Exploitative and exploratory innovations in emerging economies: The role of realized absorptive capacity and learning intent

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Note: This is a post peer review pre-print accepted version, please cite:

Khan, Z., Lew, Y.K., & Marinova, S. (2018), Exploitative and exploratory innovations in emerging economies: The role of realized absorptive capacity and learning intent, International Business Review, in press.

Abstract

This paper investigates the mediating effect of learning intent in transforming local suppliers' potential absorptive capacity into realized absorptive capacity and its impact on exploitative and exploratory innovation. Using survey data from 155 auto parts manufacturers in Pakistan, we find that local firms' realized absorptive capacity enables them to develop both exploitative and exploratory innovations. The findings further suggest that local suppliers' learning intent mediates the relationship between potential and realized absorptive capacity which in turn lead to both types of innovation. In the context of the emerging economy of Pakistan, local suppliers' absorptive capacity is found to be critically important in spurring exploitative and exploratory innovation, but learning intent enables realized absorptive capacity and thus in conjunction with realized absorptive capacity supports innovation. Consequently, there would be a strong case for policy intervention to assist emerging economy firms in building their absorptive capacity and strengthening their learning intent as a route for promoting innovation and improving their value added position in the global value chains of multinational enterprises.

Keywords: potential absorptive capacity; realized absorptive capacity; learning intent, exploratory innovation; exploitative innovation, knowledge transfer, automotive parts industry

Introduction

What are the underlying factors that promote the development of both exploitative and exploratory innovation in emerging economy firms participating in the global value chains of multinational enterprises (MNEs)? Pursuing and developing both exploitative and exploratory innovations by companies in general (March, 1991; He & Wong, 2004; Tushman & O'Reilly, 1996; Ahuja & Lampert, 2001) and by those operating in highly turbulent market conditions present in the context of emerging economies (Khan, et al., 2018) in particular has been one of the central questions in the management and strategy field (March, 1991; He & Wong, 2004; Tushman & O'Reilly, 1996; Ahuja & Lampert, 2001). Emerging economy firms appear and develop in an institutional environment characterized by dynamic, evolving and weak institutions, lack of intermediaries, nascent innovation ecosystem and limited financial support for innovation provided by the government as a key institutional player. Such institutional immaturity has been often referred to as 'institutional voids' that pose significant challenges to local firms trying to develop both exploitative and exploratory innovations (Khanna & Palepu, 1997; De Clercq, et al., 2010; Wu, 2013). It is in such a context that linkages with external knowledge providers may become vital for local firms that strive to gain greater legitimacy by acquiring external knowledge and building upon it to develop exploitative and exploratory innovations (Kotabe, et al., 2011; Khan, et al., 2018; Martín-de Castro, 2015). Scholars have different views on innovation-creating mechanisms (Kim, et al., 2012). One line of research suggests that firm's capabilities are the primary drivers of innovation (Dosi, 1982; Verona, 1999), while another stream of research highlights that innovations can also be created through external partnerships (Von Hippel, 1998; Lew, et al., 2016) as these may lead to knowledge acquisition and subsequent competence upgrading. Considering both perspectives, scholars have suggested that organizational knowledge plays an important role in firm-level innovation that leads to sustainable competitive advantages in

highly dynamic industry environments (Lyles & Salk, 1996; Tsai, 2001; Zahra, et al., 2000). Scholars note that firms need to transfer and acquire new knowledge as they seek to develop new applications and survive (Henderson & Cockburn, 1994; Kogut & Zander, 1992). Studies investigating the role of knowledge transfer found that it is positively related with firm-level performance and innovation (e.g., Lane, et al., 2001; Tsai, 2001). However, scholars have also suggested that the positive association between knowledge and innovation might not be that obvious (e.g., Katila & Ahuja, 2002; Steensma, et al., 2005). Similarly, the prevailing view is that absorptive capacity (ACAP) is a firm-level construct which contributes to organizational knowledge transfer, though some research has found no such evidence and suggested a dyad-level construct (Lane & Lubatkin, 1998). Setting these arguments aside, scholars agree that a firm's ability to recognize the value of external knowledge and assimilate it for commercial ends is a necessary element of competitive advantage (Cohen & Levinthal, 1990; Zahra & George, 2002; Lane, et al., 2006; Todorova & Durisin, 2007). There are two fundamental issues that are underexplored: First, prior international business (IB) research has paid insufficient attention to the factors that play an important role for the development of both exploitative and exploratory innovation by local firms working as supply chain partners of multinational enterprises (MNEs) in emerging economies (Meyer, 2004; McDermott & Corredoira, 2010; Kotabe, et al., 2011; Kumaraswamy, et al., 2012; Khan, et al., 2015b; Khan, et al., 2018). In other words, this considers how organizations develop both these innovations in environments characterized by weak institutions and an underdeveloped resource base. Second, there has been limited systematic theoretical understanding of the exact mechanisms of exploitative and exploratory innovation in particular (Aoki & Wilhelm, 2017), and we still know little about the processes and mechanisms through which ACAP affects both exploitative and exploratory innovations (e.g., Volberda, et al., 2010; Ebers & Maurer, 2014; Song, et al., 2018). Understanding the

antecedents and mechanisms which influence the development of these innovations is vital for organizations to survive and prosper (He & Wong, 2004; Raisch, et al., 2009; Lavie, et al., 2010; Khan, et al., 2018).

However, due to the fact that exploratory innovation takes much longer to realize outcomes, companies typically pursue exploitative innovation at the expense of exploratory innovation (March, 1991). Both innovations affect firm performance differently. Whereas exploitative activities improve the company's short-term performance, exploratory activities have long-term effects on companies' adaptability and survival (Levinthal & March, 1993). This variation does not in any way indicate that firms should pursue exploratory over exploitative innovation; however, pursuing both types of innovation may be vital for certain firms (March, 1991). This raises the important question of how firms can develop both types of innovation, particularly firms based in emerging economies that may lack a strong knowledge base and operate in a weak and immature institutional environment supporting firm-level innovation (Gaur, et al., 2014; Khan, et al., 2018). Although ACAP has been suggested to play an important role in the development of competitive advantage (Cohen & Levinthal, 1990; Zahra & George, 2002; Lane, et al., 2006), our understanding regarding the particular mechanisms through which ACAP affects both types of innovation is relatively underexplored (Volberda, et al., 2010; Lewin, et al., 2011; Apriliyanti & Alon, 2017; Song, et al., 2018). Much of the extant research has focused on understanding the antecedents for the development of ACAP (e.g., Volberda, et al., 2010). Recently, many firms in emerging economies are forming business relationships with MNEs by acting as their component suppliers. In such contexts, the inter-organizational learning literature suggests that learning intent and ACAP are important variables affecting knowledge outcomes in inter-organizational relationships (e.g., Hamel, 1991; Lane, et al., 2001; Kim & Inkpen, 2005; Simonin, 2004). Yet, existing literature on learning and the development of exploitative and

exploratory innovation in inter-organizational relationships has not examined the learning intent as a potential mediating variable in the relationship between different dimensions of ACAP and exploitative and exploratory innovation (e.g., Volberda, et al., 2010; Lane, et al., 2006; Lane, et al., 2001; Enkel, et al., 2017; Zhou & Wu, 2010).

So far, studies have examined how ACAP directly affects innovation and firm performance (Chang, et al., 2012; Apriliyanti & Alon, 2017), while other learning mechanisms, such as learning intent that plays an important role in this process, remain largely underexplored (Ebers & Maurer, 2014; Volberda, et al., 2010). Firms' learning intent arguably plays an important role in determining the extent to which a firm is willing to learn and exploit external knowledge (e.g., Hamel, 1991). To address this issue, we integrate learning intent as a key mediator between potential and realized ACAP (Zahra & George, 2002), and explore their impact on exploitative and exploratory innovation in the context of the automotive parts industry in Pakistan. Such a perspective provides important insights and complements existing studies which have primarily focused on foreign MNEs (e.g., Dhanaraj, et al., 2004; Kim & Inkpen, 2005; Lane, et al., 2001; Song, 2014). Literature largely neglects the role of learning in facilitating resource- and knowledge-scarce local suppliers' capability development in emerging economies, and furthermore development of both exploitative and exploratory innovation by local firms engaged in cooperative non-equity based partnerships with their foreign MNE clients. This study considers the case of the automotive industry of the emerging economy of Pakistan[1].

