

# **Organic internationalization: how does it work for Software as a Service firms?**

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## **ABSTRACT**

The services consumption mode was revolutionized by the rise of digital technologies and digital business models. The Software as a Service (SaaS) business model has gained importance within the global trend of moving to cloud computing. Through the easier scaling, the SaaS firms were enabled to expand their sales globally by a novel and efficient way. However, little is known about how the internationalization process of SaaS firms occurs and what are its specific features. Based on the International Business and International Entrepreneurship concepts, we intend to contribute to the expanding of the literature about the SaaS internationalization phenomena, shedding light on the question of how SaaS firms deliver their services to global markets. We argue that SaaS firms may apply different strategies depending on the phase of the process and its context, going through the pre-internationalization, organic, and active internationalization phases. Furthermore, we introduce the concept of ‘nexus partners’ and organic internationalization, outlining its main characteristics and patterns.

## **KEYWORDS**

Internationalization, Software as a Service, SaaS, Business Model, strategy

## 1. INTRODUCTION

In this new digital era, the traditional business models and organizational forms are suffering disruption problems caused by the digitalization of commerce (Brouthers et al., 2016). Moreover, digitalization has revolutionized the way that organizations interact with foreign markets (Ojala et al., 2018). Consequently, theoretical constructs of international business (IB) literature were left behind concerning business practices due to the constant transformation of global commerce (Ojala et al., 2018). The concepts used in IB academic research seem to present limitations in capturing the complexity of the impact of digitalization on internationalization (Vadana et al., 2019).

Within the global trend of moving to cloud computing, the Software as a Service (SaaS) business model has gained strength. The SaaS business model functions as a software delivery over the Internet as a service, more frequently a web-based application, which is licensed on a subscription basis and is hosted and operated by SaaS firm (Mäkilä et al., 2010). A fundamental difference between SaaS and traditional internet-based delivery models is that the service is predominantly standardized, not excluding the possibility of tailored software delivery (Mäkilä et al., 2010). Within the most famous examples of SaaS, it can be cited as Microsoft, Google, Amazon, Dropbox, Spotify, and Netflix.

Another striking feature of SaaS is its scalability and serverless. The serverless is a cloud-computing execution model in which the cloud provider runs the server and manages the allocation of machine resources upon demand, charging for the amount of resources consumed by an application (Baldini et al., 2017). The serverless permits the SaaS firms to increase the scalability of its products (applications) to run it at any local, where there is an internet network infrastructure and where the users have devices (such as cell phones, tablets, smartphones, and

notebooks) to access it. Figure 1 shows a conceptual framework of SaaS platforms comparing with other forms of cloud computing.

INSERT FIGURE 1 HERE

Despite the existence of literature with recent studies that demonstrate a substantial interest in the internationalization of software companies (Jain et al., 2019), little is known about the models and strategies adopted (Ojala et al., 2019) which have already proved successful in this process. Besides, the software companies may often be considered as a homogenous subset in the literature, although there is a range of significant differences between respective business models (Brouthers et al., 2018). We understand that the progress of research in IB requires critical verification that the analysis is being applied in the right context, rather than in a general format.

The application context selected for this research was of SaaS companies from the Brazilian software and IT services industry, which were successful in their internationalization processes. Besides acting in dynamic environments with a high degree of uncertainty, a characteristic of technology-based companies (Ojala, 2016), Brazilian SaaS companies face challenges arising from their home market, which has less advanced technology than developed countries (Sharma, Jha, 2016). In this way, the construction of models and strategies for internationalization of these companies makes it a matter of paramount importance for them to be able to compete in the global market, which already counts on the performance of large SaaS players such as Microsoft, Google, Amazon, Dropbox, Spotify, and Netflix.

In order to contribute to the recent debate on digitization and its implications for international business in general, as well as the internationalization strategies of SaaS companies in particular, we seek to investigate the following questions with this research: i) What are the models of internationalization adopted by Brazilian SaaS companies? ii) To what

extent do the traditional IB models continue to represent an adequate analytical framework for understanding the internationalization of SaaS companies?

The present article seeks to make the following contributions: i) To expand the concept of the internationalization process from the moment of foundation of the company and not only from the beginning of international operations; ii) To approach analysis of the internationalization process from a temporal perspective, dividing it into three stages: pre-internationalization, organic, and active internationalization; iii) To introduce the 'nexus partners' concept as a phenomenon arising from the internationalization process of SaaS companies; iv) To present the concept of organic internationalization, its characteristics, and mechanisms of action; v) To propose a theoretical-practical model of the internationalization process of SaaS companies, which allows analyzing changes in strategies over time.

It is worth highlighting that we discuss the phenomenon of the partnership pertinent to the growth of Brazilian SaaS companies, which we call 'nexus partners.' Based on the English term 'nexus,' interpreted as an essential connection between the parts of a system or a group of things (Dictionary, 2018), we define 'nexus partners' as companies or entrepreneurs, which make a part of the distribution chain linked directly to SaaS companies' products. These partners are particularly interested in reselling or distributing products from SaaS companies without receiving any or minimal remuneration, gaining in return the loyalty of their final customers, increasing the agility in their processes by standardizing their working tools or obtaining other benefits. As these partners commonly have expertise and networks developed in the local market, they become a high-volume and low-cost sales channel for SaaS companies.

In addition to the introduction, the article is organized into four more sections. In section two, the theoretical issues that underlie the internationalization patterns of SaaS companies are discussed. In section three, we present methodological procedures. In section four, discussion

of the cases and presentation of the main results, and in section five, we conclude the article presenting the perspectives of future research.

## **2. LITERATURE REVIEW**

The IB literature has evolved since the contributions of Hymer (1966) in diverse directions, designing trajectories that reflect, to a great extent, the complexity of international operations management. The life cycle theory (Vernon, 1966), the theory of internalization (Buckley, Casson, 1976), and eclectic paradigm (Dunning, 1977) constituted the pillars for the reflection on the performance and international strategies of multinational companies within the economic paradigm. On the other hand, the contributions of the Uppsala school (Johanson, Vahlne, 1977) opened a new trajectory in the IB literature, focusing on internationalization processes from the standpoint of the behaviorist paradigm. In addition to deepening the understanding of the dynamics of multinational companies, the work of the Nordic school was a base of studies that focused on the subjects related to the internationalization of small and medium enterprises and international entrepreneurs.

For this article, we focus our reflection around literature stemming from this new epistemological trajectory of IB. We have identified four groups of studies that, in our opinion, can provide theoretical basis for research on the internationalization models of technology-intensive companies, more specifically from the SaaS sector: i) The Uppsala model together with the networks model; ii) the international entrepreneurship and Born Globals; iii) The Effectuation theory; iv) The UE model.

The Uppsala and networks models come from the Nordic school, and since the 1970s represent the most debated internationalization models within the International Business studies group. Maintaining their emphasis on a gradual internationalization process, these models argue that it occurs based on the acquisition, consolidation, and use of knowledge about foreign

markets (Johanson, Mattsson, 1988; Johanson, Vahlne, 1977; 1990; 2009; Johanson, Wiedersheim-Paul, 1975; Vahlne, Johanson, 2013; Vahlne, Johanson, 2017). On their last review, Vahlne and Johanson (2017) interpreted the internationalization process in a universal way, related to companies involved in international business as a whole, called multinational business enterprises (MBEs). Within this concept, it is assumed that the knowledge development processes imply the process of resource commitment, which in turn, causes a change in the company's operational and dynamic capacities as well as its performance. Consequently, a new level of performance leads to a new phase of knowledge acquisition, completing an establishment chain (Vahlne, Johanson, 2017).

