



Strategic agility, environmental uncertainties and international performance: The perspective of Indian firms

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ABSTRACT

This paper focuses on how firms use exploitation and exploration to develop strategic agility, and how strategic agility impacts the international performance of firms from emerging markets. Analyzing proprietary data on firms operating in India, we find that exploration and exploitation help them develop strategic agility. Explorative agility is shown to improve international performance in competitive environments, while exploitative agility enhances it in dynamic ones. Our paper contributes in examining the role of exploration and exploitation as the antecedents of strategic agility, and their contingent effects on international performance in environmental uncertainties. The discussion provides guidance for managers coping with environmental uncertainties in the international markets.

1. Introduction

Changes in the global economy over the past few decades have motivated many firms from emerging economies to seek markets internationally (Bilgili et al., 2016; Musteen et al., 2014; Wright et al., 2005). On the one hand, these changes provide a range of valuable opportunities to emerging market firms (EMFs) to grow their revenue and profit internationally, but, on the other hand, it poses significant challenges in light of cut-throat competition and issues of sustainability. Prior research indicates that the impact of these challenges on EMFs is amplified because EMFs are generally resource deficient (Gaur et al., 2014), carrying the legacy of liabilities of newness (Singh et al., 1986) and liabilities of late coming (Mathews, 2006, Bruche, 2012) to the international market. Therefore, EMFs need to pursue strategies that can help them to address these challenges and at the same time exploit the opportunities in the international markets.

We investigate this issue by using the arguments presented in Bartlett and Ghosal's (1989) Integration Responsiveness (IR) Model. The IR Model provides insights on international strategy that the firm may pursue while adapting to environmental pressures it faces in the international market. In this paper, we argue that EMFs respond to

environmental pressures by developing strategic agility which, in turn, improves international performance of EMFs. Specifically, we posit strategic agility can assist EMFs to adapt in international markets, exploit opportunities, address challenges (in a better way), and consequently, improve their intentional performance. We also suggest that EMFs develop strategic agility by pursuing exploration and exploitation activities in the international markets. Exploration-based strategic agility assists EMFs to adapt and improve international performance in a highly competitive environment and exploitation-based agility assists in adapting and improving international performance in a highly dynamic environment.

The IR model contributes to our preliminary understanding on this subject as it advocates for standardization strategy which informs the exploitation-based strategic agility and localization strategy which informs the exploration-based strategic agility (Raisch & Birkinshaw, 2008). And, therefore, it provides fundamental theoretical underpinning for our empirical investigation for EMFs. Our paper extends the academic understanding of the IR model by revealing (a) how local market dynamics affect the adaptation strategies of EMFs, (b) how firms respond in order to adapt to environmental pressures, and (c) how the firm's response differs when the environment is highly competitive or

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highly dynamic.

For this, we use the evolving phenomenon of strategic agility, which is defined as the firm's ability to continuously adjust and adapt strategic direction in the core business, as a function of strategic ambitions and changing circumstances (Doz & Kosonen, 2008). Strategic agility encompasses an array of activities carried out by the firm that create value in the turbulent and unpredictable environment (Weber & Tarba, 2014). This unpredictability is an inherent characteristic of the international market. Strategic agility allows the firm to swiftly sense market changes, identify opportunities early, and mitigate challenges presented by changes in the external market (Braunscheidel & Suresh, 2009).

Our theoretical research question asks how EMFs achieve strategic agility and improve international performance in a highly dynamic and competitive environment. We examine the phenomenon of strategic agility from the perspective of two dominant views in international strategy: exploitation and exploration. We extend the argument of Lee et al. (2015) in the context of international business and suggest that EMFs draw on explorative and exploitative strategies to attain strategic agility in the international market. These are different forms of logic that create tension when they compete for scarce resources and strategic focus (Nielsen & Gudergan, 2012). Moreover, they require substantially different structures, processes, strategies, capabilities, and cultures, and therefore, they affect firm adaptation differently (O'Reilly & Tushman, 2011; Raisch & Birkinshaw, 2008). Thus, exploration and exploitation reveal two distinct strategic responses for dealing with environmental uncertainties in international markets. Using exploration, firms search for opportunities, undertake risk and experiment with an expanding and volatile market. In contrast, firms using exploitation seek optimization and effective utilization of existing resources to deal with a mature market becoming stifled with cutthroat competition (March, 1991).

We contribute to the scholarship on strategic agility and internationalization of firms from emerging economies in five ways. First, a substantial part of prior literature (e.g., Tan & Sousa, 2013; Osei et al., 2019) examined the adaptation strategies in the international markets based on standardization-adaptation strategies proposed by Bartlett and Ghosal (1989) in the IR Model. However, Bartlett and Ghosal's (1989) model does not explain how firms adapt to environmental pressures in the international markets. Our paper contributes by filling an important gap in the international strategy literature by enhancing academic understanding how strategic agility can assist EMFs to adapt in the international markets.

Second, Bartlett and Ghosal's (1989) model does not explain how the firm's response differs when the environment is highly competitive or highly dynamic in the international markets. By investigating the moderating effect of environmental dynamism and competitiveness on the relationship between strategic agility and international performance of EMFs, our study further broadens the strategic agility literature. We found that exploration-based strategic agility assists EMFs to adapt and improve international performance in a highly competitive environment and exploitation-based agility assists in adapting and improvising international performance in a highly dynamic environment.

Third, existing literature explains strategic agility as a collection of meta-capability constructs (Yusuf et al., 1999; Overby et al., 2006; Doz & Kosonen, 2008). For instance, Doz and Kosonen (2008) proposed strategic sensitivity, leadership unity and resource fluidity as the meta-capabilities needed for strategic agility. Ivory & Brooks (2018, p. 347) also identified strategic sensitivity, collective commitment, and resource fluidity as three main organizational meta-capability building blocks of strategic agility. While different definitions and key meta-capabilities underlining strategic agility have been discussed so far in the literature, literature on agility in international business is still scarce (Shams et al., 2020). Previous research has emphasized the importance of agility to competitive advantage; however, what is still lacking is an understanding of its determinants and the conditions in which agility does indeed improve a firm's performance in international markets. We focus on agility as one of the core drivers of the superior

international performance of EMFs. Our study augments the IB literature by highlighting the means i.e. determinants for achieving strategic agility by pursuing exploitation and exploration strategies in the context of EMFs operating in the international markets.

Fourth, previous studies on strategic agility have been conducted in the field of management, such as production and information technology (IT) (Kale et al., 2019) where the focus has not been on international performance of the firm. In the context of IT, Tallon and Pinsonneault (2011) found a positive and clear link between agility and firm performance. Inman et al. (2011) reported a positive relationship between agile manufacturing and financial performance, marketing performance, and operational performance. Teoh et al. (2017) suggests that strategic agility mediates the relationship between corporate risk management practices and firm performance. While prior literature on agility-performance focused on financial performance, our paper contributes to agility-performance literature by examining the impact of strategic agility on international performance of EMFs. For instance, Shin et al. (2015) measured financial performance using two items: return on sales and return on equity from domestic operations. Thus, Shin et al. (2015) did not focus on international performance such international sales growth, international market share. Our paper measured international performance of EMFs by focusing on 10 measures including international sales, market share, reputation and return on investment from international operations. To the best of our knowledge, our study is the first study that associates strategic agility with international performance of EMFs operating in the international markets.

Finally, we reveal strategic agility to be a special feature of EMFs. Our study, thus, provides insights into the competitive advantages of EMFs, which are usually considered inferior due to weak traditional competitive advantages, compared with incumbent MNEs from advanced economies.

2. Literature review and hypothesis development

Strategic agility refers to the firm's ability to swiftly adapt to uncertainties (Goldman et al., 1995a). It is a high order capability that allows the firm to deal with unpredictable, unknown events ("black swan") which goes above the normal risk encountered by firms in the business environment (Teece et al., 2016). At its core, strategic agility requires developing strategic sensing and taking swift *au fait* decisions (Brannen & Doz, 2012). Theoretically, it seems a straightforward concept but achieving "strategic agility [in practice] is a conundrum" (Doz & Kosonen, 2008, p. 95). It is like a jigsaw where the firm has to fit together a variety of strategic postures to form an overall firm-level strategy that matches the complexities of a rapidly changing business environment.