In addition, most studies have used ACAP as an aggregate construct by relying on investment in R&D as a proxy variable for ACAP, despite the suggestion made by Zahra and George (2002) that ACAP encompasses two dimensions: potential and realized. So far, limited studies have unpacked these dimensions of ACAP and examined their influence on

[1] Regarding the research context, see Research Context and Methods section. This research investigates the local suppliers' perceptions on the relationship between local suppliers and their MNEs in the automotive industry of Pakistan (see Table 2).

both exploitative and exploratory innovations. Above all, the particular mechanisms through which these dimensions affect both type of innovations are not well known. Exploitation and exploration have been studied at various levels, ranging from the individual, group and organizational, to inter-organizational and industry level (Aoki & Wilhelm, 2017). In this paper, we focus on the inter-organizational level, such as local suppliers which are directly working as supply chain partners of MNEs based in the Pakistani automotive industry. Such studies have been rare regarding exploitative and exploratory innovation (e.g., Lavie & Rosenkopf, 2006; Lavie, et al., 2010; Kim, et al., 2012).

Based on these, this paper addresses the following research question: to what extent do the ACAP and learning intent of knowledge-scarce suppliers' in emerging economies interact with one another for the development of exploitative and exploratory innovations? Previous studies in the context of knowledge transfer recognized the value of both ACAP and learning intent. However, there is relatively limited research which has examined whether the two components of ACAP (i.e., potential and realized) affect exploitative and exploratory innovation differently, and how learning intent as a potential mediator influences such outcomes (Ebers & Maurer, 2014; Volberda, et al., 2010).

The contributions of this study are threefold: First, we identify the important antecedents of exploitative and exploratory innovation by unpacking ACAP into 'potential' and 'realized' ACAP. Furthermore, we provide an important insight into the development of different types of innovation by local firms in emerging economies through their realized ACAP. Second, we identify mechanisms, such as inter-organizational learning intent, as a mediator through which two dimensions of ACAP influence both exploitative and exploratory innovations. Third, this paper extends the research on different types of innovation (i.e., exploitative and exploratory) that become possible as a result of the participation of local suppliers from an emerging economy in the supply chains of MNEs in

the automotive industry. Thus our findings complement extant studies which mainly focus on examining learning within foreign MNE contexts (e.g., Dhanaraj, et al., 2004; Lane, et al., 2001; Simonin, 2004; Kim & Inkpen, 2005; Song, 2014).

Theory and Hypotheses

Absorptive capacity, knowledge transfer, and innovation

An organization's ability to recognize the potential of external knowledge, assimilate and transform that knowledge for exploitative and exploratory activities is associated with its ACAP; that is, its ability to assess the value of external knowledge, internalize it, and apply it for developing competitive advantage (Cohen & Levinthal, 1990; Zahra & George, 2002; Lane, et al., 2006). ACAP has been noted to be important for firms as it improves their interactions with the external environment (Lane & Lubatkin, 1998; Rosenkopf & Nerkar, 2001). Thus, ACAP enables the firm to potentially exploit both tacit and explicit knowledge and integrate such knowledge for the realization of value creation strategies, which is important for the development of exploitative and exploratory innovation (Cohen & Levinthal, 1990; Hoang & Rothaermel, 2010; Lavie & Rosenkopf, 2006; Rothaermel & Alexandre, 2009). As such, applying an organizational routine perspective, Zahra and George (2002) investigated ACAP in terms of the sub-dimensions of acquisition and assimilation of knowledge (i.e., potential ACAP) and transformation and exploitation of knowledge (i.e., realized ACAP). The former emphasizes the importance of sensing and capturing external knowledge, while the latter explains how the firm internally comprehends infused external knowledge and then translates such knowledge into firm-specific knowledge for heterogeneity (Apriliyanti & Alon, 2017). Moreover, realized ACAP also demonstrates the ability of a firm to use consistently the integrated knowledge for commercial purposes in the long run (Todorova & Durisin, 2007; Sun & Anderson, 2010). In addition, the prevalent

literature regarding the resource-based view of the firm demonstrates such organizational capabilities underpin competitive advantage (Barney, 1991; Grant, 1996; Zander & Kogut, 1995; Zahra, et al., 2000).

Firms that have developed their knowledge base are in a much better position to develop their ACAP (Cohen & Levinthal, 1990; Van Den Bosch, et al., 1999) and engage in exploration. Indeed, prior research has identified internal R&D efforts as a prerequisite for learning and nurturing ACAP (Bierly & Chakrabarti, 1996; Deeds, 2001). Nevertheless, although ACAP enables exploration, it can restrict the scale and scope of the external knowledge acquired by an organization, since the organization better assesses and integrates new knowledge related to its knowledge base (Cohen & Levinthal, 1990). Despite the expected positive association between ACAP and exploration, relatively limited research has focused on unpacking the aggregate dimensions of ACAP into potential and realized ACAP, and examining their influence on both exploitative and exploratory innovations (Lavie, et al., 2010; Apriliyanti & Alon, 2017). The casual mechanisms through which both these dimensions influence exploitative and exploratory innovations remain underexplored (Lavie, et al., 2010; Hoang & Rothaermel, 2010; Kim, et al., 2012; Volberda, et al., 2010), as most studies have examined the antecedents of ACAP and largely neglected the other processes of learning (e.g., Ebers & Maurer, 2014; Lane, et al., 2001; Jansen, et al., 2005; Volberda, et al., 2010). There is relatively limited understanding regarding how the different components of ACAP, whether individual or in combination, and through their interaction with other mediating variables affect organizational-level outcomes, including types of innovation and performance (Ebers & Maurer, 2014). For instance, Volberda, et al. (2010) performed a bibliometric analysis on 1,213 articles on ACAP published between 1992 and 2005, and noted that much of the research focus has been on understanding the impact of potential ACAP on organizational-level outcomes, whereas limited research has been conducted on

realized ACAP and innovation outcomes. Research highlights that ACAP may have different antecedents (Jansen, et al., 2005). Existing research indicates that ACAP improves firm performance (e.g., Chang, et al., 2012; Dushnitsky & Lenox, 2005; Wales, et al., 2013) and increases the speed, amount, and frequency of innovation (Benner & Tushman, 2003; Fosfuri & Tribó, 2008; Kim & Inkpen, 2005; Helfat, 1997).

However, as discussed above, there has been little empirical research examining how the different components of ACAP individually, as well as together, affect innovation outcomes (Volberda, et al., 2010). Such studies are specifically rare in the context of local firms based in emerging economies which have explored the impact of learning and potential and realized ACAP on different types of innovation (e.g., Kotabe, et al., 2011; Khan, et al., 2018). Zahra and George (2002) argue that potential and realized ACAP have both separate and complementary roles. Such complementarity is due to the positive association between the two or more activities (Cassiman & Veugelers, 2006), and the complementary nature of the activities reinforces them in such a way that doing more of one activity increases the value of the other activity (Milgrom, et al., 1991). In the context of both these dimensions of ACAP, this would imply that firms with equal amounts, or in some cases a higher level, of a particular ACAP will be in a better position to develop innovations (Ebers & Maurer, 2014). However, relatively limited attention has been devoted to test these relationships between potential and realized ACAP when it comes to both exploitative and exploratory innovation. In addition, there is less discussion concerning the internal processes, such as firm's learning intent and how it interacts with the different dimensions of ACAP and enhances different innovation outcomes (Volberda, et al., 2010; Todorova & Durisin, 2007; Ebers & Maurer, 2014).

In order to understand how the ACAP of firms in emerging economies affects different types of innovation, this research aims to unpack the two dimensions of ACAP and

examine their roles in developing exploitative and exploratory innovations. This line of reasoning supports the view of Ebers and Maurer (2014), which identifies the importance of understanding the different components of ACAP and their relationship with innovation. Their study suggests that it is critically important to examine the conditions and factors that influence the extent to which the firm's realized ACAP impacts exploratory innovation.

Potential and realized absorptive capacity

This research follows Zahra and George's (2002) conceptual distinction between potential and realized ACAP in how these two dimensions impact the development of different types of innovation in the Pakistani automotive parts industry context. Although a limited number of previous empirical studies adopt this theoretical approach to exploring foreign direct investment spillovers on Chinese regional innovation (Lew & Liu, 2016) and Korean local firm's knowledge transfer from MNEs (Park & Choi, 2014), very few of them apply such a theoretical lens to the context of suppliers in emerging economies.

