How subsidiaries influence innovation in the MNE value chain

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As multinational enterprises increasingly disaggregate their value chains and assign functional responsibilities to foreign subsidiaries, they are increasingly focused on augmenting spatially distant activities and resources. At the same time, despite subsidiary managers operating at the "middle" of the organization and having awareness of operational and strategic contexts, they have received significant criticism for hindering the successful coordination and integration of value chain activities. This appears counterintuitive as, on the one hand, MNEs are increasingly disaggregating their value chains and, on the other, subsidiary managers act as frontline managers, at the intersection of their local context and the MNE. We examine the resource stocks of six subsidiaries and the activities of subsidiary managers locally and across global value chains. The results indicate that integration responsibilities are decentralized, as properties of subsidiary mandates, and that the subsidiary managers' connectivity activities significantly affect the strategic influence that they subsidiary can exercise locally and globally. The results also contain important information for policymakers.

Key words: R&D mandate integration; subsidiary manager activities; connectivity; strategic influence.

1. Introduction

Over the few past decades, multinational enterprises (MNEs) have disaggregated their value chains and relocated their activities to subsidiaries in diverse locations to capitalize on and leverage globalization (Cantwell and Mudambi, 2005; Contractor et al., 2010; Demirbag and Glaister, 2010) in order to withstand increasing competition (Rugman, Verbeke and Nguyen, 2011). This fine-slicing of activities has even led to the internationalization of activities such as research and development (R&D) that were previously co-located with headquarters in proximity to the core competencies of the MNE. With this disaggregation, R&D has become an activity that is commonly mandated to foreign subsidiaries in resource-rich foreign locations around the globe (Contractor et

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al., 2010). Thus, subsidiary managers and their local and internal relationships become important for the development of innovation and the evolution of technology, inside the firm and locally.

The importance of connectivity and relationships to a firm's viability is well established (Hannigan, Cano-Kollmann and Mudambi, 2015), but relatively few studies have examined the development and leverage of global knowledge connections or assessed their role in the evolution of subsidiaries. To illustrate and analyse the phenomenon of connectivity in subsidiaries' relational activities in the context of global innovation, we study the R&D subsidiaries of ABB – located in Sweden, Switzerland, China, India, the United States and Germany – and their evolution to a global lab. The transformation of ABB has been the subject of other studies (e.g. Bartlett and Ghoshal, 1989, 2001). We add value to this literature by examining multiple dimensions of subsidiary performance and paying particular attention to the relational dimension and the subsidiary managers' role in global connectivity. This approach leads to new insights about MNEs' management of innovation, the microfoundations of subsidiaries' innovative influence and local systems' supportive policy mechanisms.

Subsidiaries can evolve and change in surprising ways along mandated functions (Birkinshaw and Hood, 1998; Cantwell and Mudambi, 2005; Rugman, Verbeke and Yuan, 2011). Technological advancements push firms and their subsidiaries to evolve, but not all subsidiaries in all geographic locations are able to create and leverage new technology. The forces of innovation can pressure subsidiaries to feel and act in bolder ways, looking to create more knowledge, and develop new products and processes (Andersson, Forsgren and Holm, 2002). This is particularly so if the local environment is conducive to such actions, through public organizations' policies and the presence of capable business partners (Ryan et al., forthcoming). Subsidiary evolution occurs through intertwined technological and organizational processes (e.g., Birkinshaw and Hood, 1998; Cantwell and Mudambi, 2005). In the organizational dimension, processes can encourage or discourage innovation by subsidiaries. The continuing conversion of tacit into codified knowledge through the standardization of processes often leads to outsourcing, offshoring and greater geographic mobility (Mudambi, 2008; Vernon, 1966).

Firms can disperse their activities broadly over physical geography (Cantwell and Mudambi, 2005). Both subsidiaries and their key managers have been pushed to adapt and become prominent actors as firms have increasingly moved activities to new locations, largely in response to falling spatial transaction costs and the growing ease of modularization of activities. This transition can spark new ideas and make it possible to tap new sources of innovation, but increases in the costs of coordination and communication can also hurt innovation (Meyer, Mudambi and Narula, 2011) as a result of greater competition between subsidiaries (Mudambi, Pedersen and Andersson, 2014). When firms disperse important activities geographically, that action has important implications for the evolution of subsidiaries and of activities by subsidiary managers. As functional responsibilities change, the influence of these subsidiaries on the technological and organizational processes of the firm underpins the subsidiary's rise and decline and complicates the scope of managerial activities.

The research has predominantly investigated the relationship between gaining value-generating mandates and developing subsidiary strategic influence from a macro (i.e. MNE) or meso (i.e. subsidiary) level. Less attention has been given to the mechanisms underlying these processes, i.e. the contribution of the subsidiary managers' activities and their connectivity. This makes these mechanisms interesting to investigate from the perspective of both practice and policy, as subsidiary managers act to connect to local resources, and to manage and integrate these resources. This activities affect the subsidiary's influence within the MNE as well as the technological co-evolution of the local region. To elucidate a clearer picture, our research asks, how do subsidiary managers' resource management activities create strategic influence for subsidiaries after they gain an R&D mandate?

In this paper we study the allocation of R&D mandates to foreign subsidiaries, in particular, we focus on changes in the subsidiary manager's responsibilities in terms of developing and integrating resources locally and across value chains in the MNE. This study yields the following contributions: First, we provide a more nuanced description of the heterogeneity of subsidiary mandates. Our analysis suggests that the notion of aggregated subsidiary mandate roles where one kind of mandate role applies to all subsidiaries of an MNE – e.g. contributor, strategic leader, black hole or implementer – does not capture the complexity and uniqueness of the modularity of mandate roles. For example, a subsidiary can be an implementer locally on a sales mandate while being a strategic leader on its R&D mandate (Bartlett and Ghoshal, 1989; Rugman, Verbeke and Yuan, 2011). Second, examination of mandate resource sourcing and of the connectivity activities of subsidiary managers reveals evidence of the tenets that determine the evolution of mandates and subsidiary influence over time. Third, we contribute to global strategy development by investigating how subsidiary managers' activities are critical to managing and integrating value chain activities. Fourth, we contribute to the resource dependency discussion by elucidating how dependencies are developed at the operational level (i.e. in inter-MNE R&D projects across value chains) and leveraged at the strategic level (i.e. where the subsidiary can influence the allocation of resources or mandates because of its importance and its influence over integration). Last, with our results we provide information for evidence-based policymaking on national and regional development and investment.

