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International Entrepreneurial Spin-Offs: An Ambidextrous Approach to Internationalization

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Abstract

This article investigates the internationalization process of incubating, parenting, and eventually spinning-off overseas entrepreneurial ventures originating from emerging markets. In a comparative case study of Chinese high-tech firms, we leveraged multiple sources of data to reveal (1) how the exploitation of parent firms' technological and platform resources enables them to initiate, support, and eventually profit from the international growth of foreign ventures that autonomously engage in the exploration of product and market innovations, and (2) how ambidextrous synergy was created through the continuous exchange, combination, and reconfiguration of knowledge and resources between parent firms and foreign ventures. These findings extend our understanding of how Chinese high-tech firms manage the learning process in overseas venturing. We draw implications of these findings for research and practice.

摘要

本文调查了中国高科技企业在海外创业的三个阶段：孵化、抚育、分拆后独立运作。我们利用多个数据来源对中国高科技企业进行比较案例研究，发现两个重要结果。一，这些企业利用母公司的技术和平台资源来启动、支持产品和市场创新，并从海外增长中获利。二，这些企业通过持续交流、组合和重配置知识和资源，在母公司和国外企业之间创造协同效应。

Keywords: ambidexterity; China; internationalization; international entrepreneurial spin-offs; learning

关键词: 学习; 双手法; 国际化; 国际创业分拆; 中国

Introduction

Chinese firms have been active in pursuing learning through accelerated and aggressive internationalization (Buckley, Clegg, Voss, Cross, Liu, & Zhang, 2018; He, Khan, & Shenkar, 2018; Kim, Wu, Schuler, & Hoskisson, 2020), despite their lack of conventional ownership advantages for international competition (Narula, 2012; Ramamurti, 2012). Prior studies have predominantly viewed Chinese firms as technological laggards that use internationalization as a catch-up strategy (Cui, Meyer, & Hu, 2014; Wang & Zhang, 2022). However, this generalization overlooks the fact that a growing number of Chinese high-tech firms possess homegrown technological advantages (Hennart, 2012; Luo & Bu, 2018) and demonstrate high entrepreneurial orientation, alertness, and innovativeness (Cui, Fan, Guo, & Fan, 2018; Tang, Tang, Marino, Zhang, & Li, 2008).

These Chinese high-tech firms may follow a different learning pathway than those laggard firms in a pure catch-up position to develop their capabilities. Instead, their existing technological competencies and organizational flexibility may allow them to internationalize ambidextrously, creating synergy between asset exploitation and exploratory learning (Choi, Cui, Li, & Tian, 2020; Luo & Rui, 2009). With most existing studies focusing on the catch-up learning pathway, it remains unclear

how Chinese firms, especially those in the high-tech sector, can leverage ambidexterity in their cross-border learning processes (Foss & Pedersen, 2019; Li, Liu, Yuan, & Yu, 2017). To address this knowledge gap, our research question asks: *How can Chinese high-tech firms achieve ambidextrous learning through internationalization?*

We adopt an inductive research design using comparative case study methods (Birkinshaw, Brannen, & Tung, 2011; Tsang, 2016). With an interpretive nature (Johnson, Buehring, Cassell, & Symon, 2006), this study reveals how Chinese high-tech firms engage in the process of international entrepreneurial spin-offs (IES) for both value creation and value capture in global markets. We define IES as a mode of internationalization through entrepreneurial venturing marked by two key events – the overseas initial public offering (IPO) and the eventual spin-off of the entrepreneurial venture. These features distinguish IES from other modes of internationalization, such as conventional foreign direct investment (FDI), which does not usually have a strategic exit point, or venture capital (VC) backed foreign IPO, which does not require the active involvement of the funder. Our cases demonstrate the evolution of IES as a process of incubating, parenting, and eventually spinning-off a foreign venture. We conclude that the IES is a viable mode of internationalization through which Chinese high-tech firms can achieve learning in an ambidextrous manner.

We adopt the ambidexterity perspective of organizational learning as a theoretical framework for our case study. This perspective suggests that firms can balance exploration with exploitation to maximize the synergy between these two types of learning activities (Cao, Gedajlovic, & Zhang, 2009; Raisch & Birkinshaw, 2008). In the context of firm internationalization, prior studies demonstrate that synergizing exploration and exploitation can help firms balance their learning and profitability goals in a self-sustaining manner (Hsu, Lien, & Chen, 2013; Luo & Rui, 2009). Analyzing comparative case evidence within the ambidexterity framework, this study identifies distinct stages in Chinese high-tech firms' IES process, the specific roles of the parent firms and their foreign ventures, as well as the learning goals achieved during those various stages.

Empirically, we undertake an extensive investigation into PUC Founder Berhad and Technovator International, two successful IES cases by Chinese firms operating in high-tech industries. By triangulating and integrating multiple sources of archival and interview data, we identify three distinct stages of the IES process: the *pre-IPO incubation stage*, the *post-IPO parenting stage*, and the *spin-off stage*. We show how the role of parent firms and that of their foreign ventures evolve through these three stages to achieve their learning goals, and the importance of the continuous exchange, combination, and reconfiguration of knowledge and resources between the parent firms and the foreign ventures for creating ambidextrous synergy.

This study makes two key contributions to the international business literature. First, it extends the research stream on Chinese firms' learning through internationalization. While prior studies have focused on the catch-up learning pathway employed by technological laggards (Cui et al., 2014; Wang & Zhang, 2022), we reveal IES as a learning pathway for Chinese high-tech firms to achieve ambidextrous learning, whereby the exploitation of their homegrown technological and platform resources enables them to initiate, support, and eventually profit from the international growth of overseas entrepreneurial ventures that autonomously engage in the exploration of product and market innovations. Differing from the catch-up learning pathway, which emphasizes reverse knowledge transfer for capability building, the IES process requires active knowledge exchange and resource integration between the parent firm and the foreign venture. Specifically, the parent's endowments, such as existing R&D capabilities, revenue streams, and financial capital, are integrated and reconfigured with the foreign venture's newly acquired market and technological knowledge to improve international performance (cf. Phillips, 2002; Wezel, Cattani, & Pennings, 2006). Through this inductive research, we show that IES is a viable learning pathway for Chinese high-tech firms' accelerated internationalization and their pursuit of international opportunity recognition and exploitation for corporate growth. Our three-staged IES process model also differs from the conventional internationalization process model (IPM) (Johanson & Vahlne, 2009). The IPM addresses the learning process across multiple foreign market engagements, highlighting the sequential commitment of a multinational enterprise's overall approach to the international market. In contrast, our model reveals a platform

approach to internationalization where the learning process is achieved within an entrepreneurial project as a self-contained foreign market engagement, highlighting the evolving relationship between the parent company and its foreign entrepreneurial venture for the simultaneous pursuit of exploiting existing capabilities and resources and exploring new resources and capabilities for corporate growth.

Second, this study also contributes to international entrepreneurship research. Prior studies on IES have focused on understanding the corporate governance and structural aspects of entrepreneurial spin-offs, such as the characteristics of their top management teams and the role of the board of directors in corporate governance (Pettersen & Tobiassen, 2012), macro-level factors, and supporting resources received by the spin-off (e.g., Lawton-Smith, Romeo, & Bagchi-Senb, 2008; Styles & Genua, 2008). This study advances this research stream by addressing the *process* aspect of IES, which has been rarely explored in extant literature (Keupp & Gassmann, 2009). Moreover, it demonstrates the evolving exchange relationship between the parent firm and the foreign venture, distinguishing IES from other forms of international entrepreneurship, such as VC-backed international start-ups. As a result, this study reveals the unique properties of IES from the *process* perspective of international opportunity discovery and exploitation through ambidextrous strategy.

Conceptual Background

Learning Challenges in Emerging Economy Firms' Internationalization

Organizational learning literature examines the processes organizations engage in to modify their cognitive map, thereby improving organizational practices (Fiol & Lyles, 1985; Huber, 1991). In the context of internationalization, firms may use FDI as a channel to either target specific foreign learning sources that complement their existing knowledge base (Chung & Alcácer, 2002; Kogut & Chang, 1991) or to access diversified knowledge that is unavailable in their home countries (Zahra, Ireland, & Hitt, 2000), which facilitates distant search and exploration (March, 1991). Organizational learning, whether targeted or exploratory, involves a series of interrelated processes such as the acquisition, transfer, integration, and exploitation of knowledge. As such, mere knowledge acquisition is an insufficient condition for the learning mechanism of FDI to truly take effect (Cantwell, 1989; Minbaeva, Pedersen, Björkman, Fey, & Park, 2003). Firms need to possess learning capabilities, which are developed over time in a path-dependent manner (Asmussen, Foss, & Pedersen, 2013).

