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Is production the core competence for the internationalization of emerging country firms?☆

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ABSTRACT

The rise of new multinationals in countries like Brazil provides an opportunity to revisit and carefully construct theories of how firms internationalize, a topic on which extant theory is weak. Brazilian firms are "infant multinationals", unlike developed country firms that are "mature multinationals". They are also internationalizing in a very different global context, and can do so on the basis of different competitive advantages than multinationals that came before. Therefore, this study aims at creating subsidies for theory building about early-stage internationalization. Emerging country firms have Production competences as main competitive asset to internationalize, what reflects their competitive positioning in home markets and their entry strategy in international markets. In the case of early-entrants – Western multinationals in the 1950s and Japanese in the 1980s – the Production competence played a key role for successful internationalization. Thus, the focus of the study is the role that the Production competence plays in the internationalization of late-entrants, the emerging country multinationals. The research design considers not only the position of the headquarters but also the initiatives of the subsidiaries and the dynamic interplay between both. The paper allows a better understanding of internationalization processes and the role of Production, when firms start building their own international networks. It brings relevant insights about the paths that are being followed by emerging country multinationals, the difficulties they find, the solutions they develop. These are important inputs not only for new theory building but also for managerial practice.

1. Introduction

The area of International Operations Management (IOM) is relatively new, dating from the late 1980s (Ferdows, 1989). Its development was slow, at first; the assessment made by Vereecke and Dierdonck (2002), concluded that. "despite the importance attached to it by both academics and practitioners, the field of International Operations Management [IOM] is still at a relatively early stage of theory development" (Vereecke and Dierdonck, 2002).

Today that statement has to be reconsidered because, in the recent past, some branches of IOM became hot issues: global value chain management, international sourcing, international procurement (Holweg et al., 2011; Contractor et al., 2010). Those branches focus essentially on developed country multinationals and research issues that are critical for their repositioning in global production networks.

On the other hand, there is a new breed of firms that are becoming multinationals, originating from emerging countries. Studies about their approaches to International Operations Management are still rare. However, this is an important topic because emerging country multinationals are initiating their international paths whereas developed country multinationals already have a strong foothold in international markets. Moreover, in the condition of late-movers, they face challenges that are distinct from the ones faced by the incumbents as follows: (a) they have to internationalize fast to catch-up with established multinationals (Mathews, 2006); (b) since they must not stand as followers of early-movers if they aim successful catch-up (Bartlett and Ghoshal, 2000), they must be smart innovators; (c) as breeders of new business models (Ramamurti, 2009) they have to transfer efficiently for their overseas operations.

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Therefore, in principle, emerging country multinationals, since the very start of their internationalization processes, should be "making the most of their foreign factories", in the expression adopted by Ferdows (1997). In the different taxonomies proposed for the roles of subsidiaries, emerging country multinationals' subsidiaries should perform as strategic leaders (Bartlett and Ghoshal, 1989) or have world mandates (Birkinshaw and Morrison, 1995) as early as possible.

Historically, the internationalization of firms is supported by novel productive models: the internationalization of American firms in the early 20th century was supported by the American Manufacturing System (Best, 1990) and the expansion of Japanese firms in the late 20th century was based on the Japanese Production Model (Womack et al., 1990). The same seems to be the case for firms from emerging economies which rely on distinctive competences in Production at home for successful internationalization (Zeng and Williamson, 2007; Ramamurti, 2009). The question that remains is: are Production competences the main driver for the international expansion of emerging country multinationals?

We address that question through the application of a competence-based management/competence-based competition approach (Hamel and Prahalad, 1994; Hamel and Heene, 1994; Teece, 2009). In other words, we depart from the standpoint that what provides competitive advantage for any firm is the set of organizational competences they develop. Thus, for a firm to emerge as a multinational it must rely on a distinctive set of competences when compared to international competitors and, from then on, build a dynamic relationship between parent company and subsidiaries for the fast and continuous enhancement of organizational competences, irrespective of location and mode of entry.

The reasons for the choice of the competence-based management/competence-based competition approach are the following: (a) the multinational might be considered as a network of competences geographically dispersed (Rugman and Verbeke, 2001); (b) competence formation at firm level suffers a strong influence from the local environment (Kogut, 1991; Leo, 1994), what differentiates multinationals originated in different countries; (c) more than seeking to understand the environmental factors that may motivate companies to go international, this approach prioritizes the issue of how companies create dynamic capabilities to become internationally competitive (Teece et al., 1997; Knight and Kim, 2009); (d) the competence-based competition approach (Prahalad and Hamel, 1990; Hamel and Heene, 1994), which had enormous repercussions in the early 1990s, has resurged as the basis for a large number of studies in recent years (Barney and Clark, 2007; Verbeke, 2009; Teece, 2009); for instance, Verbeke (2009:84) assumes that "… the notion of core competencies is largely equivalent to the higher-order concept of Firm Specific Advantage,…".

We will initially elaborate the analytical framework, based on the construct organizational competences; this will allow us to refine the research questions. The analytical framework will be applied to the group of Brazilian multinationals, as a representative of multinationals from the emerging countries. Through a survey research method, we will analyze their internationalization process in two moments in time: 2006 and 2010. The first survey was made during the entry phase of Brazilian multinationals and collected information about the role of the Production competence, amongst the other organizational competences, both at the parent company and the subsidiaries. The second survey had the same aim, but it generated information related to the expansion phase of Brazilian multinationals.

The results showed that Brazilian multinationals are not yet integrating their subsidiaries fast and effectively; they are not profiting from their foreignness. Only when the Production competence is considered, the learning loop is being closed: there is an initial transference from the headquarter (HQ) to subsidiaries and, after some time, subsidiaries become competent and start transferring competences for the HQ. But that seems not be the case in regards to the other organizational competences. In other words, only the Production competence has entered a virtuous cycle. Therefore, Brazilian multinationals are not yet making the most of their foreign subsidiaries.