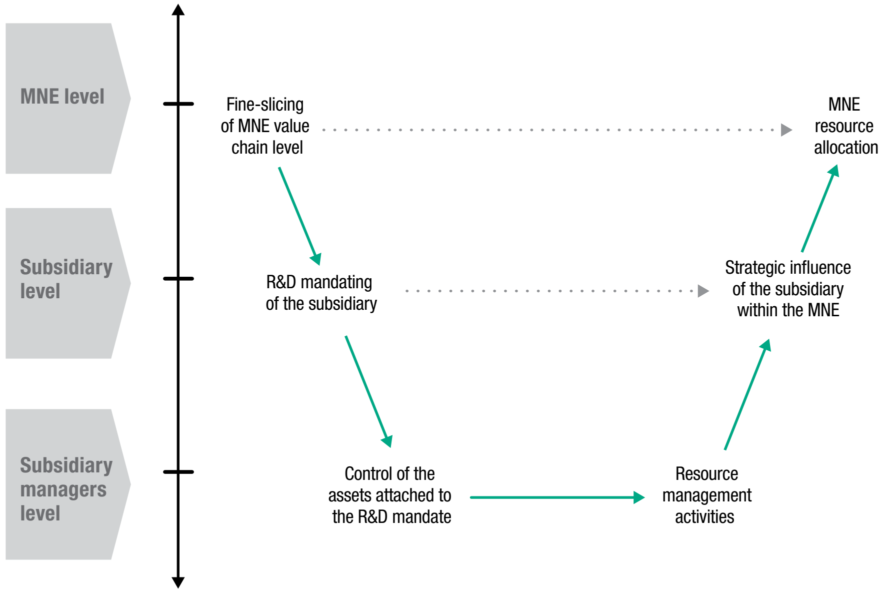
Owing to the multilevel nature of this research, in this paper we follow the structure of Coleman's Bathtub diagram to clarify the structure of the conceptual arguments (see figure 1). We have acknowledged the previous research on the links between macro- and meso-level phenomena in the fine-slicing of the MNE value chain and resource allocations, the R&D mandating of subsidiaries and the strategic influence of subsidiaries with the MNE at both the MNE and the subsidiary levels. In the following sections we review the micro-level explanations of these phenomena and propose a mechanism and causality between and within levels (Felin, Foss and Ployhart, 2015). To do this, we review the received research on subsidiary mandates to justify the importance of the subsidiary manager's resource management activities in an R&D mandate. We discuss these activities and their dimensions, as well as their connections to the subsidiaries' strategic influence within the MNE. We then introduce the methods and approaches of our case data and our findings. This is followed by a discussion and the presentation of a set of propositions that illuminate the responsibilities of subsidiaries for the development of mandate resources, the integration of those resources and how these processes contribute to the strategic influence of the subsidiary on MNE decision-making about mandate and resource allocation. The final section summarizes the main findings and presents some implications for senior MNE managers and public policymakers.

2. Literature

2.1 Subsidiary mandates and linkages to asset control: sources of subsidiary influence

Within MNE value chains, a subsidiary can perform single or multiple activities (Birkinshaw and Hood, 1998): e.g. production, sales, administration and R&D activities (Rugman, Verbeke and Yuan, 2011). These activities, together with the scope of responsibility attached to them, whether local, national, regional or global,

Figure 1. General Model of the Subsidiary's Strategic Influence



constitute the subsidiary's mandates (Birkinshaw and Hood, 1998). Mandates are always assigned to subsidiaries by the headquarters. It is important to understand that although mandate gains sometimes are driven by subsidiaries' successful initiatives, the assignment and granting of mandates is always the prerogative of headquarters (Birkinshaw and Hood, 1998; Dörrenbächer and Gammelgaard, 2006).

Building on Hart's (1995) view of ownership and control over an asset, and considering that the ownership of an asset is different than the ownership of the attributes of an asset (see e.g. Barzel, 1987, 1994, 1997), we can argue that in the context of the MNE, the headquarters is the entity that owns and can exercise the ultimate legal control of assets (i.e. mandates). However, since the control of an asset consists of the control over its attributes (Foss and Foss, 2001), by assigning a mandate to a subsidiary, headquarters is delegating to the subsidiary both control of the attributes of the mandate and the degree of global scope of it to be integrated with the subsidiary's other mandates.

Attributes of an asset are its characteristics and its possible use. Control of the attributes gives the assigned agent, in this case the subsidiary, control over the usage and development of the asset (Foss and Foss, 2001; Kim and Mahoney, 2005). In this sense, when a subsidiary receives a mandate, it has the potential to develop knowledge attached to that mandate, and any unique development done by the subsidiary using the available resources (i.e. attached to the mandate or to the subsidiary's existing portfolio of mandates) can act as strategic leverage for the subsidiary within the context of the MNE (Andersson et al., 2002; Ambos, Andersson and Birkinshaw, 2010). In other words, by developing a gained mandate such as R&D, the subsidiary gains strategic control over the newly developed knowledge, and this strategic control over the asset is separate from the legal control that headquarters exercises over the same asset.

In principle, R&D mandating means that the MNE, through its headquarters, assigns a subsidiary the responsibility for a particular R&D activity with a spatial scope. This responsibility – regardless of its spatial scope – requires the subsidiary not only to exploit its own capabilities but also to integrate the R&D mandate into its existing portfolio and resources that reside in the subsidiary's internal and external environments so as to contribute to overall knowledge, value and innovation in the MNE (Birkinshaw, 1997; Delany, 2000; Berry, 2014). In other words, the subsidiary is gaining a responsibility from the headquarters domain for developing, applying and integrating the resources associated with that R&D mandate to the internal and external MNE technological contexts, to generate new knowledge and values for use beyond the subsidiary's local context. In doing so, subsidiary managers, as those responsible for the subsidiary's development, build connections with counterparts from which they can source resources for the subsidiary's resource portfolio so that the subsidiary can build capabilities (Sirmon, Hitt and Ireland, 2007), not only in its local environment but also in global contexts where it is participating in intra-MNE projects. These activities of subsidiary managers strengthen the subsidiary's position in the MNE network through the accumulation of knowledge and technological capabilities (Achcaoucaou et al., 2014) and provide a voice for the subsidiary with which it can have more influence on the MNE's strategy (Garcia Pont et al., 2009). In the next section, we discuss subsidiary managers' resource management activities, which are antecedent to the creation of the unique resources for the subsidiary that they are able to leverage within the MNE.

2.2 Subsidiary managers' resource connectivity activities:

Subsidiaries' top managers can be viewed as the middle managers of MNEs because they are connected to both the host environment and the headquarters. The original framework of middle management suggests that middle managers can influence the strategic standing of a firm through their strategic activities (Floyd and Wooldridge, 1992). Strategic activities of the subsidiary can be induced from the theoretical arguments on the role of middle management and its relationship with strategy development in the firm's complex and dynamic environment (O'Brien, 2014). This view suggests that middle managers can improve performance by improving the quality of the firm's strategic decisions (Wooldridge and Floyd, 1990), by developing "deliberately emergent" strategies that are based on the strategic opportunities in their environment (Mintzberg, 1978; Mintzberg and Waters, 1985).

