609  | ,108 |
| Degree of Internationalization | <--- | Age                            | ,195     | ,066  | 2,947  | ,003 |
| Degree of Internationalization | <--- | Delay                          | -,284    | ,101  | -2,825 | ,005 |
| Degree of Internationalization | <--- | Double Loop Learning           | 6,265    | 4,009 | 1,563  | ,118 |

**TABLE 11**  
**Covariances**

|              |      |                      | Estimate | S.E. | C.R.   | P    |
|--------------|------|----------------------|----------|------|--------|------|
| Tacitness e4 | <--> | Knowledge Sharing e7 | -,172    | ,068 | -2,542 | ,011 |
| e4           | <--> | e7                   | -,345    | ,080 | -4,315 | ***  |
| e9           | <--> | e10                  | ,166     | ,056 | 2,989  | ,003 |

**TABLE 12**  
**Squared Multiple Correlations**

|                                | <b>Estimate</b> |
|--------------------------------|-----------------|
| Delay                          | ,506            |
| Internationalization Knowledge | ,098            |
| Technological Intensity        | ,143            |
| Degree of Internationalization | ,176            |

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