The international entrepreneurship model focuses on the role of the entrepreneur as a key factor in the process of internationalization of companies (McDougall, 1989) and interprets internationalization as a process of discovery, promulgation, evaluation and exploitation of opportunities beyond national borders, which aims to create new goods and services (Oviatt, McDougall, 2005). One of the critical aspects of the international entrepreneurship model is the concept of international new ventures (INV), understood as a business organization that, from its inception, seeks to obtain a competitive advantage from the use of resources and product sales in many countries (Oviatt, McDougall, 1994).

It is added that since 1993, the term 'Born Globals' was introduced by Rennie (1993), which over time, has conquered its space in the area of IE studies (Knight, Cavusgil, 1996; Knight, Liesch, 2016; Roudini, Osman, 2012). From the beginning, the 'Born Globals' concept was formed as the opposite of the classic concepts of the Nordic school (Uppsala and networks models).

Unlike the process of gradual internationalization that goes through several stages, authors of the Born Globals concept have introduced the idea that some INV's can "skip the steps" at the beginning of such a process (Jolly et al., 1992). Consequently, such INV's would

have the capacity to become important international players from the beginning of their constitution. Thus, some studies have sought to propose indicators for the identification of Born Globals. Among the most cited criteria to determine whether or not an INV can be considered a Born Global was defined by Knight and Cavusgil (1996), which requires that more than 25% of the company's turnover might run from international sources within three years of its founding.

As an alternative to the concepts of Uppsala and international entrepreneurship models, which are considered mainstream, the effectuation theory emerged in 2001, focusing on the principles and mechanisms of decision making in uncertain conditions, applied mainly to the processes of identification of opportunities and creation of new ventures (Sarasvathy, 2001). With time, proposals are presented for the application of effectuation mechanisms in the analysis of theories and models of internationalization (Kalinic et al., 2014; Prashantham et al., 2018; Sarasvathy et al., 2014). Effectuation theory defines the differences between modes of action under the logic of causation and effectuation. Thus, while causation logic assumes that the objectives are given and focuses on the choice of means to achieve them, effectuation logic is based on the available means and focuses on the choice of possible goals that could be achieved with these means, being that both logics are part of human reasoning and can occur unconsciously simultaneously overlapping and intertwining within diverse contexts (Sarasvathy, 2001). However, it is suggested that the use of effectuation logic can be a more effective tool to create certain advantages in the expansion of business, including in foreign markets (Kalinic et al., 2014).

In Figure 2, we seek to compare the concepts of mainstream schools (the Uppsala model and international entrepreneurship) and emerging trends (effectuation theory and the UE model). We organize our approach in order to structure the concepts that underlie the theories on two X and Y axes. At one extreme of the X-axis, we position the approaches that focus on



entrepreneurship, that is, that prioritize the profiles of individual entrepreneurs and companies with entrepreneurial management. At the other extreme, we put the approaches that focus on learning as a basis, which propels the process of internationalization and in which companies with a corporate profile predominate. On the Y-axis, the concept varies between the two extremes. In one, the internationalization actions are based on the logic of causation and articulated based on planning. On the other, the actions are placed under the logic of effectuation, chained with execution. In Figure 2, four quadrants are presented, each of which has two characteristics on each axis.

INSERT FIGURE 2 HERE

Figure 2 shows in a merely illustrative way that both the Uppsala model and international entrepreneurship are based on the concept of planning, that is, the logic of causation. While one suggests following continuous steps or cycles based on the advancement of knowledge, commitment, capabilities and performance (Johanson, Vahlne, 1977; Vahlne, Johanson, 2017), the other affirms that it is possible to skip these steps, at least initially, based on the initiatives of entrepreneurs, with innovative, proactive and risk-prone behavior (Jolly et al., 1992; McDougall et al., 1994).

From this perspective, we understand that the theory of effectuation and international entrepreneurship focus on the analysis of internationalization from the perspective of individual entrepreneurs and companies with entrepreneurial management. The difference is in the application of logic, that is, while IE prioritizes planning and actions conducted based on the logic of causation (Andersson, 2011; Crick, Spence, 2005), the theory of effectuation argues that actions under the logic of effectuation bring more competitive advantages in the process of internationalization (Sarasvathy et al., 2014).

On the other hand, the Uppsala and effectuation (UE) model, an integrated model introduced by Schweizer, Vahlne, Johanson (2010), seeks to bring the concepts that take ownership of internationalization based on learning, that are focused on the corporate profile and that incorporate the construction of the strategy of internationalization under the logic of effectuation, at the same time. The UE model interprets internationalization as a byproduct of entrepreneurs' efforts to improve their position within networks and improve their company's performance (Schweizer et al., 2010). Although this model remains positioned outside the mainstream, we believe that it aggregates relevant theoretical components to support this research, since it: i) incorporates elements of entrepreneurship in the process of internationalization as suggested by Jones and Coviello (2005); ii) deepens understanding of the internationalization decision-making process in dynamic environments, characterized by the high degree of uncertainty, which is also typical for technology-intensive companies (Blomqvist et al., 2008); iii) incorporates entrepreneurial capability concepts (Sapienza et al., 2006); iv) integrates concepts of opportunity exploitation (Ardichvili et al., 2003), which were subsequently refined by Kalinic et al. (2014) as opportunities for co-creation with partners.

Despite several debates in IB literature on the four theoretical constructs of Figure 2, the mechanisms of its operationalization require more development to assist in decision making, especially in the construction and management of internationalization strategies. In search of a more applied approach, the conceptual model of Äijö et al. (2005) proposed a holistic perspective to explore the dynamics of international growth specifically related to the software industry. In this model, an internationalization process analysis based on three variables is suggested: i) velocity; ii) degree of risk; iii) degree of independence, in the sense of positioning the company between whether to internationalize alone or in cooperation. In this way, the model proposes a division into three possible pathways: i) Organic; ii) Collaborative; iii) Born Global.

The organic pathway by Äijö et al. (2005) is interpreted as a slow 10 to 15 years pathway, in which the company develops its business model alone, without much interaction with partners, since its managers have no prior international experience and seek to maintain control, minimizing risks. In this pathway, companies focus on tailor-made software to conduct the reactive internationalization for nearby markets, which, in time, expands to more distant markets, using their financial resources.

The collaborative pathway by Äijö et al. (2005) is estimated at two to ten years and is based on interaction with partners, which allows the sharing of risks and investments, as well as the acquisition of experience more quickly. In turn, the Born Global pathway provides proactive internationalization in a period of two to three years, financed with external financial resources, focusing on packaged or global niche software and is articulated by the managers with a rich previous international experience, able to assume high risks. It is also added that the model assumes that in practice, the pathways may be represented by hybrid types, in the same way, that a change can take place in the middle of a course, to follow another course (Kuivalainen et al., 2007).

By drawing parallels with the theoretical constructs presented in Figure 2, the organic pathway by Äijö (2005) could be associated with concepts from the Uppsala model, collaborative pathway with the networks model, and the UE model, while the Born Global pathway would have a direct correlation with international entrepreneurship. Although the conceptual model of Äijö (2005) recognizes the presence of reactivity and serendipity in the process of internationalization, its main objective is to propose systematic assessment of the level of resources, knowledge, skills and abilities of companies, which can provide a basis for proactive planning and strategy of internationalization, which means to act under the logic of causation.

Based on the literature review and the considerations arising from the first ten steps of this research, described in the next section, three propositions were formulated: i) Before reaching a point of maturity, SaaS companies tend to practice an organic expansion with a commitment that is as low as possible, whilst still meeting requirements; ii) Use of partnerships may present an acceleration factor for the internationalization process of SaaS companies; iii) After reaching a certain level of knowledge and validating the market, SaaS companies tend to adopt the most active strategies and take actions with a higher degree of commitment. In the next section, methodological procedures that were adopted to validate the three above mentioned propositions are described.