In an emerging economy context, it is critically important to delve into the ACAP of local firms and its contributions to their developing knowledge transformation and exploitation competencies as the knowledge base of the firms is quite weak and they have to rely on external sources of knowledge, including MNEs, to develop their capabilities (Kim, 1999; Khan, et al., 2018). Thus, the existence of ex ante capability such as potential ACAP is critically important for knowledge- or organizational slack-resource-scarce suppliers in emerging economies to acquire useful knowledge from partners which possess advanced skills and knowledge, or can access knowledge reservoirs of global value chains (Khan, et al., 2015a). From a knowledge recipient perspective, potential ACAP can also guarantee knowledge infusion to the recipient firm's boundary, thereby allowing for adapting and implementing such knowledge for developing competitive advantage (Ceccagnoli & Jiang, 2013). In a similar vein, Lew and Liu (2016: 290) note, 'Well-developed mechanisms of

knowledge acquisition and assimilation may contribute *to firms' achievement of superior* innovation performance. An efficient process of knowledge transformation and exploitation will allow a firm to sustain such a competitive advantage owing to its flexibility in utilizing resources.' Thus, balancing between potential and realized ACAP helps to develop dynamic capability (Todorova & Durisin, 2007). To this end, both are complementary capabilities for enhancing innovation (Zahra & George, 2002; Cepeda-Carrion, et al., 2012; Leal-Rodríguez, et al., 2014; Omidvar, et al., 2017).

Studies have pointed out the important role played by potential ACAP in developing strategic renewal and responsiveness (Liao, et al., 2003). Scholars have also highlighted the effectiveness of potential ACAP for firm innovativeness and performance, and this association is positively related to environmental dynamism (Jansen, et al., 2005). However, these studies have not examined the latent mechanisms through which potential ACAP affects both exploitative and exploratory innovations within the dyadic inter-organizational relationships context. Potential ACAP is highly related with realized ACAP over time since a focal firm tries to transform and exploit external knowledge for developing competitive advantage (Lane, et al., 2006; Volberda, et al., 2010; Leal-Rodríguez, et al., 2014). In addition, from the knowledge-based view of the firm perspective, a firm's ability to develop both exploitative and exploratory innovations is influenced by its own potential and realized ACAP (Zahra & George, 2002). Both of these are interdependent as well as complementary to one another as in order to be innovative, a firm not only has to acquire external knowledge, but this knowledge has to be assimilated, transformed, and exploited so that the firm can benefit from the knowledge obtained from external partners for developing different types of innovation in order to gain competitive advantage (Cohen & Levinthal, 1990; Zahra & George, 2002). Hence, the higher potential ACAP of a firm will lead to a higher development of realized ACAP, since the firm has to develop internal knowledge sharing routines in order

to exploit external knowledge for value creation (Grant, 1996; Lane, et al., 2006; Zahra & George, 2002; Lane & Lubatkin, 1998). Thus:

H1. Potential ACAP of suppliers in emerging economies is positively associated with their realized ACAP.

The mediating role of learning intent

One of the central aims of suppliers in emerging economies that are engaged in alliances with foreign MNEs is to acquire key know-how which can be used for the development of exploitative and exploratory innovations (Chen, 2005; Hamel, 1991; Ireland & Hitt, 1999). Thus, a strong learning intent on the part of the recipients of knowledge can be an important factor for enhancing learning from their alliance partners (Hamel, 1991; Kim & Inkpen, 2005). Learning intent is considered a necessary condition for learning (Tsang 2002) and it is related to the concept of intentionality in which activity is directed towards something (i.e., purposiveness) or about something (i.e., aboutness) (Hutzschenreuter, et al., 2010). It has been suggested that managerial intentionality drives organizational learning in the way organizations interpret and integrate external and internal knowledge in their organizational routines (Hutzschenreuter, et al., 2007). Yet, extant research is inconclusive about the impact of learning intent on realized absorptive capacity (Larsson, et al., 1998; Tsang, 2002). Suppliers in emerging economies must have a strong intent to realize the learning from product, process or other type of knowledge they can access from their foreign MNE clients and transformed that knowledge for exploitative and exploratory innovations (Hamel, 1991; Simonin, 2004). In order to develop exploitative and exploratory innovations, the newly acquired knowledge by local suppliers must be transformed and exploited for the development of both innovations. Thus, strong learning intent on the part of local suppliers represents a strategic asset, particularly in the context of firms in emerging economies since these firms have a larger capability gap to overcome in catching-up with firms from

advanced economies (Hamel, 1991; Kim & Inkpen, 2005; Simonin, 2004; Kumaraswamy, et al., 2012). Hence, we argue that the impact of both potential and realized ACAP on the development of exploitative and exploratory innovations could be further facilitated by the local suppliers' learning intent from being suppliers to MNEs [2] possessing advanced knowledge and resources. The acquisition, assimilation, transformation and exploitation of externally acquired knowledge for the development of exploitative and exploratory innovation can be fully internalized by firms in emerging economies which have strong learning intent (March, 1991; Cohen & Levinthal, 1990; Volberda, et al., 2010). In addition, absorptive capacity and local firms' learning intent can be interdependent as those firms which are in a better position for acquiring and assimilating external knowledge should also be in a stronger position to transform and exploit the knowledge for the development of innovation (Easterby-Smith, et al., 2008). It is in such a context that existing studies suggest to examine the mediating role of learning within the absorptive capacity dimensions and innovations (e.g., Kocoglu, Akgün & Keskin, 2015; Leal-Rodríguez et al., 2014). Thus, we argue that without a strong intention for learning, local firms might not be able to transform and exploit external knowledge coming from their MNE clients (Hamel, 1991). Despite the importance of learning intent within the alliance literature (Grant, 1996; Simonin, 2004), the acquisition, assimilation, transformation and exploitation of externally acquired knowledge from alliance partners and the development of exploitative and exploratory innovation has been underexplored compared to understanding the antecedents of ACAP and its role in the knowledge transfer process (e.g., Lane, et al., 2006; Lyles & Salk, 1996; Volberda, et al., 2010; Song, 2014).

[2] For instance, there are about 600 local suppliers which have direct business relationships with automotive MNE assemblers established in Pakistan. They are the technologically renowned Honda, Suzuki, and Toyota from the advanced economy of Japan. These assemblers control more than 95% of the local market share. In such business relationship contexts, learning intent of emerging economy suppliers is crucially important for the local suppliers to develop their capabilities, through exploitation and transformation of acquired knowledge from the MNEs for innovation.

A firm's learning intent enables the firm to fully assimilate and transform external knowledge for exploitative and exploratory innovation, because it allows for more effective innovation capability development (Hamel, 1991; Simonin, 1999). Since the literature concerning ACAP indicates the important role of learning and the exploitation of external knowledge - it is in this context that the role of learning intent becomes vital for the transformation and exploitation of external knowledge for developing different types of innovation. ACAP is a potential enabler of learning from external sources (e.g., Cohen & Levinthal, 1990; Song et al., 2018). For instance, Cohen and Levinthal (1990: 138) note that ACAP is a function of prior related knowledge suggesting that "a firm without a prior technological knowledge base in a particular field may not be able to acquire one readily". The existing literature on ACAP and its different dimensions and their associations with innovation outcomes has ignored potential contingency factors (e.g., Ebers & Maurer, 2014; Volberda, et al., 2010). One such contingency factor may be local firms' learning intent, which can influence the impact of both potential and realized ACAP on different types of innovations. Firms must have the intent to learn from external knowledge to which they have gained access, which then can be transformed and exploited for the development of different types of firm-level innovations. A firm's ability to recognize the value of external knowledge depends on learning intent in that a knowledge recipient's intent to internalize the externally generated knowledge and know-how is recognized as a key determinant of learning in alliances (Hamel, 1991). Similarly, Simonin (2004: 209) suggests that learning intent "captures the degree of desire for internalizing a partner's skills and competencies". Since firms in emerging economies lack key capabilities compared to firms based in developed economies, learning from foreign MNE clients can close the capability gaps. Thus, strong intent on the part of the local suppliers is vital to close the capability gap and develop exploitative and exploratory innovations (Chen, 2005; Hamel, 1991; Simonin, 2004).

As discussed earlier, very little research has examined mediators facilitating the relationship between the two types of ACAP and exploitative and exploratory innovation (Ali & Park, 2016). The recent study of Khan and Lew (2017) on small- and medium-sized firms in emerging economies indicates that knowledge acquisition and experiential learning from developed country partners helps enhance these small firms' capability-building. Also, the organizational studies literature emphasizes that learning culture helps enhance innovation performance and value creation (e.g., Fiol & Lyles, 1985; Dodgson, 1993; Alegre & Chiva, 2008; Hogan & Coote, 2014; Wang & Rafiq, 2014). In the knowledge transfer context, without local suppliers' strong learning intent to acquire and assimilate knowledge from advanced technological knowledge holders, it would be difficult for such smaller suppliers to absorb and internalize valuable and complementary knowledge. The local firm's desire to learn from the knowledge held by their MNE partners will promote the development and use of various knowledge integration processes, thus facilitating the transformation and exploitation of external knowledge which can potentially improve the innovation capacity of local supplier firms. Knowledge cannot be effectively transferred and utilized if the recipient of knowledge is not receptive to the knowledge; for example, the not-invented-here syndrome (Agrawal, et al., 2010; Govindarajan & Gupta, 2001; Katz & Allen, 1982). Learning intent of firms in emerging economies is suggested to play a vital role in the transformation and exploitation of knowledge to develop innovation, and catch-up with firms in developed economies (Li & Kozhikode, 2008). These arguments support the view of Cohen and Levinthal (1990:133) suggesting that "any particular body of expertise could become sufficiently overlapping and specialized that it impedes the incorporation of outside knowledge and results in the pathology of the not-invented-here (NIH) syndrome." Under this circumstance, higher learning intent will play an important role in enabling firms in emerging economies to transform and exploit the external knowledge for the development of

both exploitative and exploratory innovation thus mitigating NIH. Based on this discussion, we propose that:

> H2. Learning intent of local suppliers in emerging economies will mediate the relationship between potential and realized ACAP, which leads to the development of exploitative and exploratory innovations.

