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POINT OF VIEW Open Access

Dynamic attention-based view of corporate headquarters in MNCs



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Abstract

While the usefulness of the attention-based view in understanding the role of headquarters-subsidiary relationships in multinational companies (MNC) is well established, recent research on corporate headquarters (CHQ) has moved beyond the simplistic conception of CHQ as a unitary entity. In this point of view, I review the development of the attention-based view and its use in research on CHQs in MNCs. Developing a better understanding of the dynamics of attention between the different subsidiaries and the increasingly dispersed and disaggregated headquarters activities in MNCs requires a more dynamic view of attention. Building on the recently introduced dynamic attention-based view, I identify potential research areas emerging from the application of the dynamic attention-based view to research on CHQ activities in MNCs.

Introduction

Over the past 20 years, researchers have increasingly adopted the attention-based view (ABV) to study a wide range of strategy-related phenomena (Gavetti et al. 2012; Joseph and Wilson 2018; Ocasio 1997; Ocasio 2011; Ocasio and Joseph 2005). The ABV has become one of the grand meta-theoretical lenses of strategy research (Ocasio 2011), complementing and deepening prior work on industrial organization theory and the resource-based view (Joseph and Wilson 2018; Ramos-Rodriguez and Ruiz-Navarro 2004) with a more behavioral approach to strategy (Gavetti et al. 2012; Gavetti et al. 2007; Levinthal 2011; Powell et al. 2011). Building on the extensive body of research on the ABV, Ocasio, Laamanen, and Vaara (2018) recently proposed a dynamic attention-based view, inviting researchers to better account for the dynamic and often political nature of communication in shaping attention in complex organizations. Instead of viewing communication merely as a structural distribution of attention through "pipes and prisms," the authors called for more research on the role of communication practices, vocabularies, rhetorical tactics, and talk and text in shaping organizational attention.

While the usefulness of the attention-based view for understanding the role of corporate headquarters-subsidiary relationships in multinational companies (MNC) is well established (e.g., Ambos and Birkinshaw 2010; Birkinshaw et al. 2007; Bouquet and Birkinshaw 2008, 2011; Bouquet et al. 2009), recent research on corporate headquarters (CHQ) has moved beyond the simplistic conception of CHQ as a unitary entity (Birkinshaw et al. 2016; Decreton et al. 2017; Nell et al. 2017). Adopting the more dynamic view of attention (Ocasio et al. 2018) can help advance this research by



enabling us to better understand and account for the communication dynamics that shape attention among the increasingly disaggregated and dispersed HQ units and in the MNC as a whole.

Below, I review briefly the development of the attention-based view and its use in research on CHQs in MNCs, followed by a discussion of the recent calls for research on the disaggregation and dispersion of CHQ activities. I conclude this Point-of-View article by proposing a research agenda and by providing examples on the potential research areas and research questions emerging from the application of the dynamic attention-based view in the study of CHQ activities in MNCs.

Attention-based view

Selective attention and attention focus

One of the main focus areas of the early research on organizational attention was the limited attention capacity of managers and organizations (March and Simon 1958; Simon 1947). Over time, researchers have become increasingly interested in the consequences of the attention focus for different organizational outcomes (Joseph and Wilson 2018; Ocasio 1997; Ocasio 2011). In line with the predictions of ABV, researchers have hypothesized and found positive effects of attention focus on organizational renewal (Eggers and Kaplan 2009), speed of entry into new technological fields (Kaplan 2008a), capability development (Laamanen and Wallin 2009), effectiveness of R&D (Huckman and Zinner 2008), internationalization (Bouquet et al. 2009), subsidiary performance (Ambos and Birkinshaw 2010), and organizational transformation during deregulation (Cho and Hambrick 2006). In other words, attention focus would seem to pay off in causing action and enhancing performance in the focus area. However, since the top-level attention capacity is temporally limited, other areas will inevitably receive less attention. Therefore, it has been argued that the attention focus should always dynamically shift to the areas that provide the highest benefit for the performance of the organization (Laamanen and Wallin 2009).

Attention distraction

In addition to research on the positive effects of attention focus, scholars have been interested in how different distractions to individual or organizational attention can influence behavior and performance. For example, Yu, Engleman, and Van de Ven (2005) studied how acquisitions can divert an organization's attention from other parallel tasks, such as competitor analysis or regulatory diligence. Similarly, attention distraction through major outsourcing commitments (Grimpe and Kaiser 2010), intraorganizational politics (Shoss et al. 2012), multiple team memberships (Cummings and Haas 2012; O'Leary et al. 2011), and hostile environments (Mitchell et al. 2011) have been found to have negative effects on individuals', teams', and organizations' performance. One recent development in this research has been the introduction of the concept of activity load as a potential distraction for attention focus. Activity load has been found to relate to reduced performance of private equity investments (Castellaneta and Zollo 2015) and strategic issue management (Laamanen et al. 2018) when activities or issues requiring management's attention exceed its attention capacity.

Attention structures, channels, and temporality of attention

While one of the key ideas of Ocasio's pioneering was the idea of the structural distribution of attention (Gavetti et al. 2007; March and Simon 1958; Ocasio 1997), it is interesting to note how few of the articles building on the attention-based view have eventually taken up this aspect. Ocasio's own subsequent work with Joseph demonstrates the power of this structural perspective in showing how the structural distribution of attention at General Electric affected the emergence and evolution of strategy over time (Joseph and Ocasio 2012; Ocasio and Joseph 2008; Ocasio and Joseph 2006). Additionally, the analyses of Novo Nordisk by Rerup (2009) and of the Greek government by Jacobides (2007) demonstrate the importance of understanding the structural distribution of attention to alleviate myopic organizational attention (Levinthal and March 1993). Understanding the structural distribution of attention and how it shapes and is shaped by communication is particularly important in the context of large, complex organizations and has been found to be linked to a number of different firm outcomes (Bouquet and Birkinshaw 2008; Joseph and Ocasio 2012; Joseph and Wilson 2018; Ocasio and Joseph 2018; Vuori and Huy 2016).

