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FRAMING INTERNATIONAL OPERATIONS MANAGEMENT: CONTRIBUTIONS FROM EMERGING COUNTRY MULTINATIONALS

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ABSTRACT

Despite the seminal works of authors like Bartlett, Ghoshal, Nohria, Doz, Williamson, among others, because they focused on mature multinationals, newcomers in international markets find scarce information about the design and implementation of international operations networks. In this paper we analyze the internationalization process of Brazilian and Chinese firms to understand the evolution of their networks, a process influenced by factors inexistent in studies about developed country multinationals, namely global production networks (GPNs) and country-of-origin effects. The key characteristics of their

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international operations networks seem to be well described by a stage-based approach where emerging country multinationals start as local optimizers and then evolve by taking different strategic positions within the GPN to which they are connected. That upgrading is possible when the implementation of the international operations network reaches a certain level of maturity.

Keywords: Internationalization; emerging country multinationals; International Operations Management; international operations networks

INTRODUCTION

A long list of international management models and typologies may be found in the literature, as those proposed by Bartlett and Ghoshal (1986), Nohria and Ghoshal (1997), Doz, Santos, and Williamson (2001), among others. As their object of study was mature multinationals, there is scarce evidence as to how those firms started to build their networks of subsidiaries in the early stages of internationalization.

The pioneers in the study of a multinationals' international structure were Chandler (1962) and Stopford and Wells (1972). However, those authors wrote about multinationals that had already evolved beyond the stage of international operations being coordinated by an International Division, which can be considered the simplest organizational arrangement. In other words, research has always been geared toward multinationals that already had complex structures. Recent publications, like Rugman, Verbeke, and Yuan (2010), identify a still higher degree of complexity to the issue. Acknowledging that previous authors considered aggregate national subsidiary roles only, Rugman et al. (2010) recall that current developments allow the multinational to fine slice its value chain and pinpoint each subsidiary in the location where it may best bundle its internal competences with available external resources. In other words, they observe that the number of factors to be considered in the design of international operations networks is higher than previously thought.

The aforementioned authors are looking for structural solutions which optimize global efficiency, national responsiveness, and worldwide learning simultaneously (Bartlett, Ghoshal, & Beamish, 2008). However, one must question to what extent the knowledge so consolidated contributes to

newcomers in international markets, at a time when emerging multinationals start building their own international operations networks.

To address the research question – how do firms design and implement their international operations network to penetrate international markets – we looked at emerging country multinationals (EMNEs) that are in the early stages of internationalization (Ramamurti, 2009b). Are they able to cope with the simultaneous challenges and develop complex organizational architectures or do they adopt simpler solutions?

Compared to their predecessors, the developed country multinationals (DMNEs), the EMNEs' internationalization processes present two distinct dimensions. First, EMNEs usually grow as part of global production networks (GPNs) led by developed country multinationals, what creates specific drivers and constraints for international expansion (Gereffi, Humphrey, & Sturgeon, 2005; Fleury & Fleury, 2014). Second, their key competitive advantage stems from their production and operations competences rather than the marketing and research and development competences, with the latter supporting the early internationalization of developed country multinationals (Fleury, Fleury, & Borini, 2012; Ramamurti, 2009a). Moreover, as highlighted by authors such as Peng, Wang, and Jiang (2008), there is an extrinsic dimension influencing EMNEs' internationalization, namely the institutional environment where they were born. As these dimensions bear significant differences, they have to be properly qualified in the analysis.

The analytical framework combines the literature on International Business with that on International Operations Management (IOM), because IOM is especially important for firms that have production and operations competences as their key competitive asset. In the fieldwork two EMNEs from Brazil and two from China with comparable features were studied, following the comparative historical analysis procedures (Saka-Helmhout, 2010). The data was gathered through structured interviews in both their headquarters and subsidiaries operating in both developed and developing countries. Secondary sources of information were used for triangulation purposes and archival information was used to configure historical facts.

The structure of this paper is as follows. The literature review looks at specific topics in International Business and emerging country multinationals and International Operations Management. From that review three propositions emerge. The development of the analytical framework follows, providing the basic information for the presentation of the fieldwork, which has illustrative purposes. The final sections encompass an assessment

of the usability of the framework, some preliminary conclusions about the factors that influence the process of designing and implementing international operations networks in EMNEs and suggestions for further research.

LITERATURE REVIEW

International Management Models

The first multinationals chose to organize their international activities either in one single International Division, or in divisions per products, or else per geographical regions. Stopford and Wells (1972) stated that the choice would depend on two factors: foreign product diversity and foreign sales. Later, a third factor was identified, namely the percentage of foreign manufacturing.

Since the mid-1980s, a new MNE organization logic was identified. Based on longitudinal studies of renowned global companies such as GE and Procter & Gamble, it was observed that the adopted organizational architecture became the one that best adjusted to the corporation's international strategy, which should respond both to pressures for local responsiveness and global integration. These studies lead to the identification of international management models, as presented in Table 1.

In the *multidomestic model*, subsidiaries have to serve their local markets in a differentiated way and there is little integration with the headquarters. This implies the existence of competences in subsidiaries that will guarantee a competitive edge to face local competition. Subsidiaries act as isolated companies that may receive investment from the parent company if their performance meets or exceeds expectations. Due to high autonomy and low integration between subsidiaries and headquarters and amongst the

Table 1. International Management Models.