Strategic agility allows the firm to respond, adapt and implement strategies quickly to address external exigencies (Overby et al., 2006; Sherehiy et al., 2007). It can help enhance the quality of a firm's competitive advantage and applicable responses to environmental changes, thereby can raise financial performance (Sambamurthy et al., 2003; Tallon & Pinsonneault, 2011). Scholars argue that the need for strategic agility is particularly high when firms are competing in the international market where they face a variety of environmental uncertainties, and where quick adaptation is a necessary response (Gehani, 1995; Tallon & Pinsonneault, 2011).

Given the received wisdom that EMFs lack traditional competitive advantages, such as a strong brand name or cutting-edge technology (Hernandez & Guillén, 2018), we argue that EMFs build strategic agility to enhance their competitive advantages in the market. Strategic agility is considered one of the most important success factors, especially for firms operating in international markets where customers and markets are impacted by continuous change (Ahammad et al., 2020; Junni et al., 2015; Kale et al., 2019; Morton et al., 2018; Shams et al., 2020; Tallon & Pinsonneault, 2011; Vaillant & Lafuente, 2019; Vickery et al., 2010; Weber & Tarba, 2014). There are certain anecdotes in the popular press

that explain how EMFs demonstrate their agility while competing with their global peers. However academic literature, despite significant scholarly interests, has remained sparse on this subject. Our study fills this gap, and, at the same time, addresses the precise mechanisms through which EMFs attain agility and enhance their international performance.

In an international business setting, strategic agility requires formation a “meta-capability [by the firm] to create and deploy a dynamic balance between sensing local opportunities, enacting global complementarities, and capturing local value over time” (Fourné et al., 2014, p. 14). We argue that the firm needs this meta-capability as its endowment of resources and institutional constraints imposed by the home and host country contexts bear strongly on its external market-focused strategies and organizational routines and practices (Meyer et al., 2011). Peng, Wang & Jiang (2008) argue that EMFs in particular are affected more by resource and institutional constraints. Prior research on EMFs further suggests that differences between the home and host countries affect their international strategy (Buckley, Munjal, et al., 2016; Buckley, Yu, et al., 2016; Cui & Jiang, 2012; Gaur et al., 2014; Li et al., 2018; Mingo et al., 2018). Thus, we suggest that an EMF has to rely more heavily on strategic agility, which can help it not only adapt to the local market while tackling resource and institutional constraints, but also to strike a balance between opportunities and challenges in local host markets. We conjecture that EMFs can achieve this by reviewing their externally focused market strategies, and internally structured organizational routines and practices, via exploration and exploitation strategies, respectively. We develop our argument, and state our hypotheses in the following sections.

2.1. Exploration, exploitation and strategic agility

Strategic agility enables firms to flexibly respond to complex, global, and dynamic environments. Yet achieving strategic agility is challenging, in part, because of inherent contradictions (Lewis et al., 2014). On the one hand, strategic agility requires firms to exploit existing resources and capabilities and implementation of planned strategy which lay the foundation for competitive advantage (Rindova & Kotha, 2001). Strategic agility, therefore, requires firms to exploit existing resources and capabilities - a feature of exploitation strategy. On the other hand, agility demands strategic flexibility, quick and innovative responses to the dynamic competitive landscape (Junni et al., 2015). Such changes help firms cope with technological discontinuities to anticipate market trends and disruption. Thus, to be strategically agile, firms need to explore new resources and capabilities - a feature of exploration strategy.

Lee, Sambamurthy, Lim & Wei (2015) argue that exploration and exploitation are critical antecedents of strategic agility. Exploitation increases a firm's ability to take advantage of emerging market opportunities by enabling continuous adaptations (Rindova & Kotha, 2001). Thus, exploitation assists firms to respond to current customer needs by continuously adapting existing products and services. In contrast, exploration enables firms to implement new models of customer service, sales, or manufacturing. Disruptive innovations for services, products, and business processes are considered as the driving forces of a firm's agile responses to market opportunities and changes (Charitou & Markides, 2003). Thus, exploration and exploitation strategies enhance firms' agility by providing a greater level of flexibility in responding to its market competition and changes (Lee et al., 2015).

We extend the argument of Lee et al. (2015) in the context of international business and suggest that EMFs draw on explorative and exploitative strategies to attain strategic agility in the international market. Explorative strategies can help an EMF to achieve agility by discovering new opportunities and prospects in the locations where it has operations. Eisenhardt and Martin (2000) argue that exploration translates into flexibility, which can help an EMF explore unexpected and promising opportunities. Exploration requires firms to discover new

capabilities by radically changing their technology in order to create new products and services for the host market. Consequently, we claim that exploration can prepare EMF to better cope with uncertainty and prepare for taking advantage of new opportunities in the host market. Thus, EMFs could be strategically agile by pursuing explorative and exploitative strategies in the international markets.

March (1991) suggests that exploration of new possibilities and the exploitation of old certainties, on the continua of experimentation – implementation, innovation – refinement, and adventurousness – caution, aids the firm in the process of adaptation. It reflects the firm's behavior in searching, experimenting, risk-taking and innovating. In other words, exploration enables firms to find novel ways, including discovering new host markets, products, technologies, distribution channels and business models for dealing with market uncertainties (Dougherty, 1990; Gatignon & Xuereb, 1997). It allows the firm to quickly respond to changes in the host market by meeting customer demand that goes beyond its existing products and services offered, and by discovering new products and processes even before the existing ones become obsolete (Gerwin, 1993). Moreover, exploration-oriented activities “help the firm to develop new knowledge and create those capabilities necessary for survival and long-term prosperity” (Uotila et al., 2009, p. 222). We hypothesize that:

Hypothesis 1a. *Exploration has a positive effect on the strategic agility of firms.*

In contrast, exploitative strategies focus on the competent use of resources and capabilities, which can allow an EMF to gain flexibility in reallocating resources and capabilities to seize emerging opportunities in the International markets. Exploitation increases a firm's ability to take advantage of emerging market opportunities by enabling continuous adaptations (Davenport, 1993). Moreover, exploitation enhances a firm's ability to reconfigure internal structure and process to achieve better responsiveness to emerging threats in the supply chain. In the context of international markets, exploitation strategy allows EMFs to develop a better understanding of how to more efficiently use current internal resources and capabilities. Consequently, such understanding of internal resources and capabilities resulting from exploitation allows the firm to be more agile in reallocating internal resources to seize new opportunities (Junni et al., 2020). We extend the above argument by proposing that exploitation strategy improves EMFs understanding of efficient use of existing internal resources and capabilities which, in turn, assist EMFs to be strategically agile in the international markets.

In addition, exploitation strategy enables the firm to deal with growing pressure in a maturing market (O'Reilly & Tushman, 2011). When dealing with a scarcity of resources, firms constantly need to refine and adjust existing products/services in the international market or expand their existing products/services to new host markets (Jansen et al., 2006; Levinthal & March, 1993). Exploitation strategy allows EMFs to adjust existing products/services in the international market to address challenges in the existing and new international markets. Consequently, exploitation strategy assists EMFs to be strategically agile in the international markets. Therefore, we hypothesize that:

Hypothesis 1b. *Exploitation has a positive effect on the strategic agility of firms.*

2.2. Strategic agility and international performance

We argue that strategic agility can assist EMFs to improve international performance. Strategic agility prepares the firm to respond swiftly to market changes (Brannen & Doz, 2012). We suggest that swiftness complements the EMFs strategic responses in the highly competitive and dynamic international markets. Strategic agility can provide the firm with a first-mover advantage in host markets (Murray et al., 2012), and quickly build its supply chain before its competitors (Li et al., 2006). Swift response towards international market changes can reduce an

EMF's late-comer disadvantages. Strategic agility can help EMFs gain competitive advantages and consequently realize higher market share and customer credibility, which results in better performance in the international markets.