Attention-based view of CHQs in MNCs

Due to the different potential ways to structure the CHQ-subsidiary relationships and the different institutional contexts and geographic distances that can influence the multi-way and cross-level processes associated with attention allocation, MNCs represent an ideal context in which to apply the attention-based view (e.g., Nell et al. 2017; Rhee et al. 2019; Schotter et al. 2017). While the early work was interested in how the attention focus of individuals influences how they perceive the global integration and standardization strategies of MNCs (e.g., Newburry et al. 2008; Newburry and Yakova 2006), researchers soon became interested in how executives at headquarters focus their attention and how subsidiaries can attract the attention of corporate headquarters (Birkinshaw et al. 2007; Bouquet and Birkinshaw 2008). One of the findings of this research was that subsidiaries attract attention from headquarters based on their importance ("weight") and their own activities aimed at attracting CHQ attention ("voice") (Bouquet and Birkinshaw 2008). Later research has consistently corroborated these findings. For example, the growth of a subsidiary and the presence of expatriates in a subsidiary have been found to affect the likelihood of a subsidiary getting the attention of the CHQ (Plourde et al. 2014).

To understand the performance implications of CHQ attention, researchers have examined the effects of the international attention of the CHQ (i.e., "the extent to which headquarters executives invest time and effort in activities, communications, and discussions aimed at improving their understanding of the global marketplace") on the performance of the MNC (Bouquet et al. 2009) and the effects of CHQ attention to subsidiaries on subsidiary performance (Ambos and Birkinshaw 2010). For example, Ambos et al. (2010) found that subsidiary initiatives can enable subsidiaries to become more autonomous if they are able to attract the attention of the CHQ. CHQ attention, however, was also found to have a negative effect on subsidiary autonomy, as it tended to lead to higher levels of monitoring (see, also, Strutzenberger and Ambos 2014). A related research stream has examined how the attention of the CHQ affects the knowledge flow from subsidiaries (Kumar 2013) and the allocation of resources to

subsidiaries. Researchers have examined, for example, how attention due to operational relatedness, subsidiary bargaining power, subsidiary origin, structure of the subsidiary network, and geographic distance influence resource allocation to innovation transfer projects in MNCs (Ciabuschi et al. 2011; Dellestrand and Kappen 2011, 2012; Monteiro 2015).

Dellestrand (2011) was among the first to conceptualize divisional headquarters as an additional hub within the MNC through which the CHQ is able to distribute attention and orchestrate different innovation activities. Building on the long tradition of international business research on divisional (e.g., Forsgren et al. 1995) and regional headquarters (e.g., Alfoldi et al. 2012; Amann et al. 2014; Biloshapka 2009; Heenan 1979; Lasserre 1996; Lehrer and Asakawa 1999; Yeung et al. 2001), researchers have further developed this idea of divisional, regional, or "host country" headquarters (HCHQ) (Pan et al. 2014) as additional centers of attention allocation in MNCs. The dual involvement of the CHQ and the divisional HQ in subsidiary activities can better explain the organizational dynamics observed in MNC than by focusing only on the effects of the CHQ (Decreton et al. 2017).

In line with the broader trends in research on the attention-based view and institutional theory (e.g., Bitektine and Haack 2015; Thornton and Ocasio 1999; Weber and Waeger 2017), researchers studying MNCs have recently also become increasingly interested in the effects of external institutional influences on the attention focus of MNCs and their subsidiaries. In a study on the conformance of an MNC to CSR-related norms, Durand and Jacqueminet (2015) examined the relative importance of attention to different sources of influence by studying how MNC subsidiaries reacted to normative demands from their headquarters and from local external constituents. Based on an analysis of 101 subsidiaries of an MNC, they found that external peers' conformity to the CSR norm directed the attention of subsidiaries toward the CSR-related demands of external constituents at the expense of the demands coming from the corporate headquarters. Instead, they found that the conformity of internal peers increased attention to both external and corporate headquarters' demands related to CSR.

Finally, as the use of the ABV has become more commonplace in international business research, researchers have started adopting some of the more advanced theoretical constructs of the attention-based view, thus going beyond the core principles of attention focus, attention distraction, and attention attraction. For example, ul Haq, Drogendijk, and Holm (2017) applied the concepts of attention perspective (headquarters intentions) and attention engagement (headquarters actions) (Ocasio 2011) to study different MNC-subsidiary relationships and proposed the concept of attention dissonance to describe the situation in which there is a mismatch between the two concepts.

Corporate headquarters disaggregation and dispersion

With the exception of some of the recent studies (e.g., Birkinshaw et al. 2017; Birkinshaw et al. 2016; Decreton et al. 2017; Dellestrand 2011), most studies that have applied the ABV in the context of MNCs have tended to assume dyadic relationships between corporate headquarters and individual subsidiaries. There have been, however, several calls to go beyond the simple conceptualizations of

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corporate headquarters and better account for the disaggregation and spatial dispersion of headquarters activities (Baaij et al. 2015; Decreton et al. 2017; Nell et al. 2017).

Nell, Laamanen, and Kappen (2017) recently proposed a conceptualization of headquarters activities "as a dynamic system in which activities can be distributed organizationally and spatially." The conceptualization builds on prior research that has examined the roles of different types of intermediary headquarters on multiple organizational levels and their interactions with each other (e.g., Alfoldi et al. 2012; Alfoldi et al. 2017; Arregle et al. 2009; Heenan 1979; Lasserre 1996; Li et al. 2010; Piekkari et al. 2010). The different intermediary headquarters identified by researchers include regional headquarters, divisional headquarters, functional headquarters, regional management mandates, and lead subsidiaries that can be seen to constitute a network structure of different types of headquarters activities rather than a unitary headquarters actor (Nell et al. 2017). The conceptualization of Nell et al. (2017) builds on the conception of an MNC as an internally differentiated intraorganizational network (Ghoshal and Bartlett 1990), where some of the headquarters activities can also be organized in the different parts of the network instead of remaining in one location. The disaggregation and dispersion of headquarters activities can take place in a multi-layered manner in which the ultimate responsibility for coordinating headquarters activities across the MNC still remains in one single location. It can also take place in a multi-centered manner with the creation of dual-hub (e.g., dual CHQ) (Birkinshaw et al. 2017; Birkinshaw et al. 2016; Bouquet et al. 2016) or multi-hub structures in which even the ultimate responsibility for oversight and coordination is shared by two or more equally powerful hubs around the world (Prahalad and Bhattacharyya 1998, 2011). These different structural constellations of headquarters activities have quite interesting differences from the perspective of the attention-based view (Birkinshaw et al. 2016).