2. Production as core competence for internationalization: A historical perspective

From a historical perspective, POM's theory and practice began with the "American Manufacturing System" (Best, 1990), rooted in the Springfield Valley experience and structured by Frederick Taylor's and Henry Ford's seminal works. The American model was disseminated throughout the world by the American multinationals since the beginning of the 20th century and through the American-inspired literature, beginning with Taylor's "Principles of Scientific Management", dated 1911. It prevailed for almost a century as the model for the whole world, independently of industry or country specificities.

For a number of reasons the American model began to lose power (Ruigrok and vanTulder, 1995) and was challenged by the Japanese Production Model (JPM) in the 1980s. This was first decoded by western authors (Schonberger, 1982), academic groups commissioned by western governments (Dertouzos et al., 1989; Coriat, 1994) and worldly diffused by the Lean Manufacturing thinking and practices, symbolized by the bestselling "The machine that changed the world" (Womack et al., 1990). The Japanese multinationals also played an important part in that diffusion process through their foreign subsidiaries and the production networks that they established (Mair, 1994; Tolliday et al., 1998; Elger and Smith, 1994).

Three points are worth stressing. First, that the adjectives American and Japanese are an important part of the argument: those productive models (Boyer and Freyssenet, 2002) were rooted in specific national contexts. Second, they were not easily transferable across borders: Ford's attempts to transfer the original Detroit's River Rouge model to England and Japan were ill-succeeded; the transfer of the Japanese Production model to other countries required hybridization (Tolliday et al., 1998) since its principles had to be adapted to each local reality. Therefore, historically, competences in Production played a key role for internationalization.

Emerging country multinationals are now on the rise. Interestingly, some firms of those countries had already made efforts to internationalize during the 1980s, but failed. At that time, Louis Wells, from the Harvard Business School, launched a hypothesis that third-world country multinationals targeted other developing countries and relied on the competitive advantages related to distinctive competences in small production runs using low cost labor (Wells, 1982).

The authors who are currently analyzing the competitive advantages of emerging country multinationals are, once more, identifying production-related competences as their main source of competitive advantage (Zeng and Williamson, 2007; Ramamurti, 2009; Khanna, 2007).

Thus, it is not unthinkable that a multinationals from the emerging countries are developing innovative organizational models that might break with the current patterns and establish new best-practices. A recent article in the Economist (March 5th 2011, p.16) looks at the trajectory of the Tata Group and other emerging country multinationals – from Brazil, Embraer and Votorantim are cited – to conclude that "The best emerging-market companies have learned a great deal from the West in recent years. It is time for the Western multinationals to return the compliment".

3. Literature review

3.1. Competences for internationalization

We assume that "The MNE is a differentiated network of dispersed operations, with a configuration of competencies and capabilities that cannot be controlled fully through hierarchical decisions about Foreign Direct Investment taken by the corporate headquarters" (Rugman and Verbeke, 2001: 238).

The notion of a firm as an architecture of competences was triggered by the classic paper "The core competence of the organization" by Prahalad and Hamel (1990). According to them, core competences are built from intangible assets that cannot be easily imitated by competitors, are the source of the company's ability to deliver unique value to its customers and allow the company to be flexible in terms of markets and products. Notwithstanding, every company has to continuously upgrade and renew its set of competences through the management of a systematic process of organizational learning and innovation (Teece et al., 1997; Teece, 2009).

Every firm has to manage strategically five key competences. Three are present in the classical taxonomies by Woodward (1965), Hamel (1994) and Treacy and Wiersema (1995), i.e., Production, Marketing and Product/Service Development (involving R&D and Engineering). To those we add two supportive type of competences aimed at the management of resources: Finance and Human Resources Management.

When internationalization is at stake and the relationship between headquarters and subsidiaries is a key dimension to be considered, the classification proposed by Rugman and Verbeke (2001) distinguishing local, non-local and specific competences is relevant. Non-local competences are created and developed in an organizational unit and transferable to other branches abroad. If a subsidiary is able to replicate a competence developed in the headquarters (HQ) that is characterized as a non-local competence. The reverse might also happen, that is, a competence developed in a subsidiary to be transferred to other subsidiaries, or to the headquarters. For example, subsidiaries located in highly-competitive environments might be able to develop competences in customer relationships superior to the ones existing in other branches and transfer them.

Other competences carry local value, mainly. The competence in Human Resources Management is the most typical example because the features of the local environments are the main determinants for its development.

Finally, it may happen that a subsidiary or the headquarters develops a competence that would be extremely useful for all units, but its transfer is unfeasible. Specific competences are built from locally available tangible and intangible resources thus inhibiting them from being transferred. Specific competences are typically associated to tacit knowledge, dependent on specific operational contexts and corporate experience. The transferability, or not, of the Japanese Management Model is a good example. The model was developed for the Japanese context, with peculiarities related to culture, religion and the companies' backgrounds. Even Japanese subsidiaries found difficulties in replicating their headquarters' management models (Tolliday et al., 1998).

3.2. Competence development and the role of subsidiaries

Looking at developed country multinationals, Ferdows (1997) argued that the strategic role that their subsidiaries were able to play was a function of two factors: location and competences. The location factor should be related to three sub-factors: cost of production inputs, proximity to market and use of local technological resources. The factor competences should be associated to the extent to which technical activities were performed at the site or, in other words, to the competences that the subsidiary would be able to build. Ferdows' approach is in line to others found in the literature stating that subsidiaries could take on different roles, depending on the function performed (Frost et al., 2002; Vereecke and Dierdonck, 2002; Holm and Perdersen, 2000) and the resources and capabilities developed (Birkinshaw and Hood, 1998).

However, when we look at HQ—subsidiary relationships, these be described through six dimensions. The decisions about three of them are under the realm of the HQ: autonomy, integration and entrepreneurial orientation. Autonomy is associated to the degree of freedom that the subsidiary has in order to make decisions recognized by the headquarters (Young and Tavares, 2004). Integration is related to the intensity and easiness of communication amongst HQ and subsidiary and with the credibility of the subsidiary's executive board vis-à-vis its headquarters (Nohria and Ghoshal, 1997). Entrepreneurial Orientation refers to a positive attitude from the HQ regarding subsidiaries assuming new business opportunities, what involves matters of trust and freedom. It is the competence related to the attitude and practices emanated from the HQ in regards to the creation of new things and taking risks at the subsidiary level (Birkinshaw, 1997).