As discussed above, a primary attribute of strategic agility is the firm's ability to adapt to changes in the marketplace (Goldman et al., 1995b). It is reflected in the firm's ability to continuously scan the market for upcoming opportunities and concomitant threats, anticipate gaps, and predict future trends in the host market (Brueller et al., 2014). This feeds into the firm's overall strategic response towards the market, i.e., exploration strategies, such as developing new products and introducing new products in the existing and new markets. Responding to the market in these ways can significantly improve the firm's market-seeking internationalization by satisfying its existing customers, gaining a foothold in new markets, improving image/brand perception, and improving market share in host economies. Thus, exploration strategy enhances international performance of EMFs.

Finally, sensing market opportunities further aids in the generation of novel ideas, which can help a firm create new products (Li et al., 2006). Although innovation can be an expensive proposition, if successful, it can result in the production of a number of new products for international markets (Jansen et al., 2006). This further helps the EMFs gain competitive advantages and ultimately improves its international performance. Thus, we propose:

Hypothesis 2a. *Exploration-based strategic agility has a positive effect on the international performance of firms.*

In addition to exploration-based strategic agility, we argue that the exploitation-based agility also enhances the firm's international performance. Exploitation requires that managers learn how to reduce redundancies in the operational processes (Ojha et al., 2018). Consequently, it makes a firm more efficient, especially in utilizing its existing base of resources, which positively affects its productivity (Benner & Tushman, 2003) and improves its capacity for lowering costs (Kristal et al., 2010). Once costs are reduced, the higher proportion of sales revenue contributes to the profitability of the firm.

Exploitation usually involves gradual refinement and adjustment of existing products and services (Levinthal & March, 1993). However, it also includes actions to improve existing technology in order to address the changing needs and preferences of current customers (Ojha et al., 2018). Improving existing technology has parallel with incremental innovation in which the firm focuses on products and services to the existing market. We suggest that any such improvement in existing products and technology has a direct bearing on both cost effectiveness and sustaining market share in the host market. In addition, exploitation enables the firm to be more competitive against local firms in the host market. We propose that exploitation can assist EMFs in raising efficiency, reducing costs and improving existing products or services in host markets which, in turn, enhance international performances. Therefore, we hypothesize that:

Hypothesis 2b. *Exploitation-based strategic agility has a positive effect on the international performance of firms.*

2.3. Environmental dynamism and competitiveness

One of the key dimensions of environmental uncertainties is environmental dynamism (Girod & Whittington, 2013; Jansen et al., 2006; Karna et al., 2013), which refers to the extent of change, volatility, unpredictability and instability in the external business environment (Dess & Beard, 1984; Hoskisson et al., 2000; Jansen et al., 2009). According to Sirmon, Hitt and Ireland (2007), environmental dynamism leads to a greater degree of uncertainty which, in turn, produces insufficiencies in the necessary information required to identify cause and effect relationships. In a highly dynamic environment, uncertainties may hinder a firm's ability to respond to the necessity for change,

foresee customer demands, question the prevailing strategic direction, and explore new strategic choices (González-Benito et al., 2012; Levinthal & March, 1993). Moreover, the scale and scope of external market opportunities and threats in dynamic environments mean that there is more downside risk to firm performance from failing to react in time and greater probability that performance will improve if firms can respond faster than their rivals (Meyer, 1982).

However, a dynamic environment can also be a great source of opportunity for reinforcing current capabilities and/or formulating new ones enabling the firm to respond effectively to external environmental changes (Ambrosini & Bowman, 2009). However, to benefit from the environmental discontinuities, a firm needs to be strategically agile. According to Schaeffner (2013) strategic agility is a key determinant of firm performance in hypercompetitive environments because agility allows for strategic renewal in order to respond to environmental changes and to actively influence the competitive context. Tallon and Pinsonneault (2011) argue that agility is less needed in a stable environment, where there is less to gain from agility, or less to lose from being slow to react. Conversely, in a dynamic setting, agility of the same intensity may have a significantly larger effect on firm performance due to the greater market uncertainty (Miller & Chen, 1996; Sambamurthy et al., 2003).

Firms pursuing exploratory strategies can deal with a high variety of international market segments with discursive and rapid consumer shifts (Cavusgil et al., 2013). However, uncertainties created by a dynamic environment may hinder a firm's ability to respond to threats and opportunities in the market (González-Benito et al., 2012; Levinthal & March, 1993). We argue that exploration-based strategic agility enhances EMFs ability to respond to the necessity for change and allows firms to find new ways to deal with the environment uncertainties. Moreover, exploration strategies allow EMFs to quickly find optimal responses to environmental uncertainties. Exploration strategies enhance EMFs ability to react in the highly dynamic environment and to cope with uncertainties in the international markets. Moreover, exploration strategies augment EMFs ability to respond faster than competitors in the highly dynamic environment. Thus, under a highly dynamic environment, exploration strategies enhance EMFs ability to react and respond faster than competitors which, in turn, can improve international performance. Thus, we propose that:

Hypothesis 3a. *Environmental dynamism positively moderates the relationship between exploration-based strategic agility and international performance.*

Above in the section 2.2, we argue that firms might also achieve strategic agility through exploitation of existing resources and capabilities. Exploitation covers incremental innovation, expansion of existing products and services, and efficiency in existing distribution channels (Abernathy & Clark, 1985). It builds on existing knowledge and reinforces existing skills, processes, and structures (Benner & Tushman, 2003).

Firms operating in a dynamic environment face frequent changes in technologies, shifting customer preferences, varying demand for products and services, and fluctuations in the supply of materials. Therefore, scholars suggest firms must create strategic flexibility to obtain a sustainable competitive advantage for tackling rapid changes (Dess & Beard, 1984). We argue that firms from emerging markets can effectively respond to environmental dynamism by adapting existing technologies, modifying current products and services, and streamlining extant distribution channels. All these help a firm meet the needs of its current customers (Lubatkin et al., 2006), and generate higher returns at reduced cost achieved through incremental changes.

We suggest that exploitation-based strategic agility also enhances EMFs ability to respond to uncertainties created by environmental dynamism. Exploitation strategies allow EMFs to more effectively exploit existing resources and capabilities to generate more optimal responses to environmental uncertainties. Exploitation strategies allow

EMFs to reduce the response time to dynamic changes and purposefully extend or modify existing resources and capabilities which enables EMFs to utilize those resources and capabilities more effectively compared to competitors. Therefore, exploitation strategies enhance EMFs ability to extend or modify existing resources and capabilities and, to utilize those resources and capabilities more effectively than competitors in a highly dynamic environment which, in turn, enhances the international performance of EMFs. This means that the positive effect of exploitation-based strategic agility on international performance of EMF is greatest when the environment is very dynamic. Thus, we propose:

Hypothesis 3b. *Environmental dynamism positively moderates the relationship between exploitation-based strategic agility and international performance.*

Environmental competitiveness relates to the nature and number of competitors, and the areas in which there is a high degree of competition (Miller, 1987). It can be defined as the degree to which the market is exemplified by extreme competition, and has been characterized as extensive pressures, higher efficiencies and lower prices (Matusik & Hill, 1998). In such situations, firms' behavior depends on their competitors' behavior, making it less certain or predictable. Moreover, a firm's competitive advantage is also short-lived.