In addition, subsidiary managers – like any managers of independent firms – need to pursue strategies to achieve economic objectives for the subsidiary. In doing so, they are conducting strategic activities that can be aggregated in three dimensions: upward, horizontal and downward (Wooldridge and Floyd, 1990; O'Brien, 2014). In the upward dimension, subsidiary managers are engaging with the headquarters by lobbying for new activities (Birkinshaw and Hood, 1998), highlighting important issues (Dutton and Ashford, 1993), vocalizing the subsidiary's current success (Bouquet and Birkinshaw, 2008) and building political influences (Dörrenbächer and Gammelgaard, 2006). Upward activities provide the subsidiary the opportunities to attract strategic decisions by headquarters towards subsidiaries' benefit as well as to exploit and gather knowledge on the critical resources available in the MNE that are relevant to the subsidiary's portfolio of activities (O'Brien, 2014).

In the horizontal dimension, subsidiary managers engage internally with sister subsidiaries as well as externally with counterparts to deal with the competitive environment both internal and external to the MNE (O'Brien, 2014). The horizontal internal dimension entails activities such as aligning and adapting the subsidiary's activities to sister units in the MNE. These activities provide the subsidiary the chance to gain critical resources and build linking economies with other subsidiaries through which the strategic influence of the subsidiary within the MNE increases (Garcia Pont et al., 2009). The horizontal external activities of subsidiary managers are activities dealing with external counterparts in order to create knowledge and enhance subsidiary learning (Mu, Gnyawali and Hatfield, 2007) and performance (Andersson et al., 2002). Engaging in these activities offers the subsidiary the ability to build its external network, through which the subsidiary can be introduced to new opportunities and resources that later on can strengthen its competitive position (O'Brien, 2014).

In the downward dimension, the activities of subsidiary managers are directed towards their own operations, to exploit the resources and capabilities available in the subsidiary (O'Brien, 2014). Downward activities consist of facilitating learning, coping with opportunities and changes occurring in the unit, and implementing strategy that is in line with headquarters' objectives (Wooldridge and Floyd, 1990).

In this study, we are concerned with the resource management activities of subsidiary managers, in their local environment and inside the MNE, that increase the MNE's dependency on the subsidiary. Ergo, downward activities are considered to be implementation activities carried out by subsidiary managers at the time of receiving a new mandate; i.e. they represent resource-structuring activities necessary to implement a mandate and develop capabilities associated with the mandate. By gathering information on the resources available in the MNE, upward activities give the subsidiary the knowledge platform from which to increase MNE dependency. Upward activities also represent the communication processes that subsidiary managers adopt towards their headquarters, both in searching for resources and in communicating the reasons why they should be allocated resources (e.g. successful sales or initiatives or the potential to achieve such successes).

3. Method

In the extant literature there is a dearth of studies investigating the mechanisms of subsidiary development and their links to strategic influence. This story is under-researched, novel and worthy of attention, elements that constitute the basic rationale for applying an explorative case study approach (Birkinshaw, Brannen and Tung, 2011). To better elucidate the subject, we first engage in an empirical investigation. We then use inductive theory building (Welch et al., 2011) to further develop our framework and to outline avenues for future research. This study is based on an embedded longitudinal case study methodology (Yin, 1989), which is a suitable approach for the purpose of the investigation, including the description and generation of a theory (Eisenhardt, 1989). We investigate MNE subsidiaries' mandate configurations and the rationale behind subsidiary influence by opening the "black box" of subsidiary managers' activities related to gaining an R&D mandate.

Prior research has offered substantial evidence that parent-subsidiary linkages are critically important to subsidiary influence. However, extant studies capture only a part of the MNE network relationship – vertical-side links – and, with the exception of O'Brien (2014), do not adequately address lateral-side relations (Ambos and Birkinshaw, 2010; Birkinshaw and Lingblad, 2005; Chen, Chen and Ku, 2012). To explore the phenomenon of intra-MNE dynamics that affect subsidiary influence, we aim to illuminate a picture of the strategic control of the subsidiary units by elucidating the interface between subsidiary mandate development and managers' activities.

Moreover, as this paper reports on the mechanism behind subsidiaries' strategic configurations in an MNE and offers a contextual picture of a relatively unknown phenomenon, our cases follow Tsang's (2013) logic that contextualized explanatory case studies offer a richness and detail that are more useful than large samples in describing general phenomena. The case studies that we report can help identify generative mechanisms in a relatively complex area, so others can recognize event patterns and structures that makes replication of the study easier (Tsang, 2013).

3.1 Case selection

Our case company is the Swiss–Swedish MNE, ABB, which became one of the world's largest engineering MNEs after the merger in 1988 of the Swedish corporation Allmänna Svenska Elektriska Aktiebolaget and the Swiss company Brown, Boveri & Cie. In our study we investigate the mandate configurations at ABB's corporate research centres and the managers' connectivity and activities based on managers' strategic influence over the subsidiaries' resources and the strategic domain of the MNE.

The cases encompass the activities of subsidiaries' managers in supporting the development of mandate assets and in leveraging the resources that are developed from the mandates. We canvas the junctures at which six of ABB's globally dispersed R&D subsidiaries have specific R&D mandate domains where they simultaneously collaborate and specialize in intra-MNE R&D projects. Further to this we look at the ratio of core competencies within R&D that is dispersed among the subsidiaries and the major shifts in global R&D responsibilities among the six subsidiaries. We examine the subsidiary influence through looking at the orchestration of subsidiary resources in intra- and inter-MNE resources. To sample the six subsidiaries theoretically to provide contexts of maximum variation, we separated the subsidiaries by their mandate domains and their roles in the MNE (Eisenhardt and Graebner, 2007; Yin, 2009). We compare and contrast the overlapping points where subsidiary managers' downward and horizontal activities support the development of mandate assets and where cases of subsidiary managers' horizontal and upwards activities facilitate leveraging dependencies.

Having defined the study's population and the baseline from which specific cases were selected, namely the subsidiaries with R&D mandates that were part of ABB's global lab that serves the R&D requirements of the five divisions, the case selection was guided by the theoretical sampling principle. More specifically, the criteria for including units in the study was guided by their involvement in development, their responsibilities for divisional R&D mandates (core competences within the division) within the five divisions of ABB. Having secured access to the case subsidiaries we adopted a narrow definition of subsidiary managers' activities to include various implementing, linking and communicating activities (Wooldridge, Schmidt and Floyd, 2008).

3.2 Data collection

The data collection comprised four main phases: (1) study of secondary sources; (2) interviews with senior-level headquarters informants; (3) interviews with subsidiary managers; and (4) review of archival materials. Our data collection focused first on secondary data about each unit, i.e., at the general MNE level as well as at headquarters and subsidiary levels. These data emanate from annual reports, press releases, the units' websites and commentaries – all of which helped us develop an understanding of the MNE's organizational structure, the focal subsidiaries and their strategies, as well as what subsidiary mandates existed.