### **3. METHODOLOGY**

A longitudinal multi-case study with a qualitative, exploratory, and interpretive approach was considered appropriate to provide a conceptual framework aligned with the theoretical basis and the techniques of data collection and analysis. Also, it was assumed that a retrospective longitudinal study allows the analysis of the history of the expansion of the companies in a systemic way, avoiding conclusions drawn based on a fragment of the history of the company. Thus, throughout the process of internationalization, a company could enter some foreign markets during a year, then withdraw a few months later, only to then re-enter or even open branches, as well as being able to acquire other companies or even be sold. In this context, the process of internationalization may be seen as a 'success story' in one moment and then turn into a 'failure story' a short time later. A retroactive approach may mitigate the risk of a reductive vision. It should be emphasized that the concepts that represent the pillars of the theoretical basis used in this research were also developed based on case studies, for example, the Uppsala model, the networks model and the effectuation theory (Johanson, Mattsson, 1988; Johanson, Vahlne, 1977; Sarasvathy, 2001).

As analysis units, three companies were selected which met the following criteria: i) come from the Brazilian software and IT services industry; ii) employ a SaaS business model; iii) have their headquarters located within the technological center of Florianópolis/Brazil; iv) are recognized for their success in the internationalization process; and (v) agree to cooperate with the research.

In view of the research problem that establishes the existence of discrepancies between the theory and practice of the phenomenon of internationalization of SaaS companies, we consider it appropriate to use abductive logic for data collection and analysis, which is increasingly being applied in studies on internationalization (Da Rocha et al., 2012; Figueira-de-Lemos, Hadjikhani, 2014; Maitland, Sammartino, 2015; Schweizer et al., 2010; Vissak, Francioni, 2013). Abductive logic allows one to research in a reverse manner, comparing theoretical constructs with empirical data, going back and forth between theory and practice, refining the research questions, and gathering additional evidence. Not being a fusion, but a constant interaction between deductive and inductive logic, the application of abductive logic makes possible the opening of new perspectives for the understanding of a phenomenon, besides making feasible proposals of theoretical constructs relevant and based on evidence (Dubois, Gadde, 2002).

This research involved several visits and meetings with managers of studied companies before conducting pre-test interviews and in-depth interviews, which allowed the study to be refined. The steps of the research are described in Figure 3.

INSERT FIGURE 3 HERE

As suggested by Yin (2017), the research protocol aims to ensure the performance of the analysis in a structured way, validating or rejecting the propositions under the optics of

different dimensions. Therefore, in order to elaborate a protocol four dimensions of analysis were highlighted, based on the findings of previous studies,: i) Pre-internationalization process (Khojastehpour, Johns, 2015; Mejri, Umemoto, 2010; Weerawardena et al., 2007); ii) Commitment process (Freeman, Cavusgil, 2007; Vahlne, Johanson, 2017); iii) Strategy construction and changes (Knight, 2001); iv) Knowledge development process (Oviatt, McDougall, 2005; Prashantham, 2005; Vahlne, Johanson, 2017).

In turn, within these four dimensions, twelve items were investigated which addressed several aspects, including: i) Point of maturation; ii) Use of partners; iii) Reason and dynamics of expansion; iv) Attempts to expand; v) Organization chart; vi) Allocation of resources and results; vii) Scope of expansion and psychic distance; (viii) Expansion method; ix) Strategies and challenges; x) External experience; xi) Culture and mindset; (xii) Knowledge management.

The data collection, through in-depth interviews, generated 7:35 hours of recordings that were transcribed in full. Data from the interviews were integrated with data from secondary sources obtained from the documentary analysis, forming a single database. All the data obtained were coded based on the research protocol and with the help of Atlas IT 8.0 software. As a result of the codification, 260 citations were identified and distributed according to Table 1 below.

#### INSERT TABLE 1 HERE

Subsequently, it followed the triangulation of sources and data, comparing citations obtained from interviews with citations found in secondary sources that dealt with the same subjects, which were items of analysis. The main objective of this comparison was to verify if such citations present convergences or divergences and from this confirm, counter or complete the statements transcribed. Although it was not possible to cross citations of 100% of the items,

since the companies studied had different amounts of publications in websites, magazines and newspapers, it is still possible to affirm that triangulation resulted in increased research legitimacy and increased the coherence of arguments, constructing the inferences with greater validity as Yin (2017) suggests.

## 4. DISCUSSION

This section is organized into four subsections, with the first three presenting a summary of each case and the fourth subsection exposing a comparative analysis, which points out the convergences found between them. Based on the five criteria described in section three, three companies from the Brazilian software and IT industry were selected, which are located within the technological pole of Florianópolis and whose main characteristics are presented in Table 2.

INSERT TABLE 2 HERE

Since the research was conducted under the multi-case study method, we have chosen to present the cases in a synthetic way, which nevertheless allows us to recover the essential historical events of the process of internationalization of each company since its foundation.

### 4.1 The Resultados Digitais case

Resultados Digitais (RD) offers a SaaS platform for managing digital marketing and sales with a focus on small and medium businesses. Since its founding in 2011, RD has formed a base of more than 12,000 customers in 20 countries and has expanded its staff from 12 to 750 people. In the same period, besides offices in Florianópolis, offices were opened in Joinville, São Paulo, Bogotá, Mexico City, and San Francisco in the United States. According to RD CEO

Eric Santos, the company achieved a 70% share of the Brazilian marketing-automation market in 2018.

Analysis of the internationalization process of RD allowed the identification of three stages, each with their characteristics. The first stage of pre-internationalization lasted from 2011 to the end of 2015 and was characterized by periodic meetings aimed at disseminating ideas about international expansion, but did not lead to any actions. However, they were essential to creating a global mindset for its managers and employees.

In the second stage, throughout 2016, the company was able to localize the platform in Spanish, adapting its products to enable sales in an entirely automated manner. The localization required a temporary relocation of part of the R&D department and software engineering to translate the core structure of the software generically, without customizing relative to specific countries from the beginning. From the moment that the platform was localized, RD began to generate organic sales, as it began to receive purchase orders from users located in several countries without actions directed to capture them. When analyzing the organic traction of new markets, the company noticed a high demand from clients in Colombia, Mexico, and Portugal. As a result, RD began to train its employees to serve the users of these countries, adapting their sales pitches and approaches to be more appropriate to local business customs and cultures. Notably, at that moment, there was still no direct financial investment in expansion, only internal reorganization, due to the change of functions and reallocation of human resources already existing. At the same time, there were two groups of partners that directly helped with increased organic sales: i) Companies that were already sales partners in Brazil and took RD products to their customers outside Brazil; ii) Foreign-market marketing agencies that came in contact with RD, and after negotiation, began to distribute products in their local markets, totaling 1500 agencies in 2018.



The third phase of RD's internationalization started in 2017 when, after achieving a considerable volume of organic sales, the company started to treat international expansion as a strategic factor of its development. In this way, RD began to actively invest in the process, taking several actions, including: i) Localization of the specific platform for each selected country with adaptation of means of payment, operation of currencies, updating the system in the time zone which was convenient for local users, as well as adjustment of the financial and accounting system to receive payments from abroad, among others; ii) Contracting of specialized international law consultancies to solve matters regarding intellectual property and tax law; iii) Creation of the post of vice president and department of international expansion through the verticalization of the structure and allocation of 8% of the workforce exclusively for international operations; iv) Elaboration of the internationalization methodology itself, called PlayBook, with pre-established goals and deadlines for each target market; v) Inauguration of five offices outside Brazil, three of which have a complete structure and two with a provisional structure; vi) Invest in benchmarking actions and the training of its executives responsible for international operations inside and outside Brazil, as well as hiring specialists from countries in their target markets; (vii) Organization of the RD Summit and RD On The Road events that have become a benchmark in the digital marketing market in Latin America.