In this context, firms with explorative strategic agility can cope with extensive competition by quickly responding to competitors' actions and are likely to be more observant of their customers' and competitors' actions, facilitating quick adaptation to the changing competitive scenario in the market. Zhou and Li (2010) find that competitive intensity positively moderates the relationship between competitor orientation and a firm's adaptive capability. Explorative strategic agility assists firms in formulating and reconfiguring their resources and capabilities, which can help EMFs achieve competitive advantages in international markets. Tversky and Kahneman (1991) suggest that in a competitive environment, firms may be willing to take more exploratory risk because exploration can help them find a new niche to enhance performance, while simultaneously releasing the pressure of competition. Being late-comers, EMFs are likely to rely more on exploratory agility to find niche market segments because they are unlikely to fully compete with the incumbent MNEs. Consequently, we expect EMFs to engage in exploratory activities in order to address intensive competition by creating new products and services, or by entering into a new international market. Therefore, enhanced competitiveness should induce EMFs with exploratory agility to move *up* or move *out*. As such, the positive effect of explorative strategic agility is greatest when the extent of environmental competitiveness is high. Therefore, we hypothesize that:

Hypothesis 4a. *Environmental competitiveness positively moderates the relationship between exploration-based strategic agility and international performance.*

In contrast to explorative agility, we now argue that EMFs can also enhance their international performance by pursuing exploitative strategic agility. As a first step, exploitatively agile firms can respond to market competition by reading and responding to existing market trends and customer demands by altering or expanding current products and services. At the same time, by using exploitative strategic agility, EMFs can address price-based competition by utilization resources efficiently allowing them to reduce the prices of their products and services.

It is worth acknowledging that EMFs have cost and speed advantages over most MNEs, (Guillén & García-Canal, 2009; Ramamurti, 2012; Sun et al., 2012). Thanks to the low-cost base and resource paucity in their home market context (Kotabe & Kothari, 2016; Ramamurti & Singh, 2009). Prior research also suggests that faced with a lack of resources, especially technological know-how, which prevents them from innovating, EMFs undertake incremental changes/modifications in their product offerings (Govindarajan & Ramamurti, 2011). Through such enhanced alteration of existing products and services (Miller, 1987), firms generally maintain existing market share and capture additional

market share (Zahra & Bogner, 2000) in the international market. Thus, we can expect that EMFs using exploitative strategic agility are likely to enhance the quality of their competitive advantages and applicable response to environmental changes (Sambamurthy et al., 2003), and thereby improve their performance of firms in the competitive international environment. This means that the positive effect of exploitative strategic agility is greatest when environmental competitiveness is high. Therefore, we suggest that:

Hypothesis 4b. *Environmental competitiveness positively moderates the relationship between exploitation-based strategic agility and international performance.*

3. Research method

3.1. Sample and data collection

The survey instrument contained two sections, respondent information and main items. Only respondents who conformed with the intended profile proceeded forward. We bought a dedicated repository of over 65,000 firms containing the names and other contact details of managers employed in Indian export-oriented firms, who oversee operations in the export markets. We randomized the data using a search protocol that compared this list with two highly regarded repositories namely CMIE, and CapitalinePlus and cross verified using LinkedIn, a social media platform. We used CMIE and CapitalinePlus to verify names of companies for financial and other performance-related parameters. Names and updated designations of the potential respondents were verified using their LinkedIn profile, for which we subscribed to LinkedIn Premium for the entire duration of the project. Thus, we narrowed down to a set of 2000 firms encompassing banking, capital goods manufacturing, IT/ITeS, and consumer product manufacturing sectors. As an incentive to participate in the survey, we promised to share the preliminary results of our studies. The same questionnaire was administered both online using Qualtrics and off-line using physical forms.

The window for data collection remained open during June, July and August 2019, which coincided with a period of global economic uncertainties, including the US-China trade war, imposition of CAATSA sanctions on Russia and on countries buying armaments from Russia like India and Turkey, imminent (deal/no-deal) BREXIT, US-Iran-Saudi Arabia faceoff in the gulf and economic embargo on Iran, and the faceoff between India and Pakistan on account of revocation of Article 370 in the Indian state of Jammu and Kashmir. Inherently, all such global events trickle down, and add to uncertainties at the firm level especially on their international business operations.

Within India, data collection period coincides with the high non-performing assets in the banking industry and other non-banking financial institutions. The resultant credit crunch could potentially compromise firms' abilities to support their international operations in host countries. Thus, global economic turbulence around the world, including those in the home country, during the window of data collection served as an appropriate contextual setting to capture the respondents' perception of environmental dynamism and competitiveness.

One of the co-authors persistently followed-up on the survey with multiple telephone call, messages, personal visits, and email requests. A total of 291 questionnaire responses were obtained. After removing those that were incomplete, 207 valid responses, with almost equal representations from online and offline mode, were considered from agricultural, manufacturing and service industries thus ensuring sectoral generalizability (Tuominen et al., 2004). Non-disclosure of critical information pertaining to financial and strategic aspects explains the incomplete responses. The demographic profile of the respondents, firm and industry information is abridged in Table 1. OECD criteria (2010) are used to categorize firms into micro, small, medium and large enterprises.

Table 1
Sample Characteristics.

Level of Key Respondent		Representation (%)
CEO/Directors/Founders		12
Presidents/VP/AVP/GMs		23
DGMs/AGMs/Managers		65
Size of Firm	No. Of Employees	Representation (%)
Large	Greater than 500	42
Medium	Between 100 and 500	38
Small	Between 10 and 99	16
Micro	Less than 10	4
Age of Firm (in Years)		Representation (%)
Greater than 20 Years		48
Between 19 and 10 years		38
Between 9 and 5 years		14
Less than 5 years		0
Annual Sales Turnover (In Indian Rupees (Crores = 10 million))		Representation (%)
>10,000		10
<10,000		25
<1000		35
<100		30
<10		0
<1		0
Did not disclose		0
Industry Category		Representation (%)
Banking/Financial		15
Capital goods/Engineering		10
IT/ITEs/E-commerce		53
Steel/metal		2
Textile		5
Pharmaceutical/FMCG		10
Electrical		2
Others		3
Average Response Time		20 minutes

3.2. Test against response biases

We adopted the approach of [Armstrong and Overton \(1977\)](#) towards examining non-response biases and representativeness of the respondent firms. We divided the total sample into two groups, based on early on-line and late offline responses. We performed ANOVA tests on all the constructs. The independent variables were strategic agility (SA), exploration (EXPLR), exploitation (EXPLT), environmental dynamism (ED), and environmental competitiveness (EC), which are mono-dimensional, and the dependent variable, international performance (IP) which is also measured along a single dimension namely operational performance. We also controlled for four variables: firm size, industry, entry mode and ownership. The results of ANOVA ($0 < F < 1.32$) suggest that there is no significant difference between early online and late offline respondents. Analysis of the profile of both the sub-samples suggests that age of the firms that gave early responses was significantly different than the late responses ($p < 0.01$). More of larger firms responded earlier than smaller firms to the survey questionnaire. Some of the smaller firms might have been apprehensive about disclosing their financial turnovers. Further, e-mail correspondence and telephone discussion specially with small firms, suggested that they were apprehensive of the income tax authority of the Indian government who might be collecting data anonymously. This delay in response necessitated physical administration of the questionnaire by one of the co-authors, which allayed the apprehensions about the identity of the data collector. Age, size and sales turnover of 30 randomly selected valid samples were compared with 30 firms that had not responded to the questionnaire fully but submitted the objective data about the company i.e. age, size and sales turnover. The differences between the two groups on firm age, size and sales turnover were found to be not significant ($p > .28$ and $p > .53$), implying that non-response bias was not a problem.

3.3. Test for common method variance

Procedural and statistical approaches were used against common method variance (CMV) ([Becker et al., 2012](#); [Podsakoff et al., 2003](#)). Procedural bias was minimized by ensuring that the respondents understood that their responses were completely confidential ([Podsakoff et al., 2003](#)). We further adopted a statistical method used by [Kollmann and Stöckmann \(2014\)](#) for enhancing the credibility of the respondent's report on performance by correlating self-reported data with secondary data. Secondary objective performance data is considered less prone to distortion vis-à-vis response biases ([Stam & Elfring, 2008](#)). We took a random subsample representing approximately 20 % of the sample and obtained financial performance measures like sales volume, sales growth and return on investment (RoI) from the CMIE-ProwessIQ, cross-verified with the Capitalineplus databases. Both CMIE-ProwessIQ and Capitalineplus are credible databases on India firms, which are widely used in academic research of similar nature ([Buckley, Munjal, et al., 2016](#); [Buckley, Yu, et al., 2016](#)). The aforesaid three measures are the most common accounting-based performance measures ([Capon et al., 1990](#)) in literature on strategy, and supplement operations-centric international performance measures. The performance measures correspond to three financial years, namely 2016–17, 2017–18 and 2018–19, because the respondents were required to evaluate their firm's performance, keeping in mind a three-year horizon, ending March 2019.

