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Barriers to absorptive capacity in emerging market firms☆

Alvaro Cuervo-Cazurra[a,*], Huaichuan Rui[b]

[a] Northeastern University, D'Amore-McKim School of Business, 360 Huntington Avenue, 313 Hayden Hall, Boston, MA, 02115-5000, USA
[b] Royal Holloway, University of London, School of Management, Egham Hill, Egham, TW20 0EX, UK

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ABSTRACT

We identify how barriers to absorptive capacity limit success in integrating external technology by firms in emerging markets. We refine previous barriers to absorptive capacity and classify them into internal (managerial biases and weak social integration mechanisms) and external (muted activation triggers, conflicting source relationships, and feeble appropriability regimes). We also identify how particular conditions in emerging markets (higher restraints on incentives, higher information asymmetries, and weaker contract protection) heighten the barriers. Using agency theory as the theoretical base, we provide a better understanding of absorptive capacity and of the influence of the home country on capability upgrading.

1. Introduction

Although emerging market firms (EMFs) are entering the global stage as credible competitors to advanced economy multinationals (AMNCs) and some are becoming leaders in their industries (Cuervo-Cazurra & Ramamurti, 2014; Guillen & Garcia-Canal, 2009; Khanna & Palepu, 2010; Ramamurti & Singh, 2009; Williamson et al., 2013), they tend to suffer from technological competitive disadvantages (Cuervo-Cazurra, Newburry and Park, 2016). They are latecomers from countries with underdeveloped institutions and innovation systems (Bartlett & Ghoshal, 2000; Dawar & Frost, 1999; Khanna & Palepu, 1997, 2010; Peng, Wang and Jiang, 2008), and they suffer from weaknesses in product innovation (Awate, Larsen, & Mudambi, 2012). To remedy the disadvantages, studies recommend obtaining technology from advanced countries in order to catch up with AMNCs (Luo & Tung, 2007; Mathews, 2006). However, not all EMFs are successful in incorporating external technology and many disappear (Kumaraswamy, Mudambi, Saranga, & Tripathy, 2012). Despite this, most studies analyze firms that become successful at navigating the twin challenges of upgrading and doing so in the context of emerging markets (e.g., Awate et al., 2012; Bromfield & Barnard, 2010; Kim, 1998; Rui, Cuervo-Cazurra, & Un, 2016). As a result, we do not understand well the differences between firms that succeed and firms that fail at upgrading capabilities.

Therefore, in this paper, we analyze the limitations of EMFs in their successful incorporation of external technology. In other words, we analyze the barriers to absorptive capacity, that is, barriers that limit "the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends" (Cohen & Levinthal, 1990: 218). This is not only empirically important but also theoretically relevant because much of the literature on innovation has concentrated on understanding the components of absorptive capacity and their relationships (e.g., Adams, Flatten, Brinkmann, & Brettel, 2016; Daspit & D'Souza, 2013; Ebers & Maurer, 2014; Patterson & Ambrosini, 2015), with very little attention given to the barriers; this is the research gap we aim to fill.

To identify these barriers we compare two similar firms that aimed to upgrade their capabilities by incorporating external technology. One of them failed to do so, the Chinese automobile producer Nanjing Automobile Corporation (NAC), while its competitor succeeded, Shanghai Automotive Industry Corporation (SAIC). Their analysis refines our understanding of barriers to absorptive capacity in two ways. First, we reconceptualize contingencies discussed in previous literature (appropriability regimes, social integration mechanisms, activation triggers, and power relationships) (Cohen & Levinthal, 1990; Todorova & Durisin, 2007; Zahra & George, 2002) as barriers to absorptive capacity and clarify their influence by separating them into internal to the firm (managerial biases and weak social integration mechanisms) and external (muted activation triggers, conflicting source relationships and feeble appropriability regimes). In this process, we explain how the barriers limit absorptive capacity by increasing the agency problems in the firm. Second, we uncover how particular

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* Corresponding author.
E-mail addresses: a.cuervocazurra@neu.edu (A. Cuervo-Cazurra), Huaichuan.Rui@rhul.ac.uk (H. Rui).

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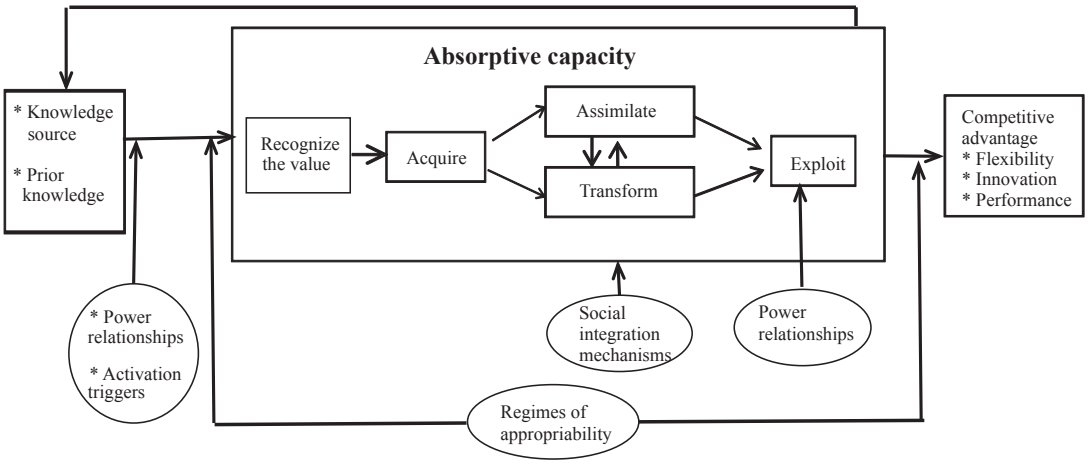