The primary tool used was the semi-structured interview. Where feasible, to guard against possible individual response bias, we interviewed multiple informants from each subsidiary (Miller et al., 1997). This yielded 33 interviews at various levels across the ABB headquarters and the six R&D subsidiaries. The data obtained through semi-structured interviews with senior executives from corporate, divisional and business unit headquarters as well as general and R&D managers from the subsidiaries provided deep insights into the influence of subsidiaries on the MNE's operations. The information about particular events resides with a few principal individuals who are often hard to access (Baker, Edwards and Doidge, 2012). Thus, we focused on key people: the subsidiary's general and R&D managers who were exposed to the headquarters units, mandating and their respective activities.

We began establishing contact with the interviewees in 2012 and interviewed them in 2012, 2013, 2014 and 2015. The interviews were recorded for accuracy and transparency, and transcribed. The narratives of the managers were organized to understand the timeline of growth of the subsidiaries. The Atlas.ti analytical program was then used to manage and tease out from the interview data recurring themes of resource management among the subsidiaries. The interviews were structured in three phases (see table 1). In the first phase, we held 12 interviews with representatives from ABB's corporate, divisional, business unit headquarters and corporate research centres, which took on average 60 minutes. These yielded data about the configuration and the network of R&D mandates within ABB in relation to the subsidiaries and inter-MNE projects. We avoided asking specific questions about the subsidiaries, but we did discuss what the MNE's network of subsidiaries looked like as well as the activity dispersion within the network. Consideration of ABB's shift in strategy in 2010 to focus on inter-divisional R&D, as described above, resulted in the selection of six subsidiaries that had dispersed R&D activities across divisions and had R&D mandates.

In the second phase of the interviews, scheduled in the fall of 2013 and spring of 2014, we spoke with the same respondents from the selected units; these were general discussions about the mandates of the subsidiaries. We encouraged each of the respondents to openly discuss his or her perceptions of the R&D network configuration, and the different roles that headquarters has in subsidiary R&D activities. We then triangulated these perceptions with subsidiary manager activities and in particular what they perceived to be the key facilitators and inhibitors with respect to the outcome of R&D projects; and whether or not the subsidiaries were able to manage and leverage their resources with support from the headquarters.

The respondents in the headquarters included the chief technical officer and divisional responsible presidents. In the subsidiaries the respondents included the country managers, who had been contacted beforehand by email or telephone and informed about the purpose of the interview. Other key managers were interviewed in each subsidiary, including the general manager and the lead R&D manager. We had the opportunity to spend between one and two days at the site locations, enabling us to interact with people in the local units and also to discuss these topics with people who were not formally interviewed for this study. Through tours of the headquarters office buildings and subsidiary R&D facilities, we gained deeper insight into the functions and roles established at headquarters to support subsidiaries' R&D initiatives and R&D projects. These informal interactions and the extended visits enabled us to make observations about the general atmosphere in these units, which served as useful background information to the data collected.

In the next phase of interviews, in the autumn of 2015, we focused solely on the involvement of subsidiaries in mandate activities in inter-MNE projects and their outcomes. We had prepared questions about how, where and with whom the subsidiary managers had contact within the headquarters at different periods of time, hence enabling us to obtain a detailed retrospective account of the subsidiary–headquarters interactions. To further explore the effect on outcomes of subsidiary managers' activities based on R&D mandates, we asked questions about the support structures in place for the subsidiary to develop capabilities related to mandates, about how the subsidiary exchanged knowledge with other parts of the organization, and about the structure and value of the resource portfolio employed in subsidiary operations, with a particular emphasis placed on mandate resources and the outcome of operating in inter-MNE projects on resource allocation to the subsidiary by headquarters.

Table 1. Description of the Data

Unit	Interviewee position	Date of first interview	Duration (minutes)	Date of second interview	Duration	Date of third interview	Duration
CHQ (Zurich)	CTO	01-11-12	50	01-10-13	35	02-09-15	45
Sub (Sweden)	Global Process Improvement Manager	21-11-12	90				
Divison HQ (Sweden)	Head of Discrete Automation & Motion	29-01-13	60	14-01-14	45		
Subsidiary (Sweden)	General Manager, ABB Corporate Research Centre	21-01-13	55	05-02-14	40		
Subsidiary (Sweden)	Head of Global R&D Projects	22-01-13	70	21-03-14	50		
Subsidiary (Switzerland)	Director, ABB Corporate Research Centre	23-01-13	60	21-04-14	45		
Subsidiary (Switzerland)	Lead R&D Manager	28-01-13	50				
Subsidiary (China)	Head of Discrete Automation & Motion	29-01-13	60	22-03-14	55	03-09-15	60
Subsidiary (China)	Director, ABB Corporate Research Centre	24-04-13	55	24-04-14	40		
Subsidiary (India)	General Manager, ABB Corporate Research Centre	03-04-13	70	07-04-14	55	16-11-15	65
Subsidiary (India)	Lead R&D Manager			07-04-14	60	16-11-15	50
Subsidiary (Germany)	Director, ABB Corporate Research Centre	18-03-13	60	17-04-14	45	18-11-15	55
Subsidiary (Germany)	Lead R&D Manager			17-04-14	50	18-11-15	60
Subsidiary (United States)	Vice President and Head of Corporate Research Centre	30-04-13	65	01-05-14	50	04-12-15	60
Subsidiary (United States)	Lead R&D Manager			01-05-14	60	04-12-15	45

3.3 Data analysis

In analysing the qualitative data, we first wrote case narratives using episodes to reconstruct the acquisition and orchestration of mandate resources across the subsidiary and the MNE's value chains. In these narratives, in order to reflect the original interview data as closely as possible, we made extensive use of citations from our primary sources as well as secondary sources. We then used these narratives to compare and contrast managers' resource activities from the German, American, Indian, Chinese, Swiss and Swedish subsidiaries. Drawing on literature on managers' resource activities (Sirmon et al., 2007), we focused particularly on understanding why and where the subsidiary managers manage resources and orchestrate assets across value chains. Applying a broad definition of managing and orchestrating, we examined all data relating to these practices in detail. This qualitative analysis involved the generation of a descriptive coding reference that was derived from the semi-structured interview format, with the addition of unique themes that emerged during the analysis. We carried out an interpretative analysis in order to conceptualize and verify resource management across complex value configurations and the resulting managers' activities that emerged.

Our analysis then proceeded in four main stages: analysis of the processes of evaluating and staying apprised of the mandate's resource pool, analysis of the processes of removal of redundant mandate resources, analysis of the processes for connecting to new resources externally and internally, and analysis of the processes of integrating the mandate resources into the resource pool of the subsidiary and into intra-MNE projects. Following Tippmann, Mangematin and Scott (2013), we adopted an activity perspective so as to tease out and evaluate complex actions and interactions by subsidiary managers as they sought to fulfil their resource management and orchestration activities while faced with specific integration responsibilities in complex intra-MNE settings. This was considered the best approach to applying the resource management template of analysis (adapted from Sirmon, Hitt and Ireland (2007)) from the resource pool management of the focal unit to resource management and integration of resources of the focal unit across MNE value chains.