We dichotomized the three years of data using a *logical if function*, such that if the last/end year's figures are more than the first/beginning year's figures, we assigned the value "1," and otherwise "0." This approach was adopted for two reasons. First, the firms do not belong to the same industry and hence their perceptions of their performances, relative to that of their competitors would be different. Thus, a respondent may assign a score of 7 (strongly agree to relatively good performance) for a RoI of 2% (say), while another may assign a score of 1 (strongly disagree) for RoI of 10 %, due to industry differences and relative performance of industry incumbents, thus confounding the results. Secondly, consistently improving performance trajectory, over three years, (dichotomized as 1) denotes consistent performance, in the uncertain business environmental context of our study, and vice versa. It stands to reason, therefore a respondent, being true to response, and relying on recallable memory and managerial inferences ([Bradburn et al., 1987](#)) would assign a higher score to such consistently improving performance measures than otherwise. This can then be verified using a correlation analysis. A positive and significant correlation between reported and archived sales volume ($r = 0.588$, $p < 0.000$), RoI ($r = 0.523$, $p < 0.000$) and sales growth ($r = 0.557$, $p < 0.000$), performed simultaneously, supported the validity of performance, based on self-reported data. Thus, CMV was not a problem in our study.

Finally, our constructs and dimensions are adopted from literature which does not suffer from conceptual overlap ([Brannick et al., 2010](#)). Analysis performed ex-post using variance inflation factor (VIF) returned a mean score of 1.09 (< 3.00 for a conservative estimate). Consequently, the possibility of inflated bias, characteristic of CMV, as a consequence of item overlap is unlikely to exist ([Conway & Lance, 2010](#)). Thus, CMV was fully accounted for in our research.

3.4. Measures

The scales for the measurement of the constructs in the model have been adopted from the literature. All the variables were measured on a seven-point Likert scale, ranging from "1" (Strongly Disagree/Extremely Unlikely) to "7" (Strongly Agree/Extremely Likely).

3.4.1. Dependent variable: international performance

We measure international performance (IP) along a single dimension, but containing items that capture financial and operational measures adopted from the scales developed by [Venkatraman and](#)

Ramanujam (1986); Chenhall and Langfield-Smith (2007), and there are 3 financial measures to capture sales growth, sales volume and return on investment. There are 7 operational measures capture product-market parameters pertaining to market positioning, namely: a) product launch, b) market share, c) improvement in time to market products/services, d) launch success vis-à-vis competition, e) global reach, f) international reputation and g) entrenched position in international markets. The performance measures/items load reflectively on the construct IP, and the items collectively and sufficiently capture the three performance traits suggested by Walker and Ruekert (1987): effectiveness, efficiency and adaptability. The performance measures are weighted by multiplying the levels of importance and satisfaction for each measure, as indicated by the respondents; this weighting approach is aimed at offering a more fine-grained view of performance, and has been adopted in previous studies (e.g., Gupta & Govindarajan, 1984). Respondents were asked to evaluate international performance on a temporal scale as suggested by Thirkell and Dau (1998). However, given the volatility of the international environment and the high attrition in international roles, the recallable time period was modified to the previous three fiscal years from April 2016 until March 2019.

3.4.2. Independent variables

Strategic agility is measured as a single dimension construct with 8 items, adopted from Tallon and Pinsonneault (2011). It captures aspects like speed of response to: a) changes in aggregate customer demand, b) customizing products and services, c) new products launched by competitors, d) competitive pricing in response to change in competitors' price, e) expansion into new markets, f) change variety of products in new markets, g) adopt new technologies, h) switch suppliers.

Exploration is measured as a single dimension using 5 items adopted from Jansen, Vera and Crossan (2009): a) commercialization of products completely new to the market, b) accepting demand that goes beyond existing products, c) investing in new products, d) new distribution channels, and e) utilizing new opportunity markets.

Exploitation is also measured as a single dimension using 5 items also adopted from Jansen et al. (2009), including a) implementing small adjustment to existing products, b) introducing improved existing products, c) refining provisions of existing products, d) increasing economies of scales, and e) expanding services for existing customers.

3.4.3. Moderating variables

Environmental Dynamism is measured as a single dimension with 5 items adopted from Jansen et al. (2006). The items are: a) high intensity changes in market, b) customer preference for new products, c) continuous changes in market, d) fast and frequent changes in volumes of products, and e) no changes in preceding 12 months (reverse coded).

Environmental Competitiveness: Supplementing dynamism, this construct is also measured along a single dimension with 4 items, also adopted from Jansen et al. (2006). The items are: a) intense competition in the market, b) relatively strong competitors, c) extremely high competition, and d) price competition is a hallmark.

3.4.4. Control variables

We used 4 control variables in our study namely a) firm size measured as the natural log of (i) the revenue of the firm from international operations, under consideration as of March 2019 and (ii) the number of employees in international operations. Both the measures are factors reduced to a single dimension; b) Industry effect which is dichotomized as manufacturing (1,0) and services (0,1); (c) entry mode through FDI route dichotomized as Yes (1,0) and No (0,1) and (d) firm ownership is dichotomized as privately-owned (1,0) and publicly-owned firms (publicly listed/not listed) (0,1)..

3.5. Choice of analytical technique

We used maximum likelihood-based principal factor reduction (PFR)

technique with varimax rotation using STATA (v.15.1) to load items to the constructs. This is a standard technique for reducing dimensions by trimming redundant (or significantly correlated) dimensions included in measuring a theoretical construct. The resultant dimensions retained most of the variance present in the original data matrix. In addition, maximum likelihood factor reduction technique allowed us to check for a) independence (controlling for sphericity by rejecting the independent model vis-à-vis saturated model), b) Heywood boundary solution of full factor explanation/zero uniqueness, and c) single factor saturated models (Fabrigar et al., 1999). To further enhance internal consistency amongst the items, we suppressed items with factor loading less than 0.2 (Dess & Beard, 1984).

We then employed multiple regression techniques, with robust standard errors for enhanced model fit, to test the association of strategic agility on international firm performance, with exploration and exploitation being antecedent qualifiers. This modeling is conceptually distinct from using exploration/exploitation as primary variables of interest whose relationship with performance is mediated through strategic agility. To explore this indirect association of exploration and exploitation via strategic agility on firm performance, we employed the first principle of using a HAT or projection matrix (Hoaglin & Welsh, 1978), which allows us to estimate the effects of exploration/exploitation within strategic agility, and then the influence of a *induced combined effect*, moderated by environmental conditions (dynamism/competitiveness), on international performance of firms. We elaborate on our modeling, step by step, in the econometric specification below.

3.6. Conceptual model and specifications

Our conceptual model is presented in Fig. 1, and the econometric specifications for testing each of our hypotheses are explained below.

To model the influence of exploration in (hypotheses H1a) and exploitation in (hypotheses H1b) on strategic agility, we present the following generalized expression:

$$\text{StrategicAgility} = \alpha_0 + \alpha_1 E_{(\eta,\theta)} + \alpha_2 \Sigma CV + \varepsilon_0 \quad (1)$$

where E suffix (η) represents exploration and suffix (θ) represents exploitation, (η, θ) with being dichotomous in nature; ΣCV represents the summative effects of control variables; α_i are the corresponding coefficients/parameters and ε_0 is the error term.