In their call to develop a better understanding of increasingly complex headquarters constellations, Nell et al. (2017) outline five theoretical lenses through which researchers can analyze the antecedents, processes of disaggregation, management, and outcomes of disaggregated and dispersed headquarters. The ABV is included as one of the theoretical lenses through which to study these questions. The authors call for further research on the following: (a) How do considerations of how to optimize headquarters attention drive changes in the headquarters system? (b) What are the attention shifts that occur when a headquarters system begins to change? (c) How do disaggregation and dispersion affect the focus of attention of the overall headquarters system? (d) How do disaggregation and dispersion affect the structural distribution of attention in the MNC? and (e) Do the benefits of the better structural distribution of attention outweigh the costs of the potential fragmentation of organizational attention? In this paper, I go a step further and argue that to fully understand how such disaggregated and dispersed headquarters structures work, we must adopt a more dynamic view of attention in line with Ocasio, Laamanen, and Vaara (2018). In the next section, I will discuss what this means and propose a research agenda for the future.

Dynamic attention-based view in research on CHQs in MNCs: a research agenda

In their call for a more dynamic view of attention, Ocasio, Laamanen, and Vaara (2018) note that prior research has tended to overlook "the role of social interactions underlying

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communication in shaping the situated attention and attentional engagement that occur within and between communication channels." The authors argue that attention should be studied not only as an individual-level cognitive phenomenon, but also as a social one in which the attention and co-orientation of organizational actors are shaped by communication. They identify four potential areas of future research. These include (a) an analysis of the nature of communicative practices used in communication channels, which can enable or constrain changes in attentional engagement; (b) an analysis of strategic vocabularies to develop insights into how language use shapes attention; (c) an analysis of rhetorical tactics to better comprehend the role of political dynamics in shaping the strategic agenda of a firm; and (d) an analysis of different forms of talk and text to understand how changes in strategic agendas are articulated and shared throughout the organization (Ocasio et al. 2018:158). While these four research areas relate to the question of how attentional engagement can be influenced during strategic change, they are also relevant to analyzing the dynamics of distributed headquarters activities in MNCs. I outline next how research in these four areas can contribute to an improved understanding of the role of dispersed and disaggregated CHQs in MNCs.

Communication practices enabling or constraining attention engagement

While prior research on the dynamics of attention in MNCs has predominantly examined dyadic communication between the CHQ and different subsidiaries, the distributed nature of headquarters activities adds further complexity to this analysis. Research would be needed to develop a deeper understanding of how the communication practices between the different headquarters units of the MNC on multiple levels (global, regional, divisional, functional) and between the different headquarters units and the subsidiaries enable or constrain the attention engagement of the involved parties. For example, a breakdown of communication between corporate and division headquarters may lead to corporate reactions to performance feedback that impede the realization of optimal division-level solutions (Gaba and Joseph 2013). While the baseline hypothesis is that the structural distribution of attention is more effective with the existence of regional and divisional headquarters or different kinds of regional management mandates as attention-magnifying devices (see, e.g., Decreton et al. 2017), the existence of multiple intermediating headquarters units can also lead to higher distance, reduced attentional engagement, reduced cognitive accessibility, and decreased influence by the global headquarters unit (e.g., Joseph et al. 2016; Rhee et al. 2019). It may become more difficult for global headquarters unit to attend to the different subsidiaries because it can only do so through the other headquarters units. The multilayered nature of the CHQ can also make it more difficult for the subsidiaries to attract the attention of the global HQ unit, as they have to be able to first attract the attention of the regional, divisional, or functional HQ, which in turn would then have to attract the attention of the global HQ. In multi-centered headquarters constellations (e.g., the dual CHQ structure), the additional challenge is the contested nature of attention because in the multi-centered structure, power is distributed more equally and communication practices become the main means of influencing the direction of the MNC's attention of the MNC.

Accordingly, I call for research on the different attention-enabling and -constraining effects of different communication practices and how they are influenced by the different configurations of headquarters activities.

Strategic vocabularies and language as microfoundations of attention

While research into the effects of the adoption of a specific strategic vocabulary on the strategic agenda of a firm remains quite limited (Ocasio et al. 2018), prior research shows that the choice of a specific vocabulary affects which strategic issues are attended to and how attention can be shifted with the change or the adoption of a new vocabulary (Nigam and Ocasio 2010; Ocasio and Joseph 2008). The adoption of a specific vocabulary in the headquarters of an MNC can be highly influential in shifting the distribution of the whole company's attention. Therefore, the introduction of a specific vocabulary is also likely to be highly contested. One must choose the vocabulary and language that are adopted throughout the corporation and how much variance is allowed in the different divisions, functions, and regions. Even in corporations with a common corporate language (e.g., Harzing and Pudelko 2013; Peltokorpi 2015), different degrees of fluency and proficiency in language can influence how managers from different parts of the organization can influence the attention of corporate headquarters. The existence of regional and divisional headquarters can help alleviate this challenge by acting as a two-way "translation service" between the global headquarters unit and the subsidiaries. Thus, the different headquarters units could be seen as translators of the "corporate strategy language" into the divisional, functional, or regional contexts and of the "regional or local strategy language" to the corporate level, enabling both the global headquarters unit and the subsidiaries to better attend to each other's strategic issues. Even without institutional, cultural, or language distances, differences between the business logic or organizational cultures of the different parts of the organization (e.g., different functions) may benefit from the translation "services" provided by the functional headquarters. Sometimes global concepts, such as "Digitalization," "Onecompany strategy," or a specific strategic vision that the global headquarters is strongly promoting, can be highly influential in penetrating the whole organization and enabling the attention of the whole MNC to be directed towards a common goal. Yet, even then, translation to the regional or divisional level is necessary for the different subsidiaries to understand their roles in implementing the strategy.

