

Resources, capabilities and innovation combined with the firm social networks: The internationalization of Oníria

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Abstract

The aim of the present work is to understand how the resources and capabilities combined with social networks have made the company Oníria's innovation and internationalization possible. The small technology-based firm was a pioneer in the export of software and works with virtual simulation and gamification, and was rewarded with several regional and national innovation awards. In order for this work to do so, the theoretical framework addressed discussions about the internationalization of the firm, resources and capabilities, social networks and innovation. We conducted a qualitative, exploratory and descriptive research, through a semi-structured interview with one of the owners of the company. The main results indicate that internationalization happened in an intermittent, non-linear way, more linked to the innovation of the company and made possible by social networks. The external view of the networks combined with the company's resources and capabilities made possible the innovation and consequently the internationalization. Furthermore, its precocious internationalization happened due to its activity sector and its capacity of working in network.

Keywords: Innovation. Internationalization. Social Networks. Resources and capabilities.

Introduction

Accessing the international market is an important firm strategy. The main reasons may be associated with seeking a sustainable growth and developing alternative; searching for better control over distribution channels as well as final client contact; relocating productive activities due to cost; diversifying risks; responding to global

competition; historical reasons; the learning curve and acquisition of skills (CYRINO; BARCELLOS, 2006). However, in order for a company to achieve internationalization, some internal and external actions are necessary to help this process.

In relation to the internal actions, we believe that the company's resources and capabilities must be directed towards internationalization. The idea of observing the company in terms of its resources has been widely accepted in the strategy literature (PENG, 2001). Resource Based View (RBV) tries to explain the performance differences in the long run, considering the firm's resources and capabilities, wherein the company that is capable of creating more value in a certain industry will sustain a competitive advantage (BARNEY; CLARK, 2007).

Furthermore, nowadays, the role of innovation in keeping a competitive advantage, in the development of organizations, in the acquisition of new markets and in internationalization is being discussed (ARBIX, 2010; BARALDI; GRESSETVOLD; HARRISON, 2012; SHEARMUR; DOLOREUX; LAPERRIÈRE, 2015). This need for innovation is highlighted when dealing with small and medium-sized enterprises (SMEs), especially those in emerging countries (BATRA et al., 2015), since SMEs have difficulties competing in large scale and with already consolidated companies. Innovation becomes an alternative to the SMEs, mainly because of its capacity for change, resource construction flexibility and reconfiguration, being, therefore, able to adapt more quickly to the environment (ZHOU; WU, 2010).

In this discussion, we notice the importance of the firm's more internal focus on developing resources, capabilities and innovation in order to access the foreign market. Yet, these resources may be accessed by external factors linked to the company's social networks.

Some studies suggest the importance of the social capital through ties, networks, alliances and contacts that are considered intangible resources and are difficult to replicate (MITCHELL et al., 2000; OVIATT; McDOUGALL, 2005). Others show the importance of social networks for innovation, such as business incubators (PITTAWAY et al., 2004; NASCIMENTO et al., 2011; PEREIRA; REINERT, 2013). Nevertheless, more research is needed to study that set of concepts and apply them to internationalization (PRASHANTHAM, 2008).

Prashantham (2008) indicates the need to integrate research on innovation with internationalization. The author discusses about the reciprocal relationship between them, the development of resources and organizational learning being important together with the external view of networks, because networks can influence the innovation and therefore internationalization. Thus, we discuss as a premise that social networks may be facilitators of access to the international market, especially if the firm combines its resources and capabilities to innovate.

To try to demonstrate this situation, we chose to study a company from the Information and Communications Technology (ICT) sector that operates internationally. The choice is justified by the capacity of this sector of generating innovations and by the specificity of the knowledge applied to the sector. The ICT industry is a dynamic sector, which generates countless innovations and where technology can rapidly become obsolete (ELFRING; HULSINK, 2007). Moreover, other important characteristic of this sector is its capacity to work within networks (PATEL et al., 2014).

Oníria is a technology-based firm, in the market since 2002. It started its activities as an incubator in the Londrina State University International Technology Based Company Incubator (Incubadora Internacional de Empresas de Base Tecnológica da Universidade Estadual de Londrina - INTUEL). It pioneered Brazilian software export in 2003. Oníria has eighteen collaborators and works with virtual simulation hardware and gamification, electronics and software development, especially for the agriculture, mining, oil and gas, safety and defense sectors. It has received several awards for innovation, such as MPE Brasil 2012 Award, the BEMFEITO Paraná Award in 2014 and it was the national winner of the 2013 ImagineCup, promoted by Microsoft.

Given the above, the aim of this work is to understand how the resources and capabilities combined with social networks have made the company Oníria's innovation and internationalization possible. Specifically, we seek to identify how the internationalization of the company happened, to describe the company's social networks, innovation and resources and capabilities contribution to access the international market and discuss the internationalization strategies that were used.

To this end, the theoretical framework presents discussions about the firm's internationalization, its resources and capabilities, social networks and innovation and internationalization.