Realized absorptive capacity and exploratory and exploitative innovations

Local firms in emerging economies often suffer due to a weak resource base and institutional voids (Khanna & Palepu, 1997). In such contexts, developing both potential and realized ACAP is vital for overcoming resource constraints and institutional voids, and for developing competitive advantages (Khanna & Palepu, 1997; Khan, et al., 2018). For instance, Khan, et al. (2018) pointed out the role of external global networks in enabling indigenous local firms to develop both exploitative and exploratory innovations in emerging economies, as local institutions are weak to support exploratory innovation in these markets.

A wide range of literature on ACAP notes the vital role of such capacity in creating value and developing competitive advantage. For instance, Cohen and Levinthal (1990) defined ACAP as the 'ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends' (p.128). ACAP plays an important role in a firm's overall ability to renew its competences, and is therefore an important dynamic capability for adjusting to environmental dynamisms such as those observed in the context of emerging economies, and thus, helping in the development of sustainable competitive advantage (see also Lane, et al., 2006). Existing studies suggest that potential ACAP is more important in developing competitive advantage, and for the creation of value, as the external rate of change increases (Liao, et al., 2003). Since realized ACAP is interdependent and complementary to potential ACAP, the development of realized ACAP enables the firm to exploit and transform external knowledge for value creation (Zahra & George, 2002; Lane &

Lubatkin, 1998). As per the knowledge-based view, firms have to utilize and transform knowledge for the development of sustainable competitive advantage (Grant, 1996; Zander & Kogut, 1995; Collins & Smith, 2006), and thus, having a greater level of realized ACAP will lead to the development of both exploitative and exploratory innovation. So far, studies have not linked the realized ACAP with the development of both exploitative and exploratory innovations, particularly from the perspective of emerging market firms acting as suppliers to MNEs in their value chains (Chen et al., 2009; Kotabe et al., 2011).

In this article, we argue that firms have to develop internal routines in order to transform and exploit externally generated knowledge, as without the transformation of external knowledge firms will be unable to develop competitive advantage. Since exploitative and exploratory innovation consist of different sets of activities, pursuing both will enable firms to develop sustainable competitive advantage (March, 1991; He & Wong, 2004; Gupta, et al., 2006; O'Reilly & Tushman, 2004). Furthermore, extant literature indicates that most firms pursue only one set of innovation activities, either exploitative or exploratory, since pursuing both is extremely challenging. However, firms pursuing both activities have a greater propensity to achieve superior performance (He & Wong, 2004; O'Reilly & Tushman, 2004). In this vein, suppliers in emerging economies which have a higher level of realized ACAP can be in a better position to balance their resources and organizational capabilities, as well as to develop both exploitative and exploratory innovations.

As discussed above, our argument is consistent with studies that highlight the importance of realized ACAP in the transformation and exploitation of external knowledge (Kotabe, et al., 2011; Zahra & George, 2002). The transformation of knowledge enables the adjustment and conversion of new knowledge within the firm so that it can be integrated into various organizational activities and operations for value creation, including innovation. Because the conversion of new knowledge is necessary for the application of such knowledge,

scholars have incorporated both transformation and exploitation as dimensions of a higher order construct named 'realized ACAP' (Camisón & Forés, 2010; Kotabe, et al., 2011; Volberda, et al., 2010). For example, Camisón and Forés (2010 709) define realized ACAP as the capacity to 'integrate and reconfigure the existing internal knowledge and the newly *assimilated knowledge and to incorporate this transformed knowledge into firms' systems,* processes, routines, and operations'. Based on this conceptual foundation, Camisón and Forés (2010) find support for realized ACAP as a second-order construct reflected by knowledge transformation and application. In this vein, a higher level of realized ACAP expands the cognitive capacity available for transforming and exploiting external knowledge, and thus, realizing its value by a firm in developing both exploitative and exploratory innovations. This leads to the development of sustainable competitive advantage (Lane, et al., 2006; Volberda, et al., 2010). Thus, we hypothesize that:

H3a. Realized ACAP of local suppliers in emerging economies is positively associated with their exploitative innovation.

H3b. Realized ACAP of local suppliers in emerging economies is positively associated with their exploratory innovation.

< Insert Figure 1 here >

Research Context and Methods

Our empirical context is the auto parts industry in Pakistan. This context is important for a number of reasons; firstly, it manufactures products consisting of a large number of different components requiring long supply chains. The investment in assembly plants of MNEs in knowledge-abundant developed economies may have a significant impact on knowledge-scarce local parts suppliers in the emerging economy of Pakistan. Secondly, the auto parts industry is considered a key industry in Pakistan due to its multiplier effect and strong backward (e.g., steel, copper, aluminum, plastics, glass, paint, electronics) and forward

linkages (e.g., dealerships, credit & financing, advertising, repair & maintenance, petroleum products, insurance, and service parts). Thirdly, it is a very unique industry in Pakistan, dominated by three major Japanese assemblers (i.e., Toyota, Honda, and Suzuki), and has brought substantial FDI in the auto industry of Pakistan. Interestingly, there are between 600 and 800 organized, and 800-1200 unorganized, components suppliers. This study focuses on the organized small- and medium-sized tier 1 Pakistani-owned suppliers because the organized suppliers are registered suppliers with the Original Equipment Manufacturers (OEMs) operating in the automotive industry of Pakistan. In addition, these suppliers deal directly with the OEMs, whereas unorganized suppliers supply parts for the replacement (after-sales) market. On average, most local suppliers employ between 150 and 500 employees; however, overall the automotive industry has generated nearly 194,000 jobs in Pakistan according to various local media reports. Therefore, local suppliers need to absorb knowledge from MNEs, but they also need to pursue and develop both exploitative and exploratory innovations which are vital for the survival and growth of the automotive industry due to its dynamic nature and the potential it has for both forward and backward linkages. In addition, the Pakistani context is less examined in IB research compared to other emerging economies (Khan, et al., 2015b), therefore, the current study adds value to the existing studies which have explored knowledge transfer, catch up and upgrading strategies of auto parts suppliers (cf. McDermott & Corredoira, 2010; Kumaraswamy, et al., 2012; Khan, et al., 2015b).

Sample and data collection

We constructed the sampling frame based on information from the Automotive Parts and Accessories Manufacturers of Pakistan and the Ministry of Industries and Production. The sampling frame consisted of 600 local Pakistani suppliers which have direct business relationships with automotive MNE assemblers operating in Pakistan. Three major

automotive assemblers, including Honda, Suzuki, and Toyota, control approximately 95-98% of the local market share through equity-based IJVs with local firms in Pakistan. Out of the initially targeted 600 local Pakistani companies supplying parts/components to the three IJVs, 155 managers agreed to participate in this study, and completed the survey (25.8% response rate). Using a survey instrument, data were collected by visiting the supply plants from 2008 to 2009. Such an approach, although time consuming and expensive, is particularly useful in the context of emerging economies like Pakistan since postal, email and online survey platforms for data collection are ineffective due to the lack of interest and/or trust on the part of local firms to respond. The characteristics of the 155 respondents are presented in Table 1.

< Insert Table 1 here >

Measures and bias tests

Following Zahra and George's (2002) seminal work, ACAP was operationalized as potential and realized ACAP. Potential ACAP included four items adapted from Szulanski (1996), and realized ACAP adapted three items from Szulanski (1996). Regarding the two ACAP constructs, Szulanski (1996)'s study did not analyze ACAP as potential and realized, and thus, we conducted confirmatory factor analysis (CFA) to ensure dimensionality and independence of potential and realized ACAP constructs. Firstly we included all seven ACAP indicators in one construct, and subsequently split into potential and realized ACAP constructs. In the first CFA model that included all constructs, factor loadings ranged from 0.579 to 0.819 (df =14, χ^2=90.367, χ^2/df=6.455, CFI=0.876, IFI=0877, TLI=0.814). In the split model, potential ACAP values ranged from 0.642 to 0.877 and realized ACAP ranged from 0.630 to 0.820 (df =11, χ^2=56.082, χ2/df=5.098, CFI=0.927, IFI=0.928, TLI=0.860). In spite of the relatively small sample size (n=155) used in this study (MacCallum, et al., 1996; David, et al., 2014),

model fit indices in the second CFA model are satisfactory, except for RMESA[3], ensuring dimensionality of the two ACAP constructs.

