Interdependence Across a Firm’s International Trajectories

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Artigo recebido em 07.05.2015. Última versão recebida em 29.07.2015. Aprovado em 24.08.2015.
Resumo

Neste artigo analisamos a extensão com que a internacionalização da firma como um todo pode ser explicada pela interdependência entre as distintas trajetórias internacionais que compõem esse processo. Para tanto, elaboramos um estudo de caso qualitativo e de perspectiva longitudinal de uma firma de tecnologia de informação brasileira do tipo born-global, por meio da construção de suas quatro trajetórias internacionais. Os nossos resultados indicam que a internacionalização da firma é resultado das quatro trajetórias internacionais interdependentes que evoluíram em quatro países distintos. Além disso, ressaltamos o relacionamento da firma com clientes internacionais como a força motriz da interdependência dessas trajetórias internacionais. Com base nesses resultados, propomos que a internacionalização da firma como um todo não é necessariamente a soma de trajetórias internacionais independentes. Pelo contrário, existem interdependências entre as trajetórias internacionais da firma que moldam sua internacionalização.

Palavras-chave: interdependência; trajetória internacional; internacionalização.

Abstract

We examine the extent to which the internationalization of the firm as a whole can be explained by the interdependence across its distinct international trajectories. To do so, we built a qualitative, backward-looking longitudinal case of the internationalization of a Brazilian born-global IT firm by tracing its four international trajectories from the outset. Our results indicate that the internationalization of the firm is the result of four interdependent international trajectories that evolved in four distinct countries. In addition, we highlight the relationships of the firm with international customers as the driving force behind the interdependence across these international trajectories. Based on these findings, we propose that the internationalization process of the firm as a whole is not necessarily the outcome of the sum of independent international trajectories. Rather, there are interdependences across the firm’s international trajectories that shape the overall internationalization of the firm.

Key words: interdependence; international trajectory; internationalization.
Introduction

The scholarly field of internationalization, especially those represented by theoretical and empirical works grounded on more history-, context- and process-oriented approaches (Benito, Petersen, & Welch, 2009) such as Innovation-Related Internationalization Models (Bilkey & Tesar, 1977) and the Uppsala Internationalization Model (Johanson & Vahlne, 1977, 1990, 2009, 2011; Vahlne, Ivarsson, & Johanson, 2011; Vahlne & Johanson, 2013) has traditionally regarded the internationalization of the firm as a pool of processes, herein international trajectories, that independently unfold in different host countries (Fortanier & Tulder, 2009). As neatly summarized by Hadjikhani, Hadjikhani and Thilenius (2014), the ordinary explanation of the internationalization of the firm comes from studies that single out a particular international trajectory to examine the driving forces that induce the firm’s international trajectories to evolve in rhythms and paces that are particular to each one. Generally speaking, these forces are suggested to emerge at the level of the firm or the network (Johanson & Vahlne, 2009), with great emphasis being placed on the latter (Vahlne & Johanson, 2013), which is, in turn, best illustrated by either inter-personal (Eberhard & Craig, 2013; Ellis, 2011) or inter-organizational relationships (Hatani & McGaughey, 2013).

According to recent literature reviews (Aharoni & Brock, 2010; Rugman, Verbeke, & Nguyen, 2011), this stream of research has undoubtedly furthered our knowledge of the internationalization of the firm inasmuch as it pioneers the idea of a firm’s international trajectory as path dependent, thus introducing history into the agenda of IB scholars (Jonsson & Foss, 2011). It is, however, underpinned by a simplifying, yet implicit assumption (Clark & Mallory, 1997): that the firm’s international trajectories are independent of each other. This means that a firm’s trajectory in, for instance, foreign market A has negligible effects on its trajectory in, for example, foreign market B; or, if it does have any effect at all, it is supposed that it is rapidly washed away. The internationalization of the firm is therefore viewed as the sum of discrete international trajectories (Maitland, Rose, & Nicholas, 2005), in a way corresponding to processes that evolve unconnectedly to each other in geographical contexts separated by national borders (Beugelsdijk & Mudambi, 2013). In line with Clark and Mallory (1997), we posit that this conception represents a partial understanding of the internationalization of the firm.

In order to help correct this, Johanson and Mattsson (1988) and Johanson and Vahlne (1990) have paid attention to the other side of the coin: that the internationalization of the firm can be the result of interdependent international trajectories. Notwithstanding, as recently remarked by Nachum and Song (2011), Shaver (2013) and C. Welch and Paavilainen-Mäntymäki (2014), inquiry into it is still parsimonious and sketchy. Consequently, the interdependence across the firm’s international trajectories remains backstage in accepted explanations of the internationalization of the firm (Fortanier & Tulder, 2009; Salgado, 2011). As a matter of fact, interdependence is only acknowledged, albeit from a static point of view (Estrin, Meyer, Wright, & Foliano, 2008), in the literature of configuration and coordination of a multinational’s operations, in particular subsidiary development (Paterson & Brock, 2002).