The firm's internationalization

Internationalization may be defined as a movement of the companies beyond the borders of theirs own countries of origin (CYRINO; BARCELLOS, 2006). To carry out that movement the firm depends on decisions about how to access that market, that is, which is the entry mode in into the foreign country and which are the strategies being used to do that, concerning decisions relating to when and where to begin. To try explain this entry movement as well as international market expansion, especially after the intensification of the globalization process, some models were developed.

In relation to modes of entry in international markets, institutional arrangements can be classified in three main ways: (1) by export, when intermediary or final products are produced outside the country of destination and then transferred, be it indirect, cooperative or direct export; (2) contractual, characterized by the long term, non-patrimonial association of an international firm to an institution in a foreign country, involving the transference of knowledge and competences, the most used being licensing, franchising and production contracts; and (3) by investment, involving the property of industrial plants or other units in a foreign country, known as subsidiaries, be it an already existing business (acquisition) or a new one (greenfield). It is worth emphasizing that all three modes of entry involve different kinds of properties and risk that should be previously analyzed by the company before internationalization begins (ROCHA; ALMEIDA, 2006).

Considering the models explaining internationalization, two main approaches may be presented: the economic and the organizational. The economic approach derives from the economic theories that study, based on the industrial organization, barriers to competition, market imperfections and how those affect decisions related to

internationalization (ROCHA; ALMEIDA, 2006). We highlighted that the economic approach is more often used to explain the behavior of big multinational companies.

Within that approach, one of the alternatives of explanation is the Transaction Costs Economics (TCE), specifically through the internalization theory (CHANG; ROSENZWEIG, 2001). TCE deals with the coordination of governance structures, which may be achieved through vertical integration, through market or through contract, starting from the assumptions of bounded rationality and opportunism (WILLIAMSON, 1985). In the case of multinationals, it may be used to try to explain foreign direct investment which may occur, for example, through acquisitions or joint venture (KOGUT; ZANDER, 2003). It is worth it to highlight Dunning's important work (2001), which with the support of those economic approaches, presents the eclectic paradigm, explaining the firm's internationalization strategy through property advantages (ownership), location and internalisation (OLI).

The organizational approach, on the other hand, comprises the Uppsala studies, the network theory and the resources, capabilities and competences of the firm. The Uppsala model starts from a procedural view in which the firm internationalization develops in gradual stages: starting to export, establishing export channels, selling through subsidiaries and so on. In this view, the choice of market depends on the degree of psychic distance, that are the difference between the countries, such as language, education, culture, among others. As the firm starts to act in the market, it increases its knowledge about it and its commitment in terms of resources (JOHANSON; VAHLNE, 1977). However and Rezende (2002) points towards the possibility of discontinuity in internationalization, not necessarily following the processual model.

The process perspective, also known as behavioral, may be used to explain the SMEs internationalization. However, due to the emergence of new organizations that from the beginning seek to obtain a competitive advantage through operating in several countries, the "international new venture" emerges, focused on the age of the company and not its size. To study those new companies, the environmental change must be considered, incorporating discussions of entrepreneurship and strategic management (OVIATT; McDOUGALL, 2005). Those organizations are known as born-global firms, since they have a higher capacity for internationalization from the beginning of their operations, perceiving the world as one market (CHETTY; CAMPBELL-HUNT, 2004), especially when globalization intensified and shortened the distanced between countries (JOHANSON; VAHLNE, 2003).

Since the focus of this research is associated with the context of the small company, considering the resources and capabilities of the firm, as well as innovation together with the network theory, the following topics present an overview of that discussion.

The firm's resources and capabilities

Nowadays, the approach about internationalization based on resources is an emerging one and has as its main objective to develop a company theory based on dynamic capabilities or based on resources. The RBV discussion about the importance of sustaining unique and costly attributes to be copied as a source of income is the start

(RUZZIER; HISRICH; ANTONCIC, 2006). To that end, the firm should turn to its resources instead of its products and then develop strategies based upon the position of its resources (WERNERFELT, 1984).

Those resources and capabilities must be kept valuable and exclusive to generate a competitive advantage (ROCHA; ALMEIDA, 2006). We highlighted that there are two main lines of debate: one based on the works of Barney (1991), defending the choice of an exclusive strategy in the product market; and another based on the works of Peteraf (1993).

To Barney (1991) the analysis unit is the strategy, because the firm needs to develop a strategy in order to create value and then obtain a sustainable competitive advantage (SCA). He starts from two hypothesis: (1) the firms may be heterogeneous considering the strategic resources they control; and (2) the resources possess limited mobility between the firms and this heterogeneity may be long lasting. Within this scenario, the companies could sustain a competitive advantage depending on the attributes of its resources. Nevertheless, so that a resource may generate a SCA, it has to have four attributes (1) it must be valuable, in the sense of exploring opportunities and neutralizing threats; (2) it must be rare, considering current and potential competition; (3) it must be imperfectly replicable or costly to replicate; and (4) the firm's capability to exploit the resources (BARNEY, 1991).