Type	Key Features
Multidomestic	Autonomous subsidiaries; high responsiveness to local demands
Global	Build cost advantages through centralized global scale operations
Transnational	Exploit knowledge and competences through worldwide diffusion and adaptation
Metanational	Speed in combining knowledge from different parts of the world and roll out the results throughout the world

Sources: Bartlett and Ghoshal (1998), Doz et al. (2001).

subsidiaries themselves, competences developed in subsidiaries are exclusive, that is, they are not transferred.

In the *global model*, competence transfer follows a unidirectional path, from center to periphery. Strong communication, shared values, credibility deposited in subsidiaries, and world standards in the search for global efficiency are elements that facilitate competence transfer. However, the lack of autonomy, together with standardization, requires that subsidiaries use competences developed at headquarters. Subsidiaries may develop competences, but it is a development aligned and led by the parent company, which for some strategic reason is then developed in the subsidiary. This may be justified by lower development costs, adequate and cheaper external services, and tax-free research investments, among other reasons.

The third model is the *transnational*, which is capable of merging the global and multidomestic models in a configuration that accommodates different types of subsidiaries with different types of relationships with the headquarters. In the configuration of differentiated network, the relations between headquarters and subsidiaries are not uniform, which implies a more complex management style. The question of autonomy and integration, for example, is outlined differently: one subsidiary may present strong integration with the headquarters and little autonomy, whereas another may be highly autonomous and less integrated.

Finally, the *metanational model* proposes to solve two points left untouched by the previous models: the insertion of companies in global business networks as a source of knowledge and competences and the governance relationship between parent company and subsidiaries in competence development and transfer in subsidiaries. According to Doz et al. (2001), the greatest challenge faced by multinationals is developing global learning. In the metanational strategy, the multinational has the notion that the competitive advantage is not created by headquarters or major subsidiaries only, but rather by each and every subsidiary, including those that were typically global or multidomestic subsidiaries only a while ago. This goes against approaches that advocate determined roles for subsidiaries and supports the evolutionary theory of competence development in any kind of subsidiary without previous acknowledgment or authorization.

A critical differential of the metanational strategic model is its focus on discovering and exploring hidden knowledge all around the world, as opposed to the transnational strategy model, which defends learning from a particular subsidiary as being of greater strategic importance. Thus, competences in the metanational model are developed both at headquarters and at subsidiaries of multinationals, including branches that have not yet

received a strategic role of global importance but have developed their own initiatives for the creation of competences. The metanational model acknowledges the importance of actors external to the corporate network: subsidiary partners and the context in which they are operating. In other words, the places where subsidiaries and headquarters operate become equally important for corporate strategy. Hence, competences may be created by both headquarters and subsidiaries and valued equally regardless its origin.

Along with those models, subsidiary roles typologies were also proposed. For example, [Bartlett and Ghoshal \(1989\)](#) suggested a four-fold typology depending on the relative importance of the market where the subsidiary is located and the level of competences it displays: implementer, contributor, black hole, and strategic leader. For [Birkinshaw and Hood \(1998\)](#), subsidiaries may develop initiatives that spill-over the assigned roles. According to the type of initiatives, subsidiaries can be categorized as implementer, contributor, or global mandate.

International Operations Management Frameworks

The field of International Operations Management brings important complementarities to the above mentioned models because, for the very nature of the field, the analysis is more detailed, more fine-grained, especially in what concerns the issue of international manufacturing networks. However, as their approaches focus on the manufacturing function the most strategic level addressed is international manufacturing strategy rather than the firm's internationalization strategy.

In 1998, the "Cambridge Approach" presented by [Shi and Gregory \(1998\)](#) expanded [Hayes and Wheelwright's \(1984\)](#) Factory Manufacturing System concept, toward international manufacturing networks. By considering geographic dispersion, coordination mechanisms (both horizontal and vertical) and factory's characteristics as key dimensions for analysis, the authors identified seven types of network configurations related to four types of network capabilities.

Configuration means the combination and interaction of all elements that define the network: geographic dispersion, governance, operations processes, and subsidiary roles. These are elements of the network design; their implementation will result in a network configuration. For [Shi and Gregory \(1998\)](#) seven possible network configurations exist: regional

uncoordinated, home exporting, regional exporting, multidomestic, globalised, global-integrated, and global-coordinated.

Network capability is the ability, derived from the network configuration, to deliver key outputs that fulfill the network's mission. Fleet and Shi (2005) and Srai and Gregory (2008) proposed a classification of network capabilities that includes cost efficiency, customer responsiveness, resource accessibility, agility, learning, risk management, and manufacturing mobility.

In regards to subsidiary roles, Ferdows (1997) proposed a six-type categorization: server, contributor, source, offshore, lead, and outpost, a typology congruent to Birkinshaw and Hood (1998).

The Analytical Framework Built from IMM and IOM Focusing on DMNEs

The combination of the constructs and concepts derived from studies of DMNEs, as previously mentioned, allows for the proposition of an analytical framework described in Table 2.

The complementary constructs are defined as follows.

Network Mission

In the IB literature, the traditional definition of network mission is global efficiency and local responsiveness. In the IOM literature, Zhang and Gregory (2011) admit that the network mission can be: (1) efficiency-oriented, when it seeks economies of scale/scope, international operations synergies, the leveraging of expertise or precious resources on a global scale, and the sharing and reuse of existing solutions; (2) innovation-oriented when it seeks customer intimacy, technology leadership, and market/technology-driven innovation, learning across disciplines or organizations; or (3) flexibility-oriented when it seeks flexible work approaches, mobile engineering resources, reconfigurable network structures, and local responsiveness.