Because the roles of subsidiaries vary according to the contingencies of the local environment, as portrayed by diamond of Porter, (1990) or double diamond of Rugman and D'Cruz (1993), there are two dimensions which characterize the scope of action of a subsidiary: the local (competitive) context and local networks, as proposed by Ferdows (1997). The greater the embeddedness of a subsidiary in the foreign country's networks the greater its possibility of gaining access to knowledge capable of assuring the development of local or global initiatives. However, as the company becomes increasingly embedded in the local market, the weaker its integration with the intra-organizational network, which implies in a lower possibility of alignment and recognition of the initiative (Bjorkman and Forsgren, 2000; Andersson and Forsgren, 2006).

Finally, initiative emerges as the integrating concept when we assess the performance of a subsidiary within the multinational's network. Initiative is a discrete, proactive undertaking that advances a new way for the corporation to use and expand its resources. It is an entrepreneurial process, beginning with the identification of an opportunity and culminating in commitment of resources to realize that opportunity (Birkinshaw, 1997). Initiatives might be classified threefold: local market initiatives, internal market initiatives and global market initiatives. Local market initiatives are characterized by the development of new products or new markets, or new organizational processes at the subsidiary's host country. Internal market initiatives are characterized by the redistribution of activities among the subsidiaries to the one that shows the best competences to perform a given corporate task. Finally, global market initiatives are characterized by the expansion of the subsidiary's international responsibility, reconfiguration of domestic operations into international or even the creation of international activities. The development of those types of initiative is strongly linked to the subsidiary's innovative capacity, as well as to the existence of favorable circumstances in terms of the competitive context (business environment and players) (Porter, 1990) and strategic business partnerships (Andersson et al., 2002).

Therefore, a subsidiary's initiative is any innovative activity conducted with the resources and under the responsibility of the overseas subsidiary (Birkinshaw, 1997). However, in the cases when there are no guidelines from corporate headquarters about the expected role of the subsidiary, the initiative may result from entrepreneurial behavior that headquarters does not encourage actively, but that subsidiaries nevertheless manifest. Occasionally, corporate headquarters may even come to recognize that type of initiative (Birkinshaw and Hood, 1997). Therefore, a subsidiary might show initiative even if the inducements of the headquarters are inexistent.

In summary, initiatives are the core elements for the building up the emerging country multinationals' competitive advantages, in order for them to be able to compete on an equal footing with the global market's most powerful players.

For example, Borini et al. (2009) concluded that, in general, Brazilian multinationals' subsidiaries were taking initiatives stimulated by their local environments regardless of their headquarters' consent or delegation of autonomy. In other words, subsidiaries showed a high level of entrepreneurial capacity, operating with low autonomy granted by their headquarters.

3.3. Competence in production and the rise of emerging country multinationals

The competitiveness that emerging country multinationals show in regional and international markets is justified mainly by distinctive production competences that they have developed: "for multinationals from emerging countries the competences of greater strategic value are those related to Production and Operational Excellence" (Ramamurti and Singh, 2009, p: 407); "when Brazilian firms begin their internationalization process, their Manufacturing competences come to the forefront" (Fleury and Fleury, 2009).

The meaning of that statement is that emerging country multinationals, in their home countries, produce cheaply, flexibly, complying with global quality standards, etc. They use that competence to ''springboard'' (Luo and Tung, 2007) into international markets.

In the case of Brazil, its multinationals survived that Darwinian process, the large majority of them being early-adopters of the Japanese Production Model. Firms like Petrobras, Vale, Gerdau, Embraer, CSN, AmBev, among others, were not only inspired by the JPM but they became participants in its adaptation and hybridization for the local environment as well as diffusers throughout the entire country. That led them to build competitive advantages in regards to levels of productivity, quality and cost. The corporate competence that constitutes the cornerstone of their strategy is Production; in the early stages of internationalization that is where their competitive differential resides.

For the case of India, Kumar and Chadda (2009) found that Indian firms draw their ownership advantages from their accumulated production experience, from the cost effectiveness of their production processes and from other adaptations of imported technologies achieved with local technological effort, and sometimes with the ability to differentiate products.

Ramamurti and Singh (2009) provide an in-depth view of the above statement by identifying four generic internationalization strategies: local optimizers (firms that optimized products and processes for the local market and internationalize towards other emerging markets); low-cost partners (whose core competences – factor cost arbitrage, process excellence and project management – enables them to became global suppliers); global consolidators (core competences in engineering processes for operational excellence in mature industries such as steel); and global first-movers (global innovators).

In the case of China, Williamson and Zeng (2009) observe that their core competences are linked to cost innovation: ''the sources of Chinese competitive advantage rely on their competences to apply high technology rapidly to mainstream markets, deliver variety at a low cost penalty and re-engineer niche products for the mass market, thus disrupting incumbents' business models.''

Therefore, the questions that arise are: ''is the Production competence at the root of their international competitiveness? Is it enough to provide them international expansion? And foremost, how do they manage their network of subsidiaries to upgrade the organizational competences to remain internationally competitive?"

4. Assumptions and hypotheses

4.1. Assumptions

From the previous analyses, we assume that:

(a) Every firm has to manage strategically five key competences: Production (including Manufacturing, Logistics and Supply Chain Management), Marketing (encompassing Marketing, Sales and Customer Relationship Management), Product/Service Development (including R&D and Engineering), Financial Resources Management and Human Resources Management;
(b) a key feature of the internationalization process is the upgrading the firm's organizational competences through operations in new countries and markets; organizational learning is a basal condition;
(c) for emerging country multinationals, subsidiaries play a key role in that upgrading strategy.

4.2. Research questions

We address the following questions:

- among the competences which are transferred from headquarters to subsidiaries, is Production the most relevant?
- among the competences are transferred from subsidiaries to headquarters, is Production the most relevant?; and
- how the initiative of the subsidiary transfer evolves over time in regards to competence transfer?

