How can emerging-market SMEs domestically benefit from their performance in developed countries? Empirical evidence from China

Abstract:

Many small and medium-sized enterprises (SMEs) from emerging economies consider entry into developed markets as a way to promote home country performance. Nevertheless, the extant literature aiming at large companies are not applicable to SMEs, and it is unclear how SMEs with a weak resource basis can improve their domestic performance through overseas venturing. This study leverages a resource-based view on data from 377 Chinese SMEs with operations in developed nations. The findings reveal that emerging-market firms' overseas performance (both financial and non-financial) is positively related to their home country performance, with the technological learning and demonstration effect playing mediating roles. The relationship between host country performance and technological learning is positively moderated by firms' resource integration capability. This study is among the first to identify the mechanism through which emerging-market SMEs' operations in developed countries affects their home country performance. The findings are helpful in guiding emerging-market SMEs' internationalisation.

Keywords: internationalization, SMEs, emerging markets, entrepreneurship, performance, technological learning

1. Introduction

Emerging-market small and medium-sized enterprises (SMEs) have captured the attention of scholars in the recent decades (e.g. Ali et al,2020; Williams et al., 2020; Del Giudice et al., 2019; Falahat et al., 2020). These enterprises are increasingly expanding into international markets especially in the developed countries and are achieving excellent performance (Falahat et al., 2020; Donbesuur et al.,2020). However, in contrast to their home country, surviving in international markets and especially the developed countries come with major challenges that are especially true for SMEs due to their resource constraints. For example, in the overseas expansion of Chinese enterprises and where SMEs have been the vast majority, the failure rate is higher than 50%, and the average profit margin is only 2.9%. These are outcomes that do not bring the expected benefits to the home-country performance of these firms (see China, 2021; Wang & Miao, 2020). Therefore, the question is naturally raised: how emerging-market SMEs can domestically benefit from their persistent presence in overseas countries, especially in the developed economies.

To understand how emerging-market SMEs can domestically benefit from their implication yields in developed countries, we focus on a key feature of those SMEs that are targeting developed countries, namely, their technology pursuit in the face of a double dilemma that relates to resource capacity and institution constraints (e.g.., Dunning & Lundan, 2008; Wu & Deng et al., 2020). This aspect is an important omission in SMEs' international research because SMEs are the vast majority found in emerging countries (Falahat et al., 2020). As such, they are susceptible actors that are deeply limited by their disadvantages in terms of resource bases, technological capabilities, and brand names (Hitt et al., 2000; Buckley et al., 2002;

Dunning & Lundan, 2008), in contrast to large companies with rich resources, excellent learning capabilities, and considerable bargaining power. This aspect is borne out by studies that suggest that SME growth within emerging economies has indeed benefited from the technology search and spillover in international markets (Del Giudice et al., 2019; Audretsch & Belitski, 2013).

Researchers also have showed that entrepreneurs in emerging countries, as institutional responders of their home countries, actively engage in international practices in order to leverage or escape their domestic institutions (Rodrigues & Dieleman, 2018; Hong et al, 2015; Luo et al., 2010; Luo & Wang, 2012; Cui & Xu, 2019; Gaur et al., 2018; Wang & Ma, 2018). Recent studies further suggest that diversity in response to the institutional expectations for a particular conception of corporate actions is an important external contingency that needs to be fully considered by organizations (Wu & Deng, 2020; Chan & Pattnailk, 2021). However, these differences in institutional response are deeply influenced by the resources that these firms possess (Hong et al., 2015), and scholars have paid little attention to the varied forms of technology pursuits and how such pursuits strategically shape dynamic operation effects within the home country based on the limited resources of SMEs. Building on this foundation and using the resource-based view, we theorize how emerging-market SMEs' performance in developed countries actually are impacting their operations in their home countries.

According to the resource-based view, heterogeneous resources, ranging from the more reflective, generative standards and the guidance under which firms operate efficiently to more efficient advanced technology that production and service then use to lower their costs, play a crucial role in reshaping firm capabilities especially for those firms that are short in critical

resources and also operate in an under-supported policy context (Barney,1991;Tseng et al., 2007;Jafari-Sadeghi et al, 2020). SMEs in emerging economies, operating in that situation, can acquire technical isomorphism and development whenever dealing with leading firms from advanced economies, where knowledge sharing is occurring involuntarily and thus can positively provide technological support, such as production information, technology standards, and knowledge as technology training that can improve the technology level of the other firms with which they interact (Del Giudice et al, 2019; Weiquan, 2010). This process is referred to as technology spillover wherein the SMEs can improve their technology capabilities and competiviness in their domestic markets through the imitation of and the isomorphism to leading firms (Hartungi, 2006; Wu et al, 2016), thereby producing a technology learning effect that contributes to their domestic operations.

Prior literature on organizational growth (Carroll & Delacroix, 1982; Carroll & Buchholtz, 2014) suggests that the growth of corporations not only needs the accumulation of necessary resources, but also involves factors that are closely related to firm operations. Therefore, we propose that stakeholders that are more likely to influence SMEs' domestic operations are those that entrepreneurs of SMEs will struggle to influence. The technology learning that serves leading firms from developed countries is an good example that offers just such a window from which domestic stakeholders can then observe SMEs' changes and improvements in their technology levels, management skills, and operation models, and then act as a kind of demonstration effect that is characterized by increased trust and confidence that can be formed within stakeholders (Qiu et al., 2009; Hartungi, 2006; Del Giudice et al., 2019). Such an effect creates an opportunity under which SMEs can strategically make full use of the

advanced technology learned from leading firms that dynamically shapes their domestic operations, just like what has happened for Chinese and Indian firms(Del Giudice et al., 2019; Franco & Sasidharan, 2010). For this reason, we argue that technology learning in developed countries is able to encourage the formation of a strong demonstration effect on domestic stakeholders, thereby promoting the focal SEM's performance in its home country.