Against this background, we examine the extent to which the internationalization of the firm as a whole can be explained by the interdependence across its distinct international trajectories. To do so, we built a qualitative, backward-looking longitudinal case of the internationalization of a Brazilian born-global IT firm by tracing its four international trajectories from the outset. Our results indicate that the internationalization of the firm is the result of four interdependent international trajectories that evolved in distinct countries: the U.S., Japan, China and Argentina. It addition, we highlight the relationships of the firm with international customers as the driving force behind the interdependence across these international trajectories. Given these results, we contribute to the literature by drawing attention to a different conceptualization of the internationalization process of the firm. We propose that this process as a whole is not necessarily the outcome of the sum of independent international trajectories. Rather, there are interdependences across the firm’s international trajectories that shape the overall internationalization of the firm.
This article is structured as follows. In the following section, we review the extant literature and introduce the analytical framework. Subsequently, we explain how we collected and analyzed both secondary and primary data. The ensuing section introduces our empirical case. Initially, we describe and analyze each international trajectory, and then make a comparison across them in order to highlight the interdependences. We then proceed by discussing the results and contributions of this piece of research. In the concluding section we summarize our major results and point out the limitations of the research.

Theoretical Background

Broadly speaking, models of the internationalization of the firm that are more history-, context- and process-oriented (Benito et al., 2009) aim to shed light on a firm’s international trajectory (Fortanier & Tulder, 2009), that is, a sequence of causally connected events that is triggered as the firm ventures into a foreign market (Gao & Pan, 2010).

Of special interest is the idea advanced by Casson (1994) that these models, in particular the earlier Uppsala studies (Johanson & Vahlne, 1977), subscribe to the idea that the firm enters one or very few psychically closer foreign markets in a given time span (Hadjikhani, Hadjikhani, & Thilenius, 2014) and then sequentially commits more tangible and intangible resources to this market (Rocha, Melo, Pacheco, & Farias, 2012). As Forsgren (2002) points out, this approach suggests the firm should avoid simultaneous entries in different host countries.

The acquisition of market knowledge plays a pivotal role in explaining firm caution when dealing with unfamiliar foreign geographical contexts (Figueira-de-Lemos, Johanson, & Vahlne, 2011). More specifically, learning about foreign markets is rife with uncertainties (Johanson & Vahlne, 2009). This process is also context-specific (Eriksson, Johanson, Majkgard, & Sharma, 1997) and costly (Sapienza, Autio, George, & Zahra, 2006). There are therefore strong barriers and non-zero marginal costs to transfer knowledge across national borders (Eriksson et al., 1997).

In accordance with this, such internationalization models assume, either implicitly or explicitly, the inexistence of mutual influences across the firm’s international trajectories. As Clark and Mallory (1997, p. 617) put it “the underlying assumption is that each entry decision and subsequent modal shift in a market is made in isolation of the decisions in other markets”. From a theoretical standpoint, this implies viewing the internationalization of the firm as a collection of independent international trajectories (Maitland et al., 2005). It goes without saying that these models have inspired a number of empirical studies that analyze a particular international trajectory of the firm insulated from the firm’s other international trajectories.

By resuming Johanson and Mattsson’s (1988) and Johanson and Vahlne’s (1990) contention, we take a different, yet complementary view as we propose relaxing the assumption of independence across the firm’s international trajectories as an avenue to build a finer-grained understanding of the internationalization of the firm. In doing so, we take into account that a firm’s particular international trajectory is liable to affect and be affected by the firm’s other international trajectories (Nachum & Song, 2011). As Kutsccher, Baurle and Schmidt (1997) forcefully suggest, an important dimension of the internationalization of the firm is the interlinked value-added activities performed in different foreign markets. If this holds, the firm’s international trajectories must be analyzed accordingly.

Two situations illustrate this line of reasoning. First, foreign customers and/or suppliers of the firm are not only embedded in local networks, but also in international networks (Costa, Borini, & Amatucci, 2013; Johanson & Vahlne, 2009). That both networks are overlapping means that a given trajectory of the firm in a foreign market can influence and be influenced by a firm’s other trajectories that unfold in the countries (third countries) where these customers and/or suppliers operate (Mattsson, 1998). Second, some relationships of the firm developed in a specific foreign market may serve as a
bridge to other networks embedded in geographically distinct contexts (Eberhard & Craig, 2013), this being of paramount importance for small and medium-sized firms that venture into foreign markets (Hilmersson & Jansson, 2012) and also for born-global firms (Freeman, Hutchings, & Chetty, 2012; Zander, McDougall-Corvin, & Rose, 2015).

The analytical framework introduced as follows aims to take into account the interdependence across the firm’s international trajectories (Figure 1). Its starting point is that the firm’s international trajectories co-evolve in distinct, yet overlapping networks that cover at least one foreign market (Mattsson, 1998; Wang & Suh, 2009). This means that the evolution of a given trajectory is contingent on the evolution of the other trajectories of the firm (Nachum & Song, 2011).

![Figure 1. Interdependence across the Firm’s International Trajectories](image)

Figure 1. Interdependence across the Firm’s International Trajectories
Source: Authors.