On the other hand, Peteraf, (1993) uses the firm's resources and capabilities as the analysis unit. In this view, four cornerstones sustain the competitive advantage: (1) the heterogeneity of resources, taking those companies with superior resources to reach higher incomes; (2) ex post barriers to competition, trying to preserve the heterogeneity of the firm's resources; (3) imperfect mobility, when resources cannot be negotiated or are negotiable, but are more valuable to certain firm, not specialized or with high transference costs, or when they are co-specialized assets; and (4) ex ante barriers to competition, trying to avoid that the value of the resource becomes known by the competition before the acquisition and used by the company.

Starting from those debates, some studies apply this resource and capabilities perspective to international businesses (GUILLÉN, 2000; PENG, 2001; TALLMAN; LINDQUIST, 2002). Nevertheless, it is worth it to add that even though it makes use of a simple and easy to use logic, there are many difficulties associated with empirical work (PENG, 2001), mainly in identifying the firm's rare and valuable resources.

In short, the RBV perspective can be used in the context of a big multinational company, discussing diversification of products (GERINGER; TALLMAN; OLSEN, 2000), as well as in the context of the SMEs. Yet, in the case of the SMEs in which the biggest restriction is the lack of resources, it is discussed that this may be remedied by the networks (CHETTY; AGNDAL, 2007; VERDU, 2010), which are capable of helping the company in its internationalization process, allowing access to resources and knowledge (RUZZIER; HISRICH; ANTONCIC, 2006). Therefore, we discuss issues about social networks.

Social networks

The network model has been strongly incorporated into the studies on internationalization, demonstrating that the networks help the development of diverse knowledge and opportunities; accesses information about rules and regulation; helps the acquisition of resources, in development and management of social capital; facilitates the association with global brands; apart from providing important relationships to generate trust between ties and in forming partnerships (WONG; ELLIS, 2002; CHETTY; CAMPBELL-HUNT, 2004; CHETTY; AGNDAL, 2007; CHE SENIK et al., 2011).

The evidence that the human action is affected by social relationship in which the agents are embedded highlights the role of networks (MIZRUCHI, 2006). Social networks are defined as a set of nodes or actors, that may be people or organizations, linked by social relationships. Those ties between actors have strength, which encompasses the amount of time of the relationships, the emotional intensity, the intimacy and the reciprocal services; and content that may include information, advice or friendship, shared interests or association and typically some level of trust (GRANOVETTER, 1973; CASTILLA et al., 2000).

Johanson and Vahlne (2003) present an integration of the traditional model (stage model) with a view of networks. The authors reveal that networks are viewed as a set of interconnected business relationships, in which each exchange relationship happens between reputable firms as collective actors. In this new model, the commitment with the relationship and the learning arising from this relationship are considered. So internationalization is analyzed as a cumulative process, in which the relationships are essential in order to reach the firm's objectives (RUZZIER; HISRICH; ANTONCIC, 2006).

The network perspective provides an understanding of the companies as actors embedded in a business network. The company position within the network may be considered from a micro perspective, from firm to firm, or from a macro perspective, from firm to network (RUZZIER; HISRICH; ANTONCIC, 2006). In both perspectives within the considered network, there is a greater ease in the exchange of resources and information that helps company performance, through acquired trust (UZZI, 1996).

Nonetheless, we emphasized that each relationship is unique due to the partners' characteristics and relationship history. Hence, there could be obstacles to its development, and even after building the relationship, managing them is complex work that demands resources and time (JOHANSON; VAHLNE, 2003). To maintain a network it is necessary to consider the costs and the risks, which it may be associated with: social capital monitoring and maintenance, and the amount of time necessary to accomplish that; the costs of changing networks, because of opportunistic behavior, lack of commitment or failed relationships; and the costs to leave a relationship, costs of changing, inactivity and impact on other relationships (CHETTY; AGNDAL, 2007).

Even if it is necessary to understand the risks, the benefits of networks are undeniable, apart from the ones already mentioned, networks are also important to the innovation process (STUART; SORENSON, 2005; PEREIRA; REINERT, 2013), wherein the types of relationships between people, the intensity and frequency with which they happen present themselves as influential to the exchange of ideas, being beneficial to the generation of knowledge and in opportunities identification (REAGANS; MCEVILY,

2003; ELFRING; HULSINK, 2007). We believe, therefore, that the interaction in network may facilitate or encourage innovation and consequently internationalization.

After internationalization, knowledge development through experience and partner commitment increases, wherein the future of the network and resource development comes from a common interest that may lead to a learning experience between the partners (JOHANSON; VAHLNE, 2003). Within this context, the benefits of internationalization are evident to the innovation process as well as to the development of capabilities and knowledge (RUZZIER; HISRICH; ANTONCIC, 2006).

We noticed, then, the mutual benefits of innovation to internationalization and vice-versa. The following topic presents this rapprochement, as well as a link with the social networks and with the firm's resources and capabilities.