#### 4.2 The Involves case

Involves commercializes licenses and services through a trade marketing platform hosted in the cloud. Within its portfolio of more than 400 clients, the company has contracts with several multinational companies, such as Samsung, Bosch, Nestle, L'Oréal, Motorola, LG, Danone, BIC, and Colgate. In 2018, more than 40,000 users operated with Involves' software in 18 countries, including: Angola, Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, El

Salvador, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Paraguay, Peru, Porto Rico, Portugal, and the Dominican Republic. Involves is considered a scale-up, for growing more than 100% per year. It is also considered a bootstrapping business, that is, a company that grew from its resources, without the use of external financing. Over the last few years, Involves remains a leader in the Brazilian market with a 15% market share, in a segment that has many small players holding just 1 or 2% of market share.

The analysis shows that Involves went through three stages in its internationalization process. At the beginning of the first stage, between 2009 and early 2014, the company launched its Agile Promoter product, which increased by more than 100% in sales per year in the Brazilian market. Throughout the first stage, the company managers noticed the potential for international expansion and began to discuss opportunities in meetings on an occasional basis.

In the second stage, between 2014 and mid-2016, the company dedicated itself to localization of the platform for the Spanish language and began to generate organic sales. Its multinational customers, who had entered into purchase agreements in Brazil, recommended the solution to their subsidiaries in other countries or to their outsourced marketing agencies. In turn, these agencies eventually sold the solution to their local customers. In this way, its clients began to act as their partners, adding new partners, which began to function as an extension of the commercial department itself outside Brazil, without incurring any cost to the company. These partnerships are examples of the concept we call 'nexus partners.'

In mid-2016, Involves entered the third stage of its internationalization process. The company signed a commercial representation agreement with a company in Bolivia and made its strategy active. Involves started to plan and dedicate resources to the expansion process, which made it possible to carry out several initiatives: i) The structuring of the team dedicated to international expansion; ii) Targeted outbound marketing actions in Latin American markets; iii) Investments in international travel for members and benchmarking; iv) Dissemination of

the international corporate culture and expansion of global mindset through corporate events; v) Organization of trade marketing events, such as AEx, outside Brazil; v) Preparation for the opening of an office in Mexico.

#### 4.3 The Agriness case

Agriness offers an agribusiness management platform, targeting diverse groups of stakeholders in the chain, from farms, livestock companies, feed mills, genetics laboratories to supply distributors. The company currently controls more than 85% of the Brazilian market and operates in 13 countries, including Poland, France, Portugal, Mexico, Colombia, Ecuador, Peru, Brazil, Bolivia, Paraguay, Uruguay, Chile, and Argentina. In 2018 it had 52 employees, and its platform was used to manage more than 2 million livestock production units on 2,300 farms around the world.

In the same way as RDs and Involves, Agriness went through the three stages of internationalization. In the pre-internationalization stage, between 2001 and early 2005, the company was discussing the possibilities of expansion, testing business models, and their products.

In the next stage, between 2005 and the end of 2011, Agriness focused on localization of the platform for the Spanish language and began to generate organic sales, passively receiving purchase orders, that is, requests that were not made by their initiative, but their partners articulated that. The company triggered its commercial structure only in the last stage when it had to formalize the sale. Due to the scarcity of resources to support the international expansion, Agriness developed more than 400 partners that functioned as an extension of the sales department outside Brazil, at zero, or a minimally necessary cost to cover operations. For example, companies that sold nutrition items to farms needed to prove that their products had

a positive impact on livestock weight, caused directly by the use of its products. Such statistical data are not collected by the official agencies but are kept on the Agriness platform. Noting this opportunity, Agriness started to train the cooperating agents, so they have the necessary knowledge to deploy the platform to their clients, and the final customers are responsible for payment of the licenses. In return, these agents were given a full-access backup to the Databases, having the evidence necessary to prove the efficiency of their products. Another example deals with companies that sell supplies to the swine industry. To gain a competitive advantage over their competitors, such companies were offering the Agriness licenses for a farm production management or even training courses at the Agriness Academy as a bonus, expecting in return the guarantee of loyalty from their customers. In other words, these partners become a high-volume and low-cost sales channel for Agriness. These partnerships are examples of the concept we call 'nexus partners.'

At the end of 2011, Agriness entered the third stage of internationalization, adopting an active strategy, carrying out several actions such as: i) Signing of Contracts with commercial representatives in Bolivia, Colombia, Ecuador and Mexico; ii) Creation of the department dedicated exclusively to international expansion; iii) Sale of a part of its corporate interest to the Cargill global corporation, which already had a network in more than 70 countries; iv) International courses at the Agriness own Academy; v) Promotion of "Best Swine" championships in 8 countries.

#### 4.4 Comparative case analysis

The analysis made it possible to identify some convergences between the practices adopted by the three companies throughout their internationalization process, which constitute a similar strategy. Among the convergent practices in the three companies were identified the

following: i) All went through three stages of the internationalization process: pre-internationalization, organic and active; ii) They changed the strategy from reactive to active after reaching a point of maturity; iii) They began to take active actions outside Brazil only after having achieved leadership in the domestic market; iv) They replicated the validated business models in the Brazilian market for external markets; v) They had the cooperation of foreign partners to expand sales, using them as an extension of its commercial structure; vi) Adopted an incremental commitment strategy, allocating resources through the market testing; vii) They began to expand to Latin American countries, mainly driven by economic reasons, such as cost of localization of product and adaptation of operation, sales volume expectation and level of technology attributed to the target country; viii) Investing in knowledge management as a tool to promote international sales, mainly through the organization of reference events, festivals, lectures and international championships; ix) Coordinated internal events to create Global mindset and disseminate the corporate culture among its employees.

In the same way, the analysis in quantitative terms points out some similarities in the course followed by the three companies. Figures 4, 5 and 6 present the internationalization pathways of the three companies, comparing the dynamics of the export intensity (percentage of sales coming from abroad) concerning the total commitment of resources to internationalization (measured as a percentage of resources allocated for hiring a team with exclusive dedication to internationalization).

INSERT FIGURE 4 HERE

INSERT FIGURE 5 HERE

INSERT FIGURE 6 HERE

The analysis of the dynamics of internationalization showed that Involves and Agriness, which they supported with their resources, started to invest in hiring their international sales team only after having achieved significant external sales volumes. The RD has used its investors' resources to create an internationalization structure to boost its international sales, seeking to show fast results for its investors.

## **5. THE INTERNATIONALIZATION MODEL OF SAAS COMPANIES**

The comparative analysis between the assumptions raised in the literature and the practices adopted by the sample companies allowed the highlighting of some divergences presented in Table 3.

INSERT TABLE 3 HERE

The results of the investigation lead to disagreeing with Kalinic et al. (2014) on the point that the internationalization process could be entirely "unexpected" but lead us to agree on the point that at the beginning of the process, the companies acted predominantly under the logic of effectuation. Likewise, the results obtained in this study diverge from the findings of Schweizer et al. (2010) about the point that the internationalization process could be a "by-product" of companies' efforts to improve their position in the network. Instead, the three companies organized the process of their product localization, of their structure adaptation to attend their international sales requests, by training their employees and adjusting their structures to a new type of services. The point that could be considered as 'unplanned' was the organic sales traction from the countries that were not predicted at the beginning of the localization process. Intending to propose a theoretical model that could explain the

phenomenon of organic internationalization of SaaS companies, we propose to expand some concepts described below.

Firstly, we suggest expanding the perspective of internationalization process analysis from the moment the company is founded, since the process of learning and capacities acquisition is continuous and begins to occur from the first day of the company's activities, building an indispensable base for further expansion.