We tested our framework using the empirical data of Chinese SMEs, because China is recognized as a representative emerging country by several worldwide and well-known institutions, including the Euromoney Institution, The Economist, and Morgan Stanley Capital International Index (e.g., Emerging Markets Index). Further, a large number of Chinese SMEs have participated in internationalization activities. Based on a data analysis of 377 SMEs in China, our empirical test demonstrated that for emerging-market SMEs, overseas performance in developed countries is beneficial to the improvement of home-country performance, through both a technological learning effect and a demonstration effect.

Our research is of particular value in several respects. First, this study adds significant insights to the literature on firms' internationalization by challenging the assumption of the previous research that says that emerging market firms that are engaged in internationalization are usually only large companies with rich resources (Mathews, 2006; Luo & Tung, 2007, 2018; Shi et al., 2014). In reality, SMEs account for the majority of companies' now entering overseas markets; thus, the previous literature assumption does not represent the latest trends in actual current business practices. We focus on SMEs' internationalization and consider their constrained resource base (Child & Marinova, 2014) to provide a more applicable understanding of SMEs' internationalization motivation and its effects.

Secondly, we enrich the literature on firm internationalization by distinguishing between SMEs' host-country and home-country performance as well as clarifying the nurturing process for a firm's host-country performance compared to its home-country performance. Unfortunately, the past literature on firm internationalization usually has been limited to two typical research modes. The first stream focuses solely on firm overseas performance and tries to reveal foreign subsidiary competitive strategies in host-country markets. The second stream regards multinational enterprise business performance as a whole by combining overseas and domestic performance (Cuervo-Cazurra et al., 2018), which usually leads to confusion regarding the difference between a firm's internationalization behavior and its resulted performance.

Third, this study extends the previous literature that blurs the conductive process for how firm overseas performance actually influences its domestic performance (Glaum & Oesterle, 2007; Contractor et al., 2003; Contractor, 2012; Marano et al., 2016). In particular, the current study is one of the first to reveal the mechanism by which SMEs' overseas performance influences their domestic performance via two mediators, namely, the technological learning effect in the developed countries and a demonstration of that effect in the home country. Within this process, the demonstration effect is greatly affected by the firm's technological learning effect, which is determined by its overseas performance contingent on that firm's resource integration capabilities.

2. Theoretical framework and hypotheses

The international expansion which is acted by emerging markets firms to developed countries has been paid growing attention in business research, their works start with varying aspects such as large enterprises' internationalization, trends of internationalization on domestical operation and alternative application of capabilities (Glaum & Oesterle, 2007; Contractor et al., 2003; Contractor, 2012; Marano et al., 2016). While scholarly work on emerging markets firms' internationalization has generally concluded that international activities can contribute to firms' domestical growth (Wu et al, 2019), relatively few studies have devoted identifying the underlying mechanisms explaining how internationalization especially aiming to developed countries affect domestical development for SMEs from emerging markets.

The fact that building technological capabilities is vital for firms' long-term competence has been well demonstrated in researches (Hitt et al,1997; Luo & Tung, 2007), especially for SMEs under inferiorities. Insights from resource-based perspective suggest that internationalization aiming to developed countries can promote SME's technological learning and resulted capabilities, which in turn has a positive effect on their growth in home country where resource integration capabilities exert a vital impact (Wassmer & Dussauge, 2011). The stakeholder's theory suggest stakeholders are important factors that entrepreneurs of SMEs will struggle to influence, and the technology learning from developed countries just serves an opportunity to demonstration. Thus, this study proposes that resource integration capabilities moderate the dual mediation of techological learning effect and demonstration effect on the

relationship between performance in developed countries and that in home country, as illustrated in Fig.1.

Insert **Fig. 1** about here

2.1. Performance in host and home countries

Technology and knowledge are the fundamental concern to firms investigating how to grow, whose growth in international markets not only require the huge accumulation and creation of that two, but also call for some alternative gains such as learning and replication in multiple locations (Rugman & Verbeke, 2002). As indicated by internalization theory of international investment, firms can gain benefits by exploiting the availably knowledge-based resource charactered as replications and share among firms without costing the full investment like recreating (Martin & Salomon, 2003), which is in line with the internationalization motivated by resource pursuit of SMEs. Exiting researches have showed that successful internationalization, through a spillover effect, is helpful for multinational companies in attaining and expanding strategic assets and markets, acquiring brands, and accessing technologies (Yuan & Zhang, 2018). For example, Indian companies' investments in developed countries have produced significant reverse technology spillover effects (Pradhan & Singh, 2008), and when Swedish multinational companies invest in Central and Eastern European countries, their domestic technology level significantly improves (Hansson, 2005). Those further indicate, obtaining favorable performance in developed markets can create opportunities for parent companies to form heterogeneous resources, promote innovation efficiencies, improve management skill, consolidate and strengthen competitiveness, and thus improve performance. Based on which, we argue that emerging-market SMEs' performance in

developed nations has a positive relationship with home country performance due to our consideration of overseas financial earnings in conjunction with supplier and customer satisfaction, which have been largely omitted from extant studies. Based on this particular measurement, the positive linear correlation is more likely to take place. Therefore, we propose the following Hypothesis 1.

H1: Emerging-market SMEs' performance in developed countries has a significant positive impact on their performance in the home countries.

2.2. Mediating role of the technological learning effect

Utilizing a resource-based view, internationalization brings emerging-market SMEs extensive opportunities to search for and obtain heterogenous resources needed for large scope enterprise development and improvement (Kafouros et al., 2008), in which technology resources occupy a unique and significant position for internationalization (Tseng et al., 2007). It is believed that learning advanced technology and obtaining knowledge spillover is one of the main purposes of emerging companies' entering into developed countries.