The quest is for the transfer of competences, not knowledge per se. Knowledge is always a stock whereas competences are always represented by verbs meaning action. The transfer of competences involves not only knowledge but also other ingredients that will make them be deployed through action. This might involve the transfer of people from the HQ to the subsidiary, training programs, coaching, joint task forces, hiring consultants to facilitate the transfer, among other mechanisms.

4.3. Hypotheses

It is expected that, as time goes by, the role played by the subsidiaries will be enhanced (Ferdows, 1997). In the case of emerging country multinationals that might be even more important because they have to learn fast, transfer efficiently their business models and create their own paths in international markets to achieve successful internationalization. Therefore, we hypothesize that:

H1. The transfer of competences from headquarters to subsidiaries is intensified over time.

The subsidiaries, through their insertion and relationships in the foreign country are a potential source of knowledge and stronger competences in international operations (Yip et al., 2000), generating strengths for strategic exposure to new markets. Thus, the decision processes are not necessarily centralized in the headquarters and the development of competences on subsidiaries is an important factor for international expansion.

The development of competences depends on the subsidiary embeddedness on host country networks (Hakanson and Nobel, 2001; Andersson et al., 2002), meaning that it takes time and effort for that process to realize. However, over time, the role to be played by each subsidiary becomes clearer to the parent and the subsidiary itself, while complementarities and synergies are identified. The relationships between the subsidiary and the constituents of its environment (institutional, financial, technological) are better established what reflects in the improved knowledge and access of the parent company to the international environment through the subsidiary. This will reveal knew scenarios through which the subsidiary might support the strategy and action of the HQ and other subsidiaries. Depending on the stage of maturity of the subsidiary's management, the transfer of competences for the parent company and other subsidiaries could be strengthened. Therefore, we hypothesize that:

H2. The reverse transference of competences from subsidiaries to HQ intensifies over time.

The inexperience in international operations as a late mover (Bartlett and Ghoshal, 2000), the paradigm of "having been born in the wrong place" (Doz et al., 2001; Mathews, 2006) and the relative lack of strategic assets in house (Guillén and García-Canal, 2009; Bonaglia and Goldstein, 2007; Mathews, 2006; Bartlett and Ghoshal, 2000) are some arguments that explain why emerging multinationals are dependent on their subsidiaries' initiatives in foreign countries.

In the case of emerging country multinationals, ideally, every subsidiary should be able to develop and transfer competences for the other organizational units thus maximizing the learning process and the competitive strengths. However, it has already been shown that initiative is dependent of the host country environmental conditions, like the competitiveness in the local industry and the quality of the existing business network (Hakanson and Nobel, 2001; Anderson et al., 2002). Then, we expect that:

H3. The reverse transfer of competences from Brazilian subsidiaries to the HQ is dependent on the initiative shown by the subsidiary.

Over time, the parent company gets to know better the operating conditions of the subsidiaries, their markets, competitive environment and institutional surroundings, both in terms of potential and constraints. The parent company also has the possibility of reorganizing the subsidiary and staffing it more properly. Transmission processes might be debugged and more appropriate mechanisms, for both transmitter and receiver, put in place.

When multinationals invest more resources in their subsidiaries, the latter have greater possibilities to develop initiatives that may turn out to be competitive advantages in the future (Birkinshaw et al., 1998). Consequently, HQs might increase the transfer of home country competences to foreign subsidiaries in order for them to improve their own competences and their initiatives. Therefore, we hypothesize that:

H4. The transference of competences from Brazilian headquarters to foreign subsidiaries depends on the initiative shown by the subsidiary.

Finally if transfer competences from headquarter to subsidiary, and vice versa, increase along the time and this transference depends on initiative, it is expected that the degree of subsidiaries initiatives increase along the period of existence of subsidiary.

H5. The subsidiaries' initiatives increase over time.

5. Brazilian multinationals and their subsidiaries

For the purposes of this study a multinational company is defined as a firm which actively manages one or more production operations overseas; exporters are not considered as MNEs no matter how much they depend from international trade. To comply with that, the universe of Brazilian multinationals was defined from our own database built from primary and secondary information, which began to be assembled five years ago. That definition distinguishes our research from research that uses secondary data about investment in foreign countries as primary source. Our database is constantly updated and compared with other lists for cross-checking. It includes manufacturing companies, as well as service firms of a technological basis (Construction Engineering and Information Technology) with project offices abroad as well as service companies with significant operations overseas.

Table 1 shows the distribution of Brazilian enterprises which are classified as multinationals, in two different years (2006 and 2010), distributed according to industry. In 2006, 42 Brazilian enterprises were classified as multinationals; in 2010, that number rose to 95. The distribution between manufacturing versus service firms remained the same: one in four belongs to the services sector.

In a rough estimate, today those firms operate around 300 subsidiaries around the world.

6. Research design

6.1. The sample

In 2006, 30 among the 42 Brazilian multinationals agreed to participate in the research; in 2010, 61 from the 95 agreed. In 2006, the 30 headquarters agreed to send questionnaires to 93 overseas subsidiaries, of which 66 were answered. In 2010, only 37 from the 61 headquarters agreed to send questionnaires to their subsidiaries; from the 150 subsidiaries contacted, 72 responded.

As we intended to make a comparative analysis, revealing shifts in the relationships between HQs and subsidiaries, we chose a subset of 22 Brazilian multinationals that have responded to both surveys. The sample included 20 large manufacturing firms and 2 engineering firms. We assumed that 2006 was the time when the majority of them were still in the entry stage in the international markets and that, in 2010, international expansion was their main challenge.