To analyze the subsidiary managers' resource management activities, we examined all data relating to their practices in detail, including which managers actually connected to knowledge they had in their activities, both locally and across MNE value chains. We developed detailed descriptions of their resource management activities and of the organization in general. We then selected quotes from the case descriptions that could be categorized in one of the four stages of resource management processes outlined above. This enabled us to present, synthesize and compare the subsidiaries on the basis of variances and similarities in subsidiary managers' resource management activities.

4. Empirical findings

From our study it became evident that subsidiaries must implement mandates that earn positive returns for the firm and for the subsidiary. To achieve this, subsidiary managers must orchestrate the subsidiary's assets and configure the mandate's resources to achieve operational requirements, both assigned to it by its headquarters and for its own benefit in terms of its competitive position in the MNE's subsidiary network. However, because internal and external competitive environments are rarely static, it became clear in the study that implementing mandates and managing their resources require varying degrees of decentralized integration responsibility. We propose this because the MNE's and subsidiary's competitive positions are temporary and non-static, which means that the subsidiary must be allowed to orchestrate its mandate resource pool to implement strategies that help it achieve a series of temporary competitive positions internally and externally (Sirmon et al., 2010). A subsidiary's competitive positions are temporary, due not only to competitors' growth, but also because mandates experience what has been termed life-cycle stages, identified as gain, development, maturity and atrophy (Birkinshaw and Hood, 1998).

4.1 Evaluating subsidiary mandate resources in intra-MNE projects

We found that subsidiary managers vigilantly monitor their mandates' resource inventories by evaluating the current resource stocks. This monitoring varied between the subsidiaries whose mandates and activities were mainly oriented towards local activities and those whose mandates were both local and global in scope. The subsidiary managing director from India made this illustrative comment:

"Our financial and human resources fluctuate a lot. We have to monitor and incentivize our people to want to stay past three years and train up. These are probably the only resources that we don't have to constantly inform our headquarters about or that they can directly evaluate".

Across the sample of six subsidiaries, managers exhibited strong evaluation processes, which were found to be enhanced when managers were knowledgeable of the subsidiary's proprietary resources and the resources that were shared across intra- and inter-divisional projects. The cases provided evidence that the effective evaluation of a mandate's resources required that the subsidiary managers employ an appropriate time horizon when considering the requirement for and removal of mandate resources and have adequate knowledge about the resource's usefulness to the mandate. It was found that all of the subsidiaries had strategies for resource management, which provided the managers with parameters for evaluation, depending on whether the resources were proprietary or shared across R&D projects in the MNE's value chains. However, it was also evident in each subsidiary that having these dual strategies varied with the greater ability of subsidiary managers to perform evaluations in situations of resource competition and dependence. A subsidiary managing director from Germany communicated this:

“We constantly monitor the resources we have and need. Knowing when to source or build up resources can be very tricky, as we constantly have to compete for them. A lot of the time they are not just tied up in our operations but also to projects we are involved in here in Germany or in projects that are shared inside the company”.

The use of time horizons for the evaluation of mandate resources was shown to be pivotal in accurately undertaking valuations. All of the subsidiaries showed signs that they had to impose time horizons so as to manage the mandate’s resource pool, as well as to not only integrate the mandate accurately into the subsidiary’s charters but also to integrate the mandate’s activities into joint internal and external projects. There were examples of time horizons that were too short or too long, resulting in less accurate estimations and less integration. Time horizons that were too short produced under-valuations of a resource, making it more likely to be reallocated, to be susceptible to competition and to overlap with other resources. When the Indian subsidiary started in the 2000s, it had problems with short time horizons and competition, as pointed out by the subsidiary managing director:

“We had great problems with managing our resources in our early days. There was some hostility to our unit. I guess people were threatened by us. We were having to compete for our resources and were quite dependent of our headquarters for them, which made long-term planning harder. This affected our managing our activities. This was probably a significant contribution to the R&D activities going back to Sweden”.

Juxtaposed with this experience, the American and German subsidiaries had employed time horizons that evidently created a situation in which they held mandate resources that had less value than those of counterpart subsidiaries in emerging markets. This neglect of resource management led to mandate atrophy. As noted previously, this was due to the mandates being mature, in that they had been captive to the subsidiary for some time. This was captured by the American subsidiary’s managing director who expressed the problems as such:

“We dropped the ball on robotics. As the lead centre for robotics in ABB, we had been around for a good while and were innovating but probably not managing the resource pool we had as best we could, especially as we were planning together with the business unit that’s now gone to China and we share robotics responsibilities with other units”.

However, the American and German subsidiaries recovered from this experience, learning to evaluate their resource pools for short-term and long-term needs. It appeared from the data that greenfield subsidiaries were more effective in structuring resources such as capital and human resources because they generally were more integrated across the MNE's value chains, allowing for longer time horizons and greater flexibility. It was evident that the greenfield subsidiaries did not have to respond to short-term goals imposed by their headquarters to the same degree as the acquired subsidiaries did. We saw in the data that when greenfield subsidiaries engaged in a resource evaluation process, the freedom to use the most appropriate time horizon, as opposed to one imposed by headquarters, made possible more accurate evaluations and greater appraisal of the actions for managing the mandate resource pool. This was evident in a statement by the head of R&D from the Swedish subsidiary, who had just returned from a three-year managerial posting at the Indian subsidiary:

"I observed managers are equally willing to act within and outside of the requirements of their job specification in trying to manage their operations both here and in India. The big difference is that the acquisition and management of resources is held up by senior management requirements and trust. Often, it's a simple question of who you are and why do you need this. That happens far less often here".

In addition, the managers we interviewed from all the subsidiaries who were found to possess more complete and appropriate knowledge of the mandate resources they evaluate shared several characteristic traits. First was structural and operational experience, which creates stronger ties among managers inside their subsidiary and within the MNE, and increases their disposition or ability to adjust to the prevailing values and norms of in the subsidiary, the local market and the MNE. Thus, by developing the structural, cognitive and relational dimensions these managers could build high levels of internal social capital. Second, their close relationships with employees provided the managers with a better understanding of the firms' human capital, allowing for greater awareness of and easier access to the resources. This knowledge was found to be particularly useful for assessing the mandate's intangible resources, such as tacit knowledge pertaining to the subsidiary's evolving strategy, mission, internal resources and environmental changes, which allows for accurate evaluation of a resource's value.