Geographic Dispersion

Although dispersion is usually drawn by forces external to the company, especially new market opportunities, there is a full range of options from domestic to multinational manufacture (Shi & Gregory, 1998). Domestic means that all production is carried out in a single country serving both home and export markets. Regional approaches set up factories and

Table 2. Description of the IOM Analytical Framework.

Level	Design Element	International Management Model			
		Multidomestic	Global	Transnational	Metanational
HQ	Network mission	Local responsiveness	Global efficiency	Local responsiveness and global efficiency	Learning and worldwide competence development
Intra-firm network	Dispersion	Ruled by demand	Ruled by production	Ruled by specialization and differentiation	Ruled by integration
	Governance – coordination	Decentralized	Centralized	Contingent	Synergetic
	Flow processes	Locally defined	Standard – global	Formal/informal	Informal/formal
	Configuration	Regional uncoordinated or multidomestic	Globally integrated	Globally and locally coordinated	Globally integrated
	Capability	Customer responsiveness or resource accessibility	Cost efficiency	Cross national learning	Global learning
Subsidiary	Assigned role ^a	Contributor	Implementer	Contributor/leader	Contributor/leader
	Host country effects	Not considered	Not considered	Implicitly considered	Explicitly considered
	Local value networks	Not considered	Not considered	Implicitly considered	Explicitly considered
	Initiative/actual role ^b	Contributor	Implementer	Global mandate	Global mandate

^aBased on Bartlett and Ghoshal typology.

^bBased on Birkinshaw and Hood typology.

networks located in a particular geographical region, usually sharing similar cultural value systems. Multinational approaches, with trans-regional dispersion, involve factories located in several countries and continents.

Governance/Coordination

Once a business moves beyond a conventional single domestic operation it is obliged to establish authority structures and international coordination mechanisms, which refer to linking or integrating the production and distribution facilities in order to achieve the firms' strategic objectives or its network mission (Meijboom & Vos, 1997; Shi & Gregory, 1998). For Zhang and Gregory (2011), governance refers to the mechanisms that direct and control the network, including authority structures, performance measurement, and coordination mechanisms. In principle, there can be two generic orientations: multidomestic (weak coordination and more independent factories) and global (strong coordination and more interdependent factories, from either designed system structures or operations processes).

Emerging Country Firms' Internationalization Strategies

The first insight into EMNEs' strategizing was provided by Mathews with his linking-leveraging-learning approach. His arguments rely on the pluralistic character of the process of globalization, as contrasted with the conventional account that sees a trend toward uniformity and convergence. The author stressed that 21st century globalization allows a connectivity that facilitates international flows, conditions absent when incumbents internationalized. As these are being fully exploited by EMNEs, Mathews identified as their key features: accelerated internationalization, organizational innovation rather than technological innovation and implementation through strategic innovations.

However, it is problematic to generalize Mathews findings, because EMNEs are not a homogeneous group, the diversity being justified by country-of-origin effects mainly (Sethi & Elango, 1999). Among the BRIC countries, Brazil and Russia are rich in natural resources while China and India have large populations and scarce natural resources. That favors the development of nature-based companies in the former countries and labor-intensive type of industries in the latter. In regards to business ecosystems, the differences are also significant. The international expansion of Chinese multinationals has been supported by the local government through the "Go Global" project, among other initiatives, what led Ramamurti (2009b)

to coin the term GSA – Government Specific Advantages. Conversely, both Brazilian and Indian governments show conservative attitudes in regards to the importance of their firms moving abroad. China and India are considered nations that cultivate entrepreneurship while Brazil is said to be more conservative and risk-averse. Russia has a very particular type of institutional environment favoring oligarchies.

Ramamurti's generic internationalization strategies (2009b) take into account those country-of-origin effects:

- Natural resources vertical integrator – firms located in countries rich in natural resources and large demand for such inputs, which internationalize to achieve forward integration to downstream markets and/or backward integration upstream to secure natural resources;
- Local optimizer – firms located in countries populated by low-income consumers and underdeveloped “hard” and “soft” infrastructures, having the ability to reengineer imported products, modifying them to better suit emerging markets;
- Low-cost partner – firms located in low-cost labor countries, where a large pool of skilled labor is available, which become global suppliers for GPNs and move up the value chain to increase value-adding and move down the value chain to diversify supply locations;
- Global consolidator – firms located in large and rapidly growing home markets where customers are price sensitive, which achieve manufacturing excellence and move internationally to achieve global scale through the acquisition of poorly performing companies;
- Global first-mover – firms located in countries characterized by large and rapidly growing demand in a new industry where design, engineering, and production are low cost, targeting the global market and internationalizing to acquire key technologies or capabilities and customer access.

Additionally, for many EMNEs, their internationalization processes stands from the role they perform global production networks. Fleury and Fleury (2007, 2014) identified four likely positions in GPNs, depending on the core competence and competitive advantage of the firm: manufacturer (core competence is manufacturing), developer (core competence is research and development), integrator of complex product systems (core competence is systems engineering) and service operators (core competence is service operations management). The concept of network governance – the control of the network by one particular firm while the remaining firms position themselves according to their core competences – is particularly

relevant for the understanding of the impact of GPNs in EMNEs internationalization.