Hence, I call for further research on how the disaggregation and dispersion of HQ activities influence the dynamics of attention focus in MNCs as multilingual communities (Luo and Shenkar 2006).

Rhetorical tactics and political dynamics

Prior research on strategic issue selling and competing cognitive frames has examined how managers can use different rhetorical tactics to influence the attention of others (Dutton et al. 1997; Kaplan 2008b; Mantere and Vaara 2008; Paroutis and Heracleous 2013). Complementing the analysis of different communication practices (e.g., meetings, workshops, different types of communication media) and the choice of a particular strategic vocabulary, an analysis of the rhetorical practices

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used would enable us to gain a deeper understanding of the political dynamics associated with communication practices in the MNC. While prior research on the dynamics of attention in MNCs has touched upon the question of power and politics in examining the relative attention that the different subsidiaries can attract in relation to other subsidiaries (subsidiary "weight") (Bouquet and Birkinshaw 2008; ul Haq 2017), it has examined the use of different rhetorical practices by the subsidiaries only to a limited extent. In the context of disaggregated and dispersed HO structures, this question becomes even more interesting due to the multitude of different types of actors. In order to focus the attention of the organization on a specific strategic issue, regional headquarters (or in a dual-CHO constellation on the of the CHQs) can team up, for example, with one of the divisional headquarters or one of the subsidiaries to develop a rhetorical strategy that is effective in seizing the organizational attention to a specific strategic issue (Dutton et al. 2002; Dutton et al. 1997; Dutton and Jackson 1987). Based on their priorities, the different headquarters units can end up forming continuously changing networks of intra-organizational power relationships with each other and develop rhetorical strategies with which they support the issues raised by their coalition partners to focus or sustain organizational attention to specific issues.

Hence, building on the micro-political view of the networked MNC (e.g., Conroy et al. 2017), I call for more research on the effects of different types of power coalitions in the MNC and how the different coalitions of organizational units engage in different types of rhetorical tactics in influencing the attention focus and attention engagement of the MNC.

Different forms of talk and text

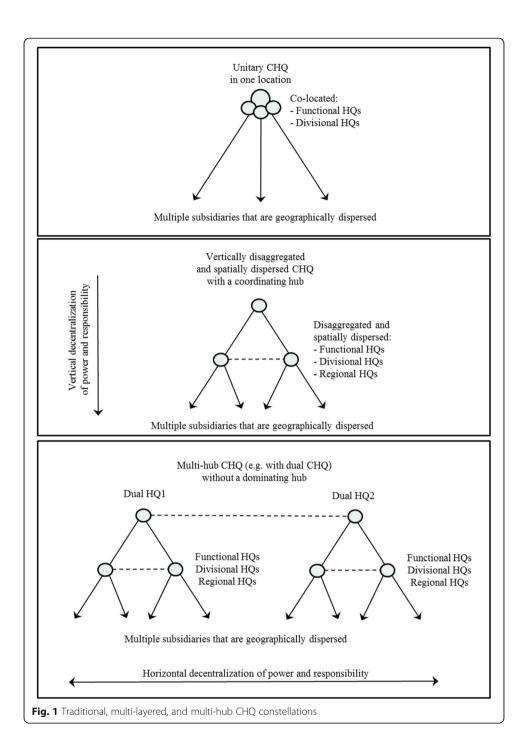
According to (Ocasio, Laamanen, and Vaara (2018): (162)), "talk and text constitute a continuous stream of communication that evolves dynamically over time and across the organization." The continuous flow of communication plays an important role in the structural distribution of attention and how it evolves over time. Therefore, the temporal and spatial fluctuations in talk and text represent a key antecedent of attention focus and attention engagement in an organization. Developing an understanding of how the flow of communication evolves over time through "talk and text" complements our discussion above on the use of different communication practices and channels, the choice of specific strategic vocabulary or language, and rhetorical practices to influence and distribute attention throughout the organization. Attention-shaping talk can text and come from external sources through different channels in many different forms ranging from competitor patent filings (Kaplan and Vakili 2015) and new product launches (Vuori and Huy 2016) to newspaper articles by journalists (Vaara and Tienari 2008). The most common intraorganizational forms of talk and text that shape organizational attention include CEO and other top management team (TMT) member presentations (e.g., Hydle 2015; Mirabeau et al. 2018; Paroutis and Pettigrew 2007), corporate publications (Dalpiaz and Di Stefano 2018), PowerPoint documents (Kaplan 2011; Knight et al. 2018), and discussions and debates in meetings, social media discussion platforms, and blogs (Barros 2014; Dobusch and Kapeller 2017; Hautz et al. 2017; Neeley and Leonardi 2018). In particular, strategic planning documents represent important internal arenas of talk and text that shape organizational attention. Therefore, they constitute arenas of contestation in which different organizational units attempt to shape the strategic agenda and the attention focus of the MNC. However, despite the growing body of research on strategy practices (for reviews see, e.g., Burgelman et al. 2018; Vaara and Whittington 2012), only a handful of papers have made the link between talk and text and the dynamics of organizational attention (e.g., Hydle 2015; Mirabeau et al. 2018; Paroutis and Pettigrew 2007) or studied them in the context of MNCs (e.g., Balogun et al. 2011; Geppert et al. 2003; Pinkse et al. 2010). Developing an understanding of how talk and text flow in an MNC across its different parts could enable us to gain deeper insights into the organizational attention patterns and how they evolve and are shaped over time.

Thus, I call for further research into how different headquarters units can use talk and text to shape organizational attention and how flows of different forms of talk and text can be used to achieve co-alignment between different headquarters units in different headquarters activity constellations.

Dynamic ABV in multi-layered and multi-hub CHQ constellations

To bring these research agenda elements to life, it is useful to revisit the distinction between multi-layered and multi-centered (or multi-hub) headquarters. While in many ways the models are quite similar with both representing different ways to organizationally disaggregate and ways to spatially disperse the headquarters activities, they also have important differences from the perspective of the attention-based view, as highlighted in Fig. 1.