In more detail, our analytical framework is grounded on two building blocks: international trajectories and the interdependence across them. In relation to the first one (In Figure 1, this is represented by the boxes International Trajectory 1 and International Trajectory N-1), we suggest that the internationalization process of the firm embraces up to N-1 international trajectories, each one unfolding in up to N-1 foreign markets. The framework admits an uneven number of international trajectories vis-à-vis foreign markets, such as four international trajectories evolving in three foreign markets.

Each international trajectory is, in turn, composed of at least one empirically observed event: the foreign market entry mode (Dias, Rocha, & Silva, 2014). Eventually this initial event triggers a particular sequence of modal shifts (as Figure 1 illustrates, form modal shift 1 to modal shift N-1) (Gao & Pan, 2010; Johanson & Vahlne, 1977). To those scholars that subscribe to path dependence, the foreign market entry imprints on modal shifts (Jonsson & Foss, 2011).

We refrain from pointing out a minimum number of modal shifts as there seems to be no end point to them (Blomkvist, Kappen, & Zander, 2010). In fact, there is a great array of modal shifts such as change between modes, within mode-change and mode role change that can be sequentially ordered in unnumbered ways (Benito et al., 2009). That is to say, multiple routes or paths are acknowledged (Hashai, 2011; Wang & Suh, 2009). As Lamb, Sandberg and Liesh (2011) suggest, the future is open; accordingly, it is difficult, even impossible, to indicate pre-determined routes or paths in the internationalization of the firm. In this sense, the framework accommodates unidirectional (Johanson & Wiedersheim-Paul, 1975) as well as more convoluted international trajectories (Zander, 1997). Yet, each trajectory may follow distinct rhythms and paces (Vermeulen & Barkema, 2002), depending on the driving forces that act upon it (Barbosa, Rezende, & Versiani, 2014).

We put forward that one of these driving forces is the interdependence across the firm’s international trajectories. This is the second building block of the analytical framework (In Figure 1, it is illustrated by two opposite-facing arrows between the boxes International Trajectory 1 and
International Trajectory N-1). Here interdependence is defined as a “series of interconnected moves” (Nachum & Song, 2011, p. 382) between at least two international trajectories of the firm. We posit that these moves reflect the evolving nature of inter-organizational relationships developed by actors who are, at the end of the day, the agents of international trajectories (Johanson & Vahlne, 2009).

As a driving force, the interdependence across the firm’s international trajectories has the causal power to reinforce a particular trajectory (Nachum & Song, 2011). Alternatively, it can either change the trajectory direction or speed it up through mode leapfrogging (L. Welch & Loustarinen, 1993). More radically, this type of interdependence can even entail divestment by making a particular trajectory redundant (Benito & Welch, 1997)

We also advocate that the interdependence across the firm’s international trajectories is temporally embedded, which means that it can take place in any of the events that comprises the international trajectories. In this sense, a particular trajectory can become interconnected with another of the firm’s international trajectories in its very beginning; or, instead, in more advanced phases. In point of fact, multiple temporal combinations between at least two international trajectories can be accommodated in our analytical framework.

Before we move to the methodology section, we introduce a simple example that illustrates the influence of the interdependence across the firm’s international trajectories on their routes in temporally and geographically embedded distinct geographical contexts. Suppose that one trajectory is composed of only one event: a wholly-owned sales subsidiary. This means that the firm entered a foreign market by establishing a rather advanced mode in terms of resource commitment (Figueira-de-Lemos & Hajikhani, 2014). The other trajectory comprises the following sequence of events (Figueira-de-Lemos et al., 2011): This same firm entered another foreign market by direct exporting, followed by a sales subsidiary and soon afterwards established a production subsidiary through acquisition. These trajectories evolve in overlapping supra-regional networks (Beugelsdijk & Mudambi, 2013). Both trajectories, which had evolved independently from each other by time 1, become more interdependent in time 2. As a result, the sales subsidiary in the first trajectory is closed off whereas the production subsidiary in the second trajectory starts exporting to the foreign market where the first trajectory is triggered. Theoretically, this points to a retrenchment in the former (Benito & Welch, 1997) and an internationalization of the second degree in the latter (Forsgren, Holm, & Johanson, 1992).

Methodology

Epistemologically aligned with process-oriented models of internationalization of the firm (Benito et al., 2009), a qualitative, backward-looking longitudinal case study was built (Burgelman, 2011; Langley, Smallman, Tsoukas, & Van de Ven, 2013). In doing so, our initial step was to select the empirical case guided by two broad criteria. As we were interested in the interdependence across the firm’s international trajectories, the first criterion required that the firm had triggered a number of international trajectories so as the interdependence across them could emerge. In line with the analytical framework, we considered at least two trajectories in one foreign market. Additionally, we needed access not only to primary data, but also to secondary data, such as some of the firm’s internal reports, which are usually confidential. Thus, our second criterion was data access (Jormanainen & Koveshnikov, 2012).