4.2 Managing subsidiary mandate resources in intra-MNE projects

The second phase we observed in managing a subsidiary's mandate resource pool involved the shedding of redundant resources. Our findings show that at different times and under certain conditions each of the subsidiaries' mandate resources reduced the mandate's value. Moreover, the findings show that accumulation of mandate resources has negative effects on the subsidiary manager's ability to manage those resources at the local level and to integrate them into joint projects across the MNE's value chains. The global process improvement manager made an illuminating observation:

"We monitor as best we can the resource requirements of all our units, but it is important that they are aware of their resource needs. My role was created for two main reasons, to make sense of subsidiary investments and capital runs, and to prevent or reduce existing resource inertia at our unit".

At differing times, all of the subsidiaries studied faced some form of resource constraint. The data showed that the removal of subsidiary mandate resources was extremely important for freeing up space for fresh resources, preventing inertia and allowing greater flexibility in renewing and sharing resources across value chains in intra-MNE projects. In the data we saw evidence that the ability of subsidiary managers to maintain mandate resources and the potential opportunities to leverage their value were both reduced when the subsidiaries were in possession of inferior resources such as overlapping skills in joint projects or undertrained engineers, which led to reduced rather than increased innovation. The head of the United States subsidiary made this illustrative comment:

"My unit has limited flexibility with resources. Those we have are either focused on our activities or on joint projects. We have to monitor low-value resources diligently and constantly and release resources, so we can be flexible without finances, or reduce our overheads. This has been important to us, so we can be more flexible when getting involved in joint projects".

It clearly emerged in the data from the German, Swiss and United States subsidiaries that the pruning of redundant resources remained difficult even when the information available warranted such action. There had always been intercompany projects between the German and Swiss subsidiaries, where there appeared to be strong relationships and where social capital had been built up over many years. The German managers had experienced an escalation of commitment of their resources, particularly human resources, to joint projects with the Swiss subsidiary, where the emotional ties between employees and managers made it extraordinarily difficult to release employees. This was illustrated by the director of the Swiss subsidiary:

"Ironically ours and the German subsidiary's knowledge of each other's resources, which had contributed to our prior projects' successes, actually impeded the reduction of our resources".

This difficulty was also evident in the problems with inertia illustrated by the United States subsidiary. The data showed that an overpowering level of uncertainty in changing resources led to avoidance of further risk, and ultimately to inertia in the mandate and incongruence with other project members throughout the value chains. However, facing the risk of being closed or wound down, the subsidiary managers eventually had to focus on building resource bundles that led to contributions to ongoing projects.

All of the cases produced evidence that resources can be obtained from subsidiaries' local markets or sourced and created internally from counterparts inside the MNE. An interesting finding was that all the subsidiaries indicated that both sources of resources had inherent limitations and that they iterated between them, depending on whether they were faced with a limitation or the source could provide complementary resources. However, regardless of the sources of the resources, the subsidiary managers sought resources – from their environments or elsewhere in the MNE's value chains – that could be integrated into the mandate's resource bundles, that were of value to the mandate and that could be leveraged by the subsidiaries in their global projects. In this regard, we found that subsidiary managers concentrate on actions in which the subsidiary can engage and yield either knowledge (learning) or new resources locally or from elsewhere in the MNE's value chains.

4.3 Sourcing subsidiary mandate resources for intra-MNE projects

Each of the subsidiaries was shown to be highly dependent on its headquarters for capital resources; however, as a result of their "centre of excellence" status they had unique information on the local markets, which allowed for greater flexibility than their competitors in acquiring human resources in their local strategic factor markets. Their longevity in the local markets and the subsidiary managers' connections to that market enabled the managers to accumulate unique information, which was shown to make it possible to acquire the mandate resources more easily. A standout finding was that although mandate resources were acquired for their value, the realization of the mandate's value was actualized when integrated with the subsidiary's mandate bundles of resources, where the creation of value occurred after integration into the subsidiary's charter. Furthermore, additional value was created when those resources were integrated into projects across the MNE's value chains. This was illustrated by a comment from the general manager in Sweden:

"Even resources obtained at full market value, particularly sourcing new employees, have the potential to create more value when integrated with our other existing resources. This is really coming in to play for our intangible resources and the skills of our engineers, since they are most valuable not only for our operations but also when they complement resources in our shared operations with other units in the company. This allows us to more easily acquire and change our resources".

Sourcing activities directed at the host market rather than global resources represented an important avenue for subsidiary managers to obtain complementary mandate resources to enhance their own learning. This strategy was found to often be associated with the boundaries and effectiveness of local and global resource acquisition and absorption. We saw that subsidiary manager activities had to overcome deficiencies in mandate resources, which influenced the effectiveness of sourcing and absorbing new mandate resources locally and from the MNE's value chains. It was found that during resource sourcing and integration the subsidiaries' managers are more likely to be creative in using long-term time horizons to develop the best fit for mandate resources. However, to overcome human capital deficiencies, all the subsidiaries increased the heterogeneity of their human capital. First, it was evident that each of the subsidiaries developed a high level of heterogeneity in the top management team so as to drive effective decisions on sourcing mandate resources. Second, across the subsidiaries this was found to be a deliberate choice to increase the possibility of healthy conflict for generating alternative creative ideas. This was illustrated by the head of the Indian subsidiary:

"I started my career in Sweden and then spent some years in the US and now I am here in India. Management teams I have worked in have always been international. I think it has always worked well as our decisions have always been dynamic and creative".

The subsidiaries created this heterogeneity by hiring experienced managers from diverse backgrounds who had worked for other firms. Doing so was shown to increase the heterogeneity of the experiences and expand the tacit knowledge bases of the subsidiary management teams. This aided the acquisition of mandate resources by adding multiple perspectives not dominated by any specific manager experiences, which was found across the subsidiaries to enhance variety in decision-making and also deepen social capital locally and globally across the MNE's value chains. Subsidiary managers' social capital was found to be a strong driver in increasing the ability of subsidiary managers to acquire diverse resources. This was illustrated by the director of the Chinese subsidiary, who stated:

"In my experience our centre has a good mix of local and international managers whose relationships with local suppliers and other centres in our company has a positive effect on our ability to access valuable raw materials and skills. My managers' relationships contribute to our legitimacy with our centre's partners as it facilitates collaboration and sharing".

The findings show that subsidiary manager orientation towards collaboration between internal and external partners was a prime mechanism for gaining access to mandate resources including capital, skills and knowledge. We saw in the data that collaborations provided opportunities for the subsidiary managers to learn which partners to draw on for particular resources. These collaborations across the MNE's value chains illustrated that managerial social capital provided access to several types of mandate resources. For example, it was found that linking to partners internally and externally provided subsidiary managers with access to information, managerial capabilities and technology. It was also found that managers linking activities enabled the subsidiary to access resources that were important to the mandate and allowed access to complementary resources for the subsidiary's charter. These subsidiary managers used linking activities to overcome resource shortcomings by selecting partners locally and from across the MNE's value chains that had complementary mandate resources.