Innovation and internationalization

Innovation presupposes a central process for organization that involves knowledge, information and creativity, in which innovative ideas depend on every kind of incentive coming from different people and perspectives. These influences, which can be internal or external, drive the exchange of experiences and the sharing of information, stimulating the creative process of innovative changes (BESSANT; TIDD, 2009).

We understood as innovation "an idea, practice or object that is perceived as new by an individual or another adopting unit" (ROGERS, 2003, p. 12). An innovation may be in products or services, in processes, in technical or administrative management, new models of business, new markets, new sources of materials or raw materials, among others (SCHUMPETER, 1984; JOHANNESSEN; OLSEN; LUMPKIN, 2001; ANDREASSI, 2007).

In the discussion on internationalization, innovation is also seen as a process, working with stages, in which each following stage is considered an innovation to the firm. The focus is totally on the development of export, three stages being generic: pre-export, initial export and advanced export (RUZZIER; HISRICH; ANTONCIC, 2006). Nevertheless, we believe that studies on innovation should go beyond export, dealing with the foreign direct investment, the partnerships and the capacity for innovation of those strategies.

Therefore, as stated by Prashantham (2008), we believe that the integration of all the concepts previously discussed may bring development in the research on internationalization. Figure 1 shows this integrated perspective:

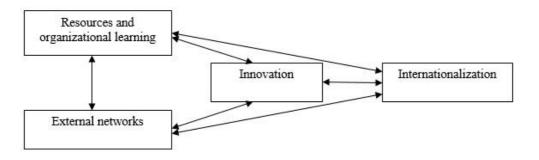


Figure 1 – An integrated perspective on internationalization research Source: Prashantham, 2008, p. 127.

An intense flux from one domain to another and vice-versa can be observed, which represents several possibilities of direction for the research on innovation and internationalization.

Methodological procedures

To reach the proposed objectives, this research has classified itself as being of a qualitative nature (DENZIN; LINCONL, 1994), being of the descriptive and exploratory type (TRIVIÑOS, 2008), in order to provide data that will enrich the knowledge of the object and discover new possibilities of understanding on the subject. Thus, the qualitative case study technique (GODOY, 2006) was applied, which enables a better understanding and contextualization, considering the innovative nature of the company and the peculiar aspects of its internationalization.

To collect the data, secondary data was used through documentary research (MAY, 2004). And also through primary data, developed from a semi-structured interview (FONTANA; FREY, 1994). The documents used were the company's website, reports as well as newspapers and magazines' articles. To analyze the documents, thematic analysis was used (MINAYO, 1996).

The semi-structured interview was conducted with one of the partners of the firm in July 2015, lasting for approximately one hour. The interviewee is the Marketing Director, who has a university degree in Architecture and Urbanism and, has a specialization in Technology-based Firm.

The interview inquired about the company and the interviewee's profile, the beginning of internationalization, foreign market perception, conditions and factors that facilitated or made it more difficult to operate abroad, the necessary resources to accomplish the internationalization, the significant relationships for the internationalization and information about the developed innovations.

The data collected through this interview, was analyzed based upon qualitative content analysis (MAYRING, 2007), in which it was categorized, revised and interpreted in accordance to the presented theoretical perspectives.

Results presentation and analysis

The analysis presents first the description of the firm as well as its internationalization. Then issues on the company's resources and capabilities, social networks and innovation are discussed.

Description of the firm and its internationalization

Oníria started its activities in the incubator with five business partners, working on an entertainment game project. The interviewee states that the company was one of the first in the country to work in this sector. Those involved were game consumers and they decided to study about it, since they realized there was a worldwide movement in that area and they did not see the same movement happening in Brazil.

Twenty students worked in this project, including the five partners, students from the most diverse areas, such as computer science, architecture, music, design, social sciences, among others. The interviewee reiterates that this great number of people is necessary, since the creation of a new game presents a certain complexity. Since the beginning, we noticed that the project presented an innovation at the time and the company used relationships to develop the product and identify opportunity, as is pointed out by the literature (REAGANS; MCEVILY, 2003; ELFRING; HULSINK, 2007).

The initial product was developed for the national Market and was commercialized through a publisher. The interviewee emphasizes that the software was very primitive, with many parts of the work being manual and, at the time, all the links in the production chain were not well developed in the country. The contact with the publisher was achieved as consequence of participating in events and trade-shows, with the incentive from the incubator. Some studies point to the incubator as a relationship intermediary (NASCIMENTO et al., 2011; PEREIRA; REINERT, 2013) such as in the presented case.

Due to the success of the company's software, the Publisher, which had a contact in Europe with a company of the same sector, sold the product to three European countries: Germany, Austria and Switzerland. We highlighted that there were many articulators to create this opportunity, such as the publisher, the partners, the incubator, and government agencies, which encourage software export, since the game is a cultural product and may receive incentives, as was the case. We also find it worth mentioning the simplification of the software export process: due to logistic factors, since it is classified as a service, it can be sent online. However the precocious internationalization of the firm must be highlighted, and Oníria can be classified as a born-global company (CHETTY; CAMPBELL-HUNT, 2004; OVIATT; McDOUGALL, 2005), since its first export happened a year after its founding.