Secondly, we propose to divide the analysis of the internationalization process into three stages: pre-internationalization, organic, and active, since they have their dynamics and characteristics and, therefore, could not be analyzed under the same spotlight. Thus, in the pre-internationalization stage, companies begin to validate their product and business model by testing the domestic market and making necessary adjustments. They might initiate first discussions about the possibilities of future expansion. This step is needed to prepare the conditions for building a global business mindset.

The organic begins when international sales start to take place, without the companies taking targeted actions to capture their customers. Receiving requests from new customers, partners, or customers indicated by their partners, SaaS companies are looking to adapt to meet such requests. Therefore, the first two phases could be characterized as reactive strategies and minimally necessary resource commitment to fulfill incoming requests.

As soon as companies achieved the local market leadership and formed foreign markets knowledge sufficient to ensure safety to increase their degree of commitment, they come to what we propose to call a 'point of maturity.' It was observed that at that time, company managers had decided to change the strategy and start investing in internationalization in an active way to exploit the potential of foreign markets. A summary of the characteristics of each stage, followed by three companies, can be presented in Table 4.

INSERT TABLE 4 HERE

In the construction of the model resulting from this research, we sought to visualize the relative tendencies of interaction between the knowledge development, resource commitment, and the performance processes by highlighting the predominant characteristics at each moment. For this, a knowledge curve designated with the letter "K" and a commitment curve designated with the letter "C" was used. The paraboloidal shape of the two curves was chosen to highlight the dynamic character of both factors. Furthermore, the most significant investment occurs after the company has reached a substantial degree of knowledge. It was also pointed out that after reaching the point of maturation and the change to active internationalization, each new stage of expansion requires an increasing investment, shifting focus from actions under the logic of effectuation to the actions under causation logic. In this way, the companies increase the degree of commitment by starting to hire a commercial representative, distributors, by opening coworking offices or branches. At the same time, the advances at each stage are based on knowledge acquisition, which is in line with the idea of experiential knowledge from the Uppsala model (Vahlne, Johanson, 2017). Finally, we emphasize that the processes of the international expansion of SaaS companies tend to be driven by 'nexus partners,' visualizing this with an arrow, as presented in Figure 7.

INSERT FIGURE 7 HERE

It is worth noting that in the proposed model, capacities are considered inherent to the learning process. By this, it is meant that the more the company learns, the more it is able to act, and if it is not able to act at a specific moment, it is because it probably did not acquire the necessary knowledge to carry out such action. Therefore, parallels could be drawn with three



quadrants of Figure 2, being that the dynamics of Figure 7 proposed here would start with the stage of pre-internationalization with actions based predominantly on the concepts of effectuation theory. Then in the organic stage, the UE model concepts come to the forefront, and after achieving the point of maturity, the companies tend to privilege principles of the Uppsala model.

## 6. CONCLUSION

This research brings some contributions to academic studies on internationalization: i) Extension of the concept of the internationalization process from the moment of foundation of the company rather than from the beginning of international operations; ii) Division of the analysis of the internationalization process into three stages: pre-internationalization, organic and active internationalization, with introduction of the characteristics of each stage; iii) Introduction of the concept of 'nexus partners', a phenomenon arising from the internationalization process of SaaS companies; iv) Introduction of the concept of organic internationalization, with its characteristics; v) Proposal of a theoretical model for the internationalization process of SaaS companies, presented in Figure 7, as a dynamic, interrelated construct among its main variables.

Organic internationalization in the context of SaaS companies may be characterized as a pathway that companies take, starting from global mindset construction, which leads to a decision to internationalize. Then they run the localization process of their platforms based on their partners' support in order to enable online sales in more than one language. Treated as an experiment, the companies try to run it without allocating significant resources and without focusing on the specific region. As they begin to receive orders from international customers, companies use organic traction to validate the market fit and to measure their product acceptance in each country, rather than build market research and carry out rigorous planning.

Once the market is recognized as validated by satisfactory organic sales volumes and the internal operation is considered as structured, the companies change their strategy to active and begin to commit resources to customized localization for selected countries, as well as to develop new sales channels. Moving on to the next stage, companies tend to develop exposure planning, set goals, take more risks, expand accords with representatives and distributors, or even to open their own offices.

The model presented in this research foresees a different dynamic for each of the three stages of SaaS companies' international expansion: pre-internationalization, organic, and active. The model should be interpreted in two ways: operational and conceptual. From an operational point of view, the processes of knowledge development support the performance in initial stages (pre and organic) to a greater extent, while commitment causes a more significant impact on performance in the later stage (the active one). From the conceptual point of view, in the pre-internationalization stage, greater assertiveness tends to be achieved if it is supported by effectuation theory, while in the organic phase the focus might be shifted to the UE model concept, followed by the prioritization of the Uppsala model approach in the active phase. It is emphasized that the development of nexus partners plays a crucial role in helping to achieve progress more assertively at all three stages.

The development of nexus partners appears to be a fundamental part of the international expansion of SaaS companies, stating that even their own clients might collaborate. They might not only build knowledge about software localization particularities, tax, fiscal and legal aspects; labor rights; culture and customs of local markets, and possible sales channels, among other aspects, but become an extension of the sales structure outside the country. Nexus partners may be a part of the distribution chain linked directly to the SaaS companies' products. These partners may be interested in reselling or distributing SaaS licenses without receiving any or minimal remuneration, gaining in return the loyalty of their customers, receiving access to

privileged data, or obtaining other benefits. As these partners already had expertise and networks developed in the local market, SaaS companies might be able to create a high-volume, low-cost sales channel. During the period of organic internationalization, the channel of nexus partners may work as the primary sales channel, increasing brand recognition in the target market.

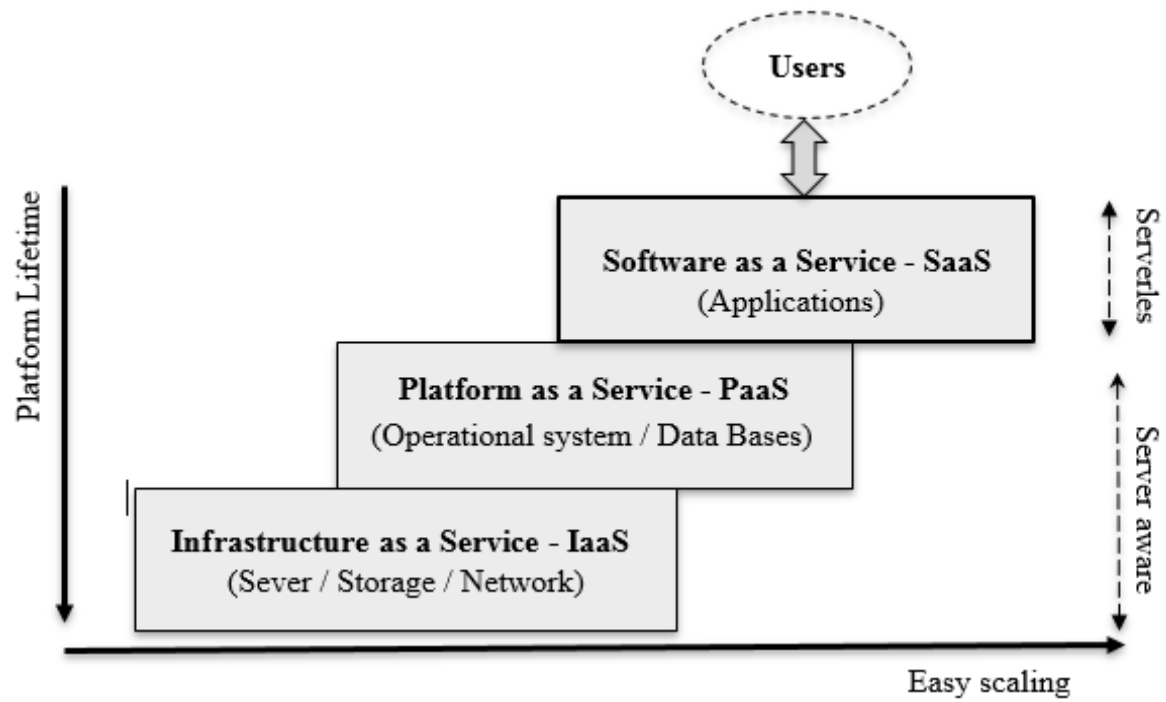
Some limitations should be considered when evaluating our results. First, even though the multi-case study method allows in-depth analysis of each case, the results require some caution in making generalizations. Secondly, the selection of samples was minimal and limited, based on five criteria including limitation by industry (the Brazilian software and IT services industry), by segment (SaaS companies only), and by ecosystem (the technological pole of Florianópolis only). Thus, for future research, one could recommend the development of qualitative and quantitative studies, which seek to verify if the identified model could be replicated for analysis of the internationalization process of SaaS companies from other geographic regions, other technological poles, or even other segments of industries based on digital technologies. It seems to be opportune, still, to raise more empirical evidence of identification of the phenomenon of organic internationalization in other segments of the market, such as e-commerce.