PROPOSITIONS

The variables involved in the design and implementation of international operations can be depicted in the following model.

The model first suggests a direct relationship between internationalization strategy, as previously defined, and international network design and implementation. Additionally, we propose that the baseline relationship in Fig. 1 will be further modified by two contingencies. Specifically, since EMNEs internationalize following a particular set of strategies, as formerly mentioned, the way in which they design and implement international operations networks and associated management systems will be influenced by the interactions within GPNs (the GPN Effect) and home countries (the country-of-origin effect).

The notion that structure follows strategy comes from the early works by Chandler (1962). In our case, we are focusing on a particular type of strategy – the internationalization strategy of an emerging country firm – and the way in which these firms organize their resources internationally to accomplish the strategy. Since emerging country firms may adopt different internationalization strategies:

P1. EMNEs will configure different international operations networks depending on the adopted internationalization strategy.

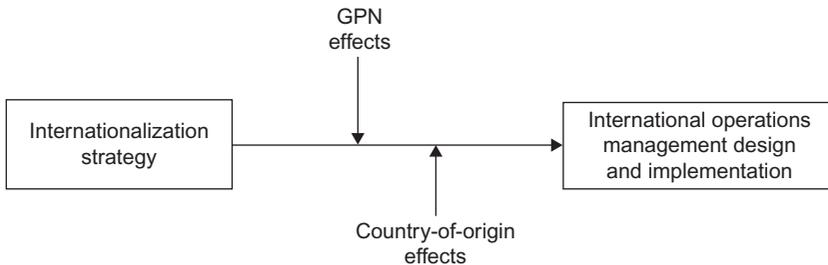


Fig. 1. The Model for Analyzing International Operations Design and Implementation.

Country-of-origin effects may stimulate or inhibit the internationalization process. Factors endowment will have both a vertical effect in what concerns the development of the types of industry which are more benefited by them (e.g., natural resources) or transversal when there are factors that benefit all industries like abundant qualified workforce. Cultural traces affect the propensity of firms toward internationalization and risk-taking. Governmental policies may provide support or barriers to investing abroad. Therefore, we propose that:

P2. Country-of-origin effects will influence the design and implementation of international operations networks.

Usually, EMNEs engage in global value chains commanded by multinationals from developed countries and are expected to upgrade to survive and prosper (Bartlett & Ghoshal, 2000). Therefore, we propose that:

P3. The upgrading of EMNEs in global production networks relates to the increasing capability of their international operations networks.

RESEARCH DESIGN AND FIELDWORK

In this study, comparative historical analysis (CHA) was adopted (Saka-Helmhout, 2010), a method that meets the challenge of dealing simultaneously with capturing the interactions and attaining causality in patterns of activities for generalizability. The objective is to identify patterns of causalities or regularities in the phenomenon embedded in historical contextual singularities across countries to improve the generalizability of cross-country comparisons. The approach combines detailed case studies with systematic comparison. Detailed accounts ensure that the context-embeddedness of the conditions underlying the phenomenon of interest is elicited. A systematic comparison allows for a significant theoretical leverage so that generalization is made possible. For such an analysis to serve as a theoretical lever, the cases must be theoretically sampled and comparable.

Two Brazilian multinationals, Alpha and Beta,¹ as well as two Chinese multinationals, Gamma and Delta, were examined according to three evolutionary stages of their lives. The analyses focused on the last 20 years of existence, which is when they expanded sales and production to global markets. The four firms were selected due to the following reasons. First, they are successful industrial firms with subsidiaries located in developing

countries (besides their respective home countries) as well as developed countries (in Europe and North America). Second, we aimed to enhance the discriminatory power of the comparative analysis by pairing the firms according to the similarity of their respective industries (Alpha with Gamma and Beta with Delta). Third, they are largely connected to GPNs from their respective industries. Lastly, the evolution of their strategies and operations is largely documented.

Historical data was gathered and analyzed for further discussion with the company's executives at both the headquarters and subsidiaries, leading to the identification of potential contingency factors concerning network design and relationships between the network and strategic context. Due to the nature of the issue, very little documentation was available in the companies, thus making historical data and interviews as the main source of information. Triangulation was possible through the access to some related company presentation material.

Semi-structured questionnaires were used during the sessions, with opportunities for clarification as well as collecting supplementary information between sessions. Most of the meetings had two researchers, one leading the discussion and the other taking notes and asking questions for clarification. Notes were compared after the meetings and then shared with the executives for validation. Then, comparisons were made between the EMNEs.

Alpha: Creating the Capabilities to Internationalize

Alpha, a large Brazilian tech company, branches out internationally in eight countries, including China, France, Ireland, Portugal, Singapore, the United Arab Emirates, the United Kingdom, and the United States.

1969–1993 – The Local Producer of a Global Product

Initially as a state-owned enterprise, Alpha's mission was to produce high-tech products for the Brazilian market and contributing toward the development of the country. Having to negotiate with large DMNEs for the acquisition of technology, Alpha became a modest client in large GPNs. Also involved in partnerships with mid-sized Italian and American manufacturers, supplier for a large American manufacturer, the company created international links early in its history.

As part of a large governmental project, Alpha had the support of a research center and an engineering school. Besides, to make feasible the global sale of its products, Brazilian public banks created a financing plan.