Extant research applies the cognitive aspects of learning to the context of internationalization, suggesting that firm needs to develop and adapt learning routines as a foundation to achieve future learning (Brannen & Voisey, 2012; Prashantham & Floyd, 2012). Successful learning firms need to have developed the necessary organizational capabilities to assimilate foreign knowledge into their existing knowledge base (Khan, Lew, & Marinova, 2019). Moreover, adapting learning routines at individual and organizational levels is necessary for firms to comprehend, reconfigure, and transfer newly acquired knowledge from foreign markets within the organizational boundary (Foss & Pedersen, 2019; Li et al., 2017; Prashantham & Floyd, 2012). From the evolutionary perspective, organizational routines evolve over time through adaptive evolutionary mechanisms such as variation, selection, and retention, especially in knowledge-intensive industries (Cantwell & Piscitello, 2000).

The inexperience of developing and adapting organizational learning routines compromises the firm's ability to achieve learning through internationalization. This is a key challenge for laggard firms originating from emerging economies aiming to catch up with global market leaders. By accelerating the internationalization process under the catch-up mode, these laggard firms inevitably omit some of the progressive and essential steps of experiential learning (Luo & Tung, 2007). While they are aggressive in acquiring foreign knowledge-based assets, the significant knowledge gap between the source and the recipient, combined with the latter's lack of learning experience and absorptive capacity, leads to concerns about the effectiveness of the catch-up learning mode. For instance, in a study of Chinese firms' learning through internationalization, Lyles, Li, and Yan (2014: 428) found a dominant pattern of 'making it up as you go' that exposes Chinese outward investing firms to more trial-and-error-based approaches in their learning efforts.

Moreover, while studies suggest that learning is better achieved when there is a high level of coherence and relatedness between domestic and international units (Celo & Chacar, 2015), Chinese firms are found to separate their international learning from their home base operations (Wang, Luo, Lu, Sun, & Maksimov, 2014). This outcome is due to their lack of experience in organizing global operations and the need to distance their foreign units from negative home-country institutional heritage. Such inexperience and home-country conditions lead to liabilities of emergingness (Madhok & Keyhani, 2012). In summary, prior research suggests a gap between Chinese firms' strong catch-up motivation for exploratory learning and their existing learning capabilities. The literature suggests that a pure exploratory approach to learning through internationalization is likely to be ineffective.

An Ambidexterity Perspective of Internationalization

Research on organizational ambidexterity suggests that there can be synergistic benefits by pursuing exploration and exploitation simultaneously, especially in terms of buffering the costs of exploratory learning and realizing the learning benefits (Cao et al., 2009; Raisch & Birkinshaw, 2008). Yet, firms often face challenges when managing the tradeoff related to the simultaneous pursuit of exploration and exploitation. In the context of Chinese outward FDI, the extant research demonstrates an emerging pattern of internationalization by Chinese firms through pursuing exploitation and exploration ambidextrously in the international markets (Hsu et al., 2013; Luo & Rui, 2009), either using a portfolio of asset exploitation and asset exploration focused FDI, or by mixing these different strategic orientations in a single FDI operation (Li & Cui, 2018). By doing so, Chinese firms can leverage the reliable revenue stream of asset exploitation-oriented foreign operations to subsidize the costly effort of asset-exploration in foreign locations. This approach allows Chinese firms to sustain their learning efforts over a longer period financially, thus allowing them to develop learning capabilities experientially and to buffer the costs of long trial-and-error processes.

While the benefits of organizational ambidexterity are well documented (cf. O'Reilly & Tushman, 2013; Tushman & O'Reilly, 1996), how it can be successfully implemented in the process of internationalization remains unclear (cf. Khan, Amankwah-Amoah, Lew, Puthusserry, & Czinkota, 2022). For instance, the complexity and coordination challenges associated with organizational ambidexterity (Cheng, 1983; Markides, 2013; Porter, 1996) can pose significant demands on organizational and managerial capabilities for innovative problem-solving and contextual, spatial, or structural separation of exploratory and exploitative activities (Barkema & Shvyrkov, 2007; Cannella, Park, & Lee, 2008; Carpenter & Fredrickson, 2001). These capabilities are unlikely to be readily available to many Chinese outward investing firms (Li & Cui, 2018); instead, they remain a crucial bottleneck for their internationalization (Cui & Aulakh, 2019; Luo & Tung, 2007). This bottleneck prompts us to investigate IES as a mode of internationalization whereby a foreign venture is managed by an overseas entrepreneur who maintains a structurally and operationally separate spin-off corporate entity from the parent firm platform.

IES as a Mode of Internationalization

Recent studies have emphasized how international entrepreneurial firms evolve to establish new business prototypes for introducing products and services in global markets (Al-Aali & Teece, 2014; Zucchella & Magnani, 2016). In the case of mature firms, strategic adaptation in response to shifting circumstances in the labor market, regulatory landscape, technological and market conditions, and alliance strategies may require new venture creation to discover and capture new opportunities, which are frequently orchestrated in the form of entrepreneurial spin-offs (Tübke, 2004). Research finds that relative to start-ups, spin-offs perform better after controlling for their improved access to technical and organizational skills (Chatterji, 2009), thus absorbing and integrating knowledge embedded through their networks (e.g., Styles & Genua, 2008).

As a strategic option, parent firms can use entrepreneurial spin-offs to capture international learning opportunities and commercialize learning in foreign markets. A pivotal driver for establishing IES can be attributed to the discovery of breakthrough innovations or the emergence of unused potential

within parent organizations, which may not be appropriated solely through internal efforts, thus pursuant to exploration. In conditions where the market for such innovations is relatively immature but the industry is global in nature, individuals familiar with or working for the parent firm may arrange to partially transfer its innovative assets into a separate business unit with its own managerial systems and capital structure to intensively develop new market applications to generate value, thus pursuant to exploitation. By restructuring the assets of the parent while infusing them with new managerial talent, distribution channels, manufacturing, capital base, and R&D processes, the entrepreneurial spin-off may not only create products and services that satisfy untapped customer demand but also establish a new corporate identity with strategic and financial foundations for expansion which cannot be provided by its parent firm (Lord, Mandel, & Wager, 2002). As a result, the parent firm can commercialize the entrepreneurial spin-off's learning of new products and market knowledge that extends the appropriability of the parent firm's existing innovative assets. Such recombinant characteristics resonate with the notion of ambidexterity (Hsu et al., 2013; Raisch & Birkinshaw, 2008), an enabler of effective and sustained organizational learning toward exploiting international opportunities. Hence, for internationalizing Chinese firms, given the ineffectiveness of the pure exploratory approach and the infeasibility of the pure exploitative approach, they can pursue IES as a viable ambidextrous strategy to achieve their learning objectives.

The IES process is also characterized by spatial and structural separation of parent firms and foreign ventures, which allows for the implementation of organizational ambidexterity as the internationalization process unfolds. For instance, a foreign venture can design a different organizational structure from its parent through the spin-off process, which allows the spin-off venture to achieve flexibility, better strategic fit, and thus superior organizational performance (Tübke, 2004). Within this structure, the parent firm can perform as a platform for exploiting existing capabilities to support the exploratory activities of their foreign venture. Synergizing these multiple types of capabilities can unleash a path-breaking potential not only for the foreign venture but also for the parent firm. By generating a 'root system' (Ito & Rose, 1994: 38) for supporting start-up and spin-off firms, the parent firm can explore multiple organizational possibilities and technological horizons in a cohesive way for achieving corporate growth (Rose & Ito, 2005; Ito & Rose, 1994). In summary, prior research suggests that IES provides the structure for organizational ambidexterity, which can enable sustained and effective learning through internationalization. What remains underexamined is the process by which the ambidextrous features of IES help firms achieve learning goals and accomplish their internationalization strategy.

Methods

The empirical work of this study took place from May 2014 to July 2015. Given the exploratory nature of the study and limited research on IES originating from emerging markets, we utilize a comparative exploratory case study approach (Eisenhardt & Graebner, 2007; Johnson et al., 2006) to examine the process of IES, focusing on the evolving roles and interactions of the parent firm and foreign venture, and their learning goals for corporate growth. Such an approach allows us to explore a novel phenomenon, capture similarities and differences among cases, and achieve analytical generalization of the findings.

Case Selection

While IES can manifest in multiple forms characterized by novel arrangements of tangible and intangible assets, a core feature of IES is the overseas IPOs of entrepreneurial ventures. Overseas IPO represents a critical juncture for entrepreneurial spin-offs to obtain the vital financial and reputational resources needed for transforming the assets of the parent firm to develop global operations. Therefore, to select suitable candidates for our case study, we started with a pool of publicly listed high-tech firms that were ultimately owned by Chinese parent firms but completed IPO outside China. We searched OSIRIS database for overseas IPOs of Chinese high-tech firms between 2000 and 2013. This search resulted in a total of 43 publicly listed foreign subsidiaries of Chinese high-tech firms. We then

contacted the key managers and decision-makers of these subsidiary firms to (1) understand the status of their relationship with their Chinese parent firms and (2) obtain contact details and initial consent from key decision-makers to participate in in-depth qualitative in-person interviews during May and June 2014. Through this prescreening procedure, we excluded those firms with whom we were unable to establish contact or verify their status.