Social capital was also shown to contribute to the management of the subsidiary managers' relationships, providing the potential for greater access to creative knowledge, although this was shown be beneficial only when the subsidiary manager's decision-making motivations and relative absorptive capacities overlapped with their partners. The acquisition of mandate resources was shown in our findings to require long time frames and significant efforts. The long-term outlook allowed the subsidiary managers to devote the proper time to cultivating the relationships necessary to facilitate resource acquisition and transfer. Trust, a significant factor, had to be developed over time. There were variances among the subsidiaries in regard to development of trust; however, it was a factor present in all subsidiaries, which represented the development of social capital that facilitates linkages to partners, allowing for the acquisition and transfer of resources.

4.4 Leveraging subsidiary mandate resources and connectivity in intra-MNE projects

Our findings showed that having the necessary mandate resources to develop mandate capabilities was critical for the sample subsidiaries to create both value in their joint projects and innovative solutions. However, it was evident from the findings for the United States and German subsidiaries that being rich in resources was insufficient to guarantee continued R&D responsibilities or to maintain levels of innovation success. The findings indicated that subsidiary mandate resources must be configured into bundles of old and new resources that are complementary to the mandate and the charter, and must have value for both internal and external partners. Subsidiary managers were found to be the key figures in making implementation decisions in regard to which financial and human capital to place together and how to best allocate these resources.

The case findings show that the subsidiary managers really came to the fore when leveraging the mandate resource bundles in implementing their charters but of critical importance was their linking of activities when leveraging the resource bundles to create advantages over partners in joint projects. This was evident in the case of the United States subsidiary, which had substantially more resources than counterpart subsidiaries in the MNE but lost competitive ground to the Chinese subsidiary, which had considerably less. It appeared that it was due only to the United States subsidiary manager's knowledge of the local market importance and the resource availability, and his internal social capital, that it did not close down after losing the robotics mandate and associated resources to China. This perception is supported by a comment from the director of the Chinese subsidiary:

"I studied and worked in the US for nine years. I think the US centre has a long history of successfully managing their resources. I would say that our centre offers resources that can exploit new opportunities and our market offers newer strategic opportunities".

Our findings showed that the differentiation among the subsidiaries in regard to successful long-term mandate resource management were the result not of differences in their mandate resource pools, but of differences in how their managers configured these resources. The findings suggested that subsidiary managers must configure their mandate resources to develop new products and processes. The cases also showed that subsidiary managers must acquire or develop new mandate resources or reconfigure existing ones to extend their R&D activities or change the subsidiary's mandate. These activities were shown to be necessary for the subsidiary to remain influential and competitive in the MNE and in its local market. Such resource configuration was found to be a continuous process involving subsidiary managerial sourcing and integration activities with mandate resources from various units across the MNE's value chains and local partners. This was illustrated in a comment by the Swedish subsidiary's global process improvement manager:

"We move experienced managers around the company to extend trust and a strong bonding among our managers to try to bring the resource governance costs down. Our managers have to ensure effective resource coordination among the units to achieve competitive advantage locally and deliver successful and cost-efficient projects".

This was evident also in ABB's incentive structures and organizational culture, in which managerial resource monitoring activities are decentralized to the subsidiary level and are separate from the MNE's control systems. This gave the subsidiary managers greater flexibility in sourcing and integrating resources into their mandates. Our findings also suggest that the subsidiary managerial activities for configuring and leveraging mandate resources for appropriate means, internally and externally, creates influence over the subsidiary's partners. It was evident in the six subsidiaries that the managers' activities of configuring and leveraging mandate resources both locally and across the MNE value chains required substantial managerial tacit knowledge that was embedded in human capital. The cases showed that conducting these activities effectively required considerable experience. The subsidiary managers were shown to have an advantage in this regard, as they could involve themselves in the processes much earlier than would be possible for headquarters and counterpart subsidiary managers.

However, the findings also showed that the variety of experiences brought by the heterogeneous subsidiary managerial teams was also helpful in configuring and leveraging different types of financial and human resources. Configuring and leveraging mandate resources to implement and develop mandates required subsidiary managers to have capabilities to link internal and external units as well as considerable coordination skills. A common denominator across the subsidiary managers' linking and coordination activities was their relational skills and ability to influence internal and external units regarding the importance of collaboration. In fact, the director of the Swiss subsidiary remarked, "Collaboration contributes to learning, which is important for our unit in producing new ideas and adaptation to existing processes." We saw that leveraging mandate resources required that subsidiary managers develop a resource strategy that led to flexible sourcing activities and greater influence over internal and external partners.

The findings showed that leveraging resources required the integration of subsidiary managers' operational and entrepreneurial knowledge to develop and apply effective influence over mandate resource management strategies. The strategies pursued by subsidiary managers in these cases included leveraging influence over mandate resources to minimize search costs as well as maximizing speed in the acquisition and transfer of mandate resources and maximizing complementarities between proprietary and shared resources for product and process R&D activities. The subsidiary managers also looked to lock in resources by creating high change costs for external and internal partners, which in turn served to increase the subsidiary managers' influence on resources in the MNE.

5. Discussion

Governance practices such as mandating are considered fundamental to control and coordinate subsidiaries in attaining an MNE's overall strategic objectives. Considerable research has focused on the governance of headquarters–subsidiary relationships. This has by and large taken two approaches: First is headquarters involvement, where the focus has mainly been on how to best distribute decision-making rights and authority, engendering effective knowledge transfer, and implementation and alignment of goals across the MNE. Second is the subsidiary's choices, where there has been a massive emphasis on entrepreneurship, knowledge creation and, lately, intra-MNE power dynamics (see e.g. Foss and Foss, 2005; Dörrenbächer and Gammelgaard, 2006; Andersson et al., 2007; Mudambi et al., 2014). However, less scholarly attention has been devoted to exploring the role of subsidiary managers' strategic activities and the interaction between these activities and the development of influence that the subsidiary can leverage based on its resource pool and the management of this pool. The aim of this study was to investigate the role of subsidiary mandates' attributes and the effect of strategic activities of subsidiary managers on creating resources and capabilities within the MNE using those attributes.

We argue that subsidiary influence is based on the activities pursued by subsidiary managers through intra- and inter-MNE linkages in utilizing resource management on attributes of subsidiary mandates. In practice, mandates encompass both a formal and an informal dimension and it is not clear-cut which plays the more important role. What is clear is that through the practice of mandating activities and responsibilities to subsidiaries the formal contractual dimensions of a mandate easily conform to the ownership–control discussion. However, the informal dimensions of a mandate, i.e. the resources and relationships, are less easy to control, and as they are explicitly attached to the asset licensed to a subsidiary, they are more easily leveraged by the subsidiary for strategic influence. Given the subsidiary control and the dependency on subsidiaries of counterparts and hierarchal units such as headquarters, an argument can be made that over time subsidiaries can build strategic control of a mandate consisting of the knowledge developed and the relationships created, which are arduous for headquarters to remove even if it exercises its ownership right and withdraws the mandate.