6.2. Research process

In 2006, five case studies were developed as a pilot research. That provided the basic inputs for the customization of the

Table 1
The universe of Brazilian multinationals.
Source: Fleury and Fleury (2011)

Industry	2006	2010
Based on natural resources/extractive	4	5
Producer of basic inputs	11	21
Inputs for construction	3	4
Producers of parts and components	8	11
Systems assemblers: durable goods	3	6
Complex product systems assemblers	3	6
Consumer goods	7	10
Technical services: Information Technology	5	11
Engineering services	3	4
Specialized technical services	0	6
Retailing/service operators	0	11
Total	47	95

survey's questionnaire which was designed from other questionnaires found in the literature, in particular the one proposed by Birkinshaw et al. (1998). It was pre-tested in two Brazilian multinationals and answered by the CEO or the person in charge of International Operations.

In 2010, the questionnaire was revised in the light of the experience with the previous one, and expanded to include new articles in the International Business and International Manufacturing literature, especially the one published by Knight and Kim (2009) on International Business Competences. Following the approach to surveys proposed by Forza (2002), we discussed the constructs and variables with three research groups and pre-tested the questionnaire with two Brazilian multinationals. In both cases, we used closed questions on a five-point scale, within a variance that was included with each variable.

6.3. Hypotheses

As previously shown, the hypotheses are:

H1: The transfer of competences from headquarters to subsidiaries intensified over time.

H2: The reverse transference of competences from subsidiaries intensified over time.

H3: The reverse transference of competences from Brazilian subsidiaries to headquarter depends of the initiatives developed in the host countries subsidiaries.

H4: The transference of competences from Brazilian headquarters to foreign subsidiaries depends of the initiatives developed in the host countries subsidiaries.

H5: The subsidiaries' initiatives increased over time.

6.4. Constructs and questions

The competences investigated were Production, Product/Service Development, Marketing, Human Resources Management and Financial Management. The question related with the transfer of competences from headquarters to subsidiaries checked which competences from corporate headquarters were transmitted and whether they were being used in the same way as at corporate headquarters (Frost et al., 2002). The questions related with reverse transfer of competences checked which competences developed at the subsidiaries, and evaluated as being superior to those at the headquarters, were being used by the HQs and other units within the corporate network (ibid).

Selected survey questions
The Brazilian parent company exerts strong influence in: (a) the performance of Production activities (b) the activities related to Product/Service Development, (c) Sales and Marketing, (d) Human Resources Management, (e) Financial Management, (f) the management of our supply chain, (g) the management of our relationships with customers and suppliers, (h) the planning of the subsidiaries' activities, (i) the development of our managerial systems.
My subsidiary develops and transfers to the parent company and other subsidiaries: (a) Production practices, (b) practices related to Product/Service Development, (c) Sales and Marketing practices, (d) Human Resources management practices, (e) Financial management practices, (f) Supply Chain Management practices, (g) Customer Relationships Management, (h) Strategic Planning practices, (i) Managerial systems.

To investigate subsidiary initiatives we considered: new products initiatives, new organizational processes' initiatives and the degree of support from headquarter in regards to subsidiary initiatives (Birkinshaw, 1997).

Selected survey question
In recent years your subsidiary: (a) has gained from the parent company the responsibility to execute activities aiming at innovation, (b) developed products/services which are currently commercialized by other subsidiaries, (c) developed managerial processes and/or systems which are currently adopted in other subsidiaries, (d) developed managerial processes and/or systems in partnership with suppliers which are currently adopted in other subsidiaries, (e) developed products and/or processes in partnership with universities and/or research institutes suppliers which are currently adopted in other subsidiaries.

Finally the variable period is a dummy variable where we attributed zero to 2006 year and one to 2010 year.

6.5. Statistical methods

For the analysis we applied independent t tests and multivariate regression. We could not use sounder statistical methods to compare the relative importance of competences transferred in each referenced year because the samples were small. However, t tests were used to compare differences in the intensity of transfer of competences from HQ to subsidiaries and vice-versa in 2006 to 2010. Regression was used to observe which impacts initiative and time span (2006–2010) had on the transference and reverse transference of competences.

7. Outcomes

7.1. Transfer of competences from headquarters to subsidiaries

Fig. 1, below, shows the evolution of the transfer of competences from headquarters to subsidiaries by companies studied in 2006 and 2010. A transfer indicator was created ranging from no transfer intensity (zero) until maximum transfer intensity (five).

In 2006, when the internationalization process of the Brazilian multinationals was less mature, a group of four competences was prioritized in regards to transfer to the subsidiaries: Marketing, Human Resources Management, Financial and Production. Although it is not possible to make sound statistical analyses due to the small size of the sample, the only competence that shows a differentiated position was Product/Service Development, ranked low, meaning that it was considered by HQs to be not as relevant as the others in regards to transmission to the subsidiaries.

For 2010, there are two groups again, one comprising Financial, HRM, Marketing and Product/Services Development whereas the other is composed by Production only.

Table 2 compares the intensity of transfer of competences in 2006 and 2010. The data shows that the intensity of transfer of the production Product/Services Development and Financial competences increased significantly ($p < 0.05$), whereas the intensity of transfer of the Production competence decreased significantly ($p < 0.05$). No changes were observed for the Marketing and HRM competences. Therefore, H1: The transfer of competences from headquarters to subsidiaries intensified over time, is supported in the case of two competences (Product/Services Development and