The technological learning effect links host country with home country performance by integrating external and in-house knowledge, improving firms' technical capabilities and R&D quality in the home country. Since firms in developed countries, such as the United States, Germany and Japan, have set up their own technological profiles and brands over long periods of time, emerging-market firms often tend to learn advanced technologies and management skills by acquiring a well-established corporation, or setting up subsidiaries in areas of excellence (Edmund & Swati, 2014). By learning and mastering advanced technologies, emerging-market firms are able to effectively make up for their own technical deficiencies and

establish technology knowledge pools to improve enterprise performance (Griliches, 1979). Furthermore, as the technological learning effect in developed nations endows their firms with advanced technology, production costs are effectively reduced, profits are increased, and a competitive advantage based on price created (Kafouros et al., 2008; Xia et al., 2020). Last but not least, attaining advanced technological resources allows emerging enterprises to develop novel technology combinations, creatively integrate and use technology, and thus produce differentiated products so as to enhance firms' performance and long-term sustainability (Wang et al., 2012). To sum up, advanced technologies learned from developed countries are transformed into valuable and scarce heterogeneous resources for emerging-market firms and enhance their competitiveness in local and global markets in the long run (Wang et al., 2012). Therefore, we propose the following Hypothesis 2.

H2: The technological learning effect plays a positive mediating role in the relationship between emerging-market SMEs' performance in developed and home countries.

2.3. Moderating role of resource integration capabilities

The replication and transformation of advanced technology from developed countries cannot be take for granted, even for the firms whose domestical operations have accumulations in some significant asserts (Hennart, 1982). Due to the need to operate in both global and local economies, emerging-market SMEs face challenges associated with technology adoption and organization culture gaps. Therefore, integration capability is crucial in transferring advanced technological knowledge and combining it with existing technologies and resources at home (Chen et al., 2021). Integration capability refers to the ability to combine and utilize internal

and external resources in a creative and comprehensive way; that is, the process to select, extract, configure, activate, and organically integrate resources of different levels, sources, properties, and contents, and further restructure the original resource system to construct a new core resource system (Sirmon et al., 2007). It is a more dynamic perspective which emphasizes the importance of capabilities in rational use, and integration and reorganization of resources for the formation and maintenance of corporate competitive advantages. Mahoney and Pandian (1992) believe that companies achieve excellent performance due to availability of high-quality heterogeneous resources, combined with appropriate and reasonable use and integration of such resources. Santoro et al. (2018) also argue that true competitive advantage is built through a firm's ability to effectively apply existing and new knowledge. Therefore, it is expected that the positive impact of performance in a host country on the technological learning effect is stronger when the firm possesses better resource integration capabilities. Therefore, we propose the following Hypothesis 3.

H3: A firm's resource integration capabilities play a positive moderating role in the relationship between the SMEs' host country performance and the technological learning effect.

2.4. Mediating role of the demonstration effect

The demonstration effect links host country with home country performance by attracting stakeholder attention and creating opportunities for expand business cooperation. Carroll and Delacroix (1982) state that, to survive and develop in a competitive environment, firms not only need to accumulate resources and construct advantages, but also take into account factors

closely related to company performance, especially stakeholders. Stakeholder theory posits that actively responding to the concerns of different stakeholders is a key contributing factor to a company's performance (Carroll & Buchholtz, 2014). Customers observing the focal firm's cooperation with advanced multinational companies will improve their perception of the firm. Since developed markets are perceived to have advanced technologies and high production quality standards, it is normal for stakeholders to believe that business successes in developed countries enhances firms' technology competencies and competitive advantages. Such beliefs, that is, the demonstration effect, increase the confidence and trust of potential clients and partners (Washington & Zajac, 2005; Li et al., 2019). The demonstration effect grows with time, attracting more suppliers, customers, and partners, thus improving business operations and market performance in the home country. Therefore, we propose the following Hypothesis 4.

H4: The demonstration effect plays a positive mediating role in the relationship between emerging-market SMEs' performance in the developed and home countries.

2.5. Dual mediating role of the technological learning and demonstration effect

The resource-based view posits that heterogeneous resources owned by an enterprise are the key to its core competitive advantage (Wernerfelt, 1984; Pereira et al., 2020). For innovation-driven companies, advanced technological knowledge is the most important heterogeneous resource (Xiong et al., 2020; Xiong and Xia, 2020). Through technological learning from multinational enterprises, the reduction of production costs further contributes to the creation of a powerful brand, which enhances a firm's reputation, credibility, and consumer

brand awareness and loyalty (Papasolomou & Vrontis, 2006). This in turn, sends strong signals of reliability to relevant stakeholders in the home country, which helps the firm attract more potential partners and consumers.

There is an interesting Chinese case which illustrates this theoretical assumption. Ningbo Bormann Industrial Co., Ltd, established in 2004, is a Chinese small-sized company which mainly produces high precision hardware accessories. It has introduced high-end equipment and technical standards acquired overseas. In order to enhance its market position, the company has sought out development opportunities through international cooperation. In 2008, Bormann successfully adopted Schaeffler's purchasing platform. Schaeffler is a century old German enterprise, one of the supplier giants in the automobile manufacturing industry and a reliable partner for all automobile manufacturers and major suppliers. With the deepening of cross-company cooperation, both sides enhanced the frequency and quality of exchanges in personnel learning and management concepts. Bormann not only approached Schaeffler for the production and management of its auto parts, but also introduced advanced technologies and ideas learned from supplier in other production departments. Through the isomorphic and technological learning effects, the partnership between Schaeffler and Bormann grew into a high quality one. In this scenario, the technological learning effect took place as follows. Schaeffler's affirmation of Bormann sent a signal that Bormann is a trustworthy partner. The demonstration effect followed, leading other automobile companies to engage with Bormann. "The vehicle manufacturers who have never cooperated with us begin to contact us actively" [head of marketing department], which fully shows that the technology learning and cooperation with advanced multinational enterprises can play a guiding role in the recognition

of other enterprises in home country. The positive linkage between technological learning and demonstration effect demonstrated in this case improves a firm's competitive effectiveness, and promotes sustainability (Kraus et al., 2020). This helps emerging companies be more resilient to the changing competitive environment, which, as a result, contributes to better performance in the home country (Pereira et al., 2020). Therefore, we propose the following Hypotheses.