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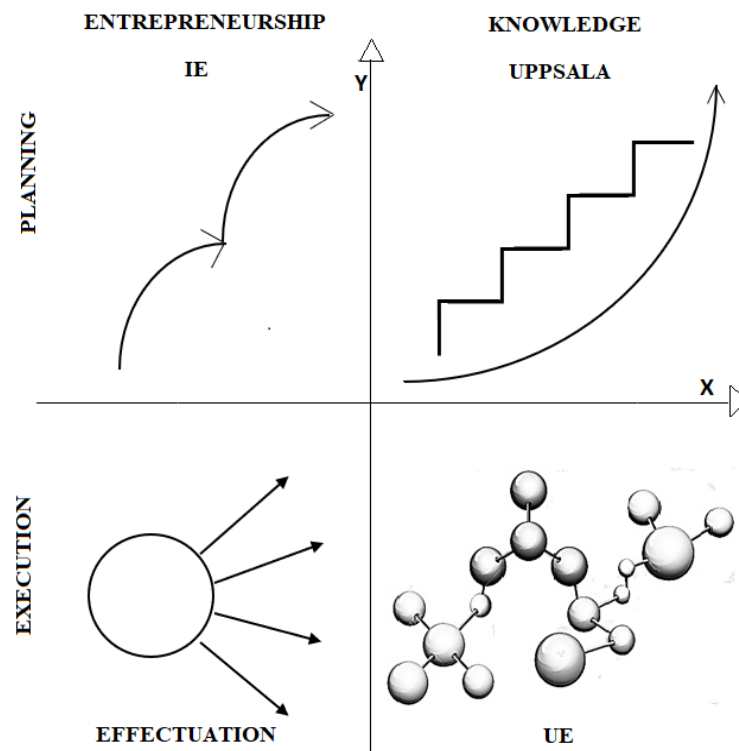
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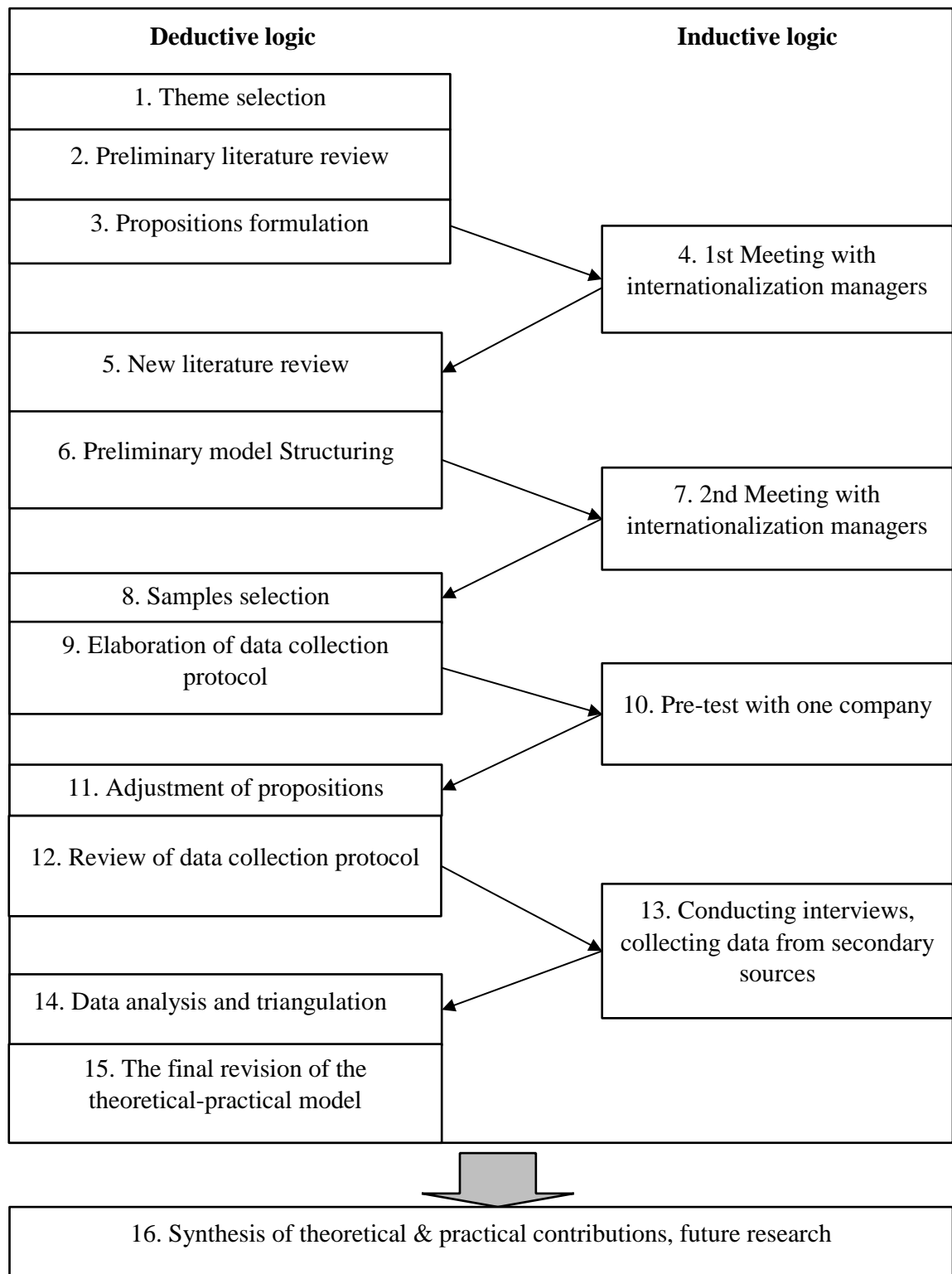
**Figure 1.** Conceptual framework of SaaS applications

Source: Adapted from (Baldini et al., 2017).