Between 2009 and 2011 the first author conducted several business-oriented agendas with a number of IT Brazilian firms that were involved with internationalization. This enabled him to develop enough knowledge about which firms could meet the criteria we had defined, and we were fortunate to get the consent from the very first firm we invited to participate in the research. By the time we finished the data collection, TEC (fictitious name), our empirical case, operated in four foreign markets (U.S., Japan, China and Argentina).
We were able to build its four international trajectories from the outset based on an extensive data collection. We gathered data from the following secondary data: TEC’s internal reports (320 pages), contracts with suppliers, buyers and other stakeholders (90 pages), marketing brochures and catalogs (240 pages), service operation manuals (100 pages), news about the firm and the industry published in newspapers and specialized magazines such as Business Week, IT Decisions, Market Wire, Forrester, Gartner and Wordpress (60 news), TEC’s, suppliers’, buyers’ and other stakeholders’ websites (35 websites) and reports on the foreign markets where TEC operates elaborated by chambers of commerce and trade promotion organizations (30 pages). All these data were later coded and compiled, resulting in nearly 900 pages of double-spaced text.

Our primary data came from 19 semi-structured, face-to-face interviews made in two rounds. The first round comprised individual interviews with the president/founder, the vice-president (VP), directors, country managers and IT analysts. The second round embraced two more individual interviews with the president/founder and the vice-president. We decided to interview these individuals twice in order to resolve some doubts and divergences that came up during the first round. In doing so, we triangulated data, although preliminary, during data collection (Sinkovics & Afoldi, 2012). These interviewees are characterized as follows: all of them were born in Brazil and, at the time of data collection, three were expatriates. Together with the president, these individuals were the most experienced ones concerning internationalization. In relation to gender, we interviewed fourteen men, including the president/founder and the vice-president, and three women. Both the president/founder and the vice-president have academic backgrounds in Computer Science and have worked for the firm since its foundation.

All interviews were digitally recorded (total recorded time: 21 hours and 25 minutes) and transcribed verbatim, producing 184 pages of double-spaced text. They were carried out in Campinas and São Paulo, São Paulo state, Brazil, and Miami, United States, between February and May 2011.

The interviews were supported by a protocol divided into two parts. In the first part, we aimed to get a broad picture of TEC’s internationalization process. To do so, we asked about the starting point of the internationalization, reasons for internationalizing, major drawbacks and milestones, selected foreign markets and entry modes, and modal shifts. The ensuing questions are illustrative: When and how did your company enter the first foreign market?; How did the first international operation evolve?; Were the foreign market entry modes similar to the ones selected in the other countries your company operated? Why (not)?; Please, name and explain some events you consider as important in the internationalization of your company.

In the second part, we furthered our understanding of TEC’s internationalization process. For each foreign market with which the interviewees were familiar, we encouraged him/her to explain why and how the market and the entry mode were chosen, and why and how the entry mode shifted over time. In situations where s/he was knowledgeable about the four international trajectories, s/he was inquired about all of them, and also about relevant facts showing possible points of interference between different trajectories. Needless to say, this extended some interviews considerably, some lasting up to 2.5 hours.

Even though we started analyzing data inasmuch as we collected them (Eisenhardt, 1989; Sinkovics & Afoldi, 2012), a more systematic data analysis was carried out after we finished the interviews. Initially, it involved merging secondary and primary texts based on the excerpts that were more closely related to our research objective. In addition to producing a more tractable document (133 pages of single-spaced text), this paved the way for triangulating data in three stages: secondary data itself, primary data itself and secondary data in relation to primary data. A number of divergences were found, prompting us to go back to the original documents as well as to e-mail some interviewees in order to resolve them.

We advanced the data analysis by following the guidelines proposed by Langley (1999) and George and Bennett (2005) to carry out a process-oriented analysis, that is, the building of trajectories composed of causally connected events (Langley et al., 2013). In the beginning, we selected empirical...
events that illustrated not only the foreign market entry mode, but also the modal shifts. While the identification of the entry mode was straightforward, the discovery of modal shifts was trickier. In accordance with Casillas, Moreno and Acedo (2012), we considered that a change in either the degree of localization or internalization of activities of the value chain of the mode illustrated them. Therefore, for each international trajectory we pinpointed the foreign market entry mode and the subsequent modal shifts provided either dimension had changed. Over the course of this, we put emphasis on causality since we wanted to understand not only how, but also why each event was selected and changed (George & Bennett, 2005). Theoretically speaking, this corresponds to the identification of the driving forces of the events (Halinen, Tornroos, & Elo, 2013).

We then proceeded with data analysis by writing a first draft of each trajectory. At this time, our attention shifted to the temporality of the events to the extent that we intended to outline the temporal sequence of the events (Abbott, 1988). We opted to order them chronologically (Halinen, Medlin, & Tornroos, 2012), i.e., by highlighting the month and the year they took place.

At the end of this stage, we were able to build TEC’s four international trajectories and comprehend how, why and when each event took place in each one of them. We then summarized these findings by drawing four diagrams, each one corresponding to an international trajectory, so as to have a visual map of TEC’s overall extent of internationalization (Langley, 1999).