Further, we fit the effect of exploration and exploitation on strategic agility by employing a HAT or projection matrix by regressing strategic agility on the corresponding antecedents of exploration and exploitation. Thus the HAT (H) matrix of strategic agility (\widehat{SA}), takes the general form $[X \times (X^T \times X)^{-1} \times X^T] \times SA$, where X represents the independent variables exploration or exploitation, and where the covariance matrix of the error vector takes the form of $\Sigma \varepsilon = (I - H) \times \sigma^2$ for linear models and i.i.d. errors; I is the identity vector, and H is the projection or HAT matrix. Consequently, Hypotheses H2a and H2b are tested in model M3 and M4 and the generalized form is presented as:

$$\text{Int}_{perf} = \beta_0 + \beta_1 (\widehat{SA})_{\theta,\eta} + \beta_3 \Sigma CV + \varepsilon_1 \quad (2)$$

where Int_{perf} represents international performance, $(\widehat{SA})_{\theta,\eta}$ represents Hatted Strategic Agility with exploration (θ) and exploitation (η) fitted into strategic agility, ΣCV implies the summative effects of control variables, β_i are the corresponding coefficients/parameters and ε_1 is the error term.

Likewise, hypotheses H3a,b and H4a,b are tested via models M5-M6 and M7-M8 respectively and the stylized form is represented as:

$$\text{Int}_{perf} = \omega_0 + \omega_1 (\widehat{SA})_{\theta,\eta} + \omega_2 \Sigma M_{(d,c)} + \omega_3 (\widehat{SA})_{\theta,\eta} \times M_{(d,c)} + \omega_4 \Sigma CV + \varepsilon_2 \quad (3)$$

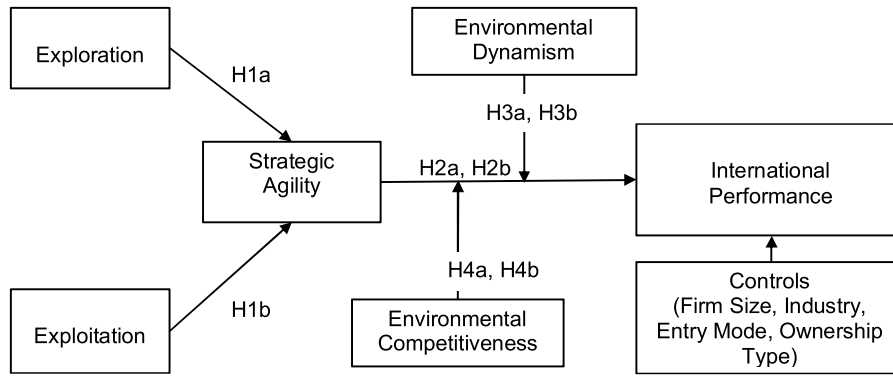


Fig. 1. Conceptual Model.

where additionally $M_{(d,c)}$ represent the moderators ED (for subscript = d) and EC (for subscript = c); the interaction term $\omega_3(\widehat{SA})_{\theta,\eta} \times M_{(d,c)}$ represents the moderation effects; ω_i are the corresponding coefficients/parameters and ε_2 represents the error term.

Additionally, we performed a robustness check, represented through models M9-M10, where we simultaneously investigated the effects of dynamism and competitiveness on exploratory (M9) and exploitative (M10) strategic agility. The stylized representation is as follows:

$$Int_{perf} = \gamma_0 + \gamma_1(\widehat{SA})_{\theta,\eta} + \gamma_2\Sigma M_{(d,c)} + \gamma_3\Sigma[(\widehat{SA})_{\theta,\eta} \times M_{(d,c)}] + \gamma_4\Sigma CV + \varepsilon_3 \tag{4}$$

where additionally $\Sigma(\widehat{SA})_{\theta,\eta} \times M_{(d,c)}$ represents the summative effect of a particular type of fitted strategic agility moderated by a particular type of environmental effect (dynamism or competitiveness), γ_i are the parameters and ε_3 is the error term.

4. Results

Our results presented in Table 2, and Table 3 are consistent and robust. Table 2 presents Pearson’s pairwise correlation matrix along with variance inflation factor. The highest correlation is 0.35 (below the threshold of 0.7) and the highest value of VIF is 1.18 (below the threshold of 5) (Hair et al., 2010) indicating our results do not suffer from multicollinearity.

Table 3 presents the test of hypothesis H1a and H1b through models M1 and M2, which suggests that both exploration and exploitation have a positive and significant association with strategic agility. Table 3 also presents the test of hypotheses H2a and H2b to H4 a, H4 b using models M3 to M8, along with models M9 and M10 which serve as robustness checks. M3 and M4 suggests that exploration and exploitation fitted strategic agilities have positive and significant association with international performance, thus supporting hypothesis H2a and H2b.

Table 2
Variance Inflation Factor and Pairwise Correlation Matrix.

SN	Variables	VIF	1	2	3	4	5	6	7	8	9	10
1	International Performance		1									
2	Exploitative Strategic Agility	1.18	0.352*	1								
3	Exploratory Strategic Agility	1.10	0.259*	0.239*	1							
4	Environmental Dynamism	1.17	0.239*	0.255*	0.151*	1						
5	Environmental Competitiveness	1.15	0.215*	0.189*	0.094	0.308*	1					
6	Exploration	1.18	0.259*	0.239*	1.000*	0.151*	0.094	1				
7	Exploitation	1.10	0.352*	1.000*	0.239*	0.255*	0.189*	0.239*	1.000			
8	Size	1.04	0.153*	0.105	-0.076	0.063	0.099	-0.076	0.105	1		
9	Industry	1.04	-0.098	-0.086	-0.093	-0.059	-0.016	-0.093	-0.086	-0.098	1	
10	Entry Mode FDI	1.03	0.053	-0.079	0.057	-0.056	-0.094	0.057	-0.079	-0.041	-0.053	1
11	Firm Ownership	1.03	0.200*	0.124	0.024	0.035	-0.095	0.024	0.124	0.003	-0.043	0.043

No. of Observation = 207, * sig p < 0.05.

Further, environmental dynamism and environmental competitiveness have a positive and significant moderation effect on exploitative strategic agility and international performance linkage. Thus, hypotheses H3b and H4b are supported. Moreover, exploratory strategic agility moderated by environmental competitiveness has a positive and significant effect on international performance, supporting H4a. However, hypothesis H3a is not supported as the moderating effect of environmental dynamism on international performance is not significant.

5. Discussion

We developed and empirically tested a conceptual framework for how EMFs achieve strategic agility via exploitation and exploration, and how strategic agility influences the international performance of EMFs operating in highly dynamic and competitive environments. Our theoretical research question asks how exploitative and explorative strategies enable EMFs to achieve strategic agility. Our study addresses the precise mechanisms through which agility is attained by EMFs and its interlinkages with the IR model (Bartlett & Ghoshal, 1989). In doing so, we contribute to the evolving literature on strategic agility. Our paper also contributes to the literature on exploration and exploitation (Rothaermel & Deeds, 2004), particularly to the stream of research that considers exploration and exploitation as separate strategies requiring distinct capabilities (e.g. Birkinshaw & Gupta, 2013; Jensen & Clausen, 2017; Nielsen & Gudergan, 2012; Ojha et al., 2018). Our study extends the literature on IR model (Bartlett & Ghoshal, 1989) by identifying its application to the case of EMFs internationalization, which is facilitated, in the absence of traditional ownership advantages (Hernandez & Guillén, 2018), by developing strategic agility exploration. In addition, our study extends the literature on exploration and exploitation by empirically examining their separate roles in achieving strategic agility in the context of EMFs.

The findings suggest exploration and exploitation have significant association with strategic agility. Exploration allows EMFs to achieve

Table 3
Results.