Learning intent is a mediator in the structural model, and the measures of learning intent included four items adapted from Szulanski (1996) and two items from Hamel (1991) and Pucik (1988). Two dependent variables used in this study are exploratory and exploitative innovations. We adopt the measures of the two types of innovation from Jansen, et al. (2006). The measures of the main constructs are summarized in Table 2.

After the completion of the survey, collected data were split into early-respondent and late-respondent groups in order to examine non-response bias (Armstrong & Overton, 1977). We found significant difference between the two groups at 0.05 level. During data collection, measures in the model were collected from survey questionnaires, and thus, the need to check for common methods bias (Burton-Jones, 2009). We conducted Harman's one-factor test, using a principal component analysis (Podsakoff & Organ, 1986). The result shows that the largest single factor (20.3%) accounts for 72.9% of the total variance. We also checked the possibility of common method bias by including a theoretically irrelevant marker variable (i.e., government support) in the conceptual model (Williams, et al., 2010; Malhotra, et al., 2006). The relationships between the marker variable and main constructs were insignificant. Furthermore, the common method factor (i.e., governmental support) was included in the model in order to control for the effects of the single unmeasured latent factor (Podsakoff, et al., 2003; Williams, et al., 2003). Following Liang et al.'s (2007) approach, this single indicator was included in all constructs indicators, and then calculated each indicator's variances substantively explained by the study construct and by method. We found that the average extracted substantively explained the indicators' average variance

[3] Regarding the use of the root mean square error of approximation (RESEM) as a goodness-of-fit measure, David, A. K., Burcu, K., & McCoach, D. B. 2014. The Performance of RMSEA in Models With Small Degrees of Freedom. Sociological Methods & Research, 44(3): 486-507. suggest, 'not computing the RMSEA for small df models, especially those with small sample sizes, but rather estimating parameters that were not originally *specified in the model'*.

which was 0.822. In addition, results show that all method loadings are statistically insignificant ($p>0.05$). The results of common method factor analysis are summarized in Table 3. Thus, we conclude that common method bias does not adversely affect our research findings.

< Insert Table 2 and Table 3 here >

Results

In this study, we selected partial least squares (PLS) structural equation modeling via SmartPLS as an analytical tool for the following reasons. We theoretically attempt to connect relationships between different types of ACAP and innovation. In consideration of the exploratory nature of the conceptualization and underexplored emerging economy context, a soft modeling of variance-based PLS rather than a covariance-based strict theory confirmation modeling such as LISREL is suitable for our study (Wold, 2004; Nicole Franziska, et al., 2016). Moreover, the collected sample size is relatively small (n=155) and the complex model includes five main constructs having many indicators.

Reliability and validity of the measurement model

Prior to hypotheses testing, the quality of the measurement model was examined in terms of reliability, convergent validity, and discriminant validity. Results show robust reliability and convergent validity are present in the model shown in Table 2. First, Cronbach's alpha and composite reliability (CR) of all five construct exceed 0.75 (Bagozzi & Yi, 1988; Nunnally, 1978; Bagozzi & Yi, 2012), indicating a high level of internal reliability of the measurement model. All standardized outer loadings,factor analyzed via SmartPLS, are over 0.7, which guarantees indicator reliability (Chin, 1998). Second, we assessed convergent validity with the average variance extracted (AVE) from the study constructs. AVE values ranged from 0.573 to 0.733 in the measurement model, suggesting that a high level of convergent validity

exists in the model (Fornell & Larcker, 1981). Finally, we assessed discriminant validity with cross-loadings and AVE. As presented in Table 4, the values of the square root of AVE for the study constructs are greater than the highest correlation between study constructs (Fornell & Larcker, 1981). These results show that the measurement model of this research is reliable and valid.

< Insert Table 4 here >

Hypothesis test

We tested the hypotheses through PLS structural equation modeling. The results of the PLS structural equation modeling analysis are presented in Figures 2a and 2b. The path from potential ACAP to realized ACAP was positively significant (β=0.652) at 0.001 level. Thus, H1 is supported. Regarding H2, we find that learning intent partially and positively mediates the relationship between potential ACAP (β=0.624) and realized ACAP (β=0.267) at 0.001 level. As shown in Figure 2b, R^2 of realized ACAP increased to 0.714 when learning intent was included in the model that examined the direct relationship between potential ACAP and realized ACAP (cf. R^2=0.668)[4]. Subsequently, f^2 for the effect size of learning intent was examined ($f^2_{\text{learning intent}}$=0.161). This result shows that the latent construct of learning intent has a medium effect on the structural model. In addition, we examined a potential mediating effect of learning intent on the relationship between the realized and potential ACAP. The results show no significant relationship between learning intent and potential ACAP (β=0.125, p>0.1), which supports the proposed H2 in our model. In addition, following Preacher and Hayes' (2008) bootstrapping approach, we included an additional mediator of (an MNE's)

[4] There are different explanatory powers of ACAP and quality of the measurement in various research contexts Ebers, M. & Maurer, I. 2014. Connections count: How relational embeddedness and relational empowerment foster absorptive capacity. Research Policy, 43(2): 318-32, Enkel, E., Heil, S., Hengstler, M., & Wirth, H. 2017. Exploratory and exploitative innovation: To what extent do the dimensions of individual level absorptive capacity contribute? Technovation, 60: 29-38, Fosfuri, A. & Tribó, J. A. 2008. Exploring the antecedents of potential absorptive capacity and its impact on innovation performance. Omega, 36(2): 173-87, Schleimer, S. C. & Pedersen, T. 2013. The Driving Forces of Subsidiary Absorptive Capacity. Journal of Management Studies, 50(4): 646-72..

'willingness' to transfer knowledge in the model in order to examine multiple mediation possibilities. Besides local suppliers' learning intent, a knowledge-abundant MNE's willingness to transfer knowledge to local suppliers might influence the local firms' ACAP development based on the existing literature (see e.g. Wang, et al., 2004; Steensma & Lyles, 2000; Szulanski, 2000). When willingness was included in the model, learning intent has consistently strong partial mediating effect on the path from potential ACAP (β=0.624) to realized ACAP (β=0.281) at 0.001 level, while willingness has no significant impact on realized ACAP (β=-0.028). We also investigated a moderation possibility of learning intent between two ACAP types. We found no significant interaction effect between potential ACAP and learning intent on realized ACAP. The results of three additional tests support H2 in the model.

Finally, we found a significant impact of realized ACAP on both exploitative innovation (β=0.557) and exploratory (β=0.195) innovations at 0.001 level. Thus, both H3a and H3b are supported. In sum, we find strong support for all hypotheses in the model. These findings suggest that ACAP of suppliers in emerging economies contribute to the development of exploitative and exploratory innovations. Furthermore, in the innovation-creating process of such firms, there are different roles of the two types of ACAP which are mediated by learning intent. These points will be discussed in further detail in the following section.

< Insert Figure 2a and Figure 2b here>

Post hoc analysis

After testing the structural model, we checked the robustness of the model to examine whether our findings are consistent in the major suppliers- assembler groups. As discussed in the research context section, three powerful assemblers, established in Pakistan, have transferred their knowledge to local suppliers. Thus, idiosyncrasy among assembler groups

may exist in the original model. The sample (n=155) was divided into three sub-groups, i.e., Toyota (n=63), Honda (n=51), and Suzuki (n=71) and we conducted PSL structural equation modeling analysis. As presented in Table 5, we could not find any notable path differences among these three groups in terms of coefficient beta of each hypothesized path, regardless of the major assemblers working with the local suppliers, thus suggesting that the results of this study are consistent.