We then followed a theoretical sampling approach to select our cases from the sampling pool generated by the prescreening procedure. Our cases were purposefully selected based on several theoretical considerations. First, to gain a real-time insight into the whole IES process, the cases should be approaching but had not yet completed the final spin-off stage (as of April 2014). Second, to ensure that continuous knowledge and resource exchanges had taken place, the parent firm and the foreign venture involved in the IES process should have had prolonged periods of interaction both before and after the overseas IPO. This contrasts with a quick spin-off after the overseas IPO of VC-backed international start-ups. Third, to enable comparative analysis, we needed cases that provide contrasts in terms of important external and internal factors, such as the global economic context of their IPO events (e.g., before vs. after the global financial crisis (GFC)) and their strategic approach to international corporate growth (e.g., organic vs. acquisitive growth).

Using these case selection criteria, we identified two IES cases where the Chinese parent firms – Founder Group and Tong Fang Group – successfully listed their subsidiaries on overseas stock exchanges. Specifically, PUC Founder (MSC) Berhad (hereafter referred to as PUC Founder), the Malaysian subsidiary of Founder Group, and Technovator International (hereafter referred to as Technovator), the Singaporean subsidiary of Tong Fang Group, were the focal foreign ventures in the IES processes of Founder Group and Tong Fang Group respectively. In both cases, the parent firms were contemplating the final spin-off as of April 2014, while having maintained equity and managerial ties with the focal foreign ventures over multiple years, both before and after their overseas IPOs. The cases differed in that the overseas IPO of PUC Founder was in 2002 (pre-GFC), and it followed an organic growth strategy. In contrast, the overseas IPO of Technovator was in 2011 (post-GFC) and it accelerated its international growth through a series of acquisitions. Overall, this theoretical sampling approach allows us to capture the stable organizational and strategic properties of IES despite different environmental contexts and strategies of growth.

Case Overview

The two parent firms (i.e., Founder Group and Tong Fang Group) were founded during the early stages of China's market reform period. Managers of both firms are simultaneously motivated by entrepreneurial incentives to develop profitable applications while fulfilling government mandates to expand technology diffusion to the industrial sector. Founder Group's businesses span IT, health-care, real estate, and financial and commodity industries. Tong Fang Group diversifies into computers, digital city, the internet of all things, microelectronics & radio frequency, multi-media, semiconductor & lighting, knowledge network military applications, digital TV, and environmental industry.

The two foreign ventures that transformed into overseas spin-offs are PUC Founder (i.e., the Malaysian subsidiary of Founder Group) and Technovator (i.e., the Singaporean subsidiary of Tong Fang Group). Established in 1997, PUC Founder specialized in biometrics and electronic publishing industries and was subsequently listed on the Bursa Malaysia Stock Exchange in 2002. Founded in 2005, Technovator specialized in energy savings solutions and integrated building automation systems (iBAS). It was listed on the HK Stock Exchange in 2011. Both foreign ventures were established as joint ventures between founding entrepreneurs in the host countries and their parent firms, with both parent firms providing half of the joint ventures' management teams. The key events in the IES process of both cases are summarized and compared (see Appendix [Tables A1–A3](#)).

Data Collection

Our comparative case study draws on multi-sourced and in-depth qualitative data on both parent firms and the focal foreign ventures of their IES processes. Historical information on the two cases was obtained from extensive archival data and retrospective accounts by key decision-makers from semi-structured in-depth interviews. Regarding archival data, we studied corporate documents related to the key events of the IES processes, such as foreign venture establishment, IPO, and spin-off. Table 1 lists the archival documents studied. In terms of interviews, we conducted multiple semi-structured in-depth interviews with key decision-makers of both cases between May and June 2014. Follow-up contacts with interviewees were maintained for twelve months following the interviews through emails and online video/audio calls.¹ Interviews and subsequent communications with the interviewees were all conducted in English.

With PUC Founder, we conducted three interviews, each lasting about four hours, in Kuala Lumpur, Malaysia, with its managing director Teh Hong Seng, in mid-May 2014. The first interview covered all aspects of the founding of the company, the working relationship with the parent firm Founder Group, and how he established his business ties to the founder and chairman of the parent firm, Alan Cheung Shuen Lung. We were also offered a tour of the company following this interview. The second interview took place the next day, where he shared his vision to reposition the biometrics business by offering cloud-based solutions to rapidly upgrade his technology to offer real-time

Table 1. Archival data sources for PUC Founder

Sources	PUK Founder	Technovator
Archival public documents (2002–2014)		
Annual reports and audits	13	5
IPO listing prospectus	1	1
Interim financial reports	23	5
External investment reports	10	5
Board of director meeting minutes	20	5
Company records and documents (2006–2014)		
Blog archives of managing director	40	0
Published interviews of senior managers	9	8
In-depth company publications	15	5
Company website news	32	11
Corporate strategy presentations	7	9
Regular corporate announcements	29	8
News articles and media coverage	38	21
Parent firm archival documents (1995–2014)		
Annual reports and audits	16	25
IPO listing prospectus	1	1
In-depth company publications	20	8
Company website news	23	16
Regular corporate announcements	23	15
Published interviews of senior managers	6	9
Published in-depth case studies	4	0
Total	330	157

solutions for clients. We also discussed his decision to work with Red Hot Media's managing director, Cheong Chia Chieh, to merge both companies into a combined holding company. The last interview with Teh Hong Seng took place on the third day, where we were joined by the new managing director, Cheong Chia Chieh. With both interviewees, we explored all aspects of the imminent merger between Red Hot Media and PUC Founder. We discussed the electronic publishing business across Southeast Asia and their plans for further expansion into new technology sectors for the combined entity.

With Technovator, we conducted two interviews, each lasting about three to four hours, in Singapore with its Chief Operating Officer, Seah Han Leong, in early June 2014. In the first interview, he shared his motivations for founding the company and the IPO of Technovator, where he detailed how he positioned the company to enter the iBAS business segment after years of experience at established multinational companies. He also shared ideas about his partnership strategy with Canadian company Distech Controls and his decision to apply financial leverage working with private equity companies Zana China Fund and CTC Capital to acquire the company and spin it off at a much higher valuation after several years of establishment. In the second interview, which took place the next day, he presented his vision for expanding the iBAS business model across Asia, which would be impacted heavily by climate change. He emphasized the importance of the platform model of investment where Tong Fang Group invested its brand name, financial and human resources to support the IPO process for the nascent start-up since it required a unique combination of technological investment and incubation just to reach the IPO stage and to close the gap with its international competitors.

Following these interviews at the foreign ventures, we also interviewed the key decision-makers at their parent firms' Headquarters in Beijing. We completed two parent firm interviews in mid-June 2014, one with Alan Cheung Shuen Lung, founding chairman of Founder Group, and the other with Lu Zhi Cheng, founding chairman of Tong Fang Group, both lasting about two hours. These interviews focused on the parent firms' investment philosophy and how they made strategic decisions to merge their brand, investment resources, and technology to establish integrated hubs connected to academic researchers for nurturing talented entrepreneurs to establish domestic and overseas commercial start-up companies. We also discussed the vital importance of the IPO as the foundation for financing overseas start-ups.

By triangulating between the archival and primary sources of data, we captured the 'entrepreneurial journeys' (McMullen & Dimov, 2013: 1481) of both foreign ventures to understand the specific sequence of events, factors, and circumstances that led them to evolve from entrepreneurial start-ups into successful international spin-offs. Through these interviews, we gained familiarity with the entrepreneurial challenges and critical junctures in the IES process of both cases. Primarily, we tried distinguishing between key transition periods in their development and corporate growth. We paid attention to how foreign venture executives portrayed their companies' early, emergent, and evolving corporate identities, especially their decisions to establish independent corporate brand names that distinguished them from their parent firms. We also focused on how combinations of different resources were channeled from the parent firm into the offspring start-up to support the formation of capabilities for R&D, capital-raising, brand management, and product development to orchestrate an international takeoff.