After the first game, many others were developed. The interviewee points out that, as all ICTs, this game area has come a long way, with profound changes in the technology. In 2007, with just two partners, they made a high investment on a project to export a certain game. However, that was a marketing mistake, he explains, since there were three types of games: Type A, a console game, extremely expensive produc-

tions and which are in the market to this day; type B, medium quality, filling the need of certain niches, the one the Oníria company acted in; and C, more casual, sold in newsagents and in magazines. At the time, the type B disappeared worldwide. Therefore, the company almost closed down and stopped exporting.

It was then that the partners decided to change the focus and started working with virtual simulation. The interviewee explains that virtual simulation is a type of game with a similar technology to games, but a different application. Therefore, nowadays, the company works with virtual simulation and gamification applied to training problem solving and corporate commitment.

The interviewee reveals that in this new application, the company has been successful and has developed several products. The company manufactures standard products that may be adapted to several companies, as well as customized products. Usually the products are for the domestic market, however, the entrepreneurs have noticed that some have a propensity for the world market, therefore an individual study is carried out on each one.

One of the products culminated with a partnership with the brand Case IH, the biggest manufacturer of agricultural equipment in the world. The developed product is a sugarcane harvester simulator, which is being exported. The machine is sold worldwide and as Oníria is the exclusive supplier, the opportunity to export the simulator to Case IH clients has arisen.

This partnership, developed by Oníria is opening up the foreign Market to the company. The interviewee claims there already existed an international operations plan, that the company is studying the foreign market and participating in events to gather more knowledge about the subject. The referred product depends on parts manufactured by third parties, parts manufactured by the company and the software. Therefore, there are several types of negotiation, wherein Oníria has already exported the product directly and indirectly. Nonetheless, the product depends on the service, so a technician goes to the client to make the installation. Again there is the impact of the networks both on the internationalization of the company (CHETTY; AGNDAL, 2007), as well as on the development of the innovative product (PEREIRA; REINERT, 2013), since it was developed exclusively for the partner.

In relation to the perception of the external market, the interviewee stresses there is a big international space for the growth of the company and this market is lucrative. He however points out some difficulties such as the competition, with big players acting in the market worldwide; lack of tradition in ICT export by Brazil; the knowledge of the specificities of each country; and the risk involved in each project. As some projects are exclusive and innovative, there are uncertainties regarding its return on capital, which increases the risk. In the case of internationalization, to minimize the risk, the interviewee declared that a contact in the host country is necessary.

Finally, we noticed that the company seeks internationalization in order to grow and develop, for now exclusively through export (ROCHA; ALMEIDA, 2006). However, internationalization did not occur through a traditional set of stages as defended by Johanson e Vahlne (1977). The company's networks also do not operate within a static environment, in which commitment develops through time (JOHANSON; VAHLNE, 2003). In this case, internationalization occurred rapidly, was interrupted and that strategy used once again after a certain period. There was a momentary discontinuity

in the internationalization process (REZENDE, 2002). This intermittent process "coming and going", happened with great dependency on the type of product developed and on the networks that supplied access to the international market.

Resources, capabilities and innovation combined with the firm's social network

As perceived in the company's internationalization, the resources, capabilities and innovation were accessed through the company's social networks. Yet, we believe to be necessary to understand them individually.

In relation to resources, the interviewee states that his strategic resource is people and their capability to develop innovation. There is the need to keep the employees up to date, especially in terms of information technology, which changes constantly. The technological resources are also fundamental for an adequate performance of the work; however, they are available to other companies, since it is not possible to keep them exclusively within the company, as is the case with its people.

For this reason, the interviewee claims to keep all the capability for software developing, electronics, hardware internally, and outsources only what is not specific, as postulated by the RBV theory (BARNEY, 1991). All internal development depends on knowhow, which the interviewee believes to be an entry barrier, since there are no ways to learn about simulation unless it is through experience. And yet, to do it in a way that it is easy to apply to the final client, but with all the security care necessary that a software needs in order to protect itself from possible copies.

The interviewee reiterates that is always complicated to substitute a collaborator. The company usually tries to train people internally, with internship programs, for example. In this case, the collaborator learns together with the company and evolves, especially because there is the difficulty of hiring someone with experience in this sector of the market, due to the specificity of the product.

We noticed that the company's competitive advantage, in the interviewee's point of view, is its creative process, due to the developed knowhow. He stresses that there are competitors that operate in the simulation sector, but do not have the necessary expertise and use their product to complement other activities. The company, on the other hand, works exclusively with this kind of simulator, having ease of flexibility and customization, depending on the client and on the required solution. As an example, he mentions the partnership with Case IH, the company is a multinational, which could have several options in more technologically developed markets, but did not find the product and closed the deal and a partnership with Oníria, a small company.

To sustain this competitive advantage, the interviewee is betting on the customization of the products. Even though the ICT sector is dynamic, he believes that the solutions developed by the company manage to prolong the cycle of life, through an efficient after sale service. In the case of the harvester simulator, the cycle of life of the simulator follows that of the machinery, around five to ten years. The hardware may be damaged and may need replacing and the software will necessarily need updating.