**Figure 2.** The internationalization concepts comparison





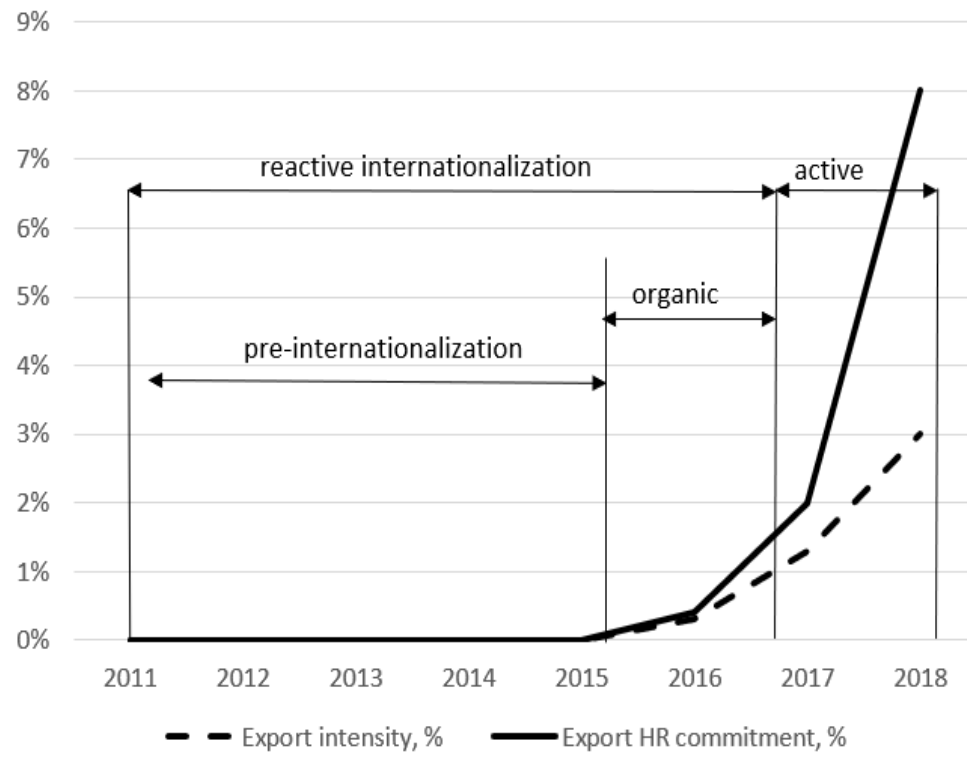
**Figure 3.** Research steps

**Table 1.** Number of citations structured in the research protocol and coded in Atlas TI

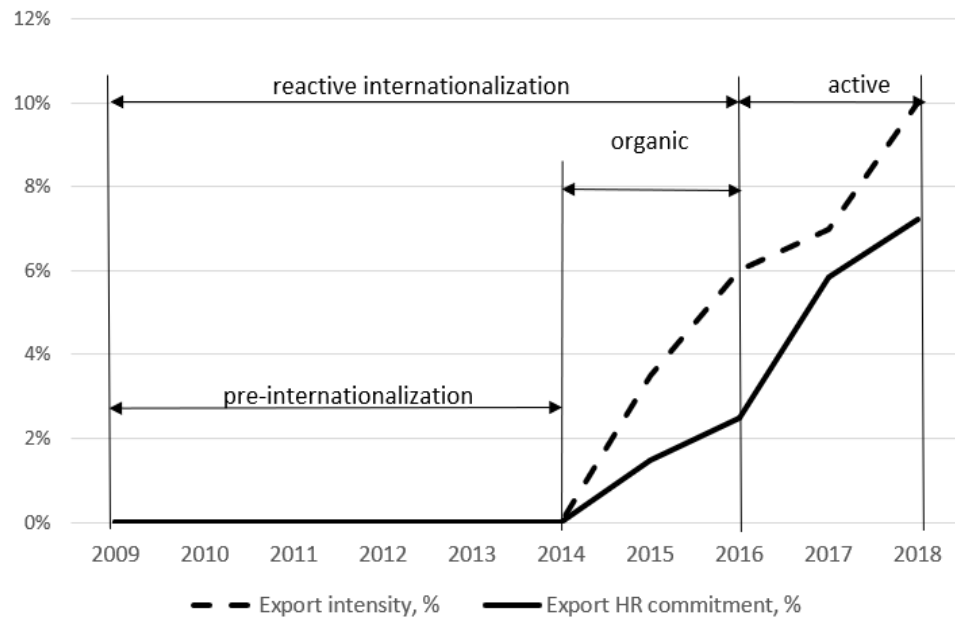
<b>Dimension</b>	<b>N</b>	<b>Item</b>	<b>RD</b>	<b>Involves</b>	<b>Agriness</b>	<b>Total</b>
Pre-internationalization process	01.01	Maturation process	11	19	15	45
	01.02	Cooperation with partners	0	13	6	19
Commitment process	02.03	Reason and dynamics of expansion	8	7	9	24
	02.04	Expansion Attempts	4	1	1	6
	02.05	Organizational chart changes	3	10	2	15
	02.06	Allocation of resources and results	11	1	3	15
Strategy construction & changes	03.07	Scope of expansion and psychic distance	11	11	4	26
	03.08	Expansion methods and tools	14	8	0	22
	03.09	Strategy construction & changes triggers	5	40	10	55
Knowledge development process	04.10	Previous international experience	2	5	0	7
	04.11	Culture and global mindset building	2	7	6	15
	04.12	Knowledge management	3	8	0	11
<b>Total</b>			<b>74</b>	<b>130</b>	<b>56</b>	<b>260</b>

**Table 2.** Key characteristics of sample companies

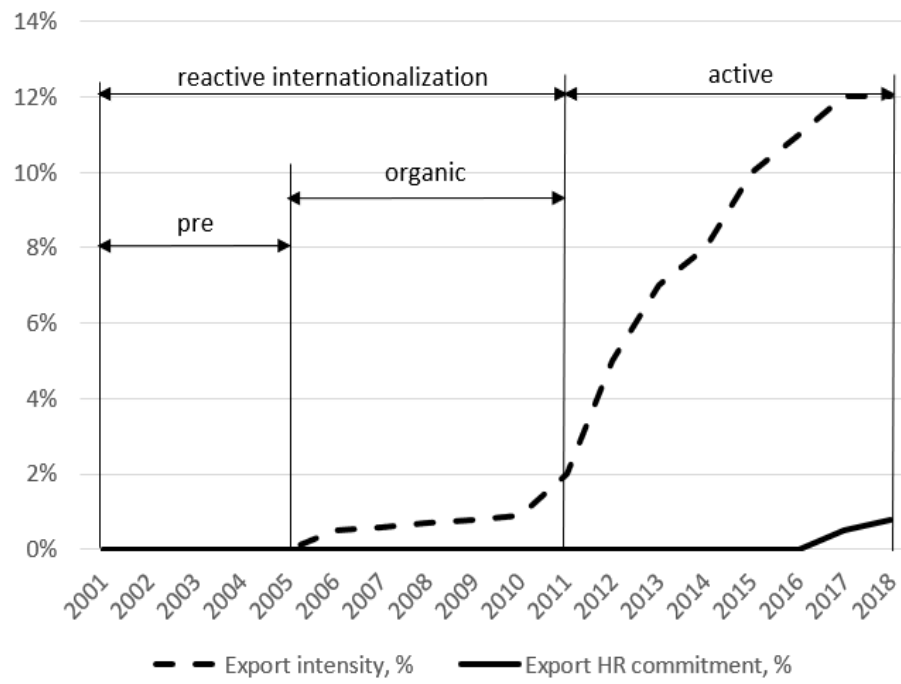
<b>Characteristics of sample companies</b>	<b>RD</b>	<b>Involves</b>	<b>Agriness</b>
Business model	SaaS	SaaS	SaaS
Focus segment of the management platform	Digital marketing	Trade marketing	Agrobusiness
Founded in	2011	2009	2001
Total number of employees	750	152	52
Market share in Brazil	65%	15%	92%
Percentage of employees with exclusive dedication to internationalization	8%	7%	8%
Number of countries of operation	5	18	13
International offices	Mexico Bogotá, San Francisco	Mexico	coming in 2019
Total billing in 2018 in millions of USD	Above 80	1-15	1-15
Export intensity %	3%	10%	12%