As discussed in previous sections, potential and realized ACAP have complementary as well as separate roles (Zahra & George, 2002; Ebers & Maurer, 2014). Although this relationship is not hypothesized in this research, the complementary nature between potential (i.e., acquisition and assimilation of knowledge) and realized (i.e., transformation and exploitation of knowledge) ACAP may strengthen each other in the context of local firms in emerging economies. In order to test the complementarity between these two constructs (Milgrom, et al., 1991; Cassiman & Veugelers, 2006), we built the second-order construct of ACAP reflecting the two first-order constructs of potential and realized ACAP. Then, we tested the relationship between ACAP and exploitative and exploratory innovations. The results show that both associations are significant at 0.001 level ($\beta_{ACAP \rightarrow exploitative\ innovation}$=0.530, $\beta_{ACAP \rightarrow exploratory\ innovation}$=0.466). In the second-order construct model, R^2 of exploitative innovation is 0.607, which is lower than that of the ACAP separated model (R^2=0656), while R^2 of exploratory innovation is 0.466, slightly higher than in the separated model (R^2=0.442) (cf. Figure 2a). The post hoc analysis affirms that both dimensions of ACAP exist (Zahra & George, 2002), while complementing one another in developing two types of innovation.

Our main hypotheses test confirms that Pakistani auto parts suppliers' learning intent mediates the relationship between the potential and realized ACAP of the suppliers which influence exploitative and exploratory innovation. However, we may not entirely exclude a

possibility of learning intent as an antecedent to ACAP. Thus, we conducted additional post hoc analysis on the effect of learning intent on ACAP to examine to what extent learning intent explains R^2 of 'realized ACAP' that ultimately leads to two types of innovations. In the first alternative model, learning intent directly significantly affects potential ACAP ($R^2_{\text{potential ACAP}}$=0.394), which in turn significantly influences realized ACAP where $R^2_{\text{realized ACAP}}$ is 0.671. Then, we tested another model in which learning intent affects simultaneously both types of ACAP. The result shows that two paths are significant where $R^2_{\text{realized ACAP}}$ is 0. 466 and $R^2_{\text{potential ACAP}}$ is 0.397. R^2 values of realized ACAP in the two alternative models are lower than the original model's ($R^2_{\text{realized ACAP}}$ =0. 714), indicating that learning intent of emerging economy's suppliers better serves as a mediator in developing their realized ACAP for innovations in our research context. Based on the above results, realized ACAP is strongly associated with potential ACAP (H1 supported) via local suppliers' strong learning intent toward their MNE clients (H2 supported) and facilitates exploitative and exploratory innovations (H3a and H3b supported).

< Insert Table 5 here >

Discussion and Conclusions

One of the central questions in strategy and IB research is how firms develop exploitative and exploratory innovations. The present article aims to contribute to this debate by drawing on insights from organizational learning as well as from IB literature concerning ACAP (e.g., Cohen & Levinthal, 1990; Zahra & George, 2002; Apriliyanti & Alon, 2017). The context of the study is the automotive parts industry in Pakistan, This context is unique because of its size and importance to the economy of the country, its extensive contribution to Japanese-led assembly IJVs and the insufficient research on examining the development of different types of innovation-related issues in local input (in this case, auto parts) suppliers. Our study fills in the gap by demonstrating the important role played by the local firms' potential and realized

ACAP and learning intent in enhancing their engagement with both exploitative and exploratory innovations. Existing research on ACAP has made much progress in highlighting the importance of this construct in knowledge transfer and innovation performance (Lane, et al., 2001; Kotabe, et al., 2011). Despite the suggestions made by Zahra and George (2002) to unpack the ACAP components into potential and realized, there are limited studies which have used the sub-components of ACAP and examined their influence on exploitative and exploratory innovation (e.g., Volberda, et al., 2010; Ebers & Maurer, 2014). The mechanisms through which both components can influence innovation are not well understood either (Ebers & Maurer, 2014; Song, et al., 2018). We integrate learning intent as one such mechanism and provide important insights on its role in the ACAP of auto parts suppliers in emerging economies. The results indicate that potential ACAP is positively related with a higher level of realized ACAP, leading to the enhancement of both exploitative and exploratory innovation. This finding is consistent with recent studies indicating that firms initially develop potential ACAP which leads to the realized ACAP (Cepeda-Carrion, et al., 2012; Leal-Rodríguez, et al., 2014).

The findings further suggest that the learning intent of local suppliers plays an important role as a key mediator between the potential and realized ACAP, thus enabling them to develop both exploitative and exploratory innovations. This finding is contextually important to emerging economy firms, and more broadly to the theoretical development of the wider literature on ACAP and its impact on both exploitative and exploratory innovation. Scholars have suggested exploring the potential mechanisms through which the two components of ACAP affect innovation (e.g., Volberda, et al., 2010; Ebers & Maurer, 2014; Song, et al., 2018). By integrating learning intent as one of the key mediators, we advance the literature on ACAP, organizational learning and innovation by providing a much finer view regarding how the two components of ACAP affect both exploitative and exploratory

innovation, particularly in local suppliers settings. Existing studies on alliances and learning highlight the key role of recipient firms' learning intent in the knowledge transfer process (e.g., Hamel, 1991; Simonin, 2004). This particular finding of (H2) suggests that local suppliers with a high level of learning intent will be in a better position to not only acquire external knowledge, but also to transform and exploit that knowledge for both types of innovation, and thus overcome the NIH syndrome (Agrawal, et al., 2010; Govindarajan & Gupta, 2001; Katz & Allen, 1982). The alliance learning literature acknowledges the key role of learning intent and emphasizes that learning intent and ACAP must be present for learning to take place in alliances (e.g., Hamel, 1991). However, existing studies have mostly examined the ACAP relationship with innovation in general, while ignoring the role of learning intent as a potential mediator through which ACAP affects exploitative and exploratory innovation (Kocoglu, et al., 2015).

The supported H3a and H3b further suggest that realized ACAP positively influences the development of both exploitative and exploratory innovation. Existing research has predominantly focused on potential ACAP, and sparsely on understanding the role of realized ACAP in different types of innovation (e.g., Volberda, et al., 2010; Ebers & Maurer, 2014). These proposed and verified relationships put forward in this article are in line with the suggestion made by Kotabe, et al. (2011), noting that in fact '**realized**' ACAP is important in that it affects not only adaptation but also the exploitation of new knowledge for innovation, and thus, the extent to which new knowledge enhances new product development and market performance is dependent on such ACAP. Furthermore, since common language and experience generated through socialization processes within a firm can play an important role in the transformation of external knowledge. Therefore, a firm's ability to transform and exploit external knowledge will determine its actual innovative potential compared to its rivals (Jansen, et al., 2005).

Theoretical implications

The first theoretical implication is the empirical verification of two high-order constructs of ACAP. Although there have been a large number of conceptual discussions about potential and realized ACAP, empirical research on the roles of such ACAP has received scant attention in the ACAP literature, particularly in the inter-organizational context in emerging economies. This research theoretically unpacks two types of ACAP and empirically unravels the different roles of ACAP in the innovation-creating process in terms of exploitative and exploratory innovations. Particularly, realized ACAP (transformation and exploitation) is an important innovation enabler. These results show it is valuable to further explore the role of realized ACAP in different types of innovation.

The second theoretical implication is closely related to the first. With few exceptions (Omidvar, et al., 2017), previous studies on the conceptualization between potential and realized ACAP do not fully explain through which mechanism they reinforce each other (Ebers & Maurer, 2014). In this study, we concentrate on inter-organizational level learning, and find that knowledge-scarce firms' learning intent in emerging economies plays an important role in mediating the relationship between potential and realized ACAP for innovation. One of the central concerns in the IB field has been to understand how local firms based in emerging economies learn from their partners and develop exploitative and exploratory innovation (Kotabe, et al., 2011; Lyles & Salk, 1996; Kumaraswamy, et al., 2012). In this regard, this study provides important insights on how local suppliers based in emerging economies develop these innovations through learning gained from their MNE clients (Meyer, 2004; Spencer, 2008).

Third, this research extends previous studies on exploitative and exploratory innovations to the inter-organizational context (cf. Enkel, et al., 2017). It investigates exploitative and exploratory innovations of local suppliers of emerging economies that

benefit from knowledge transfer and learning from much larger MNE assemblers. In particular, in the context of inter-organizational learning and the development of exploitative and exploratory innovations by local suppliers based in emerging economies, this study builds on extant studies which have examined the role of ACAP in international knowledge acquisition and the role of alliance partners in the learning process (Dhanaraj, et al., 2004; Kim & Inkpen, 2005; Lane, et al., 2001; Simonin, 2004). ACAP simultaneously contributes to the two types of innovation, indicating that ACAP helps to develop innovative organizations and capabilities for local firms (March, 1991; O'Reilly & Tushman, 2008; Raisch, et al., 2009; Stettner & Lavie, 2014). Thus, this is one of the few studies which has empirically tested the effect of potential and realized absorptive capacity and learning intent on exploitative and exploratory innovations in an emerging economy's suppliers context.