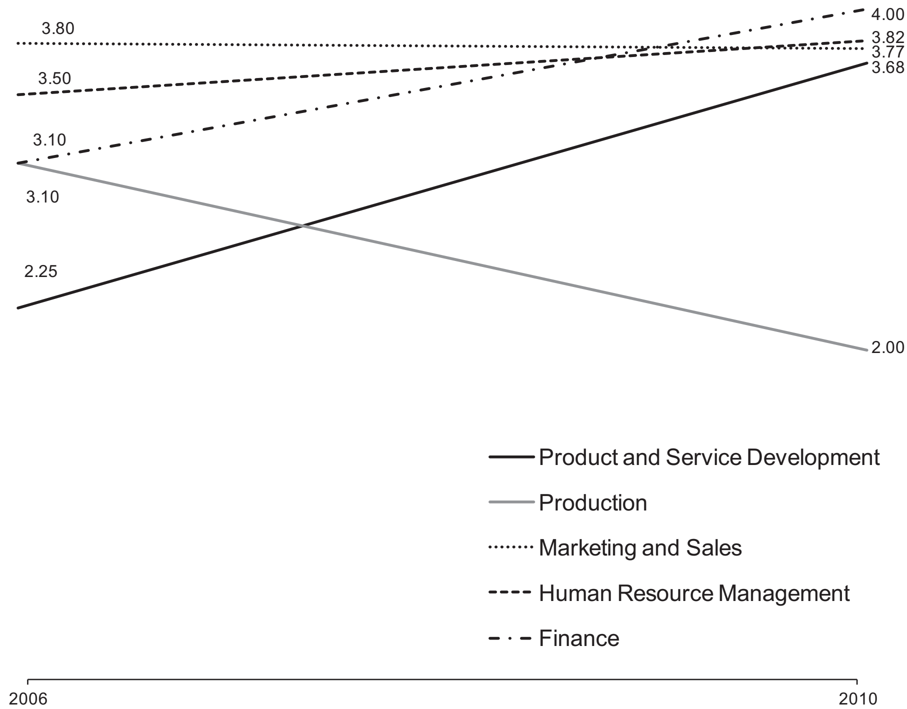

Fig. 1. Evolution of competence transfer from headquarters to subsidiaries.

Table 2
Transference of competences from HQ to subsidiaries.

Transference HQ to Subsidiaries	Mean				Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
	2006	2010	t	Sig			Lower	Upper
Product and Service Development	2.25	3.68	−3.15	0.00	−1.43182	.45439	−2.35018	−.51345
Production	3.10	2.00	3.87	0.00	1.10000	.28401	.52600	1.67400
Marketing and Sales	3.80	3.77	0.06	0.95	.02727	.42324	−.82812	.88267
Human Resource Management	3.50	3.82	−0.94	0.35	−.31818	.33941	−1.00415	.36778
Finance	3.10	4.00	−2.31	0.03	−.90000	.39019	−1.68861	−.11139

Finance), inverted for one (Production) and non supported for two (Marketing and Human Resources Management).

7.2. Transfer of competences from subsidiaries to headquarters

Fig. 2, below, shows the evolution of the transfer of competences from subsidiaries to headquarters in the 22 companies studied in 2006 and 2010.

In 2006, the set of five competences considered, constituted a unique group, all of the ranking low in regards to transfer to the HQs. For 2010, the transfer of the Production competence scored much higher than the other four.

Table 3 compares the intensity of transfer of competences from subsidiaries to headquarters in 2006 and 2010. It shows that the intensity of transfer increased for all competences but that is statistically significant for the Production competence only. Therefore, H2: The reverse transference of competences from subsidiaries intensified over time, is supported for the Production competence only.

7.3. The influence of subsidiary initiatives in transfer and reverse transfer of competences

As highlighted in the literature review, the relationships between headquarters and subsidiaries involve different dimensions, from which initiative might be chosen to represent the degree in which the subsidiary contributes to the achievement of the targets of the multinational enterprise. Therefore, it is relevant to check how the overall relationships headquarters-subsidiaries evolved through time in regards to the variable initiative.

Because Production is only competence that has its transfer intensity modified in the time span 2006–2010, as previously shown, we analyzed the influence of subsidiary initiative in regards to that competence only (Table 4).

The regression models show that the transfer of the Production competence from the HQ to the subsidiaries depends on the time span, but inversely. In other words, the intensity of transfer from HQ to the subsidiaries decreases over time, rejecting H4: The transference of competences from Brazilian headquarters to foreign subsidiaries depends of the initiatives developed in the host countries subsidiaries. On the other hand, the reverse transfer of the Production competence from subsidiary to headquarters depends on time span and also on initiatives, what supports H3: The reverse transference of competences from Brazilian subsidiaries to headquarters depends on the initiatives developed in the host countries subsidiaries. Therefore, the outcome is that what really matters for the transfer of competences from subsidiaries to HQs is subsidiary initiative.

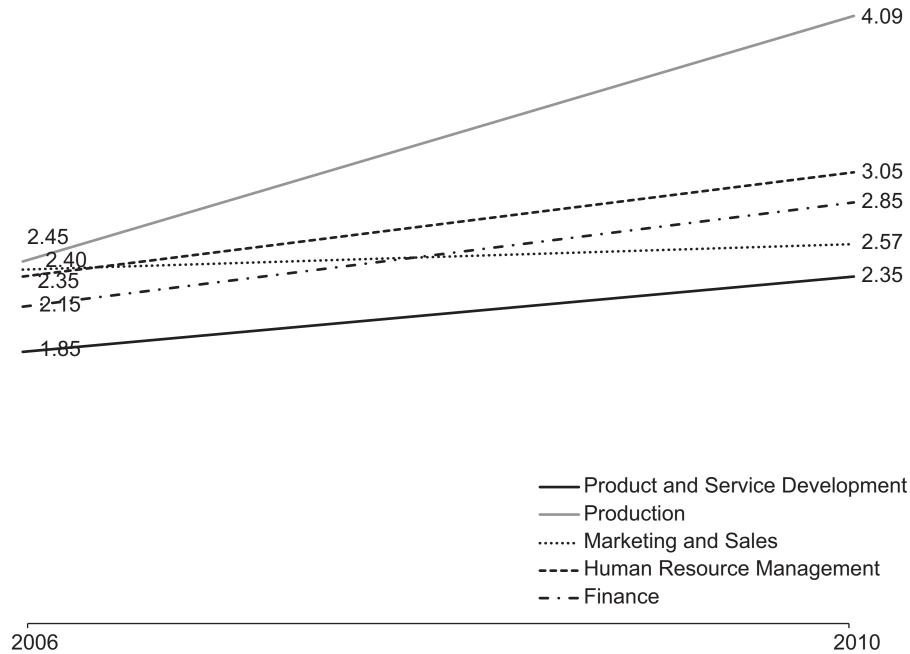

Fig. 2. Evolution of competence transfer from subsidiaries to headquarters.

Table 3
Reverse transference of competences from subsidiaries to HQs.