In relation to innovation, the interviewee reveals that in the company it is viewed in two ways: innovation for the client and innovation for the company. For the

client the simulator is always an innovation, since before they usually used normal training methods like textbooks, for example, when adopting the simulator they innovate the training process and improve results. The interviewee adds "this is the core of our business". To the company, innovation is putting new products in the market and creating new technologies to apply to the simulation.

He contends that simulators are common in the aviation Market, with well stablished players, but the technological level is too advanced. The company saw the possibility to apply simulation in several other segments. We believe that this innovation may be characterized as of product, since each project is unique in the way it is applied and uses similar processes, as mentioned in the literature (JOHANNESSEN; OLSEN; LUMPKIN, 2001; ANDREASSI, 2007).

Finally, several relationships were developed by the company to enable the development of the products, the innovation and consequently the internationalization. The partnerships did not help directly with internationalization, but the resources and networks enabled innovation, which in turn, made internationalization possible as discussed by Prashantham (2008).

The interviewee reveals some partnerships that exemplify this discussion. The company has a partnership with Microsoft and Intel, which are more technical relationships, for the use of their technology. Since those companies are pioneers and provide the setting for the work of other ICT companies, there is a need for partnership, in order to know the new releases and innovations.

There are also institutional relationships, derived from development projects that have been used by the company. Those relationships provide financial resources for developing innovative technologies, such as SENAI, from which the company raised resources twice, by wining innovation projects. This incentive allows great breakthroughs in research and development, as reiterates the interviewee.

There are also projects, sometimes informal, with educational and research institutions, such as Londrina State University (Universidade Estadual de Londrina – UEL) and Federal Technological University of Paraná (Universidade Technologica Federal do Paraná - UTFPR) of Cornélio Procópio, with the objective to foster research. Lastly, the already mentioned project with the multinational Case IH, which made possible to access international clients.

Conclusion

Returning to the initial discussion, with the aim of understanding how the resources and capabilities combined with social networks have made the company Oníria's innovation and internationalization possible, we believe there is the need to discuss five findings.

The first is related to the internationalization of the company. Traditionally the process and networks models (JOHANSON; VAHLNE, 1977; 2003) discuss the stages of internationalization, and how the commitment of resources through the networks, increase the company's commitment with the international market. In the presented case, this dynamic occurred in a non-linear fashion, more linked to the company's innovation and the social network as a possibility of contact abroad, presenting an in-

termittent movement "coming and going", that is, advance when possible, retreat in case of problems.

The second aspect presents the importance of the networks and the resources for innovation. The partnerships, added to the company's capabilities, provided the development of the solutions for the clients. The networks of technical partnerships, based on technology and the incentive received from institutions provided the backdrop for the technological development. The knowhow from the collaborators and research partners used the backdrop to transform technology into practical applicable solutions to organizations.

A third finding, linked to the second, relates to the importance of different networks for different needs. Added to the previous discussion, the relationship with a multinational company opened the doors of several countries to Oníria, providing access to foreign markets. Therefore, networks have contributed with a technologic base, with incentives and with access to the international market.

The fourth issue is related to the innovative environment and the possibilities of working with innovation in a globalized world closely linked to born-global companies, as presented by several authors (JOHANSON; VAHLNE, 2003; CHETTY; CAMPBELL-HUNT, 2004). In the presented case, we clearly perceived that a precocious internationalization occurred due to its activity sector and its capacity of working in a network, as a consequence to the incubator environment, which allowed for a dynamic exchange of ideas and sharing of knowledge, as discussed in the literature (REAGANS; MCEVILY, 2003; ELFRING; HULSINK, 2007).

Lastly, a fifth point of discussion is the integrated perspective suggested by Prashantham (2008). In the present study, we perceived the flux of resources and capabilities together with an external view of the networks for innovation and consequently internationalization. However, it was not possible to analyze the opposite flux, from internationalization to innovation and from innovation to resources together with the external networks. Perhaps this is since the organization does not have much experience with internationalization, due to the fact of the momentary discontinuity of this strategy.

Accordingly, we believe this study contributes with a broad approach, trying to address the complexity of organizations operating in a changing environment. Nevertheless, several perspectives still need to be analyzed, a suggestion for future research, would be the search for new international and innovative companies, which would allow assessing resources and networks, in order to gather more knowledge on the subject. And companies which had gone through internationalization for a longer period of time, to analyze the contrary flux which could not be identified in the present research.

References

ANDREASSI, T. Gestão da inovação tecnológica. São Paulo: Thomson Learning, 2007.

ARBIX, G. Inovação e desenvolvimento. In.: ARBIX, G. et al. (Org.). **Inovação**: estratégia de sete países. Brasília: ABDI, 2010. p. 66-91

BARALDI, E.; GRESSETVOLD, E.; HARRISON, D. Resource interaction in inter-organizational networks: introduction to the special issue, **Journal of Business Research**, v. 65, p. 123-127, 2012.