Alpha's strategy initially focused on domestic demand and exports started in the late 1970s only. As a precondition for that, Alpha created a network of subsidiaries specialized in sales and after-sales.

Therefore, in the first stage of its history, Alpha was an isolated, vertically integrated tech manufacturer, using components imported from DMNEs, as well as selling its products all over the world. Alpha's ION configuration could then be categorized as home exporting manufacturing (Shi & Gregory, 1998), given that it had no international production subsidiaries, centralized manufacturing in home the country and operated a global logistic system (for the acquisition of supplies and provision of sales and after-sales services).

1994–2000 – Becoming the Leader of a Minor Global Production Network

Alpha was privatized in the early 1990s in its delicate financial situation. The government gradually withdrew direct support, maintaining indirect influence through a “golden share” stake. The newly empowered stakeholders gave Alpha a new strategic intent, redefining its corporate mission, from technology-oriented to market-oriented, and implemented a new culture and organization.

Alpha also headed a network of foreign partners who were, previously, ordinary suppliers. That is to say, the company reshaped its international network to maintain its position in international markets.

For the most part of the second stage of its history, Alpha's ION configuration remained as home exporting, because it still had no international production: manufacturing was kept centralized in the home country while risk-partners became key suppliers. Alpha's new products required increasingly complex inbound logistics and sales, thus justifying the expansion of that type of subsidiary.

The success of its new products consolidated Alpha as a complex product systems integrator and leader of a minor international production network. That arrangement provided extraordinary competitive edge for Alpha. Due to the flexibility of its international network, Alpha emerged as a new challenger in its industry.

2001-Present – Global First-Mover and GPN Leader

In the 2000s, Alpha changed into a global first-mover. Its previous experience in product development production and sales enabled the company to

set up a much more complex international network of production involving renowned DMNEs. At the same time, this newly assembled GPN made possible for Alpha to diversify its corporate strategy by entering into new businesses.

Alpha's ION gradually expanded, changing significantly its position in the GPN by "deverticalizing" production and strengthening its interface with suppliers, partners, and markets. Its ION can be categorized as a global-integrated manufacturing configuration (GMC3), according to [Shi and Gregory \(1998\)](#), but it has a regional orientation in what concerns sales and services. This configuration is meant to lead to capabilities of resources accessibility and learning ability, to satisfy the main mission of market presence.

In sum, as a global first-mover ([Ramamurti, 2009b](#)), the reasons for going abroad are to acquire global customers and scale as well as to acquire key missing technologies and capabilities. It occupies a unique leading position in its GPN, as a complex systems integrator. Companies such as Alpha, which operate in high technology, fast-moving global industries, are likely to develop innovative management models for their network-based organizations.

Beta: From Low-Cost Supplier to Global Consolidator of Industrial Equipment

Beta is one of the world's leading technology manufacturers. Its global presence embraces subsidiaries in nine countries besides Brazil: Argentina, Mexico, the United States, India, South Africa, Portugal, Austria, Germany, and China. Commercial offices are located in 28 other countries. Beta sells to over 100 countries and has over 100 authorized repair shops covering all continents.

1961–1990 – Beta's Growth in a Period of Imports Substitution Industrialization

Beta was founded in the 1960s with the mission to domestically produce technology cheaper than the imported technology. At that moment, the imports substitution was at its peak, therefore the government provided broad support to start business, as well as specific financial support for R&D activities.

Located in Southern Brazil, the prevalent European culture led Beta to develop a strong organizational culture and embrace a participative

management system, where decisions are made by committees. The structure is highly vertically integrated, from assembly to sales and distribution.

Since the very beginning, Beta has had a global mindset. Modest exports to neighboring countries started in the 1970s, in order to sell excess production, but during the 1980s exports became priority. The Exportation Department was created with the mission to open new markets, and to export even when returns were negative. The main objective was to learn how to serve sophisticated foreign markets and thus reshape the company's strategies. The R&D department was also created at that time.

Therefore, in the first stage of its history, Beta was an isolated, vertically integrated manufacturer for domestic markets, but with increasing exports, first to neighboring markets and then to more demanding ones. The weaknesses of a strategy based on exporting through foreign distributors soon became evident, and Beta started to establish commercial branches, the first one in the United States. The Exportation Department was renamed International Department. The role of the commercial branches was to approach large clients while distributors would keep their role as suppliers to retailers. According to [Shi and Gregory \(1998\)](#), Beta's ION configuration would then be categorized as home exporting manufacturing, because it had no international manufacturing operations, centralized manufacturing in home country, and operated a global logistic system (for the acquisition of supplies and distribution of products).

1991–2003 – From Home-Exporter to Low-Cost Partner

In the early 1990s, with the new wave of globalization, Beta was ready to expand exports to a wide range of segments, from universal to make-to-order products. It was then categorized as a low-cost partner ([Ramamurti, 2009b](#)).

The mission of its ION was largely related to be present in preferential markets, but it became clear that it had to change its mission to dynamic responses, seeking closer relationship with its clients. The corporate supply chains are dispersed in many countries to access to the most optimized resources, markets and strategic capabilities according to the corporate strategic intentions. Beta used to distribute supply chains vertically and centralize each stage of process to reduce the duplication of manufacturing facilities. This configuration is meant to lead to capabilities of resources accessibility and learning ability, to satisfy the main mission of market presence. Thus, Beta moved to a global-integrated manufacturing configuration.