The multi-hub model can be seen as a special case of CHQ activity disaggregation and dispersion in which the decentralization power and responsibility are pushed so far that no single hub has ultimate coordinating responsibility or authority in all matters. While the multi-hub CHQ constellations are not that common, there are well-documented cases of how, for example, the dual headquarters structure can be used to ensure and sustain organizational attention to strategically critical areas, such as an important new market area (Birkinshaw et al. 2017; Birkinshaw et al. 2016; Bouquet et al. 2016). It enabled top management to put emphasis on an area beyond what would have been possible, for example, with the establishment of a regional headquarters (RHQ). Although the establishment of a regional headquarters can be used to attract more organizational attention to a specific region, the attention capacity of the leading headquarters unit may still end up representing a bottleneck in the overall headquarters system. While the ability to attend to a larger number of areas can be increased by decentralizing HQ activities, the ultimate top-level attention capacity for the overall development of the corporation may still be constrained by the hierarchical nature of the multi-layered model. The dual (or multi-hub) headquarters structure can be used to add also to this highest-level attention capacity. It can be used to create a twoheaded (or multi-headed) CHQ constellation in which also the top management team's (TMT) attention capacity can also be multiplied (e.g., Birkinshaw et al. 2016).



The distinction between multi-layered and multi-hub HQ constellations highlights well some of the exemplary research questions that one can study with the help of the dynamic attention-based view. Table 1 shows some of these exemplary research questions that could be examined to better understand (1) the enabling and constraining effects of communication practices, (2) the choice of strategic vocabularies and language, (3) rhetorical tactics and political dynamics, and (4) talk and text in different headquarters activity constellations.

Table 1 Research agenda on dynamic ABV in multi-layered and multi-hub CHQ constellations

	Multi-layered view of CHQ	Multi-hub view of CHQ
Nature of the organizational disaggregation and spatial dispersion of the CHQ activities	CHQ activities are organizationally disaggregated and geographically dispersed, but there is still a central hub in the network of CHQ activities that orchestrates the disaggregated and dispersed activities.	CHQ activities are organizationally disaggregated and geographically dispersed into multiple hubs (e.g., dua CHQ) without a clear dominant hub that would coordinate the activities of the other hubs.
Potential benefits of the CHQ model for attention focus and attention engagement	The existence of regional, divisional, and functional headquarters ensures the depth of vertical attention focus and continuous attention engagement in the areas for which the different vertically disintegrated CHQ functions are responsible.	The existence of multiple CHQ hubs helps extend the CHQ focus horizontally in situations in which the focus of a regional or divisional HQ would not suffice in creating a sufficient weight for the attention focus or engagement in areas where i would be needed.
Exemplary research questions to stud	y the CHQ with the help of the dynamic	attention-based view
Enabling or constraining effects of communication practices on the choice of attention focus and attention engagement	How does the multi-layered nature of the CHQ influence attention focus in terms of vertical depth and accuracy of attention in the MNC and what practices are needed for attention aggregation and for forming a cohesive overview in coordinating the HQ activities?	How does the multi-hub nature of the CHQ (e.g., dual HQ) influence attention focus both in terms of horizontal coverage and attentional engagement and how do communication practices enable the co-alignment of equally powerful HQ hubs?
Effects of strategic vocabularies and language on attention focus and attention engagement	How does the multi-layered nature of headquarters activities influence the translation, use, and understanding of key strategic concepts as a means of attention focus and engagement across the CHQ?	How are different, potentially competing vocabularies used and to what extent are they contested across equally strong horizontal hubs? How do language differences influence the differentiation and integration of attention across the CHQ and in the MNC as a whole?
Effects of political dynamics and the associated rhetorical tactics on attention focus and engagement	What are the effects of political dynamics (and their associated rhetorical tactics) on attention focus and engagement in the CHQ and the MNC? For example, do regional or divisional headquarters block attentional cues from the CHQ to gain more independence? How does the dual (or multiple) agency of multiple levels of CHQ activities influence attention focus in the MNC subsidiaries and how do the different rhetorical tactics used by the different agents influence that?	How do multiple headquarters hubs engage in political dynamics to gain more power in the headquarters through their rhetorical tactics? How do the different rhetorical tactics used influence the attention focus and attention engagement of the multihub headquarters system?
Effects of the choice of different forms of talk and text on attention focus and engagement	How does direct broadcasting of strategy communication from the lead CHQ unit, for example, in the form of CEO's speeches to all employees, and through communication cascades, for example, through PowerPoint slides that are locally tailored by the different CHQ units (e.g., divisional or regional CHQ) to match their areas influence attention focus and attention engagement?	How do the different headquarters hubs use different forms of talk and text to influence the attention focus and attention engagement of the other hubs and the MNC as a whole? How do the different forms of talk and text contribute to the creation of alignment across the different CHQ hubs and in the MNC?
Effects of attention dynamics on performance of the MNC	How do the attention dynamics in the organizationally disaggregated and spatially dispersed constellation of HQ activities influence the overall performance of the MNC?	How do the attention dynamics in the multi-hub constellation of HQ activities relate to the stability of the multi-hub HQ activity constellation and the overall performance of the MNC?

As the dynamic attention-based view provides a novel lens to examine how the multi-layered headquarters system works as a vertically layered, spatially dispersed system, the dual or multi-hub model represents an interesting contrast to study how the

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strategic agenda of the TMT is continuously contested horizontally across the different hubs (Ocasio et al. 2018). Continuous contestation of organizational attention can also lead to power struggles and coordination difficulties that can distract the organization. This can make the dual or multi-hub constellations unstable, making it difficult to manage them on an ongoing basis. Prior research has shown that this can lead companies to return back to the multi-layered CHQ structure (Birkinshaw et al. 2016; Bouquet et al. 2016). A recently published empirical study also found that the spatially dispersed HQ structures would in general seem to be negatively related to performance (Kunisch et al. 2019). It would almost seem as if the additional costs associated with added complexity cannot always be compensated by the benefits of enhanced attention capacity. Further research would seem to be needed on the relative benefits and costs of enhanced attention focus and attention engagement in the different headquarters activity constellations.