BARNEY, J. B. Firm, resources and sustained competitive advantage. **Journal of Management**, 17, pp.99-120, 1991.

BARNEY, J. B.; CLARK, D. N. **Resource-Based Theory:** creating and sustaining competitive advantage. Oxford: OUT Oxford, 2007.

BATRA, S.; SHARMA, S.; DIXIT, M. R.; VOHRA, N. Strategic Orientations and Innovation in Resource-constrained SMEs of na Emerging Economy. **The Journal of Entrepreneurship**, v. 24, n. 1, p. 17-36, 2015.

BESSANT, J.; TIDD, J. Inovação e empreendedorismo. Porto Alegre: Bookman, 2009.

CASTILLA, E. J.; HWANG, H.; GRANOVETTER, E.; GRANOVETTER, M. Social networks in silicon valley. In: LEE, C.; MILLER, W. F.; HANCOCK, M. G.; ROWEN, H. S. (Ed.). **The Silicon Valley Edge**. Stanford: Stanford University Press, 2000. p. 218-247.

CHANG, S. J.; ROSENZWEIG, P. M. The choice of entry mode in sequential Foreign Direct Investment. **Strategic Management Journal**, v. 22, p. 747-776, 2001.

CHE SENIK, Z.; SCOTT-LADD, B; ENTREKIN, L.; ADHAM, K. A. Networking and internationalization of SMEs in emerging economies. **Journal of International Entrepreneurship**, v. 9, p. 259-281, 2011.

CHETTY, S.; AGNDAL, H. Social capital and its influence on changes in internationalization mode among small and medium-sized enterprises. **Journal of International Marketing,** v. 15, n. 1, p. 1-29, 2007.

CHETTY, S.; CAMPBELL-HUNT, C. A strategic approach to internationalization: a traditional versus a "born-global" approach. **Journal of International Marketing,** v. 12, n. 1, p. 57-81, 2004.

CYRINO, A. B.; BARCELLOS, E. P. Estratégias de Internacionalização: evidências e reflexões sobre as empresas brasileiras. In: TANURE, B; DUARTE, R. G. (Orgs.). **Gestão Internacional.** São Paulo: Saraiva, 2006. p. 221-246.

DENZIN, N. K.; LINCOLN, Y. S. Handbook of qualitative research. London: Sage, 1994.

DUNNING, J. H. The eclectic (OLI) paradigm of international production: past, present and future. **International Journal of the Economics of Business**, v. 8, n. 2, p. 173-190, 2001.

ELFRING, T.; HULSINK, W. Networking by entrepreneurs: Patterns of tie-formation in emerging organizations. **Organization Studies**, v. 28, n. 12, p. 1849-1872, 2007.

FONTANA, A.; FREY, J. H. Interviewing: the art of science. In: DENZIN, N. K.; LINCOLN, Y. S. (Org.). **Handbook of Qualitative Research**. London: Sage, 1994.

GRANOVETTER, M. The strength of weak ties. **American Journal of Sociology**, v. 78, n. 6, p. 1360-1380, 1973.

GERINGER, M.; TALLMAN, S.; OLSEN, D. Product and international diversification among Japanese multinational firms. **Strategic Management Journal**, v. 21, n. 1, p. 51-80, 2000.

GODOY, A. S. Estudo de caso qualitativo. In: GODOI, C. K.; BANDEIRA-DE-MELLO, R.; SILVA, A. B. (Org.). **Pesquisa qualitativa em estudos organizacionais**. São Paulo: Saraiva, 2006. p. 115-146.

GUILLÉN, M. Business groups in emerging economies: A resource-based view. **Academy of Management Journal**, v. 43, n. 3, p. 362-380, 2000.

JOHANNESSEN, J.; OLSEN, B.; LUMPKIN, G.T. Innovation as newness: what is new, how new, and new to whom? **European Journal of Innovation Management**, v. 4, n. 1, p. 20-31, 2001.

JOHANSON, J.; VAHLNE, J. The internationalization process of the firm – a model of knowledge development and increasing foreign market commitments. **Journal of International Business Studies**, v. 8, p. 23-33, 1977.

KOGUT, B.; ZANDER, U. Knowledge of the firm and the evolucionary theory of the multinacional corporation. **Journal of International Business Studies**, v. 34, p. 516-529, 2003.

MAY, T. Pesquisa social: questões, métodos técnicas. 3. ed. Porto Alegre: Artmed, 2004.

MAYRING, P. Qualitative content analysis. **FQS Forum: Qualitative Social Research**, v. 1 n. 2, art. 20, jun. 2000.

MINAYO, M. C. S. **O desafio do conhecimento**: pesquisa qualitativa em saúde. 4. ed. São Paulo: Hucitec-Abrasco, 1996.

MITCHELL, R.; SMITH, B.; SEAWRIGHT, K.; MORSE, E. Cross-cultural cognitions and the venture creation decision. **Academy of Management Journal**, v. 43, n. 5, p. 974-993, 2000.