H5a: The technological learning effect is positively related to the demonstration effect.

H5b: The technological learning and demonstration effect jointly and positively mediate the relationship between emerging-market SMEs' performance in the developed and home countries.

3. Methodology

3.1. Sample and Data Collection

The unit of analysis for this research was small and medium-sized enterprises (SMEs) in China, defined as enterprises with less than 2000 employees, according to the classification standard issued by China's National Bureau of Statistics in 2017. We used SMEs from China as the empirical context of our study for several reasons. First, SMEs represent the vast majority of firms in China, accounting for more than 90% of the enterprises and 80% of nationwide jobs in the country and contributing over 60% of GDP and over 70% of patents. They also play an important role in the internationalization of Chinese firms (Child & Marinova, 2014; Tang et al., 2017). Second, a growing number of Chinese SMEs have been actively involved in expanding abroad with policy support, and therefore, offer plenty of

relevant cases and data (Deng, 2013; Lu et al., 2014). Third, developed economies have been vital destinations in the Chinese enterprise overseas expansion. For example, the developed countries account for 60% of the top ten countries/regions of Chinese overseas investments (see An, 2020). Thus, data drawn from this context has the potential of contributing significantly to the international business literature by shedding additional light on how emerging-market SMEs can gain further domestic benefits from their operations in the developed countries.

Before the large-scale survey was undertaken, a pilot survey was conducted joined by five CEOs and founders (see in table 1) of Chinese SMEs, which has operations in developed countries. They were able to provide the most informative and appropriate data. Following a semi-structured interview style, the interviewees were asked to narrate their firms' experiences in developed countries. For example, what are the internationalization motives, especially the entry to developed countries? What have they done to realize success and what influences have been exerted on their domestic operations due to their experiences in the developed countries? Following recommended inductive data analysis techniques (Riles & Huberman, 1994), we immediately processed our audio recordings and handwritten notes taken in the interviews. The pilot survey clarified our research questions and allowed the main themes of the research to emerge.

Insert **Table 1** about here

Following the pilot survey, a professional survey company called Wen-juan-xing, the biggest market survey platform in China that has successfully gathered 8.8 billion questionnaires for clients, was hired to distribute a questionnaire to the targeted respondents.

First, Wen-juan-xing utilized its powerful database to identify the Chinese firms that were the most suitable for our research objectives following these criteria: a) less than 2000 employees; b) commercial operations in developed countries; and c) also active in domestic operations. This process let us select those SMEs that were more proactive (Ferraris, 2014).

Second, Wen-juan-xing randomly distributed the questionnaire to enterprises in its database that met these requirements. The questionnaire was separated into two parts. Part 1 consisted of questions about company information, such as the type of service industry and the size of the company; Part 2 included questions related to variables whose measures were operationalized as multi-item constructs and measured on a 5-point Likert scale with anchors ranging from strongly disagree (1) to strongly agree (5).

The description of the constructs and their associated indicators are provided here in Table 2. In line with prior studies, we asked qualified respondents to fill in the questionnaire as SMEs CEOs, or executive managers responsible for the management of the enterprise and thus the most suitable people to address our critical questions. For the distributed questionnaires, 474 questionnaires were returned. Due to incorrect answers or missing values (such as international SMEs that do not have business in any developed countries), 377 valid questionnaires were finally determined. The responding firms had an average age of 11 years and an average of 810 full-time employees; 22.3% of them are state owned and the others are privately owned, and 71.6% are located in Eastern coastal cities, such as Shanghai. The CEO average tenure in those companies was 6.7 years, while the average age of CEOs was 43.2.

To limit errors due to common-method bias related to the use of self-report data, we took two different precautions. First, we used Harman's one-factor test (Harman, 1967), which

showed several factors that accounted for 29.0%, 6.7%, 5.6% and 4.7% of variance, respectively; these figures are all below 40%, indicating that the common method variance is acceptable in our data. Second, we compared the responses of early respondents (questionnaires received in the first 2 weeks), late respondents (questionnaires received in the third week or later), and nonrespondents (a subsample of 25 nonrespondents was selected at random from the initial contact list provided by the consulting company). There was no significant difference between early and late respondents on any of the variables used or between respondents and nonrespondents in terms of industry category, firm size, ownership type, or firm age.

3.2. Variables and measurements

Established scales from the literature were adopted in this research so as to protect the content validity of measurements. This was feasible for measures of performance, capability of resource integration, technological learning and demonstration effect. We made minor modifications to the items' wording based on the pretest feedback in order to improve scale performance, and the final construct and specific reference of each variable are shown in table 2. All scales were in 5-point Likert format anchored as 1= strongly disagree and 5 = strongly agree.

We considered three control variables that appeared to be germane to the study focus, in order to avoid model misspecification. Firm industries are categorized into manufacturing, information technology, and other. Firm size, measured by the total number of plant employees, was included as Wagner and Neshat (2011) recently found that larger firms are more likely to gain better learning effects while smaller firms are more likely to attain demonstration effect in

internationalization actions in developed countries. Firm ownership was categorized as state-owned, private, joint venture, and other. Firm age was divided into three categories; namely, less than 5 years, 6-10 years and more than 11 years in business.