2004-Present – From Low-Cost Partner to Global Consolidator

In the 2000s, Beta decided to invest in foreign plants through acquisitions seeking, from the world's largest markets, those where legal and political stability prevailed. Beta has kept its main position as a world-class manufacturer, and its generic internationalization strategy shifted to global consolidator.

The mission of the network combines efficiency-orientation and flexibility-orientation. There is excess capacity and redundancy in different foreign plants, what was observed in the Chinese plant which exports almost half of its production to other subsidiaries. Recently, Beta changed its organizational structure: each subsidiary was relocated to one of the business units and the International Department became responsible for the commercial operations only. The aim of this change was to increase coordination and synergy between the foreign and Brazilian plants.

Dispersion of Beta's ION can be categorized as worldwide due to the high number of subsidiaries present in a large number of regions and countries, to serve five business units. Governance follows a global pattern since units are horizontally coordinated and there is no hierarchy among them. Processes are both standardized and ad-hoc due to the specifics of the products and the business units. Therefore, the configuration is global-coordinated and network capabilities combine manufacturing mobility and thriftiness ability, to satisfy the mission of global competitiveness.

In sum, Beta is characterized by a high level of strategic entrepreneurship. Also, it is a global consolidator in its internationalization strategy, the reasons for going abroad are to acquire global customers and scale as well as to acquire key missing technologies and capabilities. It occupies a traditional position in its GPN, as a manufacturer, although secondarily it is also a technology supplier and service.

*Gamma: From Importer and Distributor to Global First-Mover
in a Hi-Tech Industry*

Gamma is a large telecommunication equipment and service provider, headquartered in China. The firm was founded in the 1980s as a private firm. It grew outstandingly, especially after 2001, with sales growth exceeding 25% annually. In 2013, Gamma had over 150,000 employees, among that over 20% are foreigners and 40% are R&D staff. The company runs over 100 sales offices and more than 20 research institutes worldwide. Having developed a very complex supply network, Gamma developed its

own approach to governance mechanisms due to the increasing complexities in market demands, products and technologies.

1987–1997 – From Product Importer and Distributor to Local Optimizer

The company was founded as a distributor of technology products imported from Hong Kong, facing fierce competition from foreign multinational giants. The 1990s witnessed the fast growth of its local industry and Gamma realized that the company could not survive long if depending merely on selling products. Therefore, the company started to build up its own operations, prioritizing technology development.

At that time, national and industrial policies were focused on leveraging the growth of state-owned enterprises (SOEs), which relied on technology transfer, through joint ventures with foreign MNEs. Differently from those firms, Gamma's transformation started with R&D rather than production, based on the principle that to survive in a high-tech industry, firms must have their own technological advantages.

During its initial evolutionary stage, R&D activities focused on reverse-engineering, while the company invested much of its revenue to develop its own technology. As a dealer, Gamma had solid experience and knowledge on how to capture the demands of the Chinese market, what allowed the company to develop the capabilities to serve customers with the appropriate technologies. By 1990, Gamma has achieved its first breakthrough delivering the most advanced product of its local industry. Its huge success significantly improved Gamma's revenue.

Due to the increasing demand, Gamma centralized its production at home, where there was a better interaction with R&D in order to provide tailored solutions. The company targeted markets in rural areas neglected by the SOEs and MNEs. To serve those markets, Gamma built a hierarchical structure of sales and service network, from Province, to City and to Town. With the rising awareness that high technology is relevant to national security, Gamma, as a local manufacturer, was increasingly supported by national policy and developed good relationship with governments and military agencies. Gamma kept its operations network in China, while enhancing its technological capabilities.

1998-2004 – From Home-Exporter to Developer

In 1998, Gamma started a transformation aimed at changing the ways of managing to adapt to its growing size, to enable the domestic-market-focused company to be integrated for internationalization. Seeking to establish a Western management system the company integrated internal

operations resources to improve the efficiency to respond to customer needs through integrated supply chain management (ISC), integrated product development (IPD), and integrated IT supporting system. ISC and IPD focused on standardizing internal processes from sourcing raw material to fulfilling customer needs whereas the IT systems were an enabler for the integration. In this way, Gamma established a fully integrated, responsive, and efficient global value chain covering the whole spectrum from R&D to sales.

In the late 1990s, Gamma won its first overseas bid, selling its products to a Hong Kong company. Two years after, Gamma established an R&D branch overseas where they could employ cheap software engineers. Since then, Gamma boosted its internationalization through building up new research centers in developed countries. These centers were actually used to scan and learn new technologies from competitors or universities or industrial clusters. On the other hand, Gamma reinforced its development capabilities in China by establishing new development centers in large Chinese cities. The development centers, albeit in China, are focused on transferring technologies or applied research in overseas centers into their product through ISC and IPD. Such development also emphasizes to meet home and overseas customers' specifications as much as possible.

Gamma centralized its IONs in China with global logistics for two reasons. Firstly, it provides global efficiency for the operations as a result of the scale and scope of economies. Secondly, Gamma integrates its supply network so that the company has more power and fewer risks in its global operations.

Until 2000, when the company moved its focus to overseas markets development, Gamma's major markets were China's neighboring countries. Huawei's ION configuration was regional exporting manufacturing (GMC2), because the company operated by the centralized production plant in China with a logistic system delivering to regional markets.