Managerial implications

Regarding our first theoretical implication, the research findings also provide important managerial implications for resource and knowledge-scant local firms in emerging economies. They can benefit from the development of potential ACAP by developing relationships with knowledge-abundant partners, such as automotive assemblers, in order to learn and acquire key knowledge. The findings suggest that both potential and realized dimensions of ACAP are important for the development of exploitative and exploratory innovations. Therefore, managers should pay close attention to finding a proper balance between potential and realized ACAP in order to benefit from the learning gained from their MNE partners for the development of different types of innovation. However, it seems that the impact of the realized ACAP is much higher on exploitative and exploratory innovations, particularly in the context of this study. Thus, managers of local firms based in emerging economies must recognize the importance of developing internal routines for knowledge transformation and exploitation (Lewin et al., 2011). The development of strong internalizing routines and

practices such as cross-functional teams and learning cultures could be important capabilities that firms in emerging economies need to develop in order to transform and exploit advanced knowledge and complementary resources deriving from partnerships with their MNE partners for the development of exploitative and exploratory innovations.

The second important implication relates to the impact of learning intent in the external-internal transformation and exploitation of knowledge for the development of exploitative and exploratory innovation (e.g., Hamel, 1991; Easterby-Smith et al., 2008). The managers of local firms in emerging economies working in interfirm cooperation need to understand the potential benefits of learning from MNE partners. They must recognize the important role of strong learning intent in the process of transformation and exploitation of knowledge acquired from their MNE partners as an important learning mechanism which enables the development of exploitative and exploratory innovations. In line with these findings, policymakers in developing and emerging economies need to provide local suppliers with a more proactive, targeted and comprehensive institutional support for training and learning programs for their potential ACAP development (e.g. Khan, et al., 2018). As aforementioned, learning intent of suppliers substantially promotes realized ACAP for innovations. Thus, it is important for top management to develop an innovative and learning-oriented organizational culture, and the supportive role of local institutions could be important in facilitating the development of learning culture through proper managerial training of local firms.

Limitations and future research

The study has limitations which suggest avenues for further research. First, we focus only on first tier Pakistani-owned suppliers, and thus, future studies could extend the scope to include lower tier suppliers and disentangle the influence of ACAP on innovation. Such studies could also include both product and process innovations. Second, exploitative and exploratory

innovations play an important role in improving firm performance. Therefore, future studies could include performance measures and examine the impact of exploitative and exploratory innovation on firm performance (e.g. Ahuja & Katila, 2001; Tsai, 2001). Third, knowledge characteristics (cf. Kogut & Zander, 1993) can also influence both potential and realized ACAP, and thus, future studies need to include different types of knowledge such as explicit, complex, teachable as well as tacit and examine their impact on ACAP and different types of innovation. Fourth, both formal and informal institutions can also influence ACAP and the resultant innovation. Future studies could examine the role of institutions in the development of ACAP and its potential links with innovation (North, 1990; Peng, et al., 2008). Fifth, regarding the inter-organizational dimension of potential ACAP and learning, this study does not include inter-organizational governance mechanisms as we focus more on the relationship between ACAP and innovations. So, contractual and social governance mechanisms can be added in the present model to comprehensively understand the relationship among ACAP-building and inter-organizational governance mechanisms and exploitative and exploratory innovations (e.g. Poppo & Zenger, 2002; Zhou & Xu, 2012; Lew, et al., 2013). Sixth, future studies should focus more on the internal routines (e.g. Lewin, et al., 2011), leadership processes and styles (Lubatkin, et al., 2006; Vera & Crossan, 2004) , as well as on organizational, environmental, and cultural factors (e.g. Sarooghi, et al., 2015), and examine their influence on the development of ACAP and innovations. Future studies could examine the complementary effect of potential and realized ACAP on innovation in the context of diverse emerging economies, for example in such with a greater business-driven institutional entrepreneurship or with a greater government-driven institutional entrepreneurship (cf. Ebers & Maurer, 2014). In this study, we did not examine the antecedents of potential and realized ACAP of emerging economies' local firms, therefore, future studies could focus on examining different type of antecedents of ACAP (Jansen, et al., 2005), such as formal and

informal socialization mechanisms (Khan, et al., 2015b), depth and breadth of learning (Zahra, et al., 2000), and ability–motivation–opportunity enhancing HR practices (cf. Chang, et al., 2012; Jiang, et al., 2012) on different types of innovation. Our post hoc analysis suggests that learning intent has a discernible mediating effect between potential and realized absorptive capacity which in turn influence both exploitative and exploratory innovations compared to learning intent potentially acting as an antecedent of ACAP. This suggests an interesting avenue for future studies to split the learning intent into pre and post-alliance learning intent and examine its impact on ACAP and innovations in both equity and non-equity alliance context, because the pre and post-alliance learning intent might impact ACAP and the resultant innovations differently. Lastly, this research was conducted from the perspective of MNEs' suppliers in emerging economies. We recommend future studies to take dyadic views of both MNEs and suppliers in emerging economies on the knowledge transfer process and the resultant innovations.

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Figures and Tables

Figure 1. Conceptual model

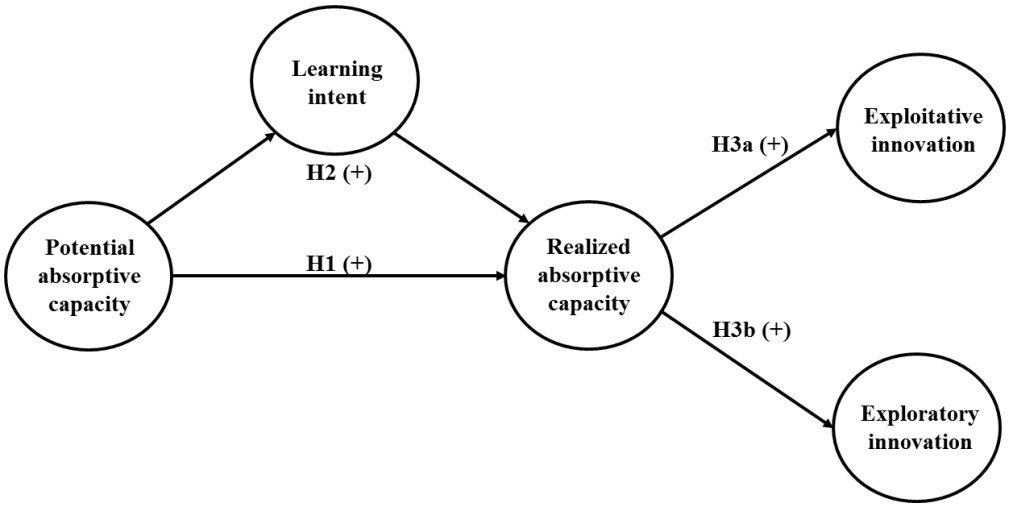

Table 1. Characteristics of respondent suppliers

Product category	Number	%	Major assembler	Number	%
Chassis	24	15.5%	Toyota	46	29.7%
Plastic parts	32	20.6%	Honda	34	21.9%
Engine parts	13	8.4%	Suzuki	54	34.8%
Body parts	46	29.7%	All of them	17	11.0%
Others	34	21.9%	No response	4	2.6%
No response	6	3.9%	-	-	-
Total	**155**	**100%**		**155**	**100%**

Table 2. Measurement model

Construct and indicators	Mean	Standard deviation	Outer Loading
Potential ACAP (AVE=0.673, alpha=0.838, CR=0.891)			
Your company thinks about the existing capabilities it has in terms of acquiring and transforming the technology which is being transferred from your assemblers:			
My company had a vision of what it was trying to achieve through this transfer.	4.455	1.385	0.719
My company had information on the state of the art of the technology.	4.421	1.338	0.819
My company had the technical competence to absorb the technology.	4.773	1.179	0.836
My company had the managerial competence to absorb the technology.	4.955	1.587	0.899
Learning intent (AVE=0.573, alpha=0.852, CR=0.889)			