3.3. Measure assessment

Because we measured dependent and independent variables using the same instrument, it was necessary to assess the measurement reliability and validity. As shown in Table 2, the Cronbach's α of each factor of the measurement scale exceeds 0.7, which is within the acceptable range; that is, it has passed the reliability test of Cronbach's α. At the same time, the factor loadings of specific measurement items under each variable exceed 0.4 and the t-values of each factor loading exceed 2.0, demonstrating internal consistency (Anderson & Gerbing, 1988). Furthermore, the explainable variance percentage of each variable exceeds 50%, showing a sufficient degree of convergence and validity of the scales.

The low normalized residuals and modification indices observed suggested no need to delete items to improve model fit. The measurement model revealed a good fit to the data. We observed a chi-square value: $\chi^2(199) = 382.54$; Tucker-Lewis Index (TLI) = 0.90; IFI = 0.91; CFI = 0.90; and RMSEA =0.05, each supporting strong model fit.

Insert **Table 2** about here

4. Empirical Results

Table 3 shows descriptive statistics (means, deviations, and correlations) of the main variables in Fig. 1. Furthermore, the hypothesized relationships were testing with macro program in SPSS, namely process, which was compiled by Hayes (Hayes,2017). It shows that

all variables were mean-centered to reduce the risk of multicollinearity of the interaction terms (Aiken et al., 1991). We tested for multicollinearity by calculating the variance inflation factors (VIF) for each regression coefficient. VIF values ranged from 1.694 to 2.166, significantly below the recommended threshold of 10 (Hair et al., 2006). Although the chi-square statistic is significant (χ^2 = 382.54; D. F. =199; $p<0.05$), the sufficiently low ratio of chi-square to degrees of freedom (1.922; less than 3) yields a satisfactory fit (Hair et al, 2016). Moreover, the overall goodness-of-fit indices report a good fit for the structural model (i.e., CFI=0.90; TLI = 0.90; IFI=0.91; RMSEA=0.05. Therefore, it is favorable to conduct hypothesis test.

Insert **Table 3** about here

To test the suitability of the chained mediation model, several competition models, shown in Figure 2 including model A, model B and model C, were constructed to compare which one fits best. In model A (basic model), technology learning effect and demonstration effect not only jointly play a dual mediation role in relationship between performance in developed countries and that in home country but also respectively play a separate mediation role, assuming that there is dual mediation model. In model B (nested model), the separate intermediary role of technology learning effect and demonstration effect have been canceled based on model A, assuming that performance in developed countries influence domestical performance completely through the joint effect of technology learning effect and demonstration effect. In model C (substitute model), performance in developed countries, technology learning effect and demonstration effect directly influence domestical performance, indicating there are no indirect path.

The test results shown in table 4 demonstrate that, firstly, model B is nested in model A and their differences are able to be distinguished through a comparison of fitness index. The significance of Chi-Square change indicates that a concise model should be chosen when $\Delta\chi^2$ is not significant while a more complicated and better fitted model should be adopted when $\Delta\chi^2$ is significant. We can see that model A fits better than model B ($\Delta\chi^2(2) = 6.287$, p <0.05) though both of them are acceptable (model A: χ^2=232.997, df=113, χ^2 /df=2.062, IFI=0.911, TLI=0.909, RMSEA=0.053; model B: χ^2=239.284, df=115, χ^2 /df=2.081, IFI=0.908, TLI=0.906, RMSEA=0.054) .

Furthermore, in order to determine whether there are other optional relationships, model C (the substitute model) was developed to make comparisons. The result indicates an unacceptance of model C (IFI=0.706<0.900, TLI=0.705<0.900), thus consolidating for the reasonability of model A. Therefore, it is rational to conclude that model A is the most satisfactory model among competition models. In the following, model A was selected to discuss the relationships among variables.

Insert **Table 4** about here

Insert **Fig. 2** about here

Table 5 shows the results of the research model, especially about the direct impacts between variables. Model 1 is statistically significant (R^2= 0.414; F = 37.161; p < 0.000), demonstrating that H1 is supported. It reveals the emerging-market firms' performance in developed-country has positive impact on firms' home-country performance. Model 2 is also statistically significant (R^2= 0.242; F = 16.812; p < 0.000), which supports the H3. This result verifies the moderating role of resource integration capability playing in the relationship

between host-country performance and technology learning effect. It demonstrates that emerging-market firms' technology learning effect is positively dependent on firms' capability of integrating external technology knowledge. In other words, the increase of integration capability is beneficial to enhance firms' technology learning effect in developed countries. Finally, Model 3 is statistically significant (R^2= 337; F = 32.291; p < 0.000), demonstrating that H5a is supported. It illustrates that the technology learning effect in developed countries can positively impact on demonstration effect in home country.

Table 6 shows the results of the research model with technological learning effect and demonstration effect as mediators between SMEs' performance in developed-country and performance in home-country. There are three indirect effects that are relevant for our analysis. First, the link among host-country performance, technology learning effect and home-country performance is statistically significant (indirect effect = 0.058 BootLLCI = 0.018 BootULCI = 0.108). There is also a strong significant indirect effect in the relationship among host-country performance, demonstration effect and home-country performance (indirect effect =0.042 BootLLCI = 0.004 BootULCI = 0.090). Finally, the link host-country performance, technology learning effect, demonstration effect, and home-country performance is also statistically significant (indirect effect = 0.018, BootLLCI = 0.002 BootULCI = 0.037). These results support H2, H4, and H5b. The mediator effects of technology learning effect and demonstration effect are only partial, but they could help explain the causal relationships about how SMEs' performance in developed-country can benefit performance in home-country.