Fig. 1. Current model of absorptive capacity.
Source: Todorova and Durisin (2007).

conditions of emerging markets strengthen the barriers to absorptive capacity and thus further limit the ability of EMFs to incorporate external technology and innovate. The higher information asymmetries, weaker contract protection and higher restraints on incentives that are prevalent in many emerging markets heighten the negative impact of the barriers on the absorption of external knowledge by augmenting the agency problems underlying the barriers.

These ideas contribute two streams of literature: the construct of absorptive capacity and the literature on innovation by EMFs. First, the ideas provide a better understanding of the concept of absorptive capacity (Cohen & Levinthal, 1989, 1990), which, despite wide interest is still in need of further refinement (Todorova & Durisin, 2007; Zahra & George, 2002). Much of the literature has focused on the concept of absorptive capacity per se and analyzed its determinants, components, and outcomes (see reviews by Marabelli & Newell, 2014; Roberts, Galluch, Dinger, & Grover, 2012; Volberda, Foss, & Lyles, 2010). We complement these studies by providing depth to the understanding of the barriers that limit a firm's absorptive capacity, refining previous concepts and identifying new ones. This refinement helps link the concept of absorptive capacity and related literature to the broader agency theory (Holmstrom & Tirole, 1989; Milgrom & Roberts, 1992), with the barriers reflecting agency problems within and between the firm and the sources of knowledge driven by differences in objectives, biases, and information asymmetries.

Second, the ideas contribute to our understanding of the upgrading of technological capabilities in EMFs. Much of the literature has discussed how weakness in the external innovation system limits the competitiveness of EMFs because of a lack of access to sophisticated technology providers (Furman, Porter, and Stern, 2002; OECD, 2015; WIPO, 2015). We extend these ideas by analyzing the internal barriers that limit firms' use of external technology and how particular conditions of emerging markets heighten these barriers to absorptive capacity by increasing agency problems. This helps not only to better understand these firms but also to expand the literature on the influence of the environment on firm behavior, using EMFs as a laboratory for extending theory (Cuervo-Cazurra, 2012; Ramamurti, 2012).

The paper has important managerial implications. It helps managers of EMFs better understand the limitations that their firms face in the use of external technology. Many of the recommendations for using external technology need to be modified by explaining not only how external technology can help the firm improve, but also how managers need to design actions and strategies that reduce the constraints imposed by the barriers to absorptive capacity.

2. Absorptive capacity and emerging market firms

2.1. Absorptive capacity and its barriers

Absorptive capacity is "the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends" (Cohen & Levinthal, 1990: 218). The concept is important because it calls attention to differences among firms in their ability to use external knowledge; thus, even if competitors are exposed to the same external technology, they will show differences in their comprehension and use of the technology in their own innovation efforts. The concept has several components, which successive research has refined. Initially, absorptive capacity included the ability to recognize the value and to assimilate and apply external knowledge (Cohen & Levinthal, 1990). Later, a separation was proposed between potential absorptive capacity, which reflects the acquisition and assimilation of knowledge, and realized absorptive capacity, which reflects the transformation and exploitation of knowledge (Zahra & George, 2002). A later analysis added further depth to the concept by separating value recognition, acquisition, assimilation, transformation, and exploitation of knowledge (Todorova & Durisin, 2007).

The result of this evolution in the analysis of absorptive capacity is shown in Fig. 1, which summarizes the current conceptualization, with the components of absorptive capacity discussed above appearing in boxes. Most studies analyzing absorptive capacity have focused on clarifying the existence and relationships among the components of absorptive capacity. For example, Daspit and D'Souza (2013) identify that there are relationships among the elements of absorptive capacity (acquisition, assimilation, transformation, exploitation) and that these affect innovation in a sample of software firms. Ebers and Maurer (2014) identify how relations of boundary spanners support potential and realized absorptive capacity in a sample of German engineering firms. Duchek (2015) analyses two high-tech German engineering firms in order to discuss the practices that facilitate knowledge acquisition, integration, and exploitation. Patterson and Ambrosini (2015) analyze thirteen firms in the British biotech industry in order to confirm that the model of absorptive capacity discussed by Todorova and Durisin (2007) is more appropriate than the models discussed by Zahra and George (2002), and add that assimilation has an interactive effect on the other knowledge concepts. Heil and Enkel (2015) identify the impact of potential absorptive capacity on innovation and how it is enhanced by deliberate integration mechanisms and collaborative learning activities. Adams et al. (2016) identify how both potential and realized absorptive capacity have equal impact on innovation in a sample of firms from six countries.

Fig. 1 also shows in ovals those contingencies that previous studies