2005-Present – Global First-Mover in the Industry

Around 2000, Gamma first entered the European market. However, at that time, their business in Europe was based on very unstable sales, as few customers knew Gamma and its products. The main purpose to enter was to learn technologies and understand market needs in developed countries.

Gamma started to expand to the rest of the European market after 2005. Since 2005, Gamma has over 50% profits from overseas markets, an indicator of its successful internationalization strategy. Meanwhile, Gamma's new research centers overseas reinforced its capabilities in

technological innovation. From 2008, Gamma has become one of the most innovative companies worldwide, as measured by its patent applications.

The expansion of European markets brought challenges for the company, one of which was on-time delivery due to the centralized production, huge complexity of products, and dynamic and uncertain needs. Gamma started to decentralize its ION by building greenfield investments in different regions.

Currently, Gamma has five foreign global supply centers that take charge of the production for each region while the home country plants are responsible for all the other markets. Together with its decentralized research facilities, the company is able to quickly transfer market needs into products. According to Shi and Gregory (1998), Gamma's current ION is the glocalised manufacturing configuration (MMC3).

Delta: The Rise of a Parts Supplier in a Traditional Global Industry

Delta started as a township-village enterprise in the late 1960s. Currently, it is specialized in the production of four categories of components. Its sales revenue in the domestic market exceeded US\$ 3 billion, which indicated it became one of the largest components producer in China. Delta's internationalization trajectory can be described as follows.

1969–1992 – From Contract Manufacturer to Exporter

In the highly protected and regulated industry, it was very difficult for Delta to increase its domestic share, because production of components was centrally planned by the government, which assigned orders primarily to SOEs. Therefore, it began to export parts to the United States in the early 1980s, acting as a contract manufacturer a local company. By 2001 it expanded its exports to the United States substantially. Additional markets were opened in Europe, South America, and Japan.

1993–1999 – Establishing a Sales and Distribution Network Abroad

Delta created its first overseas subsidiary in the United States in the early 1990s. That subsidiary was active in building and extending the marketing and sales network across North America, South America, and Europe. Later Delta Europe and Delta South America were established as affiliates to the American corporation, to take charge of overseas business in Europe and South America. In the late 1990s, Delta bought majority shares in a local competitor in the United Kingdom, to market and sell its products in

the European market. Worldwide, Delta has built an international sales network that covers over 60 countries.

2000-Present – Becoming a Low-Cost Partner and Global Follower

Since 2000, Delta entered international production, mainly through acquisitions. In 2000, it acquired its ex-partner in the American market, incorporating its equipment, brand, technology patents, and distribution channels. This and other acquisitions significantly enhanced Delta's businesses in North America.

Delta runs a number of manufacturing plants in the United States. From every factory, it transferred some capital-intensive production processes to China to achieve economies of scale; most labor-intensive production processes, such as component production process, were also transferred to China to make use of its low labor cost and to achieve economies of scale. All plants in the United States stayed in the front and bottom of its value chain, that is, its product design and customization and assembly, testing, and packaging, respectively. Table 3 summarizes the cases.

DISCUSSION

The comparative analysis of the four cases suggests that the design and implementation of IONs follows a stage-based model, as Galbraith (2000) already noticed in multinationals from other nationalities. Such evidence ratifies the importance of experiential learning in internationalization processes: the company must learn how to transfer its competitive advantages to other foreign subsidiaries while seeking to maximize its benefits for the whole of the network.

However, the stages described in all the cases seem to be specific examples for EMNEs. In the first stage, they may all be categorized as local optimizers, that is, they develop and produce products and services that provides them competitive edge in the domestic market and, at times, in other developing country markets. From then on, EMNEs start changing their positioning and internationalization strategies, as well as reconfiguring their IONs.

In the second stage, either the EMNE upgrades in the GPN, moving to a position in which its portfolio of activities has higher added-value (Alpha ratifying its position as Complex Product Systems Integrator and Gamma

Table 3. Summary of the Cases.

		Alpha	Gamma	Beta	Delta
<i>First stage</i>	<i>Time period</i>	1969–1993	1987–1997	1961–1990	1969–1992
	Internationalization strategy	Local optimizer/manufacturer	Local optimizer	Local optimizer and exporter	Local optimizer and exporter
	GPN position	Client of other GPNs	Isolated from GPNs	Isolated from GPNs	Isolated from GPNs
	COE	SOE	Huge local market needs	Imports substitution	Barriers to local expansion
	Network mission	Inbound and outbound logistics support	Technology hunting	Distribution – international exports	Distribution – international exports
	Configuration	Scattered business units	Scattered business units	Contracted distributors	Contracted distributors
	Coordination	Centralized	Centralized	Centralized	Centralized
	Subsidiary roles	Support imports and exports	Outposts (Ferdows, 1997)	Distribution	Local server (Ferdows, 1997)
<i>Second stage</i>	<i>Time period</i>	1994–2000	1998–2004	1991–2003	1993–1999
	Internationalization strategy	Local first-mover	Low-cost global supplier	Low-cost global supplier	Low-cost regional supplier (the United States)
	GPN position	Developer and leader small production network	Global supplier; developer for local markets	Manufacturer	Manufacturer and regional follower
	COE	Market opening and privatization	Government support for internationalization	Market opening and increased competition	Government support for scaling-up
	Network mission	Coordination of globally distributed design and manufacturing networks	Technology learning and regional manufacturing	Presence in preferential markets supplying GPN leaders	Improve quality and exports; supplying GPN leaders
	Configuration	According to partners	R&D centers worldwide; centralized manufacturing	Regional manufacturing plants; global assistance	Double-core centers
	Coordination	Project management	Integrated management systems	Centralized	Centralized
	Subsidiary roles	Support imports and exports	Technology hunting and regional manufacturing	Implementer	Distribution, Business seeker