Insert **Table 5** about here

Insert **Table 6** about here

5. Discussion and Conclusion

The resource-based view suggests that, as a rare and valuable resource, advanced technology is one of the most critical assets to have when building a sustainable competitive advantage. Internationalization, especially when entering developed countries, is usually regarded as an effective approach for firms from the developing countries to use to acquire advanced knowledge and technologies (Li, 2018), thereby helping them to break through the technology lock-in and seek a feedback effect from their overseas performance on home country performance. Encouraged by the country's policies of "Going Global", more and more Chinese SMEs have entered the developed markets (Govindarajan & Trimble, 2012). However, the extant literature mainly focuses on whether a relationship between internationalization and corporate performance actually exists. For example, Glaum and Oesterle (2007) argued that the development and deepening of internationalization could positively affect firms' domestic operations, while Kim et al.(2015) indicated it was a reverse-U relationship between the two. These conclusions are consistent with our research to some extent, namely, that internationalization can effectively benefit firms in their domestic business and development in terms of capital or reputation.

However, we also believe such contributions to domestic operations benefit from the performance of internationalization rather than its international activities. At the same time, in contrast to those adhering to emerging market firms' internationalization with the expectation of promoting a firm's technological competency and home-country performance, by

combining the resource-based and dynamic capability views, we insist on the reality of SMEs' accounting for the vast majority in emerging countries, such as China. Their limited resources allow the technology learning to display technology competence, which then becomes the key driver of the international and spillover channels to domestic operations. Based on this understanding, this study tests the potential dual mediation roles that are played by technological learning and its resulting demonstration effect in the relationship between performance in developed countries and performance in the home country. This study finds that Chinese SMEs' overseas performance in developed nations positively affects their home country performance through direct and intermediary paths wherein both technological learning and a demonstration effect play mediating roles, which effectively extend our understanding about the process that emerging-market SMEs domestically benefit from their performance in developed countries.

5.1. Theoretical contributions

This paper contributes to the literature in four ways. First, our study provides a more applicable understanding of the developed-country-oriented internationalization behavior of emerging-market firms, especially SMEs. In the previous literature, researchers have discussed the motivation and process of emerging-market firms' internationalization, especially targeting developed nations from different perspectives, including the institutional view, and assuming that they are large companies with rich resources and excellent learning capabilities (Mathews, 2006; Luo & Tung, 2007, 2018; Shi et al., 2014) while neglecting the fact that SMEs represent the vast majority of the emerging market. SMEs usually suffer crucial disadvantages in their internationalization processes, such as a limited resource base

(Child & Marinova, 2014), low reputation (Deng et al., 2020), weak partnerships and social capital (Shi et al., 2014), under-supported policies (Jafari-Sadeghi et al., 2020), and so on. Therefore, the past notable theoretical approaches may be not applicable to explaining the internationalization of SMEs from emerging markets. Through focusing on key factors regarding performance in the host country, technological learning, the demonstration effect, and resource integration capability, this study takes a resource-based view and provides a better understanding for SMEs' motivations for internationalization as well as how their operations in developed countries influence their local performance in the home country.

Second, we add insights to the literature on firms' internationalization by distinguishing SMEs' host-country and home-country performance from the general internationalization performance, before illustrating the mechanism by which SMEs can improve their home-country performance through operating in developed countries. Generally speaking, the present literature on SMEs' internationalization usually combines the overseas and domestic performance (Cuervo-Cazurra et al., 2018), which leads to failure in understanding the difference between the internationalization behavior and the performance of internationalization. On the one hand, some researchers have restricted their analyses only to the scope of the host-country performance. For instance, some academics have investigated how to make a successful entry in host markets or how to gain organizational legitimacy and ideal performance there (Gaur et al., 2014; Wu & Deng, 2020). Nevertheless, they neglect the changes in domestic performance caused by the overseas performance. On the other hand, other studies have simply treated internationalization performance as a whole by adopting research variables such as firms' internationalization behavior or firms' degree of

internationalization (DOI), thus failing to consider the performance in the host country as a determinant of the parent firm's domestic performance. The above research gaps result in a failure to identify the possibility that there is a more detailed conductive process between overseas and home-country performance. By considering the boundary between performance in developed countries and domestic performance, we have made it possible to explore how the performance in developed countries can influence SMEs' domestic performance.

Third, we provide a better understanding of the detailed mechanism through which emerging-market SMEs developed-country performance influences their domestic performance. Some previous studies tested a variety of relationships between internationalization and firm performance, including positive, negative, U-shaped and inverted U-shaped relationships (Glaum & Oesterle, 2007; Contractor et al., 2003; Contractor, 2012; Marano et al., 2016). These contradictions not only obscure the conductive process between overseas performance and local performance (Ribeiro et al., 2014) but also demonstrate a lack of exploration of the determinants of firms' domestic performance under the context of internationalization. To address this issue, by distinguishing SMEs' host-country performance and home-country performance in the internationalization process, we reveal a decisive impact of host-country performance on domestic performance through two mediators—technological learning and the demonstration effect. The decisive mechanism includes two layers of new findings. The first layer comprises a direct influence between developed-country performance and SMEs' domestic performance, while the second layer is a dual-mediation effect of technological learning in developed countries and the demonstration effect in the home country. The revealed dual-mediation effect extends present literature about the impact of technological

learning and firm performance. Traditional studies mainly focused on the improvement of firms' inner technical capabilities or Research and Development (R&D) abilities (Paruchuri & Eisenman, 2012; Tretyak et al., 2013), while paying little attention to the external side, whereby external stakeholders, such as existing and potential partners or customers, can affect firms' performance in their home countries (Ribeiro et al., 2014). By associating technological learning with the demonstration effect, this study argues that the technological learning and isomorphism with advanced firms in developed countries can create a demonstration effect, through which the home country business partners' or customers' brand cognition, trust and confidence could be improved immensely, thus improving firms' home-country performance.