Our last step was to identify the interdependence across TEC’s four international trajectories, that is to say, the existence of interconnected moves between at least two trajectories (Nachum & Song, 2011). Empirically, we had to certify whether a given event of a particular trajectory could be explained with reference to any event of the other trajectories (Clark & Mallory, 1997). If positive, we also had to cross-check its evidences (Jormanainen & Koveshnikov, 2012). To do so, we went back as far as the merged document containing the primary and secondary texts. First, we highlighted the trajectories and the events that seemed to be connected to each other in the visual map. Next, we went back to the drafts of these trajectories in order to identify passages that supported the interdependence between them. Finally, we took another step back as we picked up excerpts in the merged document that corroborated the passages in the drafts of the trajectories. At this point, we had collected enough evidence of the interdependence across TEC’s four international trajectories. We concluded the data analysis by drawing a final visual map that illustrated how each international trajectory unfolded as well as how and when they got interconnected to each other.

The Internationalization of TEC

Background

Founded in Brazil in 1995, TEC was set up as an IT services provider to a single US-based customer. As explained by the current CEO, there was “no intention to operate abroad from the very beginning, but to provide services to our first customer that came to be a foreign company”. Born as a software exporting firm, it used to develop customized software applications for the IT and Telecom industries.

In two years, TEC managed not only to increase the amount and level of services to the U.S. customer, but also to develop relationships with other customers both in Brazil and in North America. In 1998, when business settings in general deteriorated abroad, TEC concentrated its operations in the domestic market. Nevertheless, soon afterwards it spearheaded a consortium of Brazilian IT firms to identify and seize business opportunities in North America as well as to offer a more integrated solution-oriented approach and differentiated product combinations from the participating firms. At the same time, it started broadening its own product portfolio by including products and services based on SAP management consulting, IT outsourcing, application development for mobile platforms, digital marketing and Internet applications. In 2001 it succeeded in obtaining an internationally renowned
certification dubbed Capability Maturity Model (CMM) that endorsed the quality of the services provided by TEC in North America. Between 2003 and 2011 TEC not only advanced its internationalization process in the U.S., but also entered the Japanese, Chinese and Argentinean markets. By that time, it employed 352 people and had a turnover of US$18 million a year, nearly 35% coming from international operations.

**The trajectory in the U.S.**

TEC’s international trajectory in the U.S. dates back to 1995 and embraces four critical events: entry through exporting, sales representative, sales/production subsidiary and sales and services offices on the East and West coasts.

As mentioned earlier, TEC was set up as an IT services provider – with a main focus on software development – to a U.S.-based IT multinational firm. This came about out of the blue as the current TEC’s CEO was still an MSc candidate in Computer Science. At that time, he used to provide technical training to teams from this firm and was involved in a number of projects with its customers. As the U.S. firm gradually demanded more specific services in terms of software development, he decided to start up TEC: a Brazil-based IT services provider focused on exporting IT software and services delivered both remotely and locally.

This initial contract paved the way for the firm to develop relationships not only with U.S. customers, but also with Brazilian firms in the Telecom industry. At that time, TEC broadened its offerings by including Internet application development and e-business solutions. In this sense, the first event of TEC’s trajectory in the U.S. coincides with the foundation of the firm. On the one hand, it entered the North American market by exporting and, on the other hand, it was set up in order to service the U.S. customer to whom TEC’s CEO had provided training services.

In 2002, TEC hired a sales representative to provide a number of services locally. This corresponds to the second event of TEC’s trajectory in the U.S., and it means that two servicing modes were concurrently employed: exporting and local sales representative. The representative was Brazilian born, yet American citizen with vast experience in sales and, more importantly, connections with critical stakeholders, such as governmental and trade promotion bodies, potential customers and partners, and opinion leaders. During five years he organized trade development missions and TEC’s participation in international trade initiatives. In addition, he searched for potential customers and key stakeholders and helped the firm to position itself in the U.S. market. This bore fruit to the extent that TEC managed to develop relationships with new customers, including large American firms and firms located in more distant geographical contexts such as the U.S West Coast. Needless to say, challenges skyrocketed as TEC was required to provide services in geographical areas where it still had no experience.

Three years later, the sales representative contract came to an end and TEC established a subsidiary, henceforth TEC-America. This is the third event of TEC’s trajectory in North America. Due to personal reasons, the sales representative moved back to Brazil. However, business opportunities increased in the U.S., driving TEC to service the market through a wholly-owned subsidiary established in the state of Philadelphia. A number of Brazilian employees, including the International Business VP, were expatriated in order to provide services to current customers as well as to prospect for new ones. The increase of resource commitment paid off as exemplified by one interviewee: “in three years the turnover coming from international operations went from 15% to 35% of the total turnover of the firm”.