The flexibility of semi-structured interviews allowed us to achieve data saturation by adjusting emphases from initial to subsequent interviews. We determined saturation points by coding interview transcripts and notes in between interviews and comparing the codes with archival data. Following prior studies, we reached data saturation points when no new codes emerged from a subsequent interview when compared to preceding interviews and archival documents (Aguinis & Solarino, 2019). Specifically, during the subsequent interviews, we endeavored to reconcile the archival data with details gathered during initial interviews. The overarching goal was to cluster information and identify missing gaps that required further clarification. This process involved filtering out surplus information derived from archival data and focusing on emergent patterns or recurrent themes repeatedly discussed in company reports or by senior executives. The final stage of the interviews involved the authors summarizing their observations in written drafts, which were shared with both firms' senior executives, enabling them to provide further clarifications and feedback. Both entrepreneurs Mr. Teh Hong Seng and Mr. Seah Han Leong continued their email correspondence with us and shared corporate

strategy documents in addition to the archival data. Through this process, we aim to improve the credibility and transferability of our research findings (Flick, 2009).²

Data Analysis

Our analysis of the multi-sourced qualitative data follows the grounded theory approach (Glaser, 1998; Kotabe, Parente, & Murray, 2007). We moved between data and literature to identify a chain of evidence, and subsequently to develop a theoretical understanding of the novel phenomenon (Shapiro, Ozanne, & Saatcioglu, 2008). Figure 1 shows a schematic overview of our data analysis process. Procedurally, we first compiled all the transcribed responses from the interviewees and other archival documents together. We organized these by each case. We then conducted case-by-case analysis using the open coding technique. Specifically, to create provisional first-order categories (Van Maanen, 1979), we identified descriptions and expressions and placed them into relevant thematic categories. Following the procedures suggested by Miles and Huberman (1994), our first-order categories provided descriptive labels for the different information clusters from interview and archival data. We also followed the suggestions of Pratt, Rockmann, and Kaufmann (2006) to either correct a category or to reconceptualize it if it did not fit well with the data upon further review of that data. In the following step, we clarified themes by comparing first-order codes with one another (Strauss & Corbin, 1998), which led to a higher level of abstraction resulting in second-order constructs. In this step, we moved beyond case-by-case analysis and conducted cross-case analysis by comparing the cases and identifying any similarities and/or differences between them (Kotabe et al., 2007). Through an inductive abstraction process in which we constantly visited and revisited data until no more new insights about the factors emerged (Miles & Huberman, 1994), we identified three second-order constructs.

Throughout the data analysis process, we iterated between both streams of primary and secondary data to distinguish patterns across both cases for theorizing purposes. This inductive and iterative approach led us to map out the linkages between the platform resources which the parent firms provided to their overseas entrepreneurial ventures during incubation and subsequent developmental outcomes associated with each stage of the foreign ventures' evolutionary growth. This analytical exercise was supplemented by consulting relevant literature on platform organizations, entrepreneurial spin-offs, organizational ambidexterity, and business incubators to fine-tune the concept of '*incubating-parenting platform*' for IES. Iterations between interviews, archival data, and email correspondence were used to obtain new information, theorize, and retrace the collected data to enhance triangulation for sharpening our conceptual development.

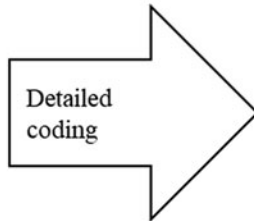
More specifically, our analysis focused on strategies deployed by both the foreign ventures and the parent firms to coordinate and mobilize various resource streams at each stage of IES. The aim was to understand how specific competencies were leveraged, developed, and layered upon each other to support learning and international growth. By disaggregating the evolution of PUC Founder and Technovator into a series of IES stages, our analysis reveals the evolving roles of the parent firms and the foreign ventures to achieve ambidextrous synergy.

Results

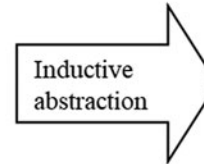
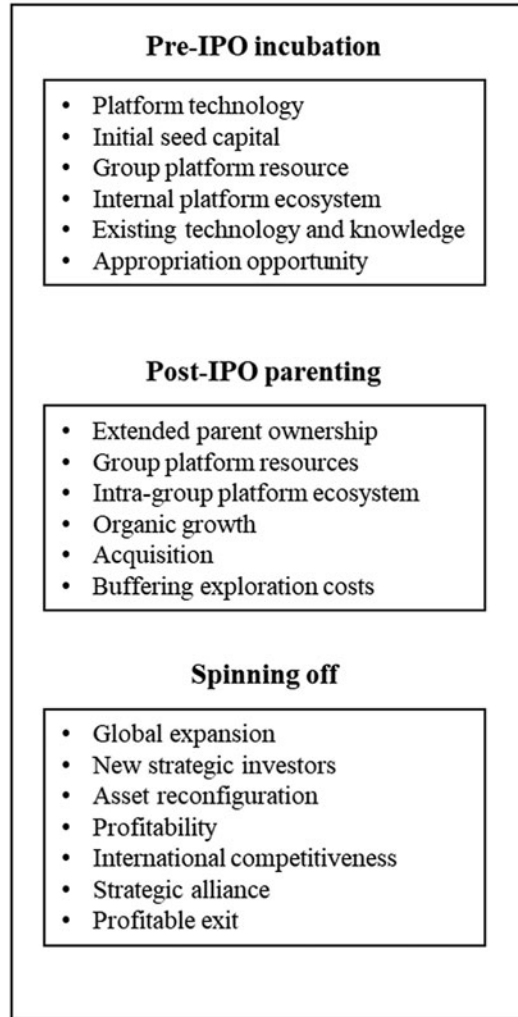
Our analysis reveals the main players and key events of PUC Founder and Technovator's IES process, serving as markers to identify the operational milestones achieved. In analyzing the data, we adopted a process-driven approach to capture the overarching pattern of events which unfolded through each stage of the IES process (Johnson et al., 2006). The process analytical approach is motivated by the logic that 'each event on the path to the eventual outcome is necessary to explain that outcome, but by itself is not sufficient: what is sufficient are all the events that occur after it, without which it would be plausible to presume that the outcome would not occur as actually observed' (McMullen & Dimov, 2013: 1488). This is consistent with the entire chain of events being the explanatory unit.

Two key events emerged from our analysis – the overseas IPO of the foreign ventures and the eventual spin-off of the foreign ventures. The overseas IPO represents a critical juncture for foreign

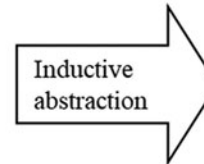
Case narratives raw data



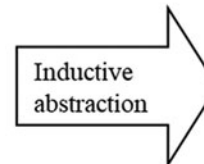
First-order categories



Establishing a learning vehicle



Scaling up learning activities



Recalibrating for future learning

Figure 1. Overview of data analysis process

ventures to obtain the vital resources needed for transforming the assets of the parent firm to develop global operations. The spin-off involves multiple sequential external transactions and internal restructuring micro-events that lead to the gradual separation of the parent firm and foreign venture in terms of ownership and managerial linkages. Recognizing these key events, we divide the IES process into three stages, namely, the pre-IPO incubation stage, the post-IPO parenting stage, and the spin-off stage. Appendix Tables A1–A3 provide a summary of key case information in these three IES stages.

Pre-IPO Incubation Stage

Starting from the initial start-up period, both PUC Founder and Technovator relied on the incubating platform resources provided by their parent firms. Without these incubation resources, each individual start-up must face an uphill challenge to search for an assortment of different strategic resources to set up their own operational ecosystems for survival. Each firm was responsible for its profit and loss, although the parent firms provided platform resources which included platform technology, initial seed capital, group platform resources, and internal business platform ecosystem.

Decisions concerning which technologies to transfer, and the specific transfer mechanisms were made jointly between the parent firms and the host-country co-founders of the foreign ventures. For Founder Group, the original intention to set up a foreign venture in Malaysia was to expand its electronic publishing and management information systems (MIS) businesses into Southeast Asia. However, after consulting with Mr. Teh, a Malaysian Chinese entrepreneur who was tapped by Founder Group's executives to set up PUC Founder, the management team decided to transfer to its subsidiary Founder Group's proprietary fingerprint technology, which had already been successfully deployed in government security departments. Mr. Teh identified the potential growth possibilities for biometric technologies which were in their infant stage of commercial development during the 1990s. After licensing the automated fingerprint technology from Founder Group, PUC Founder set up its R&D units in Malaysia and Shenzhen to develop its own fingerprint products, which were subsequently marketed under the Fingertec brand to over 100 countries.

Similarly, Technovator was founded by a Singaporean Chinese entrepreneur who transferred Tong Fang Group's iBAS technology for commercialization and expansion into the energy management systems market. Mr. Seah, the Singaporean cofounder of Technovator, has extensive management experience at Honeywell. This US-based multinational firm is the leading provider of iBAS systems in North America and Asia. As China's largest supplier of iBAS components and solutions, Tong Fang Group would provide a strong technical foundation for the development of Technovator's iBAS and EMS products. Technovator was established as an international window for Tong Fang Group with the specific goal of developing innovative second- or third-tier iBAS products while minimizing costs to build competitive advantage.