Conclusion

Moving beyond the conception of CHQ as a unitary entity and viewing it "as a dynamic system in which activities can be distributed organizationally and spatially" opens up a broad range of new research opportunities. In this Point-of-View paper, I focused on the implications of this shift for research on the use of the attention-based view in the context of MNCs and propose the adoption of the recently introduced dynamic ABV. I hope that the research areas that I identify and the exemplary research questions I propose inspire a rich body of future research on the effects of different types of disaggregated and dispersed HQ structures on the dynamics of attention in MNCs.

Abbreviations

ABV: Attention-based view; CHQ: Corporate headquarters; HQ: Headquarters (as a general term); MNC: Multinational corporation; RHQ: Regional headquarters; TMT: Top management team

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References

Alfoldi EA, Clegg LJ, McGaughey SL (2012) Coordination at the edge of the empire: the delegation of headquarters functions through regional management mandates. *Journal of International Management* **18**(3):276–292

Alfoldi EA, McGaughey SL, Clegg LJ (2017) Firm bosses or helpful neighbours? The ambiguity and co-construction of Mne regional management mandates. *Journal of Management Studies* **54**(8):1170–1205

Amann B, Jaussaud J, Schaaper J (2014) Clusters and regional management structures by western Mncs in Asia: overcoming the distance challenge. Management International Review 54(6):879–906

Ambos TC, Andersson U, Birkinshaw J (2010) What are the consequences of initiative-taking in multinational subsidiaries? Journal of International Business Studies 41(7):1099–1118

- Ambos TC, Birkinshaw J (2010) Headquarters' attention and its effect on subsidiary performance. *Management International Review* **50**(4):449–469
- Arregle JL, Beamish PW, Hebert L (2009) The regional dimension of Mnes' foreign subsidiary localization. *Journal of International Business Studies* **40**(1):86–107
- Baaij MG, Mom TJM, Van den Bosch FAJ, Volberda HW (2015) Why do multinational corporations relocate core parts of their corporate headquarters abroad? Long Range Planning 48(1):46–58
- Balogun J, Jarzabkowski P, Vaara E (2011) Selling, resistance and reconciliation: a critical discursive approach to subsidiary role evolution in Mnes. *Journal of International Business Studies* 42(6):765–786
- Barros M (2014) Tools of Legitimacy: The case of the petrobras corporate blog. Organization Studies 35(8):1211-1230
- Biloshapka VA (2009) Regional structural schemes in managerial practice of international companies. Actual Problems of Economics 91:29–35
- Birkinshaw J, Ambos TC, Bouquet C (2017) Boundary spanning activities of corporate Hq executives insights from a longitudinal study. *Journal of Management Studies* **54**(4):422–454
- Birkinshaw J, Bouquet C, Ambos TC (2007) Managing executive attention in the global company. *Mit Sloan Management Review* **48**(4):39
- Birkinshaw J, Crilly D, Bouquet C, Lee SY (2016) How do firms manage strategic dualities? A process perspective. *Academy of Management Discoveries* **2**(1):51–78
- Bitektine A, Haack P (2015) The "Macro" and the "Micro" of legitimacy: toward a multilevel theory of the legitimacy process.

 Academy of Management Review 40(1):49–75
- Bouquet C, Birkinshaw J (2008) Weight versus voice: how foreign subsidiaries gain attention from corporate headquarters. Academy of Management Journal 51(3):577–601
- Bouquet C, Birkinshaw J (2011) How global strategies emerge: an attention perspective. *Global Strategy Journal* 1(3-4):243–262 Bouquet, C., J. Birkinshaw, J.L. Barsoux. 2016. Fighting the "Headquarters Knows Best" syndrome. *Mit Sloan Management Review* 57(2):59-+.
- Bouquet C, Morrison A, Birkinshaw J (2009) International attention and multinational enterprise performance. *Journal of International Business Studies 40*(1):108–131
- Burgelman RA, Floyd SW, Laamanen T, Mantere S, Vaara E, Whittington R (2018) Strategy processes and practices: dialogues and intersections. Strategic Management Journal 39(3):531–558
- Castellaneta F, Zollo M (2015) The dimensions of experiential learning in the management of activity load. Organization Science 26(1):140–157 Cho TS, Hambrick DC (2006) Attention as the mediator between top management team characteristics and
- strategic change: the case of airline deregulation. *Organization Science* **17**(4):453–469
 Ciabuschi F, Dellestrand H, Martin OM (2011) Internal embeddedness, headquarters involvement, and innovation importance in multinational enterprises. *Journal of Management Studies* **48**(7):1612–1639
- Conroy KM, Collings DG, Clancy J (2017) Regional headquarter's dual agency role: micro-political strategies of alignment and self-interest. *British Journal of Management* **28**(3):390–406
- Cummings JN, Haas MR (2012) So many teams, so little time: time allocation matters in geographically dispersed teams. Journal of Organizational Behavior 33(3):316–341
- Dalpiaz E, Di Stefano G (2018) A universe of stories: mobilizing narrative practices during transformative change. Strategic Management Journal 39(3):664–696
- Decreton B, Dellestrand H, Kappen P, Nell PC (2017) Beyond simple configurations: the dual involvement of divisional and corporate headquarters in subsidiary innovation activities in multibusiness firms. *Management International Review* **57**(6):855–878
- Dellestrand H (2011) Subsidiary embeddedness as a determinant of divisional headquarters involvement in innovation transfer processes. *Journal of International Management* 17(3):229–242
- Dellestrand H, Kappen P (2011) Headquarters allocation of resources to innovation transfer projects within the multinational enterprise. *Journal of International Management* 17(4):263–277
- Dellestrand H, Kappen P (2012) The effects of spatial and contextual factors on headquarters resource allocation to Mne subsidiaries. *Journal of International Business Studies* **43**(3):219–243
- Dobusch L, Kapeller J (2017) Open strategy-making with crowds and communities: comparing wikimedia and creative commons. Long Range Planning.
- Durand R, Jacqueminet A (2015) Peer conformity, attention, and heterogeneous implementation of practices in mnes. *Journal of International Business Studies* **46**(8):917–937
- Dutton JE, Ashford SJ, Lawrence KA, Miner-Rubino K (2002) Red light, green light: making sense of the organizational context for issue selling. *Organization Science* **13**(4):355–369
- Dutton JE, Ashford SJ, O'Neill RM, Hayes E, Wierba EE (1997) Reading the wind: how middle managers assess the context for selling issues to top managers. Strategic Management Journal 18(5):407–423
- Dutton JE, Jackson SE (1987) Categorizing strategic issues links to organizational action. *Academy of Management Review* 12(1):76–90 Eggers JP, Kaplan S (2009) Cognition and renewal: comparing ceo and organizational effects on incumbent adaptation to technical change. *Organization Science* 20(2):461–477
- Forsgren M, Holm U, Johanson J (1995) Division headquarters go abroad a step Ln the internationalization of the multinational-corporation. *Journal of Management Studies* 32(4):475–491
- Gaba V, Joseph J (2013) Corporate structure and performance feedback: aspirations and adaptation in M-Form firms. Organization Science 24(4):1102–1119
- Gavetti G, Greve HR, Levinthal DA, Ocasio W (2012) The behavioral theory of the firm: assessment and prospects. *Academy of Management Annals* 6:1–40
- Gavetti G, Levinthal D, Ocasio W (2007) Neo-Carnegie: The Carnegie School's past, present, and reconstructing for the future. Organization Science 18(3):523–536
- Geppert M, Williams K, Matten D (2003) The social construction of contextual rationalities in mncs: an anglo-german comparison of subsidiary choice. *Journal of Management Studies* **40**(3):617–641
- Ghoshal S, Bartlett CA (1990) The multinational-corporation as an interorganizational network. *Academy of Management Review* **15**(4):603–625