Reverse transference subsidiaries to HQ	Mean				Mean	Std. error	95% confidence interval of the difference	
	2006	2010	t	Sig	Difference	Difference	Lower	Upper
Product and service development	1.85	2.35	−1.082	.286	−.50000	.46198	−1.43522	.43522
Production	2.45	4.09	−3.692	.001	−1.64091	.44443	−2.53913	−.74269
Marketing and sales	2.40	2.57	−.422	.675	−.17143	.40627	−.99319	.65034
Human resource management	2.35	3.05	−1.723	.093	−.69762	.40491	−1.51664	.12140
Finance	2.15	2.85	−1.775	.084	−.70000	.39437	−1.49836	.09836

Table 4
Regression models.

Competence of production		
	HQ to S	S to HQ
Constant	3.160	0.998
Initiatives	−.0258	.0.627**
Year 2006–2010	.−1.086**	.1.259**
F	6.993	14.07
R square adjusted	0.231	0.395

*$p<0.05$.
** $p<0.01$.

7.4. *The evolution of initiative at the subsidiaries*

Fig. 3, below, shows the evolution of the dimension initiative at the subsidiaries of Brazilian multinationals. It was measured in regards to (a) the support manifested by the headquarters for them to assume initiatives and (b) the acknowledgement manifested by the HQs in relation to initiatives of the subsidiaries that result in effective contributions to new products and new organizational processes for the whole corporation.

The data show that only headquarters' support increases significantly (Table 5). However, the acknowledgement of the HQ in regards to new product initiatives and new organizational processes has no significant changes over time.

8. The evolving pattern of HQ-subsidiary relationships in Brazilian multinationals

The outcomes show that there is a shift in the HQ-subsidiary relationships over time but that is far from being mutually reinforcing.

The analysis of the 2006s data reveals that headquarters were very much concerned in intervening in the operations of the foreign subsidiary through the transfer of Marketing, HRM, Production and Finance competences. At that initial stage, the transfer of Product Development is not a major concern.

The intervention seems to be particularly relevant for Production and Finance because this involves assuming control of the activities in the foreign subsidiaries through expatriates; complimentary data coming from the survey shows that in the majority of Brazilian multinationals the positions of Financial Manager and Production Manager are assigned to expatriates, while the other senior executives might be locals.

The overall idea that comes out is that the subsidiary is expected to improve its operational performance without changes in its product line or position in the markets. The case of the Votorantim Cement in Canada is an example that we will use throughout this section. Votorantim acquired plants in the Great Lakes region in 2001 and, to establish a firm foothold, after the acquisition, made a strong effort to consolidate the Votorantim Cement Best Practices from the experience of their plants

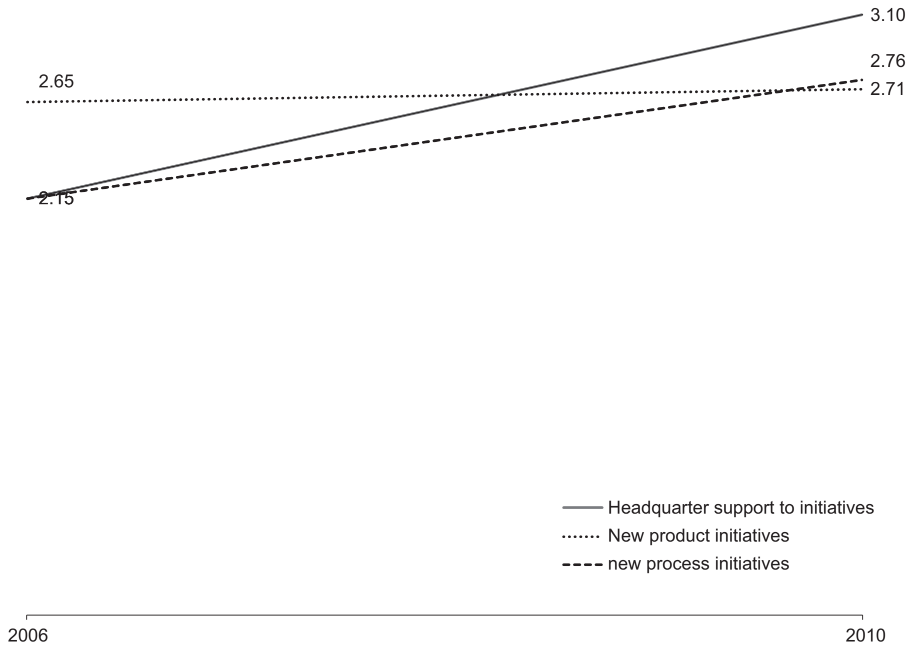

Fig. 3. Evolution of subsidiary initiative.

Table 5
Subsidiaries initiatives.

Subsidiaries initiatives	Mean				Mean	Std. error	95% confidence interval of the difference	
	2006	2010	*t*	Sig	Difference	Difference	Lower	Upper
Headquarter support to initiatives	2.15	3.10	−2.057	.046	−.94524	.45952	−1.87470	−.01578
New product initiatives	2.65	2.71	−.143	.887	−.06429	.44982	−.97413	.84556
New process initiatives	2.15	2.76	−1.479	.147	−.61190	.41365	−1.44859	.22478

in Brazil. The VCBP was subsequently transferred to the foreign plants, aiming to improve their productivity.

The transfer of Marketing competences to improve market relationships between the subsidiary and the local market is also highly ranked, meaning that the relationships with foreign customers is rethought. As to the Human Resources Management competence, its transfer is critical for the start of the exchange of people among organizational units and for the search of compatibility between the Brazilian and the foreign human resources policies and practices.

Therefore, even if Production is the core competence developed at the headquarters and what differentiates the Brazilian multinational from the incumbents, it is part of a package of competences transferred to transform the subsidiary in an organizational unit more attuned to the headquarter' strategy.

The picture changes substantially for the year 2010. The subsidiaries move from a passive role to a more contributive one. The transfer of Product/Services Development and Financial competences from the headquarters to the subsidiaries is more intense, indicating that the Brazilian parent began to work under a broader international perspective.