Fourth, this study also contributes to the understanding of the mechanism through which a firm's overseas performance affects its technological learning by revealing the moderating effect of resource integration capabilities which is a crucial weakness of emerging-market SMEs. Emerging-market firms struggle to achieve home base augmentation and improve domestic performance via learning acquired in developed markets (Allen et al., 2018; Kuemmerle, 1999). However, current studies mainly focus on various tactics to access target knowledge, such as forming alliances, thus neglecting firms' ability to transfer and utilize external knowledge (Volberda et al., 2010; Barley et al., 2018; Liu et al., 2019). From a capability view perspective, firms' ability to utilize advanced knowledge is constrained by their integration capability (Capron & Guillén, 2009; Barley et al., 2018), including accessing and absorbing partners' knowledge, as well as combining or even adapting their existing resources at home to the learned knowledge so as to make effective use of new knowledge (Rosenbusch et al, 2019). The theorization and testing of the integration capability effect on the

technological learning effect is far from sufficient (Zhu et al., 2019). This study empirically investigates the contingent influence of integration capabilities on firms' technological learning effect in developed countries, demonstrating a critical constraint for emerging-market SMEs pursuing performance improvements through learning in developed nations.

5.2. Managerial implications

This research offers two managerial implications for company leaders. Firstly, this study suggests that companies should pay more attention to the development of resource integration capabilities, which otherwise might delay their technology learning. For example, Shanghai Automotive Industry Corporation (SAIC) invested US$500 million to control Ssangyong Motor Company in South Korea in order to seek technological learning and technology introduction. However, the lack of effective resource integration, such as the integration of international management talents, led to the bankruptcy of Ssangyong Motor and the loss of ¥2 billion. Even for big companies, managers of emerging SMEs need to pay more attention to their firms' capabilities in resource integration, reorganization and management in the process of technology learning in developed countries. The construction of firms' capabilities to use and absorb resources is of great importance before firms embark on a journey of overseas learning.

Secondly, while recognizing the demonstration effect's important role playing in improving SMEs' performance in the home country (Ribeiro et al., 2014), the managers should be aware that advanced technology learning in international markets is a critical force in shaping demonstration effect. Stakeholders are susceptible actors who are easily influenced and convinced by firms' international activities which not only self-evidently mean the

guarantee of production and services caused by advanced technology behind it, but also convey the increasing influence in multiple countries. It is an available resource which could be effectively used in building demonstration effect.

5.3. Limitations and future research

This research is not without limitations. First, the object of this study is emerging companies from China. However, for SMEs in other emerging companies, there may be some structural and systematical differences in comparations with ours due to the political and cultural environment. Therefore, the lack of cross-country and region comparison might limit the generalizability of the findings and future research can proceed from this point and carry out comparative analyses among countries and regions. Second, most of the firms surveyed are operating in manufacturing and information technology industries with have their own operational logic and context, which might be different from those SMEs in other industries. This might limit our explanatory power in some other industries, however, it is interesting and valuable to do such work from different industry perspectives. Future research can incorporate more industry perspectives to explore whether industry differences result in different corporate decision-making and behavioral logic. Finally, the reverse spillover mechanism of overseas to home-country performance in this study mainly explores the technical aspect from the resource based view, which might limit the possibilities of diversified understanding from more views and, therefore, future research can provide different perspectives, such as political, environmental and financial.

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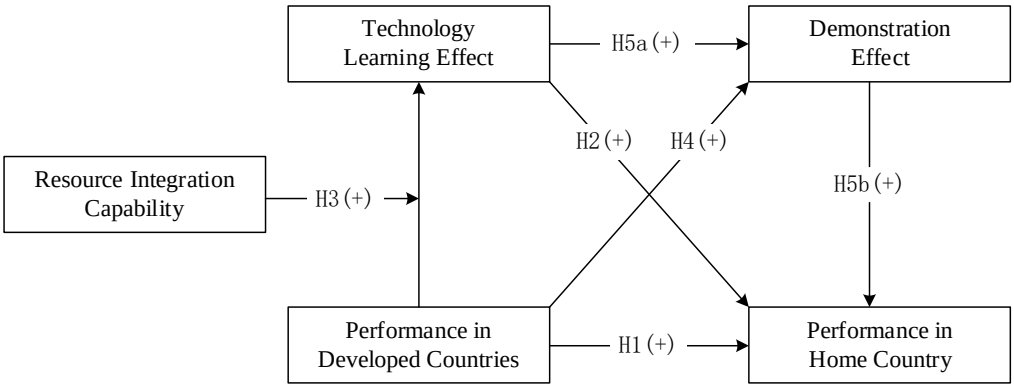
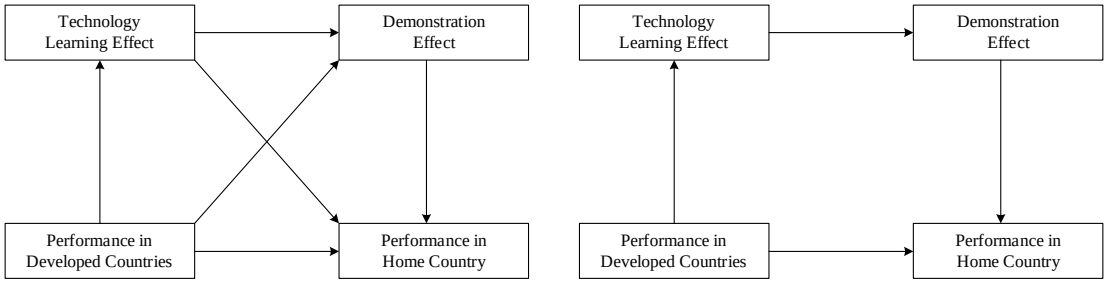
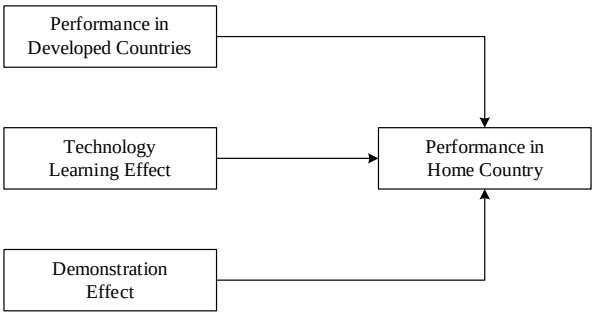