Following the sales subsidiary, between 2007 and 2011 TEC-America opened a number of branches on the East Coast (New York, New Jersey and Atlanta) and also on the West Coast (San Francisco and Palo Alto) of the U.S. This is the fourth and last event in TEC’s trajectory in the U.S., and it points out to an increase in the degree of localization of activities, in particular sales and services. By operating in a broader and more diversified intraregional context, TEC-America expected not only to develop new relationships with U.S. firms, but also to increase the level of services provided to current customers.
The trajectory in Japan

TEC’s trajectory in Japan comprises two events: market entry and the establishment of a joint-venture with a local firm. One of TEC-America’s U.S. customers, a large U.S. personal hygiene and cosmetics firm with which TEC has just made a global services contract, required IT services for its Japanese subsidiary. Due to a number of specificities, this type of service had to be provided locally. As a result, TEC-America was requested to establish a footprint in the Japanese market, in this particular case with part of the team working at the premises of the customer. The foreign market entry took place in 2005 and it corresponded with TEC’s first event in Japan.

Four years later, TEC-America established a joint-venture with a local firm in order to offer a broader product portfolio to Asian firms from Japan. This is the second event of TEC’s trajectory in Japan. More specifically, after entering the Japanese market, TEC-America realized that it could commit more resources at local and regional levels provided it serviced not only the U.S. customer subsidiary, but also Asian firms interested in IT services. However, it lacked knowledge about local institutions. It also had no experience in how to develop relationships with Asian customers and suppliers. In order to avoid uncertainties stemming from local market ignorance, it opted to embark on a joint-venture with a well-established Japanese IT firm that offered IT products and services that were identified as complementary to TEC’s offerings.

The trajectory in China

A single event illustrates TEC’s trajectory in China: the establishment of an IT services production center. Whilst establishing the joint-venture in Japan, TEC, TEC-America and its Japanese partner realized that the prices of final products and services would be much higher if marketing and production activities were internalized by the Japanese subsidiary, henceforth TEC-Japan. As a consequence, they decided that TEC-Japan, at that time already established in Tokyo, would be in charge of sales and marketing activities whereas production activities would be carried out from China. Therefore, in 2009, TEC established a services production center in city of Ningbo in order to economize on both labor and operational costs.

The trajectory in Argentina

TEC’s international trajectory in Argentina comprises two events: market entry and the increase of the degree of localization of sales and marketing activities.

As happened in the Japanese market, TEC-America entered the Argentinean market in order to provide IT services to the U.S. customer with which it had a global services provision contract (2010). The initial activities, performed at a wholly-owned IT service development center, only involved production activities. At the outset, TEC deployed all its local resources to service this particular customer that, interestingly enough, did not operate in the Argentinean market. In this sense, the establishment of the development center in Argentina was justified on the basis on optimization of production costs to make the delivery of services to the U.S. customer more efficient.

In 2011, by using the local presence as a springboard for scouting business opportunities, TEC decided to carry out not only service production activities locally but also sales and marketing activities. In doing so, it expected that chances to exploit them would increase considerably. This is the second event of TEC’s trajectory in Argentina and is related to the increase of the degree of localization of value-added activities, in particular sales and marketing.
The interdependence across TEC’s international trajectories

As depicted in Figure 2, there are four interdependences across TEC’s international trajectories: American vs. Japanese (see INTER-1); American vs. Japanese vs. Chinese (see INTER-2); American vs. Argentine (see INTER-3 and INTER-4).

**INTER-1** is the interdependence between TEC’s American (first modal shift) and Japanese (entry) international trajectories. During approximately 10 years, TEC’s international trajectory in the U.S. unfolded by means of four events: the entry mode and three modal shifts. Overall, these events not only resulted from the development of relationships with local customers (Johanson & Vahlne, 2009) such as foreign market entry through client following (Majkgard & Sharma, 1998), but also paved the way for the building of new relationships with other U.S. customers (Coviello, 2006). In this self-reinforcing process whereby resources were gradually committed (Johanson & Vahlne, 1977), TEC-America signed a contract with an U.S. multinational firm to provide IT services to its head-office and foreign subsidiaries. One of the outcomes was that TEC-America was somehow pushed to the Japanese market (Sharma & Johanson, 1987). Therefore, the entry into the Japanese market is explained with reference to TEC’s international trajectory in the U.S.

**INTER 2** is the interdependence across three of TEC’s international trajectories: the American (first modal shift), the Japanese (first modal shift) and the Chinese (entry). In 2009, when TEC-Japan was attempting to build relationships with Asian customers, it came to the conclusion that prices would be non-competitive if services were produced in Japan. The solution to this conundrum came from TEC-America’s network that, at that time, comprised a number of firms with Japanese and Chinese expatriates. It was suggested that TEC-Japan should dedicate itself to carrying out sales and marketing activities as well as establish a services production center in China. In this sense, the explanation of entry into the Chinese market lies in TEC’s American and Japanese international trajectories.

**INTER-3** is the interdependence between the American trajectory (first modal shift) and the Argentine trajectory (entry). In order to provide services with more competitive prices to the U.S. multinational, which, interestingly enough, did not have a footprint in the Argentine market, TEC-America entered this foreign market and set up a development center. This illustrates what is called internationalization of the second degree (Forsgren et al., 1992), that is, a particular international trajectory, in this case the Argentine one, is only understood in relation to the internationalization of a firm’s subsidiary, here represented by TEC-America.
INTER-4 is the last interdependence across TEC’s international trajectories. It also involved the American (first modal shift) and the Argentine trajectories (but now related to the first modal shift). At this time, TEC-America realized that it could develop relationships with local customers provided TEC-Argentina performed sales and marketing activities locally, which, in fact, happened. Given that, the driving force behind the first modal shift has its roots in TEC’s American trajectory.