**Figure 4.** RD internationalization pathway



**Figure 5.** Involves internationalization pathway



**Figure 6.** Agriness Internationalization pathway

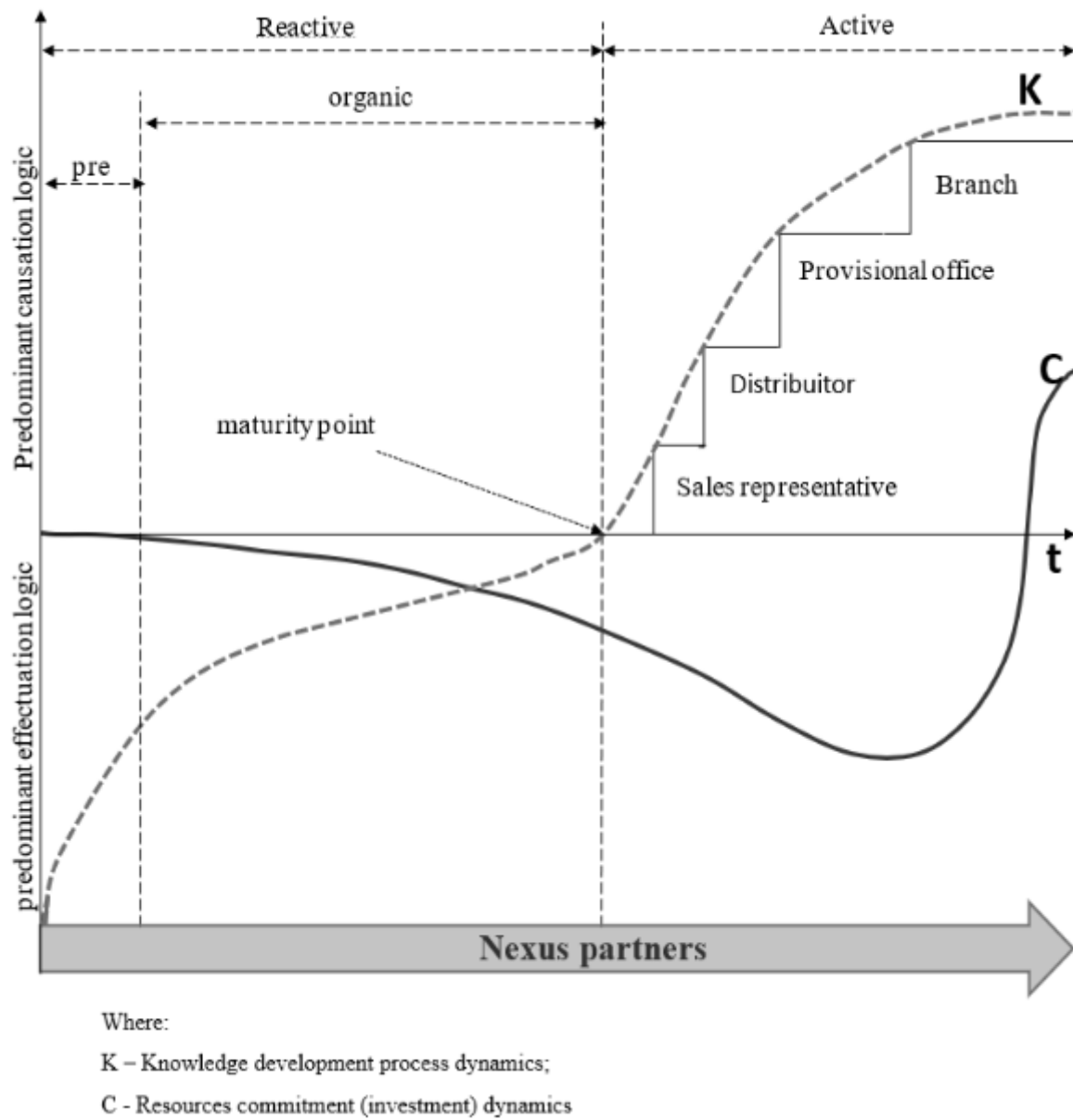
**Table 3.** Relationship between IB literature premises and the practical evidence

Model/ Theory	IB literature premises	Practical evidence
<b>International entrepreneurship</b>	The initial stages of the internationalization process are based on entrepreneurial, innovative, proactive and risk-prone behavior that transcends national boundaries (McDougall, Oviatt, 2000)	In the initial stages of internationalization, the companies sought to minimize the risks, since they had extremely limited resources
	International New Ventures (INV's), from the beginning of its constitution, seek to carry out sales to several countries at the same time (Oviatt, McDougall, 1994)	The companies took a few years before starting to close their first international sales, and all began to expand to Latin American countries
	The INVs, from the beginning of their constitution, seek to use external resources (Oviatt, McDougall, 1994).	Two companies continued bootstrapping, with no external investment for 10 and 16 years, and the third received an external investment only after four years of its foundation.
	In order to join networks, the founders of INVs already have knowledge of previous international experience (Oviatt, McDougall, 1994).	None of the founders of the three companies had previous experience at the beginning of their internationalization. On the contrary, these experiences were constructed throughout the process.
	The Born Globals achieve more than 25% of international sales in less than three years since its founding (Knight, Cavusgil, 1996).	One of the companies reached 3% in three years, another 10% in seven years and the third one reached 12% after ten years.
<b>Uppsala model</b>	The process of internationalization is gradual, starting with learning, which increases the commitment of resources, which in turn increases the company's capabilities and improves the company's performance, raising it to a new level (Vahlne, Johanson, 2017).	The companies achieved significant performance before they had to commit their direct resources. They began to acquire specific knowledge of the market and the process of internationalization in parallel with the generation of organic sales.
<b>Theory of effectuation</b>	The internationalization process can occur in an unplanned manner, however successful as a result of actions conducted under the effectuation logic (Kalinic et al., 2014).	In practice, companies adopted effectuation logic predominantly in the initial stages of expansion, when they began to generate sales to Latin American countries. However, in the later stages, they adopted the logic of causation to expand to more complex markets such as Europe and North America.
<b>UE model</b>	Internationalization may be a byproduct of the company's efforts to improve its position in networks (Schweizer et al., 2010).	In the initial stages of internationalization, the companies made an effort to perform product localization, making it operable in other countries and later began to close organic sales. Their position in the network was changed in the later stages when they began to close contracts of commercial representation and distribution.

**Table 4.** Key characteristics of a SaaS company's internationalization pathway

<b>Parameters</b>	<b>Pre-internationalization stage</b>	<b>Organic stage</b>	<b>Active stage</b>
Strategy	Reactive	Reactive	Active
Focus	Evaluation of idea, business model and available resources	Market fit and organic sales traction validation	Active expansion, management methods & goals for global sales
Mindset	Creating a global mindset for managers	Dissemination of a global mindset among employees	Expansion of global corporate mindset for affiliates and partners
Knowledge	Intense, since managers do not have previous international experience	Moderate, since managers are relatively experienced and rely on support and know-how from local partners	The domain of operations, technology, market, know-how, with support from foreign partners and collaborators
Risk	Zero	Minimally necessary	Within the maximum acceptable limit
Product localization	In the process of basic location (without single country customization)	In the process of localization customized for each specific country	Totally customized localization to attend individual market needs, still constantly improving
Sales channels	None	100% automated online sales, contract with sales representatives, organic sales following foreign customers requests	Commercial representatives, distributors, own offices and local support structure
Partners	Search for partners who provide access to the necessary knowledge	Extension of sales structure, including local partners, opportunity co-creation	Maintenance of strategic partnerships and selective expansion of new partnerships
Resource commitment & allocation	Use of own resources, seeking to avoid any financial compromise	Use of own resources with minimally required allocation to decide to continue with expansion or pivot	Allocation of own and external resources to achieve sales goals
International operations	None	Organic sales for some markets	International sales scaled





**Figure 7.** Theoretic-practical model of organic internationalization of SaaS companies