The initial seed capital to establish both overseas subsidiaries consisted of several sources of which the most substantial portion was derived from their parent firms. In the absence of VC, Founder Group furnished the initial outlay of capital required to cover the basic costs of setting up its foreign venture. The successful IPO of Founder's main HK subsidiary in 1995 raised critical funds of which 1 million Malaysian ringgits were injected into PUC Founder for its incorporation. According to one of the co-founders and the board of directors:

Founder Group was established on the basis of its innovative Chinese electronic publishing system that was developed by Peking University. After the decision was made for Founder Group to leverage this technology and establish operations abroad, I personally visited each country – Taiwan, Malaysia, Japan, and the United States – to meet with prospective partners and identify market opportunities. I met with Mr. Teh and invited him to Beijing. After entrusting him to set up our electronic publishing division, we sold our systems to all major newspapers in Southeast Asia through our Malaysian subsidiary. At the time, our systems were very new and innovative. The market seemed quite solid, but we realized that revenues from this business line would eventually decline, so we decided to invest in other areas, including biometrics technology.

PUC Founder continued actively leveraging its Chinese electronic publishing and MIS businesses, offering a stable revenue base to incubate its biometrics division. The electronic publishing business has served as one of Founder Group's mainstay operations, with its origins dating back to the mid-1980s. In addition to biometrics technology, this software-intensive technology was transferred to PUC Founder to activate its nascent growth.

The formative incubating process for Technovator shares some similarities with the incubating approach adopted by PUC Founder but differs in its accelerated M&A growth model. During the initial period, Tong Fang Group positioned itself as the primary provider of investment capital for Technovator. Subsequently, together with two private equity firms (Zana China Fund and CTC Capital), Tong Fang Group made a second round of investment to acquire a majority stake in Distech Controls. The purpose of such acquisition was to supply innovative iBAS technologies to Tong Fang Group while simultaneously opening a new market in North America, Europe, and Asia for Technovator. On the other hand, Tong Fang's vast sales channel, brand name, and R&D resources were leveraged to help Distech reduce the time-to-market for their new products.

Following a period of three years in which it invested substantially in R&D and global market expansion, Technovator staged its IPO on the HK Stock Exchange, raising over \$81 million HKD to support its expansion operations. According to the founding COO:

At the time that I proposed to set up Technovator International, I had decided to move on from TAC Controls [a multinational company] where I served as their Asia managing director for over seven years. After my experience gained from working for MNCs, I was able to identify clear opportunity gaps that could be leveraged for the creation of a new innovative company. The growth potential was further amplified by the rise in the convergence of digital technologies for building smart buildings and integrated artificial environments. Tong Fang Group already possessed a solid foundation in systems integration, and I had a strategic vision for leveraging their resources to enter the energy management systems business. With Tong Fang's financial and technical support, complemented by my expertise in navigating the iBAS industry, we were able to play catch-up with more established multinational players.

The group platform resources made available by Founder Group and Tong Fang Group to their foreign ventures constitute a vital incubating backbone for their growth and evolution. The idea of a platform is particularly salient in this context since the parent firms provide their foreign ventures with a diverse pool of resources to overcome the liability of international start-ups, given their limited international experience and resource base. Such critical resources and services include management leadership, R&D technical support, access to expertise in other product divisions, administrative and human resources support, and most importantly, the use of the parent firm's brand name. For Technovator and PUC Founder, tapping directly into these platform resources bolstered their agility and helped them avoid the prohibitive cost of setting up their own business infrastructures. In addition to direct resource provision, Founder Group and Tong Fang Group also helped to embed internal platform ecosystems in their offspring start-ups, which consisted of established core business lines from parent firms to provide a stable revenue stream to incubate new products. Overall, we find that the parent firm provides a common umbrella of vital resources and ecosystem which forms an 'incubating platform' to cultivate the foreign venture as an entrepreneurial start-up. This '**launching pad**' provides an organizational buffer for the foreign venture to take on more risk to address unforeseen challenges that may surface as it shifts into new industries and foreign markets.

Post-IPO Parenting Stage

Following their successful overseas IPOs, both PUC Founder and Technovator remained closely tethered to their parent firms via equity ownership. Contrary to the common practice of venture capitals using IPO as an exit opportunity, both parent firms engaging in the IES process made strategic decisions to preserve their ownership control and extend the incubating cycle of their foreign ventures. This is critical for the global takeoff of their foreign ventures because, after the initial stage of

enthusiasm following the IPO, high technology ventures tend to quickly use up their raised capital for rapid expansion. Short of raising new capital, the decline in initial resource endowments may lead to a new period marked by ‘liability of adolescence’ (Fichman & Levinthal, 1991), where renewed efforts become necessary to establish market legitimacy and acquire new investment sources and recurrent revenue streams.

Similar to the high-risk infant stage of development, this phase is characterized by a heightened risk of failure arising from declining asset stocks and the challenges of launching new business lines to attract new customers and maintain their goodwill. At the same time, the firm may experience pressure to upgrade its competence by making more intensive investments in R&D, marketing, and strategic M&A to acquire more qualifications, establish an international presence, and deepen its reputation, troubleshoot existing or emerging technical issues or deal with competing new market entrants.

Recognizing the rising challenges facing PUC Founder to establish market legitimacy in a competitive industry dominated by global companies, Founder Group continued to provide managerial support and channel resources such as transferring some of Founder HK’s subsidiaries to PUC Founder to support its operational upgrading. The annual reports of Founder’s subsidiaries reveal a clustering of related party transactions which pertain to the establishment of new R&D and sales subsidiaries for PUC Founder. Such transactions included distribution channels, administrative support, human resources, accounting services, and R&D resources represented a transfer of two Founder HK’s subsidiaries – Founder GlobeTech in Shenzhen and Hong Kong to PUC Founder. These smaller subsidiaries, which engaged in electronic publishing and MIS businesses, contributed about 50% of PUC Founder’s revenue stream while it incubated its Fingertec biometrics division. According to Mr. Teh:

The 2- to 3-year period following our IPO was perhaps one of the most challenging since I could not really see much light at the end of the tunnel. Although our biometrics prototypes were developed, the early commercialization process was challenging, and we had some serious issues with quality control. Our customers were not satisfied and returned our products, which caused revenues to plummet. The company was facing a critical stage where we had to strive for survival. Actually, our quality control problems led us to discard most of our initial inventory of biometrics devices and redesign new ones which all required more R&D investment. During this time when our biometrics division was not profitable, we relied on revenues from our electronic publishing and MIS business lines to stay afloat. After I implemented a new marketing strategy, it took about two years to turn the company back to profit. Our biometrics business would not have been properly incubated unless we found other ways to support its development.

For PUC Founder, the consolidation of Fingertec as a separate brand would not have been possible without extended support from Founder Group during its post-IPO stage of adolescence. PUC Founder needed substantial capital to support its R&D activities to develop innovative product offerings such as facial recognition, multi-media, and cloud computing biometric technologies to complement its traditional fingerprint products. It also needed to establish a new social media outreach program and an e-platform portal to promote product sales and optimize service delivery. These heavy investments quickly drained the capital raised from the IPO. It took another five years between 2002 and 2007 before PUC Founder finally became profitable with the success of Fingertec.

The international evolution of Technovator also shares similar elements with Fingertec but on a more rapid and expansive scale. To transform Technovator into a global player in the EMS industry required substantial upgrading of Tong Fang Group’s existing R&D and product design capabilities. This large-scale effort involved the execution of a sequence of cross-border acquisitions to nurture a new global production network capable of building state-of-the-art energy management technologies to provide innovative EMS products across the world. According to the founding COO:

Very early on, I recognized the energy management systems business represented a significant potential opportunity which had not fully entered the radar screen of other MNCs. In establishing

Technovator, I advised Tong Fang Group's senior management that we did not have the luxury of spending the time and effort to engage in purely organic growth. The strategic challenge of building Technovator is equivalent to constructing a Formula 1 racing car. We had to hit the ground running and build a company capable of outmaneuvering its global competitors. The car would comprise the very best components which would all work together in a modular fashion, so we made several overseas strategic acquisitions prior to our IPO to incubate and launch our new business line.

To implement this modular strategy, Technovator acquired the Canadian company Distech Controls to set up a strategic international partnership, which cascaded into further acquisitions in France and the Netherlands in 2010. Following its IPO in 2011, Technovator entered into a purchase agreement to obtain raw materials that would be supplied by Tong Fang Group's subsidiary in Beijing. The subsidiary produces circuit boards shipped to Technovator's Canadian and European subsidiaries for value-added assembly and software integration before delivery to its overseas clients in North America, Asia, and Europe. Tong Fang Group also provided an array of R&D resources, technical support, strategic planning, and business services to support the activities of its foreign subsidiaries.