Mandates encapsulate resources; it can be argued that they are themselves resources (hence there is competition for them). As subsidiaries obtain resources that are tricky for other actors within the MNE, including headquarters, to attain, there is a shift in the ownership–control nexuses within the MNE. This creates a situation in which resources and capabilities in the MNE are highly dispersed. It should be pointed out that unique resources and capabilities are important sources of control and create a variety of influences depending on the scope of the mandates. Headquarters of MNEs are reliant on their subsidiaries for many intangible assets, such as knowledge and ideas (and equally reliant on them for sales).

These intangible technological and business-related knowledge resources held by subsidiaries are socially complex, as they are tied into relationships with external counterparts and local environments, making them hard to control. Within the MNE, subsidiaries are also dependent on each other to varying degrees in areas such as production, development and distribution, creating a situation in which some subsidiaries can leverage resource dependences to influence counterparts. In business networks it is recognized that a subsidiary's critical resources and capabilities are to a large extent linked to the subsidiary's specific relationships with customers, suppliers and other counterparts internally and externally. The subsidiary's internal and external relationships offer resources at the subsidiary level that give the subsidiary the ability to leverage influence also over headquarters due to its potential dependence on the subsidiary.

A subsidiary's managers have two functions in regard to development and utilization of a mandate. First, the knowledge and capabilities they derive from their horizontal activities internal and external to the MNE allow for the development of the mandate's attributes. Second, subsidiary managers develop upward activities, which by and large are created as a consequence of structural governance mechanisms and through informal means of issue selling. The subsidiary manager's horizontal activities consist of coordination and searches. They coordinate tasks with outsiders – e.g. buyers, suppliers and others in their local environment – as well as with internal counterparts. The activities include communication and coordination of functional activities. Subsidiary managers also scout, which consists of general scanning of the environment and gathering of relevant information (both internal and external). These two activities are the managerial activities that support the development of dependencies. Moreover, if the activities succeed in generating value for mandates' attributes, they are also activities that separate the control of the mandate between headquarters and subsidiaries. The position of subsidiary middle managers within the MNE gives them insight into the challenges associated with coordinating activities across the MNE. They are also the focal point of knowledge of the subsidiary's innovative activities and the channels from which those activities derive.

Furthermore, it can be posited that these managers are familiar with the dependencies arising from the knowledge and competencies they have developed. This allows the subsidiary managers to focus their attention on leveraging their control over the attributes of the mandate in the upward activities. These activities encompass being an ambassador, a protector and a persuader in relation to headquarters managers. We thus pose the following proposition:

Proposition 1. Internal and external subsidiary managers' linking activities are positively related to the development and utility of subsidiary resource dependencies in intra-MNE value chains.

The activities of the subsidiary managers can influence the MNE's strategic activities through their relationships with the headquarters and other units' dependency on their resources. These activities can also reinforce the subsidiary's importance and its development within the MNE through the manager's internal relationships. Internal horizontal activities of the subsidiary managers lead to better positioning in the MNE's network and thus better ability to exercise influence on dependencies, due to network positioning as well as insights into the needs of sister subsidiaries for their competencies. We argue that a higher degree of influence tends to be associated with the control of the attributes that are proportioned to a mandate than with the subsidiary managers' activities in developing or leveraging dependencies. Higher degrees of control of the mandates' attributes indicate that the subsidiary is likely to have developed significant capabilities that are contingent on local resource management or a mixture of local and value chain resource management. This would suggest that greater horizontal and upward activities of subsidiary managers support dependency development and leveragability when influencing headquarters' mandates and resource allocation. We thus suggest the following propositions:

Proposition 2: There is a recursive relationship between subsidiary managers' mandate resource management activities in intra-MNE projects and the degree of integration responsibility conferred on a subsidiary.

Proposition 3: Subsidiary managers' activities to leverage mandate resources are positively related to the subsidiary's degree of strategic influence over headquarters' decisions about mandates and resource allocation.

6. Summary and implications for MNE senior managers and policymakers

We have developed propositions about how subsidiary managers' activities can influence both MNE and local technological evolution when subsidiaries are granted an R&D mandate. We have shown that the allocation of a mandate implies that integration responsibilities are assigned to the subsidiary gaining the mandate. Furthermore, we elucidated that subsidiary managers leverage their connectivity when the subsidiary structures its resources in intra-MNE projects and that the managers have decision rights over these resources. Senior MNE managers should pay attention to the dynamic process of integrating the new mandate and influencing relations with both internal and external counterparts so as to influence the dependencies within the MNE and increase the subsidiary's influence on the MNE's strategy. It is noteworthy that this explanation of a mandate's attributes and its ownership and control can add another dimension to the discussion of why headquarters are incapable of controlling the subsidiary's use of their resources (i.e. their capabilities and relationships), which form the critical base of its value creation (Andersson and Forsgren, 1996; Mudambi et al., 2014).

Senior MNE managers should also pay attention to the fact that because counterparts and headquarters are dependent on subsidiary resources and competencies, the subsidiary will gain strategic influence over functions and decisions in the MNE. In this study we show that some subsidiaries control resources and specifically have the integration responsibility for these resources – resources that the MNE is dependent upon. What this study shows is that a subsidiary that has superior resources and competencies employed in intra-MNE projects can leverage its influence over headquarters' allocation of mandates and resources.

The findings of this study have important implications for the development of domestic firms. It was evident that subsidiaries, through their distinctive characteristics, bring much-needed expertise and skills that help to overcome the technological deficiencies in the host countries. For example, both India and China have been outstanding in attracting FDI, particularly FDI in technology-intensive sectors; however, the positive spillovers from foreign subsidiaries to domestic firms and their upgrading of specific capabilities is facilitated through the activities and connectivity of foreign subsidiary managers with local counterparts. The goals of national FDI policies should include policies for attracting the right type of FDI. National policies should also, first, consider processes for encouraging a supportive milieu for foreign and domestic firms to interact and build relationships and, second, devise appropriate policies to extract benefits from the presence of foreign subsidiaries. In particular, for the development of R&D and technology knowledge, the possibility of support from regional and national development agencies in the development of research institutes at local universities has been paramount in helping to develop a local knowledge network (Ryan et al., forthcoming). The development of a knowledge network, together with foreign subsidiaries, has a strong influence on the economic growth and prosperity of a region (Giblin and Ryan, 2012). Indeed, policies aimed at upgrading existing FDI towards high value added activities need to be informed by a good understanding of the internationalization processes within MNEs and the complex intra-MNE and interorganizational relationships and interactions, including the role, activities, strategic influence and importance of subsidiary managers of foreign-owned subsidiaries with high value added mandates, such as R&D. Rich insights from detailed micro-level studies encompassing senior managers at both the MNE and the subsidiary level, like this one, can provide important reference points for evidence-based policymaking.

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