MODELS VARIABLES	M1	M2	M3	M4	M5	M6	M7	M8	M9	10
	<i>Stra_Agил</i>	<i>Stra_Agил</i>	<i>Int_Perf</i>	<i>Int_Perf</i>	<i>Int_Perf</i>	<i>Int_Perf</i>	<i>Int_Perf</i>	<i>Int_Perf</i>	<i>Int_Perf</i>	<i>Int_Perf</i>
<i>Size</i>	0.339** (0.142)	0.254* (0.133)	0.360** (0.146)	0.248* (0.138)	0.283* (0.148)	0.142 (0.141)	0.282* (0.144)	0.164 (0.144)	0.273* (0.146)	0.129 (0.141)
<i>Industry</i>	-0.213** (0.088)	-0.205** (0.085)	-0.068 (0.095)	-0.07 (0.093)	-0.047 (0.091)	-0.009 (0.087)	-0.023 (0.092)	-0.031 (0.091)	-0.021 (0.092)	-0.004 (0.087)
<i>Entry_Mode_FDI</i>	-0.233*** (0.089)	-0.187** (0.086)	0.051 (0.097)	0.109 (0.096)	0.091 (0.095)	0.14 (0.089)	0.091 (0.093)	0.12 (0.09)	0.093 (0.094)	0.133 (0.088)
<i>Firm_Ownership</i>	0.113 (0.087)	0.067 (0.084)	0.276*** (0.096)	0.224** (0.094)	0.282*** (0.095)	0.200** (0.089)	0.275*** (0.091)	0.224** (0.089)	0.272*** (0.092)	0.198** (0.088)
<i>Exploration (H1a)</i>	0.226** (0.095)									
<i>Exploitation (Hb)</i>		0.385*** (0.09)								
<i>Exploratory_Strategic_Agility (H2a)</i>			1.669*** (0.443)		1.398*** (0.441)		1.297*** (0.395)		1.303*** (0.406)	
<i>Exploitative_Strategic_Agility (H2b)</i>				1.021*** (0.225)		0.719*** (0.186)		0.733*** (0.199)		0.687*** (0.183)
<i>Environmental_Dynamism</i>					0.151 (0.106)	0.06 (0.113)	0.147 (0.105)	0.086 (0.111)	0.137 (0.105)	0.045 (0.115)
<i>Environmental_Competitiveness</i>					0.204** (0.098)	0.12 (0.096)	0.208** (0.092)	0.182** (0.091)	0.200** (0.096)	0.129 (0.097)
<i>Exploratory_Strat_Agility x Env_Dyn (H3a)</i>					1.268 (1.042)				0.705 (1.027)	
<i>Exploitative_Strat_Agility x Env_Dyn (H3b)</i>						1.493*** (0.38)				1.168*** (0.403)
<i>Exploratory_Strat_Agility x Env_Comp (H4a)</i>							2.197*** (0.782)		1.906** (0.853)	
<i>Exploitative_Strat_Agility x Env_Comp (H4b)</i>								1.210*** (0.371)		0.655* (0.335)
<i>Constant</i>	0.164* (0.086)	0.161* (0.083)	-0.129 (0.091)	-0.131 (0.09)	-0.175** (0.087)	-0.215** (0.087)	-0.183** (0.086)	-0.183** (0.089)	-0.189** (0.085)	-0.217** (0.087)
<i>Observations</i>	207	207	207	207	207	207	207	207	207	207
<i>R-squared</i>	0.126	0.182	0.138	0.171	0.211	0.28	0.228	0.259	0.232	0.291

*** sig p < 0.01, ** sig p < 0.05, * sig p < 0.1.

Robust Standard Errors in Parenthesis.

strategic agility through discovering new products, services, technologies, new markets and enhances EMFs ability to deal with market opportunities and threats in the international markets. Collectively, exploration activities permit such firms to respond quickly to changes in the external markets (Gatignon & Xuereb, 1997), and help them to be strategically agile. In contrast, exploitation assists EMFs to respond to customers' needs in international markets by continuously adapting existing products and services. Exploitation strategy allows firms to develop a better understanding of how to more efficiently use current internal resources and capabilities and, allows the firm to be more agile in reallocating internal resources to seize new opportunities (Junni et al., 2020). The findings of our paper suggest that exploitation strategy improves EMFs understanding of efficient use of existing internal resources and capabilities which, in turn, assist EMFs to be strategically agile in the international markets.

Prior literature on international performance of firms from emerging markets examined a number of issues such as the role of innovative services and capabilities in the Indian professional service firms (Bello et al., 2016), absorptive capacity and firm performance in the Turkish Tourism industry (Kale et al., 2019). Prior literature on strategic agility and firms from emerging markets focused on a number of issues such as the influence of strategic agility on technological performance of Indian Information Technology and Business Processing Outsourcing sectors (Pereira et al., 2020) and the contribution of agile organizations in environmental collaboration (Bouguerra, Gölgeci, Gligor, & Tatoglu, 2021). However, scant research exists examining the impact of strategic agility on international performance of EMFs (Shams et al., 2020). Our contribution lies in empirically demonstrating that strategic agility influences international performance of Indian firms operating in international markets.

Our investigation into the effect of strategic agility on international

firm performance, reveals some novel insights. At the outset, we highlight the fact that we modelled strategic agility as a fitted function of the firm's exploratory and exploitative orientation. Exploration enriches the product portfolio as a consequence of information gathered from the market but trades off accumulated reserves to fund (often redundant) product development. Exploitation, on the other hand, focuses more on the bottom line and cost reduction activities within extant products/service but risks the possibilities of disruptive substitutions and/or product obsolescence. Strategic agility, building on the firm's ability to explore and exploit appears to be the panacea. Considering models M1, M2, M3 and M4 in combination, we find that both exploration and exploitation are significant positive predictors of strategic agility, and their "fitted effects" on strategic agility predict international performances.

It is known that, due to significant resource constraint, firms in emerging economies are typically risk averse (Gaur et al., 2014). The act of exploitation (activities performed in a less uncertain domain) carries lower risk than the act of exploration. Consequently, *ceteris paribus*, building exploitation-oriented strategic agility should take precedence over exploration. Further, EMFs operating in developed host economies also need to adopt standards (e.g. ISO/QSO) that conform to their peers in developed economies. Building such routines inevitably emphasizes efficiencies that help augment exploitative strategic agility. However, in the process of building such routines, firms may develop sub-routines that support exploratory traits, which in turn help develop exploratory strategic agility, and thereby influencing international performances more than the exploitative strategic agility. The routine-based strand of the literature on dynamic capabilities (Eisenhardt & Martin, 2000) lends support to the fact that the dynamic capabilities driving exploratory behavior are embedded in *path dependent routines* and that expansion (outward exploratory orientation) and consolidation (inward

exploitative orientation) are cyclical, *swings of the pendulum* (Hoskisson et al., 1999). It appears, one grows out of the other, *ad infinitum!* Therefore, though firms from emerging economies prefer exploitation-driven strategic agilities, pursuing exploration driven agility could offer higher financial rewards to firms from emerging markets. Thus, this study *additionally* provides suggestive evidence of periodic swings in routine based strategic agility and re-configurational aspects of dynamic capabilities.

Extending the advantages of enlarged portfolio-based, exploratory strategic agility into the domain of environmental competitiveness, we find that when host markets contain a greater number of competitors or exhibit intense price-based competition, exploratory strategic agility (model M7) fares better than exploitative strategic agility (M8) in international performances. This may mean two things. Agile, explorative agile firms might compete by providing a wider range of differentiated products/services, and thereby move up the value chain. Alternatively, they simply start exploring new geographic markets/business domains/fresh opportunities by leveraging their enriched product portfolio, with the intention of exiting highly contested, price-sensitive markets. During the process of moving up or moving out via exploration, exploitative agility maintains the firm position by leveraging existing scale and scope advantages, reducing redundancies, and thereby responding to price-based competition. Conceptually, this is analogous to generic differentiation strategies (exploratory strategic agility) and focused cost leadership (exploitative strategic agility) described in competitive strategy frameworks (Porter, 1985). This also means that exploratory firms risk spreading themselves too thinly, unless supported by exploitative agility.