MIZRUCHI, M. S. Análise de redes sociais: avanços recentes e controvérsias atuais. **Revista de Administração de Empresas,** v. 46, n. 3, p. 72-86, 2006.

NASCIMENTO, M. R.; PEREIRA, J. A.; CENERINO, A.; SOUZA, M. C. D.; MACHADO, D. S.; SILVA, L. V.; NOVELI, C. P. Redes Estratégicas para a Inovação: um estudo multicaso de incubadoras paranaenses. **REBRAE**, v. 4, n. 1, p. 63-76, 2011.

OVIATT, B. M.; McDOUGALL, P. P. Toward a theory of international new ventures. **Journal of International Business Studies**, v. 36, p. 29-41, 2005.

PATEL, P.; FERNHABER, S. A.; McDOUGALL-COVIN, P. P.; VAN DER HAVE, R. P. Beating competitors to international markets: the value of geographically balanced networks for innovation. **Strategic Management Journal**, v. 35, p. 691-711, 2014.

PENG, M. The resource-based view and international business. **Journal of Manangement,** v. 27, p. 803-829, 2001.

PEREIRA, J. A.; REINERT, M. A Influência das Redes Sociais na Inovação: um estudo de caso em uma incubada do Centro Incubador Tecnológico – CIT/FUNDETEC. **RECADM**, v. 12, n. 2, p. 6-21, maio/ago. 2013.

PETERAF, M. A. The cornerstones of competitive advantage: a resource based view. **Strategic Management Journal,** Chicago, v. 14, n. 3, p.179-191, mar. 1993.

PITTAWAY, L.; ROBERTSON, M.; MUNIR, K.; DENYER, D.; NEELY, A. Networking and innovation: a systematic review of the evidence. **International Journal of Management Reviews**, v. 5/6, n. 3/4, p. 137-168, 2004.

PRASHANTHAM, S. Future research directions. In: PRASHANTHAM, S. **The internationalization of small firms.** New York: Routledge, 2008.

REAGANS, R.; McEVILY, B. Network structure and knowledge transfer: the effects of cohesion and range. **Administrative Science Quartely, v.** 48, n. 2, p. 240-267, 2003.

REZENDE, S. F. L. Gradualismo e descontinuidade em processos de internacionalização.

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Revista de Administração, São Paulo, v. 37, n. 1, p. 39-50, jan/mar. 2002.

ROCHA, A.; ALMEIDA, V. Estratégias de Entrada e de Operações em Mercados Internacionais. In: TANURE, B; DUARTE, R. G. (Orgs.). **Gestão Internacional.** São Paulo: Saraiva, 2006. p. 7-38.

ROGERS, E. M. Diffusion of Innovation. 5. ed. New York: Free Press, 2003.

RUZZIER, M.; HISRICH, R. D.; ANTONCIC, B. SME internationalization research: past, present, and future. **Journal of Small Business and Enterprise Development,** v. 13, n. 4, p. 476-497, 2006.

SHEARMUR, R.; DOLOREUX, D.; LAPERRIÈRE, A. Is the degree of internationalization associated with the use of knowledge intensive services or with innovation? **International Business Review**, v. 24, p. 457-465, 2015.

SCHUMPETER, J. A. **Capitalismo, socialismo e democracia.** Rio de Janeiro: Zahar Editores, 1984.

STUART, T.; SORENSON, O. Social networks and entrepreneurship. In: ALVAREZ, S.; AGARWAL, R.; SORENSON, O. (Eds.). **Handbook of entrepreneurship research**: Disciplinary perspectives. New York: Springer, 2005, p. 211–228.

TALLMAN, S.; LINDQUIST, K. F. Internationalization, globalization, and capability-based strategy. **California Management Review**, v. 45, n. 1, p. 116-135, 2002.

TRIVIÑOS, A. N. S. **Introdução à pesquisa em ciências sociais**: a pesquisa qualitativa em educação. Atlas: São Paulo, 2010.

UZZI, B. The sources and consequences of embeddedness for the economic performance of organizations: the network effect. **American Sociological Review,** v. 61, n. 4, p. 674-698, 1996.

VERDU, F. C. Redes de Relacionamentos interorganizacionais, recursos e internacionalização: um estudo na cidade de Maringá (PR). 2010. 181 f. Tese (Doutorado em Administração) – Universidade Federal do Paraná, Curitiba, 2010.

WERNERFELT, B. A resource-based view of the firm. **Strategic Management Journal**, v. 5, 1984.

WILLIAMSON, O. E. **The economic institutions of capitalism**: firms, markets, relational contracting. New York: Free Press, 1985.

WONG, P. L.; ELLIS, P. Social ties and partner identification in Sino-Hong Kong International Joint Ventures. **Journal of International Business Studies**, v. 33, n. 2, p. 267-289, 2002.

ZHOU, K. Z.; WU, F. Technological capability, strategic flexibility, and product innovation. **Strategic Management Journal**, v. 31, n. 5, p. 547–561, 2010.

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