On the other hand, the transfer of Production competence decreases significantly suggesting that the subsidiaries became competent in Production and are then being upgraded in the Development area, aiming to reposition in regards to products and markets. That goes contrary to the common notion that emerging country multinationals have no competitive advantage in product development. An interesting case is Embraco, a Brazilian producer of compressors, that is gradually transferring product and services development competences to its Chinese subsidiary, aiming to produce locally products more appropriate for the local demand. Similar strategies were adopted by Embraer, Marcopolo and WEG. Referring to the quest enunciated by Bartlett and Ghoshal (2000), that the challenge of emerging country multinationals is to move up the value chain, the transfer of Product/Services competences from headquarters to subsidiaries seems to be part of the response.

Meanwhile, the transfer of the Human Resources management competence, which is considered a local competence, kept the same intensity. When we look at the competences developed by Brazilian multinationals in regards to HRM competences, we can identify two subgroups: one comprises the companies that already had consolidated competences in HRM, like AmBev/InBev, Gerdau, Odebrecht, among others. When those firms internationalized, their HRM model and competences were of a strategic importance and were diffused to the foreign subsidiaries. On the other hand, those firms which had not strong competences in HRM are still struggling to establish their international management models.

The notion that the subsidiaries move from a passive to a contributive position is reinforced when the analysis of the transfer of competences from them to the headquarters is considered. The data from 2006 shows that the transfer of competences from subsidiary to headquarters was relatively unimportant. However, in 2010 the situation was different.

The transfer of production competence from subsidiaries to headquarters became intense, pointing out to an increasing upgrading and eventual transfer of the responsibility for production development to the subsidiary. That would be justified especially when the subsidiary operates on markets which are more demanding or under environmental conditions which are more stringent. One case in point is Metalfrio, which started internationalization in Turkey, where it learnt a great deal about the business, a knowledge that was subsequently repatriated to Brazil, to support further international expansion that includes the acquisition of a Danish company. If we take the Votorantim case again, after the integration of the Canadian plants, it established a joint-venture with an American engineering firm, to settle a pilot plant aiming to generate knowledge to both the North American and Brazilian plants in regards to products and processes.

On the other hand, we observe that both the autonomy allowed and the integration efforts undertaken by the headquarters increased significantly from 2006 to 2010, but the initiative of subsidiaries in regards to the development of new products and new organizational processes did not increase accordingly. That suggests that the subsidiaries are unable to upgrade or develop organizational competences, with the exception of the Production competence.

Therefore, when it comes to competences in Production, the learning loop seems to be working properly. If we assume that the expected contribution of a subsidiary is limited to the Production competence only, we could then say that the role of the Brazilian subsidiaries changed from Local Implementers to Contributors, according to Birkinshaw and Morrison (1995) or from Servers to Contributors, according to Ferdows (1997). However, that seems not to be the case because the other competences are not necessarily being developed at the subsidiaries and transferred to the headquarters, as formerly mentioned. Even if we take Human Resources Management as a local competence, Marketing, Finance and Development are not, and those competences are not yet being efficiently worked out by the parent companies.

It would be plausible to infer, then, that the potential represented by the subsidiaries is not fully exploited by the headquarters, so far. There is both need and room for a more intense exchange of competences between headquarters and subsidiaries of Brazilian multinationals.

9. Is production the core competence for the internationalization of emerging country multinationals?

The analysis and interpretation of the data gathered in the surveys leads us to admit that, so far, Brazilian multinationals are not making the most of their foreign subsidiaries. They are not integrating them fast and they are not profiting from their foreignness. In this regard, the fact that their core competence resides in Production might be an asset and a handicap at the same time.

As it was shown, when only the Production competence is considered, the learning loop is being closed: there is an initial transference from HQ to subsidiaries and, after some time, subsidiaries become competent and start transferring competences for the HQ. But that seems not be the case in regards to the other organizational competences. In other words, only the Production competence has entered a virtuous cycle.

This outcome might be interpreted from different angles. First, through the Specialization Syndrome: firms that are good at doing something will tend to reinforce that specialization irrespective of the nature of the demand. Brazilian multinationals, for being competent in Production will become increasingly competent in Production. In principle, that is not positive but, if we remind the trajectories of Japanese and Korean firms, it took them a long time to move up the value chain and become competent in other areas like product/service development and international marketing (Amazaka, 2002). Thus, the short span of time that characterizes our analysis has to be taken into consideration; perhaps if the time span is longer a distinct picture might emerge.

The second angle concerns the Risk Aversion Syndrome. Brazilian multinationals adopted a strategy of minimizing risks associated to international investments and so, in most cases, they acquired firms in problematic financial state, deploying old fashioned management systems. In one hand, that creates a solid demand for the mutual involvement in production upgrading but, on the other hand, the acquired subsidiary is not sufficiently competent to provide support for the parent company in respect to the other competences. Acquiring firms in higher value added industries is not common among Brazilian multinationals, and that is also observed in respect to other emerging countries. Remarkable exceptions are Lenovo from China and Tata from India, those that did it right, as well as TCL from China, who did it wrong.

Finally, we must ask what does the study contributes for the IOM theory and practice? First of all, it allows a better understanding of firms' internationalization and the role of Production, when firms are building their own networks. It highlights the contrast of the role of Production for emerging country multinationals when compared to developed country multinationals. The former are striving to improve their competitive advantages mainly through the upgrading of Production competences, whereas the latter are optimizing their international networks through global procurement and sourcing strategies (Holweg et al., 2011). Notwithstanding, the movements of both early-movers and late-movers seem to be somehow interdependent and thus a solid knowledge about the late-movers is required for the advancement of the field as a whole.

Second, it reveals the strategies of firms which came from countries that are poorer and less developed and show the huge challenges for those who intend to strive in the globalized economy. The challenge is overwhelming: learn fast, transfer efficiently and innovate smartly. Although this study has revealed some features of the performance of Brazilian multinationals facing the challenge, there is a need of further research to check if that is different, or not, from the other emerging country multinationals.

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