Another benefit of parenting support is to enhance the ability of the foreign venture to establish market credibility. While the foreign venture is granted an unusual level of autonomy to develop its own products and services, it nonetheless must develop a client base which requires mutual trust and quality assurances. The lack of reputation and social capital characterizing most young firms often handicaps their ability to lock down a steadfast clientele (Qureshi, Kistruck, & Bhatt, 2016). One way to circumvent this obstacle is to market its products through the sales network of its parent firm. The transfer of Founder GlobeTech to PUC Founder enabled it to acquire a distribution channel in HK for Fingertec products, while Technovator initially diversified its sales network via Tong Fang Group's subsidiaries. Such parenting support promotes recognition of the foreign ventures' own brands by a broader customer segment.

Spin-Off Stage

The transition from IPO to a foreign venture's international takeoff is marked by a rise in profitability across multiple geographic regions, forming new strategic alliances, and fine-tuning its business model to capture a greater market share of the global industrial market. The prolonged parenting supports enable a foreign venture to convert its accomplishments into a set of proven competencies, establish a portfolio of diverse product offerings which satisfy a growing segment of global customers, and become financially self-sustaining. As a result, the foreign venture begins to reduce its reliance on the parent firm's ecosystem and focus on new business horizons while developing its own dominant logic apart from the parent firm's core business areas.

After nine years of incubation and parenting, PUC Founder finally reached this threshold point by achieving an annual after-tax profit growth of 100%. Even prior to reaching this stage, proactive efforts were made by both the parent firm and foreign venture to initiate the process of transition, which focused on identifying a viable strategy for PUC Founder to maximize value for future investors. This led to the merger of PUC Founder with Red Hot Media Asia (RHMA), a Malaysian media conglomerate.

While PUC Founder did not need any cash injection, it recognized this merger as an opportunity for Founder Group to reap a substantial profit from its investment. On the other hand, RHMA, which had its roots in digital media and advertising, saw value in acquiring PUC Founder's electronic publishing and MIS divisions. It had expansion plans to target the greater Southeast Asian market with respect to digital media services and e-commerce. A merger with PUC Founder would help to facilitate collaboration with Founder Group for future overseas ventures into Southeast Asia and China. With the approval of its parent Founder Group, PUC Founder entered into a conditional reverse acquisition agreement with RHMA in late 2010. According to Founder Group's cofounding director Alan Cheung Shuen Lung who continues to sit on PUC Founder's board:

PUC Founder was a little tree growing under the shadow of a much larger parent tree. We needed to allow it the freedom to grow independently as it cannot flourish and become its own big tree under the parent's shadow.

Following the merger with PUC Founder, RHMA integrated its advertising and financial business units into PUC Founder and absorbed its electronic publishing and MIS divisions while diversifying into new growth market segments, including solar energy, e-payment solutions, and financial investment. After the successful integration process, PUC Founder announced the disposal of Fingertec Worldwide in September 2015.

During this period, Technovator has also reached a new critical peak growth stage. By 2013, the company derived approximately 40% of its revenues from overseas markets via Distech Controls, its overseas joint venture subsidiary. In contrast to the organic growth strategy of PUC Founder, Technovator was established with an accelerated global vision to optimize value-creating opportunities via cross-border M&A to establish a new incubating cycle for its energy savings and iBAS solutions. It made strategic acquisitions in several energy management companies in the Netherlands, France, and Canada. In 2013, Technovator announced the introduction of several new institutional and strategic investors to expand Distech Controls' global operations. Over a period of 7 years, Technovator supported the successful transformation of Distech Controls into a global company surpassing over ten times its original value. In March 2015, Technovator announced the sale of its assets in Distech Controls, securing a profit of \$95 million USD to fund its investments in developing innovative products in the energy savings industry.

Following Technovator's success with Distech Controls, Tong Fang Group and Technovator reached an agreement for Tong Fang Group to transfer its remaining assets in its integrated building automation, intelligent urban heating systems, and intelligent rail transit systems businesses to Technovator. In connection with acquiring these assets from its parent firm, Technovator announced a \$1 billion USD expansion plan to provide energy savings products and services in the mass transit, district heating, intelligent surveillance, power generation, and construction industries through strategic partnerships with major urban metro systems, municipalities, and energy companies in China. These developments are consistent with the fulfillment of Technovator's strategic vision to build a world-class company. According to the founding COO, Mr. Seah:

The positioning of Technovator International as an international player with its eyes on the global markets stems from the recognition that the available market may be far larger than already obtained or conceived by its parent [Tong Fang Group] and other global multinational competitors. Tong Fang Group was unable to support Technovator on a standalone basis. Therefore, Technovator established its own world-class platform team to compete in every F1 racing competition worldwide to improve its skills, competence, and teamwork.

The entire IES process illustrated in this section and initially mapped out by the entrepreneurs led to ambidextrous organizational learning by the parent firm as it learned to orchestrate the recombination of its existing human capital and technological assets with business model innovation and the acquisition of new software to incubate a subsidiary capable of reimagining the evolving industry landscape to enter a new frontier market space where no market niche existed previously. The parent company learned not just to exploit existing capabilities but through ambidextrous learning to reconfigure its resources to help create a next-generation start-up so that it can explore multiple organizational possibilities and new technological horizons in a cohesive and path-breaking way (Rose & Ito, 2005). Critically, the IES process triggered ambidextrous learning by the parent firms to collaborate with the entrepreneurs to combine a disparate set of managerial resources, financial capital, and technologies to synergistically encapsulate them into separate highly innovative spin-off ventures imbued with powerful value-added AI (artificial intelligence) learning advantages to predict various dynamics, trends, and scenarios in global intelligent building energy management systems and biometrics industries. In so doing, these AI-powered subsidiaries have established successful world-class technology

platform infrastructure that includes subscription services for clients to help them monitor and anticipate future trends, detect anomalies, and other business intelligence solutions which are much needed at the global industrial scale. For example, linking energy usage data to expenditures would be valuable to help reduce carbon emissions and optimize savings. Sampling and training the volumes of data collected through machine learning will enable clients to anticipate and solve future critical problems and reduce hazards. In this way, the IES process was able to foster a culture of innovation, capability upgrading, and ambidextrous learning in the parent company to engage in unprecedented cross-border market penetration and the development/scaling of new capabilities in highly competitive and dynamic SAAS (software-as-a-service) industries such as cloud biometrics and intelligent building automation systems which did not exist previously.

A Theoretical Framework of IES Process and Research Propositions

From an ambidexterity perspective, we examined the roles of the parent firms and their overseas entrepreneurial ventures in the three stages of IES process identified from our case analysis of Chinese high-tech firms' internationalization. Our findings trigger further theoretical discussion linking the notion of ambidexterity with the learning goals pursued by Chinese high-tech firms during their internationalization and the pursuit of international growth opportunities. Our case analysis demonstrates that IES is a viable mode of internationalization by which emerging economy firms can leverage organizational ambidexterity to manage learning and accomplish their internationalization and corporate growth strategies. Specifically, we analyze the IES process in which parent platform resources are exploited to support foreign ventures' overseas exploratory activities by means of establishing the firm venture as a learning vehicle, scaling up its learning activities, and eventually readapting the parent-venture relationship. Such activities lead to a profitable exit from the IES process by the parent firm. Thus, the IES process is enabled by a co-evolutionary process of knowledge interaction and learning routines between the parent and foreign venture throughout the aforementioned three stages (e.g., *Pre-IPO incubation stage*, *Post-IPO parenting stage*, and *Spin-off stage*) to achieve ambidextrous synergy of asset exploitation and knowledge exploration for international corporate growth.

Our data show that during the three stages of IES, the key learning goals evolved, which demanded different organizational resources or strategic maneuvers at both the parent firm and the foreign venture side. Table 2 summarizes key insights on the IES process of learning from internationalization.