Discussion

Our first and foremost result points out that the internationalization of TEC is explained with reference to the interdependence across its four international trajectories (Nachum & Song, 2011). Whilst analyzing a particular international trajectory of TEC, we realized that we could only understand it in its entirety on the condition that we took into account some of TEC’s other international trajectories. That is, the driving force of either the entry mode or the modal shift of a given trajectory was traced back to another international trajectory of the firm. Or, as put by Clark and Mallory (1997), the decisions on entry mode and modal shifts made in a particular host country had an impact on the decisions in third countries. In this sense, we explained the entry into Japan by making reference to the American trajectory (see INTER-1). In addition, we showed that the entry into the Chinese market was related to both TEC’s American and Japanese trajectories (see INTER-2). By the same token, TEC’s trajectory in the U.S. was called for in order to comprehend the entry (see INTER-3) as well as the first modal shift (see INTER-4) in Argentina.

In bringing the interdependence across the firm’s international trajectories to the forefront, we highlight a driving force in the internationalization of the firm that has been neglected in the literature (Fortanier & Tulder, 2009; Salgado, 2011). In doing so, we put forward an alternative, yet complementary (and more nuanced) view of the internationalization of the firm. Rather than an aggregation of discrete international trajectories (Fortanier & Tulder, 2009; Maitland et al., 2005), we suggest that the internationalization of the firm is better conceptualized as a pool of interdependent international trajectories. In this sense, this first result can be viewed as a response to Johanson and Vahlne’s (1990) plea. It also does enter into the spirit of International Business (IB). As Rugman, Verkebe and Nguyen (2011, p. 761) thoughtfully remind us: “IB is always concerned with managing interdependencies”.

Our second result suggests that the interdependence across the firm’s international trajectories is susceptible to temporality (Nachum & Song, 2011). As illustrated by TEC’s four international trajectories, the interdependence across them took place in different phases. Our case study is particularly elucidative of the interconnectedness between the modal shift in trajectory N and the entry in trajectory N-1 (see INTER-1, INTER-2, INTER-3) and the modal shift N in trajectory N and the modal shift N in trajectory N-1 (see INTER-4).

Therefore, our second result makes the time dimension of the interdependence across the firm’s international trajectories explicit. In doing so, it helps fill a gap brought about by Casillas et al. (2012). According to them, “although previous literature assumes the dynamic nature of internationalization process, the great majority of investigations carried out over recent decades have taken a cross-section approach which relegates the role of time to a secondary level” (Casillas, Moreno & Acedo, 2012, p. 465).

Our third result indicates that one of the driving forces of the interdependence across the firm’s international trajectories is its relationships with local or foreign customers. Based on the case of TEC’s four international trajectories, we concluded that INTER-1 and INTER-3 were directly caused by the relationships between TEC-America and an U.S. multinational firm, INTER-2 was indirectly driven by this type of relationship and INTER-4 was linked to the development of local relationships. At this point, we remark that INTER-1 can be nicely analyzed in light of client following (Majkgard & Sharma, 1998).
In TEC’s case, however, it was not the head office that was pushed to the foreign market, but the subsidiary.

Given that, our third result highlights a specific type of relationship (Shipilov & Li, 2012) as a driving force of the interdependence across the firm’s international trajectories. Although this type of relationship has been acknowledged in the literature as pivotal to the internationalization of the firm (Chandra, Styles, & Wilkinson, 2012; Freeman et al., 2012; Hilmersson & Jansson, 2012), to the best of our knowledge, its role in the interdependence across the firm’s international trajectories has scarcely been reported as of yet (Loane & Bell, 2009). Also, our third result turns attention to the fact that this type of relationship was embedded in networks that span a particular foreign market, thus lending support to the proposition that the firm’s international trajectories unfold in networks that are geographically independent, yet interdependent (Mattsson, 1998).

Finally, our last result suggests that the internationalization of the firm involves simultaneously interdependent trajectories (Wang & Suh, 2009). This can be viewed in TEC’s internationalization from 2005 onwards (Figure 2). At that year, the international trajectory in the U.S. went through the second modal shift while the international trajectory in Japan was initiated. The unfolding of simultaneous trajectories can also be observed in the years 2009, 2010 and 2011 (Figure 2), embracing at least two trajectories.

This result is particularly interesting as it shows that the path to a firm to become a multinational involves triggering, at a certain point, simultaneously international trajectories in psychically distant countries. We suggest that the interdependence across them is the driving force behind it. Although this finding goes against one of tenets of process-oriented models of internationalization (Johanson & Vahlne, 1977), it is line with research on firms that pursue accelerated internationalization such as born-global firms and firms from emerging economies (Mathews & Zander, 2007). Unintentionally, this result can also be viewed as a preliminary response to Hashai’s (2011, p. 1011) call to “explore whether at some level of foreign experience, born global firms become able to combine simultaneously expansions”.