- Grimpe C, Kaiser U (2010) Balancing internal and external knowledge acquisition: the gains and pains from r&d outsourcing. Journal of Management Studies 47(8):1483–1509
- Harzing AW, Pudelko M (2013) Language competencies, policies and practices in multinational corporations: a comprehensive review and comparison of anglophone, asian, continental european and nordic Mncs. *Journal of World Business* **48**(1):87–97
- Hautz J, Seidl D, Whittington R (2017) Open strategy: dimensions, dilemmas, dynamics. Long Range Planning 50(3):298–309
 Heenan DA (1979) Regional headquarters decision comparative analysis. Academy of Management Journal 22(2):410–415
 Huckman RS, Zinner DE (2008) Does focus improve operational performance? Lessons from the management of clinical trials.
- Hydle KM (2015) Temporal and spatial dimensions of strategizing. Organization Studies 36(5):643-663
- Jacobides MG (2007) The inherent limits of organizational structure and the unfulfilled role of hierarchy: lessons from a nearwar. Organization Science 18(3):455–477
- Joseph J, Klingebiel R, Wilson AJ (2016) Organizational structure and performance feedback: centralization, aspirations, and termination decisions. *Organization Science* **27**(5):1065–1083
- Joseph J, Ocasio W (2012) Architecture, attention, and adaptation in the multibusiness firm: General Electric from 1951 to 2001. Strategic Management Journal 33(6):633–660
- Joseph J, Wilson AJ (2018) The growth of the firm: an attention-based view. Strategic Management Journal 39(6):1779–1800 Kaplan S (2008a) Cognition, capabilities, and incentives: assessing firm response to the fiber-optic revolution. Academy of Management Journal 51(4):672–695
- Kaplan S (2008b) Framing contests: strategy making under uncertainty. Organization Science 19(5):729-752
- Kaplan S (2011) Strategy and powerpoint: an inquiry into the epistemic culture and machinery of strategy making. Organization Science 22(2):320–346
- Kaplan S, Vakili K (2015) The double-edged sword of recombination in breakthrough innovation. *Strategic Management Journal* **36**(10):1435–1457
- Knight E, Paroutis S, Heracleous L (2018) The power of powerpoint: a visual perspective on meaning making in strategy. Strategic Management Journal 39(3):894–921
- Kumar N (2013) Managing reverse knowledge flow in multinational corporations. *Journal of Knowledge Management* **17**(5):695–708 Kunisch S, Menz M, Birkinshaw J (2019) Spatially dispersed corporate headquarters: a historical analysis of their prevalence, antecedents, and consequences. *International Business Review* **28**(1):148–161
- Laamanen T, Maula M, Kajanto M, Kunnas P (2018) The role of cognitive load in effective strategic issue management. *Long Range Planning* **51**(4):625–639
- Laamanen T, Wallin J (2009) Cognitive dynamics of capability development paths. *Journal of Management Studies* **46**(6):950–981
- Lasserre P (1996) Regional headquarters: the spearhead for Asia Pacific markets. Long Range Planning 29(1):30–37
- Lehrer M, Asakawa K (1999) Unbundling European operations: regional management and corporate flexibility in American and Japanese Mncs. *Journal of World Business* 34(3):267–286
- Levinthal DA (2011) A behavioral approach to strategy-what's the alternative? Strategic Management Journal 32(13):1517–1523
- Levinthal, D.A., J.G. March. 1993. The myopia of learning. Strateg. Manage. J. 14(Winter Special Issue) 95-112.
- Li GH, Yu CM, Seetoo DH (2010) Toward a theory of regional organization. Management International Review 50(1):5-33
- Luo YD, Shenkar O (2006) The multinational corporation as a multilingual community: language and organization in a global context. *Journal of International Business Studies* 37(3):321–339
- Mantere S, Vaara E (2008) On the problem of participation in strategy: a critical discursive perspective. *Organization Science* 19(2):341–358 March JG, Simon HA (1958) Organizations. John Wiley & Sons, Inc., New York
- Mirabeau L, Maguire S, Hardy C (2018) Bridging practice and process research to study transient manifestations of strategy Strategic Management Journal 39(3):582–605
- Mitchell JR, Shepherd DA, Sharfman MP (2011) Erratic strategic decisions: when and why managers are inconsistent in strategic decision making. Strategic Management Journal 32(7):683–704
- Monteiro LF (2015) Selective Attention and the initiation of the global knowledge-sourcing process in multinational corporations. *Journal of International Business Studies* 46(5):505–527
- Neeley TB, Leonardi PM (2018) Enacting knowledge strategy through social media: passable trust and the paradox of nonwork interactions. Strategic Management Journal 39(3):922–946
- Nell PC, Kappen P, Laamanen T (2017) Reconceptualising hierarchies: the disaggregation and dispersion of headquarters in multinational corporations. *Journal of Management Studies* 54(8):1121–1143
- Newburry W, Belkin LY, Ansari P (2008) Perceived career opportunities from globalization: globalization capabilities and attitudes towards women in Iran and the US. *Journal of International Business Studies* **39**(5):814–832
- Newburry W, Yakova N (2006) Standardization preferences: a function of national culture, work interdependence and local embeddedness. *Journal of International Business Studies* 37(1):44-60
- Nigam A, Ocasio W (2010) Event attention, environmental sensemaking, and change in institutional logics: an inductive analysis of the effects of public attention to Clinton's health care reform initiative. *Organization Science* 21(4):823–841
- O'Leary MB, Mortensen M, Woolley AW (2011) Multiple team membership: a theoretical model of its effects on productivity and learning for individuals and teams. *Academy of Management Review* **36**(3):461–478
- Ocasio W (1997) Towards an attention-based view of the firm. Strategic Management Journal 18(S1):187-206
- Ocasio W (2011) Attention to attention. Organization Science 22(5):1286-1296
- Ocasio W, Joseph J (2005) An attention-based theory of strategy formulation: linking micro- and macroperspectives in strategy processes *Strategy Process*. Jai-Elsevier Science Inc, New York, pp 39–61
- Ocasio W, Joseph J (2008) Rise and fall or transformation? the evolution of strategic planning at the general electric company, 1940-2006. Long Range Planning 41(3):248–272
- Ocasio W, Joseph J (2018) The attention-based view of great strategies. Strategy Science 3(1):289–294
- Ocasio W, Laamanen T, Vaara E (2018) Communication and attention dynamics: an attention-based view of strategic change. Strategic Management Journal 39(1):155–167