The risk to firms with exploratory agility that carry a broad portfolio becomes evident under conditions of environmental dynamism. Environmental dynamism involves, *inter alia*, the twin challenges of demand variability and product novelty (Jensen et al., 2006). Buyers in dynamic markets may suddenly shift to new products, or they may suddenly ask for large volumes, in excess of what can be supplied by the optimized capacity can supply in a short time, or both. While firms with exploratory strategic agility can respond to the demand of novelty, they may, due to organizational inertia, find it difficult to reconfigure their internal processes and reallocate resources quickly enough to address demands for enhanced volume (Andriopoulos & Lewis, 2009). Consequently, when such firms are exposed to a dynamic environment they do not perform adequately in the international arena. This is evident from model M5, where exploratory strategic agility moderated by environmental dynamism does not significantly affect international performances.

However, firms from emerging markets with exploitative strategic agility, under the influence of a dynamic environment do respond positively and significantly to international performances (M6). This seems counter intuitive, given the highly competitive nature of international markets, as exploitative strategic agility often involves routine product/service refinements, efficient production processes and incremental, *safe* innovations. Lack of true differentiation/product novelty (thereby prone to dynamism shocks), liabilities of newness (Singh et al., 1986) and latecomer (Bruche, 2012; Mathews, 2006), and lack of a knowledge base that promotes the “Not-Invented-Here” syndrome (Antons & Piller, 2015; Hannan, Antons, Piller, Salge, Coltman, & Devinney, 2019) often impairs firms from emerging markets, and increasingly protectionist regimes may *prima facie* render exploitative agility null and void. Then how (or more importantly *why*) do strategically agile firms from emerging markets resort to exploitation?

Our findings suggest that exploitation based strategic agility also enhances EMFs ability to respond to uncertainties created by environmental dynamism. Exploitation strategies enhance EMFs ability to extend or modify existing resources and capabilities and, to utilize those resources and capabilities more effectively than competitors in a highly dynamic environment which, in turn, enhances the international performance of EMFs. This means that the positive effect of exploitation-

based strategic agility on international performance of EMF is greater when the environment is very dynamic. Thus, the fact that exploitative strategic agility is more optimally suited for both types of environmental uncertainties, although exploration is dominant under one type, justifies its preference for building strategic agility for international performance.

Within the context of India, a major part of Indian firms' deliverables to developed economies are IT products and IT-enabled services. These products and services are part of an elaborate value chain, with R&D-intensive value additions being produced in developed economies, and the relatively labor-intensive parts being provided by developing economies. The final product/services, inevitably assembled in emerging markets, find their way back to the country of technological origin, the developed economies who finally consume them at an optimum/efficient price point. To sustain this arrangement, firms from developing/emerging markets, must be covered/insured through some form of long-term contract. Such contracts ensure the continued supply of designated goods and services, with necessary and routine upgrades being performed periodically and efficiently by the supply/assembly firms. This arrangement is mutually beneficial for both the supplier, who is assured of a market for its deliverables, and for the end consumer who enjoys an uninterrupted supply of the consumables. The necessary or routine modifications/upgrades, including some product-level novelty are enabled through the leveraging of the firm's exploitative strategic agility. That said, given limited product/service level novelty and limited (focused) portfolio, these suppliers can quickly raise production and ensure additional supplies, should their buyers from developed economies so demand. Therefore, under this scenario, exploitative strategic agility ensures smooth and efficient running of the trans-border value chain.

Control variables also have some influence on strategic agility and international performance. Larger firms are strategically more agile than smaller firms. Moreover, larger firms tend to have better international performance than smaller firms. In addition, privately-owned firms perform better in the international market than state-owned firms. In contrast, industry type and entry mode have no influence on international performance.

6. Conclusion

In this paper, we examined the role of exploration and exploitation strategies in forming strategic agility for firms from emerging markets and the resultant impact of strategic agility on the firm's international performance. Strategic agility is perceived to be one of the most important factors contributing to international performance especially in the case of environmental uncertainties. We also analyzed the contingent effects of environmental dynamism and environmental competitiveness on agility-performance relationships. Using proprietary data on 207 Indian firms, we argue that exploitative strategic agility allows an EMF to improve international performance, in dynamic and competitive environments, through amending existing products and services. Exploitative strategic agility further improves international performance by achieving greater efficiency in production and operations. In the context of environmental competitiveness, explorative strategic agility assists firms in avoiding extensive competition by entering into new international markets or by offering new products and services.

First, our study contributes by filling an important gap in the international strategy literature by enhancing academic understanding of how strategic agility can assist EMFs to adapt in the international markets. Second, by investigating the moderating effect of environmental dynamism and competitiveness on the relationship between strategic agility and international performance of EMFs, our study further broadens the strategic agility literature. We find that environmental uncertainties, specifically dynamism, forces firms with exploratory agility to *move up or move out*, while exploitative agility, being more

robust to environmental dynamism and competitiveness, enables the firms to maintain its position while exploration to *move up or out* is underway. Third, our study augments the IB literature by highlighting how EMFs can achieve strategic agility through exploitation and exploration strategies in the international markets. Fourth, to the best of our knowledge, our study is the first study that associates strategic agility with international performance of EMFs operating in the international markets. Finally, we reveal strategic agility to be a special feature of EMFs. Our study, thus, provides an explanation of competitive advantages of EMFs which are usually considered inferior, due to weak traditional competitive advantages, compared to incumbent MNEs from advanced economies.

This study also has practical ramifications. First, EMFs can benefit from strategic agility in international markets, and our findings provide guidance on leveraging strategic agility through exploration and exploitation activities in international markets. Managers can improve international performance by exploring new products, services and international markets, as well as by exploiting existing products, services and markets. Second, firms can better cope with environmental dynamism in international markets through exploitative strategic agility, i.e., by improving existing products and services. Third, firms can perform better in highly competitive international markets by exploring new products, services and international markets as well as by exploitation of existing products, services and markets. Fourth, investing in strategic agility helps firms from emerging markets to perform better in the international markets. Our findings offer managers additional reasons for investing in strategic agility. Developing strategic agility requires substantial financial investment by firms and commitment from employees. Our findings can assist firms from emerging markets persuade employees of the benefits of achieving strategic agility.

The limitations of our study offer scope for future research. First, the inability of exploratory strategic agility to overcome environmental dynamism and promote international performance weakens the case for exploration-driven growth. We believe contextual contingencies may have contributed to such an outcome. Indian export-oriented firms are predominantly in the IT and ITeS sector, which is labor intensive. While India has abundant supply of skilled manpower, which helps Indian corporations to expand and diversify in new markets with fresh (but already developed internally) products, a sudden change in the underlying technological requirements for a set of emergent products and services requires training and retraining that workforce so enable them to absorb that technology and be capable. This is time consuming. Therefore, under the dual challenge of new products/services and large volumes, firms that are spread thin due to an inflated product portfolio find themselves incapable of responding quickly. In particular, such agilities and capabilities simply are rare (and hence not significant). The fact that artificial intelligence (AI) is claimed to be a big challenge to the trained Indian IT workforce. However, this workforce can adapt and fortify itself against the emergent challenges itself with requisite knowledge to enable Indian firms to engage in the next round of internationalization.

Second, we did not find any direct effect of environmental dynamism on international performance, although it is a significant moderator, at least for exploitative firms. Context has a role to play. A majority of the Indian firms that have internationalized, are in the business-to-business (B2B) domain, and do not necessarily face final consumers. The limited set of products (exploitative strategy) required in the B2B domains are often largely hedged against changes in social and economic expectations. Consequently, any change in social and technological requirements would be routed through partners in the host location, who absorb the initial shock, thereby giving the Indian firms limited immunity. Thus, the basic elements of dynamism, namely change in product expectations and volumes might directly impact the firms and their international performance.

We have not investigated the process of developing strategic agility by EMFs, in their effort to internationalize. This kind of work requires an

in-depth examination of firm activities and decision-making which will demand a qualitative research method. This offers potential for fresh theory building and empirical testing.

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