**Conclusion**

In this article we contend that more history-, context- and process-oriented approaches of the internationalization of the firm are based on the assumption of independence across the firm’s international trajectories (Johanson & Mattsson, 1988; Johanson & Vahlne, 1990; Nachum & Song, 2011). As a result, they view the overall internationalization of the firm as a collection of independent international trajectories (Maitland et al., 2005). For instance, the Uppsala model suggests that a generative mechanism of knowledge development sets in motion a number of sequential, independent international trajectories (Casson, 1994), each one being spatially embedded in a rather distinct foreign market. Because experiential knowledge transfer between foreign markets is regarded as difficult, time-consuming and costly (Eriksson et al., 1997), mutual influences across international trajectories are assumed to be virtually negligible (Johanson & Vahlne, 1990).

Here, we consider this assumption fallible (Shaver, 2013). Inspired by a seemingly unnoticed suggestion of Johanson and Vahlne (1990), we posit that interconnected moves across firm’s international trajectories (Nachum & Song, 2011), here dubbed as interdependence, drive the internationalization of the firm as a whole. In doing so, we put forward a theoretical framework to model the internationalization of the firm in a novel way, that is to say, a process consisting in a number of international trajectories that are not necessarily unconnected to each other (Clark & Mallory, 1997). Rather, there are interdependences across them (Nachum & Song, 2011). The analytical framework is illustrated by the case of a firm that evolved in four distinct foreign markets by means of interdependent international trajectories. We believe that this is our major contribution.
Because our empirical case is illustrated by a Brazilian born-global firm, we make two more contributions. First, we contribute to the literature on born-global firms to the extent that we show how this type of firm evolves from the outset. As Coviello (2006) and more recently Hashai (2011) and Chandra, Styles and Wilkinson (2012) point out, this literature concentrates on born-global firms’ first steps and, as a result, has little to say about their evolution. Second, we contribute to the literature on the internationalization of firms from emerging countries (Jormanainen & Koveshnikov, 2012) as we reveal that this type of firm pursues accelerated internationalization by simultaneously triggering interdependent international trajectories.

Notwithstanding, our results should be viewed with caution. To begin with, although explanatory generalization is feasible in carrying out single case studies, statistical generalization is usually heavily compromised (Yin, 2005). In addition, there are limitations stemming from a number of contextual factors such as geography and time (Poulis, Poulis, & Plakoyiannaki, 2013). Yet, we cannot rule out bias stemming from our previous knowledge of some of the interviewees. This means that distance between interviewers and interviewees could have been less than recommended, thus compromising neutrality during interviews.

We should also bear in mind that some scholars advance the idea that the internationalization of services is rather different from the internationalization of manufacturing firms. If this holds, our results are bounded by services firms. Closely related, IT born-global firms usually pursue accelerated internationalization processes (Zander et al., 2015), which, in a way, fertilizes the interdependence across their international trajectories. We wonder whether and how the interdependence across the firm’s international trajectories plays a role in the internationalization process of more traditional firms. This issue merits future investigation.

In addition, the internationalization of firms from emerging countries are suggested to be different from firms from developed countries (Mathews & Zander, 2007), thus limiting our results to the country of origin itself. In this piece of research we considered a firm’s internationalization process with four international trajectories. We wonder whether a higher number of firm’s international trajectories can reveal a more intricate pattern of the interdependence across them than suggested here. Although our aim was to highlight the interdependence across the firm’s international trajectory as a driving force of the internationalization of the firm, as a whole we ended up unveiling a particular type of relationship - relationships with customers - as influencing this type of interdependence. We believe that we can make a step ahead in this line of investigation by not only empirically testing this finding, but also probing into other driving forces that induce the interdependence across the firm’s international trajectories.

We also found that the four trajectories analyzed here unfolded in two developed foreign markets (Japan and the U.S) and two developing foreign markets (Argentina and China). We wonder if and how the distance dimension (geographical, psychic or institutional) between these foreign markets plays a role in the interdependence across the firm’s international trajectories (1). Finally, we believe that we can progress with research on the internationalization process of the firm by examining if and why there is any particular type of event in the international trajectories of the firm that is more sensitive to the interdependence across them (2).

Acknowledgments

Sérgio Rezende is grateful to the National Council for Scientific and Technological Development (CNPq) (Grants 301739/2012-9 and 302843/2015-9) and Fapemig Minas Gerais State Research Foundation (FAPEMIG) (Grant PPM 062/13). This article was presented at the XXXVIII Encontro Nacional de Pós-graduação em Administração – EnANPAD (2014) and short-listed for the best paper of the Strategic Management Division. We benefited from the comments of the reviewers. We are also grateful to RAC’s anonymous reviewers for their comments as well as to Editor-in-Chief Herbert Kimura for his guidance throughout the reviewing process. The remaining errors are ours.
Notes

1 We thank an anonymous reviewer for this suggestion.

2 We are indebted to Ulf Holm for this suggestion.

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RAC, Rio de Janeiro, ahead of print, Julho 2016


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