<i>Third and current stage</i>	<i>Time period</i>	<i>2001-Present</i>	<i>2005-Present</i>	<i>2004-Present</i>	<i>2000-Present</i>
	Internationalization strategy	Global first-mover	Developer plus integrator and manufacturer	Global consolidator (manufacturer)	Global consolidator (manufacturer)
	GPN position COE	Leader of GPN Strong but manageable	Global supplier Strong but manageable	Global supplier Increasingly independent from COEs through internationalization	Global supplier Government support for internationalization
	Network mission	Global presence selling to customers	Global presence serving diversified global clients	Global presence in diversified markets	Supply the local industry
	Configuration	Product/market configuration	R&D labs in developing countries; manufacturing plants serving regional markets	Regional manufacturing plants; global assistance	Regional manufacturing plants
	Coordination	Project management and industry standards	Integrated management systems, industry standards	Centralized; participative managerial system; corporate standards	Decentralized, industry standards
	Subsidiary roles	Ranging from black hole to global mandate	Regional strategic leader	Contributors and global mandate	Contributors and reverse transfer of technology to China

its position as Developer), or keeps its role in the GPN and increases substantially its global reach. Examples here are the cases of Beta and Delta maintaining their manufacturer roles and growing internationally through acquisitions from incumbents, which withdrew from certain positions in the GPN (Fleury & Fleury, 2014).

The third and current stage has the EMNEs seeking to consolidate their positions in international markets through both acquisitions and organic growth. The increasing number and the diversification of subsidiary types, with amplified coordination needs, require a deep restructuring process at the company level.

The international management models adopted are hardly comparable to those in Table 1. These EMNEs have not been moving toward a multi-domestic model because they have been striving to integrate their IONs in order to explore synergies and accelerate the expansion abroad. They have not been adopting a transnational model either, because they have not been exploiting their own knowledge and competences. On the contrary, they have been exploring new knowledge and competences through the foreign subsidiaries, usually in order bring them back to the headquarters. The Beta and Delta cases seem fit with the global model: both firms are building cost advantages through centralized global operations. However, the degree of centralization is relative because, as they are operating in markets which are more demanding and sophisticated than their home countries, the subsidiaries exert an important role in terms of knowledge development; it is different from the “in-house offshoring” (Contractor, Kumar, Kundu, & Pedersen, 2010) adopted by developed country multinationals with a global strategy. Finally, there are traces of the metanational model in all those firms, especially Alpha and Gamma because, coming from emerging countries, they seem to depart from the principle that competitive advantage is not created by headquarters but, rather, at each and every subsidiary. Differently from DMNEs which have purposefully moved to a metanational model, the traces observed in EMNEs seem to be justified by country-of-origin effects.

Therefore, the EMNEs’ stages model shows little similarity to those described in the literature for the developed country multinationals because the rationale is influenced by specific factors, that is, the COE as well as the position in the GPN. The fact that their competitive advantage stems from their competence in production and operations also influences the internationalization pattern in what concerns the design and implementation of IONs.

CONCLUSIONS

The aim of this paper was to address the question: how do firms design and implement their operations network to penetrate international markets? The answer was sought through the study of emerging country multinationals.

In regards to the propositions, P1 is observed with an additional finding: EMNEs change their internationalization strategy as they expand internationally. The case evidence suggests that the outcome is associated to P3. In other words, the change in the internationalization strategy seems to be related to the process of capability building in international operations: there is a cyclical effect when the operations network associated to a given strategy achieves a certain capability level thus providing leverage for the multinational to redefine its strategy and redesign its network accordingly. As to P2, the cases brought evidences for this proposition as well.

From that outcome, four conclusions emerge. First, country-of-origin effects and relationships within the GPN affect both design and implementation especially in the initial stages of internationalization. Second, it is important to understand the firms' evolution in regards to design and implementation of international operations in stages, even though critiques to the stage model exist (Galbraith, 2000). Third, although the literature presents an extensive typology of international management models, the ones that are being developed by the new multinationals seem to keep specific features. The small size of the sample does not allow any attempt to specify new international management models but there are clues that their evolution would be better described by a version of the metanational model. Fourth, the analysis of the four cases brings a new perspective to Ramamurti's generic strategies in the sense that they show an evolutionary path. Emerging country firms start as local optimizers and then, depending on the relationships within the GPN, COEs and the effectiveness in the design and implementation of their international networks, they will adopt other generic strategies adequate for international expansion.

From the standpoint of theoretical development, the approach adopted widens the lens in the analysis of International Business by further integrating International Operations Management concepts to the analytical framework.

This study has implications for researchers in that we show that strategic and network decisions are strongly interrelated and need to be considered in an integrated fashion. Repositioning in the GPN, deliberate or not,

cannot be taken in isolation. Instead, the relationship with the whole network must be considered. Further development of the analytical framework may provide guidance for the design and implementation of international operations networks in firms planning their internationalization.

NOTE

1. We use fictional names for the study to preserve the anonymity of our respondents.

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