Table 2. The IES process of learning from internationalization

Stages of IES	Role of the foreign entrepreneurial venture	Role of the parent firm	Learning goals
Pre-IPO incubation stage	Provide overseas product market knowledge to identify opportunities of exploiting parent firm technology	Provide initial technology and platform supports that can be exploited in overseas markets through the foreign venture	<i>Establishing a learning vehicle</i>
Post-IPO parenting stage	Scale up overseas R&D and market exploration activities, through either organic growth or acquisition	Allocate greater financial assets and platform supports to buffer the foreign venture's costs of exploration	<i>Scaling up learning activities</i>
Spin-off stage	Diversify products, geographic markets, and business networks to become self-sustaining and internationally competitive	Convert knowledge linkage with the foreign venture from equity to alliance relationship, free up financial and platform resources to seek new international learning opportunities	<i>Recalibrating for future learning</i>

Establishing a Learning Vehicle

In the pre-IPO incubation stage of the IES process, the parent firm plays an active role in initiating the learning process by exploiting its platform resources to help foreign ventures overcome start-up resource-constraint-related limitations. The key learning goal for the parent firm as an incubator is to establish an overseas entrepreneurial venture as a learning vehicle. By 'learning vehicle', we refer to an organizational architecture that allows the overseas entrepreneurial venture to access a full range of parent company resources (e.g., capital, network, know-how) that are readily exploitable to support future exploratory learning. At the onset of incubation, the embeddedness of the overseas entrepreneurial venture in the parent firm's industrial ecosystem avails it an array of diverse resources and network-level knowledge, including seed capital, core technology, and managerial expertise, which extend above and beyond resources offered via VC or corporate accelerator channels. For most overseas start-ups, this early stage can be unpredictable and challenging despite their identification of lucrative business opportunities. The availability of abundant resources and specialized business knowledge from the parent firm helps to buffer the overseas entrepreneurial venture in its embryonic phase, providing an extra cushion of protection rarely accessible to most international new ventures lacking key resources and expertise. To create even stronger architectural leverage in addition to its platform resources and seed capital, the parent firm may step up investment by transferring some of its core business lines to its overseas entrepreneurial venture, thus offering important knowledge exploitation advantages to these firms. This umbilical cord operates to generate a stable revenue stream while the infant overseas entrepreneurial venture ramps up its R&D and marketing activities to incubate a new business line to support overseas expansion. After demonstrating its growth potential, the overseas entrepreneurial venture is floated on a foreign stock exchange via IPO. Based on the key findings from the pre-IPO incubation stage of the IES process, we propose:

Proposition 1: The provision of the parent company's platform resources to a foreign entrepreneurial venture is positively related to the likelihood of establishing a learning vehicle for international exploration.

Proposition 2: The access to its parent company's revenue streams and business services by a foreign entrepreneurial venture through the exploitation of parents' platform resources is positively related to the establishment of a learning vehicle for international exploration.

Scaling Up Learning Activities

In the post-IPO parenting stage of the IES process, as the exploratory activities carried out by the foreign venture scale-up following a successful overseas IPO, the learning challenges shift to buffering and managing the risks associated with large-scale exploratory learning. The public listing on an overseas stock exchange provides a foundation for resource-constrained firms to raise capital based on the value of their business plans and potential products. This independent capital structure not only reduces the cost of capital for newly listed companies but enables them to borrow greater amounts on a standalone basis to finance their expanding operations. Despite this critical juncture, senior managers remained aware of the risks associated with the liability of adolescence and the pressure to demonstrate value creation. To sustain its overseas entrepreneurial venture's velocity of international expansion, the parent firm introduces additional resources in a prolonged parenting role based on its platform structure to exploit rent-generating assets. In contrast, the focal foreign venture as a learning vehicle becomes increasingly involved in recurrent transactions with other subsidiaries of the parent firm, such as subcontracting arrangements to support production activities. In this stage, the foreign ventures now play a more active role in seeking the exploitation of particular types and forms of parent platform resources and opportunities to sustain their expanded international exploratory activities.

Such collaborative interactions between the overseas entrepreneurial venture and other parent subsidiaries may help to enhance learning, resource-sharing, and capability-building opportunities by the overseas entrepreneurial venture to explore new pathways by creating an engine of growth. It may also

leverage such resources to develop its portfolio of products and establish new market segments. However, this gradual development phase necessitates prolonged parenting to sustain its momentum, enabling the overseas entrepreneurial venture to benefit from exploration to meet new markets and customers' demands. Based on the key findings from the post-IPO parenting stage of the IES process, we propose:

Proposition 3: Access to the parent company's extended resource support is positively related to the scale of exploratory activities carried out by a foreign entrepreneurial venture to develop its competencies for market and product innovation.

Proposition 4: The transactional and knowledge exchanges within the parent company's corporate network are positively related to the scale of exploratory activities carried out by a foreign entrepreneurial venture to develop its competencies for market and product innovation.

Recalibrating for Future Learning

A feature that separates the IES mode of internationalization from conventional FDI is that it provides a strategic exit point (i.e., spin-off) for the parent firm to realize profits and transition its role from an incubating-parenting platform for the foreign venture to a strategic alliance of the spin-off entity. This allows the parent firm to recalibrate the allocation of its resources to access a wider range of learning opportunities internationally. The key challenge in the final stage of IES is to exit the learning process with profit. Toward the later stages of prolonged parenting, both the overseas entrepreneurial venture and its parent firm may contemplate possibilities for value accretion via various spin-off opportunities as the former begins to realize its performance potential. Unlike the previous stages where the parent firm (stage 1) or the foreign venture (stage 2) plays a more active role, in this final stage, both sides are actively involved in simultaneously synergizing exploitation and exploration to maximize foreign venture value through the continuous exchange, combination, and reconfiguration of knowledge and resources between the parent firms and foreign ventures. Specifically, while the foreign venture secures its exploration niche by actively seeking external strategic partners, the parent firm transitions its role to that of a strategic alliance, contributing intangible resources for capability exploitation.

Our findings reveal critical organizational restructuring and strategic changes in this final stage of the IES process that allows the foreign venture to leverage the capabilities of the parent firm, attract resources from external stakeholders, and capture global market opportunities. From the parent firms' perspective, their platform structures, and the ability to optimize collaboration between the Headquarters and foreign subsidiaries enable them to recalibrate and exploit their resources and evolve skills for exploratory technological upgrading and securing new projects which further support the global expansion and growth of their foreign ventures. Such ambidextrous capabilities allow the parent firms to identify the optimal exit point in the current IES process and adapt their roles from an incubation-parenting platform to a strategic alliance partner where mutual learning for exploitation and exploration can be vital for the global expansion of these firms. From the foreign ventures' perspective, the future outlook of their market potential is positively associated with the creative motivation and technological aspirations of senior management teams underlying their international diversification strategies based on ambidextrous learning from the international IES process. Their organizational traits and learning routines allow them to sense and capture opportunities with high growth potential in the international market that may lay beyond the core business focuses of their parent firms. The eventual spinning-off recalibrates the relationship between the parent firms and their foreign ventures to match their new capabilities and aspirations. Based on the evolving roles of the parent firms and their foreign ventures in relation to their learning goals, we propose:

Proposition 5: The IES process creates ambidextrous synergy through the continuous exchange, combination, and reconfiguration of knowledge and resources between the parent firm and the foreign venture.

Theoretical Implications

Implications for Internationalization Theory

This research reveals IES as a model of accelerated internationalization adopted by emerging economy firms. Our findings show that Chinese high-tech firms deploy organizational ambidexterity through IES process to pursue learning goals as they expand into foreign markets. The interactions between the parent firm and its foreign venture in the IES process trigger organizational learning as they endeavor to recombine and integrate the parent's endowments, such as existing R&D capabilities, revenue streams, and financial capital, with the foreign venture's newly acquired market and technological knowledge to improve international performance (cf. Phillips, 2002; Wezel et al., 2006). IES is a viable mode of internationalization from the learning perspective, not only due to the synergistic benefits that sustain exploratory efforts but also the structural separation of the foreign venture from the parent firm, which enables entrepreneurial opportunity-seeking and versatile adaptation in foreign markets for supporting corporate growth.

This study advances knowledge on how Chinese firms can overcome their latecomer status to compete with advanced country multinationals (Cui, Fan, Liu, & Li, 2017). From the ambidexterity perspective (Sun, Rong, Sun, & Zhu, 2023; Zahoor, Khan, Marinova, & Cui, 2024), foreign ventures of Chinese firms can exploit the resource base and accumulated knowledge of their parent firms to springboard abroad and develop new business activities overseas by exploring the extended new resources of their parents and learning through forming network relationships (Huang, Conde, Cui, & Fu, 2022). Our findings demonstrate the possibility of transcending such latecomer constraints through a novel internationalization mode (i.e., IES) that addresses the triple liabilities of newness, smallness, and foreignness through network-level resource exploitation (e.g., the exploitation of parents' platform resources) and exploration (e.g., seeking strategic partners in international networks).