Ocasio WP, Joseph J (2006) Governance channels and organizational design at general electric: 1950-2001. In: Eriksen B, Burton R, Håkonsson DD (eds) Organization Design: The Dynamcis of Adaptation and Change and the Evolving State-of-the-Art

Pan YG, Teng LF, Yu MY, Lu XW, Huang D (2014) Host-country headquarters of us firms in china: an empirical study. *Journal of International Management* **20**(4):379–389

Paroutis S, Heracleous L (2013) Discourse revisited: dimensions and employment of first-order strategy discourse during institutional adoption. Strategic Management Journal 34(8):935–956

Paroutis S, Pettigrew A (2007) Strategizing in the multi-business firm: strategy teams at multiple levels and over time. *Human Relations* **60**(1):99–135

Peltokorpi V (2015) Foreign subsidiary top manager nationality and language policy: the moderating effects of subsidiary age and size. *International Business Review* 24(5):739–748

Piekkari R, Nell PC, Ghauri PN (2010) Regional management as a system a longitudinal case study. *Management International Review* **50**(4):513–532

Pinkse J, Kuss MJ, Hoffmann VH (2010) On the implementation of a 'Global' environmental strategy: the role of absorptive capacity. International Business Review 19(2):160–177

Plourde Y, Parker SC, Schaan J-L (2014) Expatriation and its effect on headquarters' attention in the multinational enterprise. Strategic Management Journal 35(6):938–947

Powell TC, Lovallo D, Fox CR (2011) Behavioral strategy. Strateg. Manage. J. 32(13):1369-1386

Prahalad CK, Bhattacharyya H (1998) Twenty hubs and No Hq. Strategy+Business 50(1):1-6

Prahalad CK, Bhattacharyya H (2011) How to be a truly global company. Strategy+Business 64(3):55-62

Ramos-Rodriguez AR, Ruiz-Navarro J (2004) Changes in the intellectual structure of strategic management research: a bibliometric study of the Strategic Management Journal, 1980-2000. Strategic Management Journal 25(10):981–1004

Rerup C (2009) Attentional triangulation: learning from unexpected rare crises. Organization Science 20(5):876–893

Rhee L, Ocasio W, Kim T-H (2019) Performance feedback in hierarchical business groups: the cross-level effects of cognitive accessibility on R&D search behavior. *Organization Science* **30**(1):51–69

Schotter APJ, Mudambi R, Doz YL, Gaur A (2017) Boundary spanning in global organizations. *Journal of Management Studies* **54**(4):403–421

Shoss MK, Witt LA, Vera D (2012) When does adaptive performance lead to higher task performance? Journal of Organizational Behavior 33(7):910–924

Simon HA (1947) Administrative behavior: a study of decision making processes in administrative organizations. Macmillan, Chicago

Strutzenberger A, Ambos TC (2014) Unravelling the subsidiary initiative process: a multilevel approach. *International Journal of Management Reviews* 16(3):314–339

Thornton PH, Ocasio W (1999) Institutional logics and the historical contingency of power in organizations: executive succession in the higher education publishing industry, 1958-1990. American Journal of Sociology 105(3):801–843

ul Haq, Drogendijk HR, Holm DB (2017) Attention in words, not in deeds: effects of attention dissonance on headquarters -subsidiary communication in multinational corporations. *Journal of World Business* **52**(1):111–123

ul Haq H (2017) Trapped in a vicious circle: can low-weight subsidiaries get headquarters' attention? *Critical Perspectives on International Business* **13**(2):166–179

Vaara E, Tienari J (2008) A discursive perspective on legitimation strategies in multinational corporations. *Academy of Management Review* 33(4):985–993

Vaara E, Whittington R (2012) Strategy-as-practice: taking social practices seriously. *Academy of Management Annals* **6**:285–336 Vuori TO, Huy QN (2016) Distributed attention and shared emotions in the innovation process: how Nokia lost the smartphone battle. *Administrative Science Quarterly* **61**(1):9–51

Weber K, Waeger D (2017) Organizations as polities: an open systems perspective. Academy of Management Annals 11(2): 886–918

Yeung HWC, Poon J, Perry M (2001) Towards a regional strategy: the role of regional headquarters of foreign firms in Singapore. *Urban Studies* **38**(1):157–183

Yu JS, Engleman RM, Van de Ven AH (2005) The integration journey: an attention-based view of the merger and acquisition integration process. *Organization Studies* 26(10):1501–1528

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