You company had the intention of learning about the technology that was transferred from your assemblers in terms of:			
My company understands the technology possessed by our client (assembler).	4.909	1.311	0.732
My company benefits from understanding the assembler's technology.	4.667	1.240	0.759
My company analyzes the feasibility of adopting the assembler's technology.	4.500	1.108	0.688
My company communicates with the assembler regarding the technology acquired.	4.474	1.136	0.750
When deciding to enter into the business relationship, my company has a strong desire to learn about a particular technology/process owned by our client (assembler).	4.950	1.059	0.790
The business relationship with our client is viewed as a means to learn about a particular technology/ process held by the client.	4.636	1.461	0.817
Realized ACAP (AVE=0.672, alpha=0.750, CR=0.858)			
Your company thinks about the existing capabilities it has in terms of acquiring and transforming the technology which is being transferred from your assemblers:			
My company has a common language to deal with the technology.	4.909	1.314	0.683
My company has the necessary skills to implement the technology.	4.818	1.142	0.858
My company has the ability to integrate and apply external knowledge for improving components and processes.	4.364	1.390	0.902
Exploitative innovation (AVE=0.733, alpha=0.939, CR=0.950)			
The new technology which you acquired from your client resulted in:			
The company frequently refines the provision of its existing products and services for the current customers.	4.273	1.411	0.784
We regularly implement small adaptations to existing products and services that can better serve the needs of our existing customers.	4.091	1.425	0.841
The company introduces improved, but existing products and services for the local customers based in the local market.	3.950	1.551	0.848
We improve the efficiency and functionality of our current products and services.	4.200	1.408	0.882
The firm has increased the number of products and services for its existing market.	4.143	1.535	0.909
We expanded products and services for our existing clients.	3.864	1.795	0.889
The company important objective is to lower the costs of its internal processes in order to meet the requirements of its existing clients.	4.636	1.502	0.832
Exploratory innovation (AVE=0.722, alpha=0.936, CR=0.948)			
The new technology which you acquired from your client resulted in:			
We accept demands that go much beyond our existing products and services to serve new customers and markets.	3.500	1.662	0.896
We invent products and services that are totally new to the clients and market.	3.500	1.509	0.818
We frequently experiment with new products and services.	3.773	1.600	0.866
The firm commercializes products and services that are totally new to the firm.	3.619	1.392	0.819
We frequently utilize new business opportunities in new markets.	3.909	1.578	0.887
The firm regularly uses new distribution channels to better serve new clients and market.	3.591	1.477	0.853
We frequently search for and approach new customers in new markets.	3.818	1.580	0.905

Table 3. Common method factor test

Construct	Indicator	Substantive loading (R_1)	R_1^2	Method factor loading (R_2)	R_2^2
Potential ACAP	PACAP1	0.733	0.537	-0.088	0.008
	PACAP2	0.834	0.696	-0.044	0.002
	PACAP3	0.821	0.674	0.036	0.001
	PACAP4	0.891	0.794	0.075	0.006
Learning intent	LRI1	0.730	0.533	-0.019	0.000
	LRI2	0.787	0.619	-0.011	0.000
	LRI3	0.715	0.511	-0.118	0.014
	LRI4	0.730	0.533	0.046	0.002
	LRI5	0.762	0.581	0.091	0.008
	LRI6	0.821	0.674	-0.001	0.000
Realized ACAP	RACAP1	0.679	0.461	0.067	0.004
	RACAP2	0.866	0.750	-0.006	0.000
	RACAP3	0.896	0.803	-0.047	0.002
Exploitative innovation	EXPIT1	0.786	0.618	-0.020	0.000
	EXPIT2	0.840	0.706	0.029	0.001
	EXPIT3	0.846	0.716	0.009	0.000
	EXPIT4	0.879	0.773	-0.053	0.003
	EXPIT5	0.910	0.828	0.045	0.002
	EXPIT6	0.894	0.799	0.092	0.008
	EXPIT7	0.831	0.691	-0.114	0.013
Exploratory innovation	EXPLO1	0.802	0.643	-0.081	0.007
	EXPLO2	0.828	0.686	-0.027	0.001
	EXPLO3	0.872	0.760	-0.011	0.000
	EXPLO4	0.819	0.671	0.019	0.000
	EXPLO5	0.882	0.778	0.029	0.001
	EXPLO6	0.844	0.712	0.053	0.003
	EXPLO7	0.903	0.815	0.009	0.000
Average		**0.822**	**0.689**	**-0.001**	**0.003**

Table 4. Comparisons between the squared AVE values and the correlations between the constructs

Constructs	1	2	3	4	5
1. Potential ACAP	**0.820**				
2. Learning intent	0.624	**0.757**			
3. Realized ACAP	0.819	0.674	**0.820**		
4. Exploitative innovation	0.666	0.720	0.744	**0.856**	
5. Exploratory innovation	0.584	0.302	0.454	0.624	**0.850**

Note: Boldface values are the square root of the average variance extracted and off-diagonal values are the correlations between the constructs.

Figure 2a. The results of the structural models and R^2, excluding learning

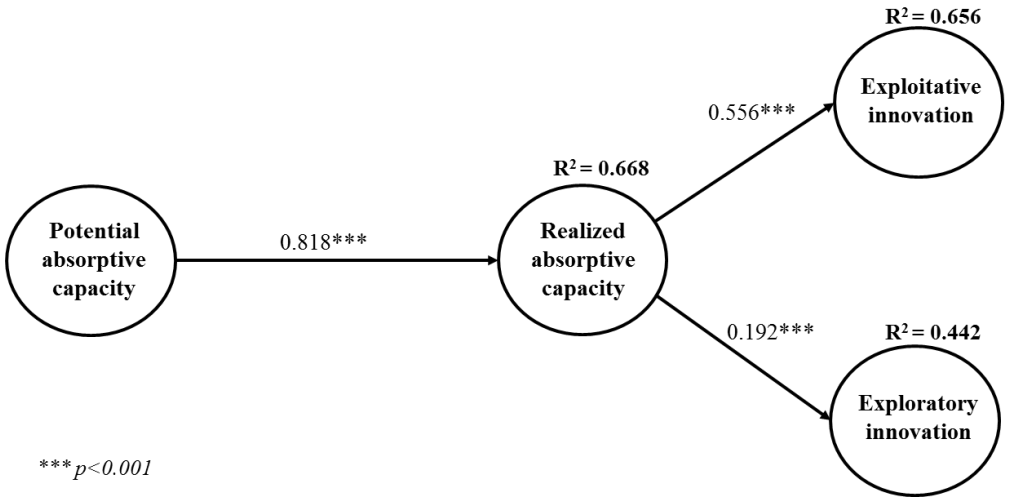

Figure 2b. The results of the structural model and R^2, including learning

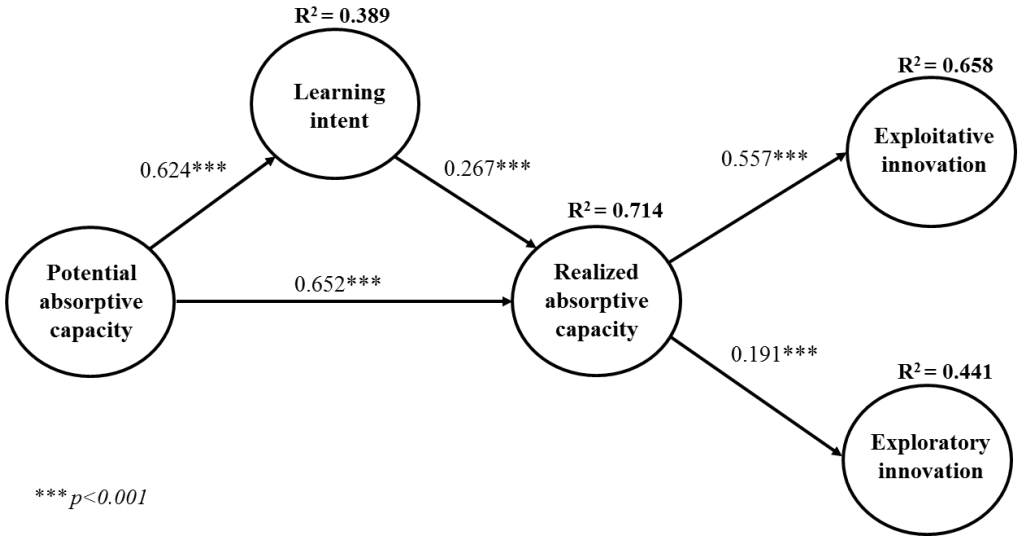

Table 5. Comparisons among suppliers' assembler groups

Path	Toyota (n=63)	Honda (n=51)	Suzuki (n=71)	Overall (n=155)
H1: Potential ACAP → Realized ACAP	0.736***	0.663***	0.643***	0.652***
H2: Potential ACAP → Learning intent	0.603***	0.602***	0.634***	0.624***
H2: Learning intent → Realized ACAP	0.245***	0.216*	0.272***	0.267***
H3a: Realized ACAP → Exploitative innovation	0.587***	0.619***	0.544***	0.557***
H3b: Realized ACAP → Exploratory innovation	0.248**	0.237*	0.197**	0.191***
R^2				
Learning intent	0.820	0.658	0.709	0.714
Exploitative innovation	0.707	0.711	0.686	0.658
Exploratory innovation	0.520	0.598	0.458	0.441

Note: 17 suppliers directly work with all of three assemblers. **p< 0.05, **p< 0.01, ***p< 0.001