Fig. 1. Conceptual model



Model A: Basic model

Model B: Nested model



Model C: Substitute model

Fig. 2. Competition models

Table 1
The background of interviewees in pilot survey

Interviewer	Occupation	Company	Industry	SMEs	Developed countries experience
A	CEO	Faurecia Exhaust Systems (Shanghai) Co., LTD	Manufacturing	Yes	Yes
B	CEO	Renqiu Medical Instrument Factory	Manufacturing	Yes	Yes
C	CEO	China Gezhouba Group Yipli Co. LTD	Manufacturing	Yes	Yes
D	CEO/Founder	Chengdu Nosugar Information Technology Co., LTD	IT	Yes	Yes
E	CEO	Sichuan Lianzhongda Information Technology Consulting Co., LTD	IT	Yes	Yes

Table 2
The Reliability and Validity of Measurement Scales

Construct	Loading	t-value	Reference
Performance in developed-country (α=0.81)			
Our sales increase	0.61	——	Tseng et al. (2007)
Our market share increased	0.72	7.23	
Our suppliers have good satisfaction	0.68	7.94	
Our customer have good satisfaction	0.74	7.76	
Technology learning effect (α=0.74)			
We Obtained valuable R&D resources	0.65	——	Li et al. (2016)
We acquired new technology	0.69	8.44	
We improved overall technical capabilities	0.63	7.44	
We improved technology procedure	0.67	7.87	
Resource integration capability (α=0.77)			
We can accumulate own unique resources	0.63	——	Wiklund and Shepherd (2003),
We can effectively use new resources in the industry	0.67	7.30	
We can develop existing areas with outside resources	0.68	7.54	
We can develop new products or services with new resources	0.71	8.47	
Demonstration effect (α=0.71)			Wiklund and Shepherd
Product demand has been increased	0.69	——	
A new market has been found	0.65	8.22	

Marketing network has been expanded	0.63	7.60	(2009)
Brand recognition have been improved	0.62	7.88	
Performance in home-country (α=0.72)			
The overall operational efficiency has been improved	0.69	——	Hoang and Antoncic (2003)
New product has been better developed	0.62	8.37	
Enterprise reputation and image have been improved	0.64	8.52	
Raw material supply has been optimized	0.68	7.64	

Note: All constructs were scaled as 1 = strongly disagree and 5 = strongly agree, α =Cronbach's alpha. Observed CFA fit statistics were: $\chi^2(199)$= 382.54; TLI = 0.90; incremental fit index =0.91; comparative fit index =0.90; root mean square error of approximation =0.05.

Table 3

The Result of Descriptive Statistics

	Mean	Std. D	1	2	3	4	5	6	7	8
1.Perf_d	4.17	0.51								
2.Perf_h	4.12	0.48	0.58**							
3.Tech_l	4.02	0.63	0.33**	0.41**						
4.Demo	4.02	0.64	0.43**	0.44**	0.49**					
5.Res_integ	4.07	0.55	0.58**	0.56**	0.45**	0.54**				
6.Industry	1.57	0.78	-0.03	-0.06	-0.07	-0.08	-0.02			
7.Firm_size	3.60	0.98	0.02	0.07	-0.02	0.06	0.03	-0.03		
8.Ownership	2.15	0.94	0.03	-0.01	-0.04	0.05	-0.02	-0.11*	0.02	
9.Firm_age	3.54	0.63	0.04	0.14**	0.07	0.05	0.16**	-0.10**	0.40**	-0.10

Note : N=377; * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$; "Perf_d" =performance in developed-country, "Tech_l" =technology learning effect, "Demo" =demonstration effect, "Perf_h" =performance in home-country, "Res_integ"=resource integration capability

Table 4

The goodness of fitness of competition models

	χ^2	df	χ^2/df	IFI	CFI	RMSEA
Model A: Basic Model	232.997	113	2.062	0.911	0.909	0.053
Model B: Nested Model	239.284	115	2.081	0.908	0.906	0.054
Model C: Substitute Model	511.719	116	4.411	0.706	0.705	0.095

Table 5

The Result of Regression Analysis

Regression equation		Overall fitting index		Significance	
Dependent variables	Predictive variables	R^2	F	β	t
Perf_h	Perf_d	0.414	37.161***	0.422	10.043***

(Model 1)	Tech_l			0.139	3.933***
	Demo			0.107	2.938**
	Ownership			0.002	0.076
	Industry			-0.016	-0.641
	Firm_age			0.087	2.062
	Firm_size			0007	0.340
Tech_l	Perf_d	0.242	16.812***	0.221	2.999**
(Model 2)	Res_integ			0.485	7.347***
	Perf_d×Res_integ			0.286	3.465***
	Ownership			-0.026	-0.841
	Industry			-0.067	-1.802
	Firm_age			0.033	0.641
	Firm_size			-0.031	-0.960
Demo	Perf_d	0.337	31.291***	0.381	6.746***
(Model 3)	Tech_l			0.402	8.764***
	Ownership			0.046	1.568
	Industry			-0.031	-0.869
	Firm_age			-0.010	-0.218
	Firm_size			-0.044	1.454

Table 6

The Result of Mediating Effect

	Effect	Boot SE	Boot LLCI	Boot ULCI	Percentage
Total	0.119	0.032	0.062	0.1893	22.00%
Ind1: Perf_d→Tech_l→Perf_h	0.058	0.023	0.018	0.108	10.79%
Ind2: Perf_d→Demo→Perf_h	0.042	0.022	0.004	0.090	7.83%
Ind3: Perf_d→Tech_l→Demo→Perf_h	0.018	0.009	0.002	0.037	3.36%