While recent theoretical studies have highlighted the instrumentality of ecosystem and value co-creation in internationalization (Lew, Sinkovics, Yamin, & Khan, 2016; Pitelis & Teece, 2010), there is a lack of empirical research investigating the specific organizational arrangements and processes that could be leveraged for such purposes. Considerable value can be generated by providing adequate space and strategic flexibility for internationalizing offspring firms to pursue and develop ambidextrous capabilities through mutual learning (He et al., 2018; Luo & Rui, 2009), and in turn access and acquire a complementary knowledge base (cf. Ko & Liu, 2019; Stettner & Lavie, 2014). The business network view of internationalization (Johanson & Vahlne, 2009) has underscored the importance of internationalizing firms to overcome their 'liability of outsidership' by penetrating overseas foreign business networks. Extending this perspective, we propose that one alternative means to overcome the barriers associated with such liability is through IES for co-creating fresh network nodes at the international level, thereby providing solutions to address traditional challenges associated with the internationalization of the firm. International networks also offer important opportunities to emerging market firms to develop exploratory capabilities (e.g., Khan, Rao-Nicholson, & Tarba, 2018; Kumar, Singh, Purkayastha, Popli, & Gaur, 2020). In this sense, our three-staged IES process model complements the IPM (Gammeltoft & Cuervo-Cazurra, 2021; Johanson & Vahlne, 2009) by demonstrating how cross-border learning and international network embeddedness can be achieved through the evolving relationship between the parent company and its foreign entrepreneurial venture and through the simultaneous pursuit of exploitation and exploration activities for corporate growth (O'Reilly & Tushman, 2013; Tushman & O'Reilly, 1996).

Implications for International Entrepreneurship Theory

This study also contributes to international entrepreneurship research by explicating IES as a cross-border entrepreneurial learning mechanism for achieving corporate growth. Our case study enables the development of a dynamic learning and capability development process to capture the sequential stages of IES, especially for resource-constraint firms originating from emerging markets. Currently, little is known about the configuration of initial resources and capabilities during the

early stages of overseas venturing of new breed of emerging market start-ups, which are of paramount importance to new venture survival and opportunity capture by entrepreneurial firms in foreign markets (Keupp & Gassmann, 2009; Khan & Lew, 2018; Prashantham & Floyd, 2012). Although there are studies investigating collaborations between innovation-creating actors, their analytical focuses were on inter-organizational relationships between the firms and universities/research institutes (e.g., Lacetera, 2009; Lavie & Drori, 2012) and institutional supports in the local context (e.g., Lawton-Smith et al., 2008; Leydesdorff & Fritsch, 2006). As such, our research adopts a much deeper perspective on the analysis of Chinese IES learning for overseas market penetration. We identify a novel characteristic of these firms in the form of ‘*incubating-parenting platforms*’ for start-ups to develop and transform into IES for technological upgrading and cross-border venturing. Thus, our analyses and suggested propositions extend and build upon existing research on emerging market start-ups’ entrepreneurial behaviors and learning approaches (cf. Gao, Cui, Lew, Li, & Khan, 2021). By integrating the ambidexterity perspective, the study offers a fine-grained understanding of how emerging economy firms manage the tradeoff between exploitation and exploration and benefit by applying a sequential approach to learning and capability development to offset constraints associated with liabilities of emergingness as these firms close the competency gap in foreign markets.

Our study reveals how incubation-parenting platforms enable offspring firms originating from China to restructure and recombine various assets from parent firms and external investors to mobilize resources and leverage them through ambidextrous activities (see Table 2). This suggests that network-level resources embedded in different institutional settings provide an important base for rapid expansion into foreign markets. However, unlike VC-backed international start-ups, the IES process demonstrates two unique properties. First, beyond financial and network resources, the parent firm provides comprehensive platform support to integrate foreign venture closely into its corporate ecosystem. The foreign venture, rather than a passive recipient of parent resources, plays an autonomous and active role in pulling the specific platform support for its evolving needs through the IES process. Second, the continuous resource and knowledge exchange between the parent firm and foreign venture extends well beyond the IPO event (a typical exit point for most VCs). Even after the eventual spinning-off stage, this exchange relationship does not cease but is transformed into a different form of inter-firm relationship, i.e., strategic alliance.

Practical and Policy Implications

The findings of this study also offer valuable implications for managers and policymakers responsible for supporting emerging economy firms’ internationalization and corporate growth efforts. Unlike the conventional hands-on approach of FDI, our study shows that Chinese firms can adopt a platform approach to internationalization by incubating and parenting foreign entrepreneurial start-ups to develop significant platform ecosystems through the IES process and learning, thereby achieving corporate growth. The parent firms’ platform and network resources contribute to developing overseas entrepreneurial ventures’ knowledge integration and innovation competencies. While the success of overseas offspring is undoubtedly attributed to the strategic vision, responsibility, and managerial aptitude of their dedicated foreign co-founders who navigated uncharted global markets with sophistication and persistence, the presence of a safety net and support system from the parent firms offers an extra layer of protection. Thus, managers responsible for supporting internationalization need to tap into the resources of the parent firms as well as international network partners in developing entrepreneurial alertness and achieving international growth of entrepreneurial ventures (Lew, Zahoor, Donbesuur, & Khan, 2023). The policymakers could offer R&D support and financial incentives for the parent firms so they can further enhance their parenting skills and capabilities to support their foreign spin-off ventures. Such incubating-parenting platform supports cannot be substituted by VC or other accelerator modes, especially in the context of emerging economies where local markets for VCs are underdeveloped. As such, the platform approach to internationalization provides mutual benefits to the parent firm and the overseas entrepreneurial venture while ensuring sufficient separation between the two to enable organizational ambidexterity.

Our study also offers practical IPO-related implications for the managers of entrepreneurial start-ups supported by the incubating-parenting platform of their emerging economy parent firms. As shown in the cases, overseas start-ups of Chinese firms achieved international growth through successful IPOs sponsored by the incubating-parenting platform. The managers of emerging economy firms suffering from a lack of resources can minimize costs by reducing the need to establish a separate business infrastructure and tapping into global capital markets to scale up operations and enhance innovation capabilities through the active support of their parent firms. The initial public listing also enables the start-up to cultivate new strategic partnerships and acquire resources that accelerate its ability to upgrade value chains and sustain competitive advantages. Our findings also suggest that longer incubation cycles and post-IPO parenting via subcontracting and business-to-business transactions enable the start-ups to overcome deficiencies and risks associated with quality control and adoption of innovative business models as they pivot toward global venturing mode.

Internationalization involves considerable transactions and opportunity costs, and such costs can adversely affect the international corporate growth of resource-constraint firms originating from emerging markets. The findings of this study provide valuable insights to the managers and policymakers of emerging markets that they can alleviate these transaction costs by adopting an ambidextrous approach toward internationalization. Thus, the managers and policymakers of emerging markets are suggested to not only tap into the parent firms' knowledge and host-country resources but actively engage in learning and simultaneously pursue exploitation and exploration of resources and capabilities of their international network partners for corporate growth.

In this study, we identified important processes and strategies of international entrepreneurial spin-off adopted by emerging market firms as these firms expand into foreign markets and the vital role of the parent firms in the entire spin-off process- parent firms' incubation and platforms' contribution to the pre and post-spin-off process, which is of relevance to policymakers and managers of internationalizing entrepreneurial firms when implementing ambidextrous structure in their respective organizations. The findings of this study can offer vital guidance for managers and policymakers across various national environments to develop a nuanced sensitivity toward the learning strategies, technologies, and organizational practices for designing and experimenting with the proof-of-concept for both the pre- and post-spin-off processes of internationalizing entrepreneurial ventures.

The overall implication of this study is that emerging markets firms' internationalization can be supported and enhanced through close network partnerships and dual synergy created with international partners through the exchange and recombination of resources, as well as exploiting the home-based capabilities and resources of parent firms, which support ambidextrous learning and nurture a complementary set of capabilities for international opportunity discovery. Thus, managers and policymakers need to facilitate internationalizing firms to establish close network connections with R&D centers and international network partners through attending trade fairs and establishing close partnerships with industry associations to support the capability building of entrepreneurial ventures.

Future Research Directions

Our study has several limitations, which create opportunities for new research avenues. Firstly, our data was limited to two cases, partly due to the emergent nature of the phenomenon we investigated and the number of cases accessible. We used triangulation approaches with multiple sources of archival and primary data from each company to secure data reliability, but this method cannot compensate for potential sampling biases. A greater number of cases would enable us to enhance our theoretical sampling. For example, future research can improve theoretical generalizability by studying the IES process of firms with different ownership identities (e.g., state-owned vs. private) and comparing successful with unsuccessful cases. Furthermore, while we attribute the performance of IES to the properties of 'incubating-parenting platform' rooted in the historical corporate legacy of China's first cohort of successful high-tech firms, future research can explore the drivers of global value creation across broader and more diverse categories of new business incubators which encompass nonprofit and

for-profit sectors (Tübke & Empson, 2002). Anecdotal evidence suggests that some forms of the IES process have also been successfully utilized by innovative firms from other emerging markets (e.g., PayPM from India, Natura & Co from Brazil) (cf. KrAsia Insights, 2021; Reuters, 2022). Future research may use multi-country and diverse industrial sector settings to explore how firms adapt the IES process due to home institutional imprinting. In addition, adopting a longitudinal approach to compare across various generations of business incubators which serve as knowledge brokers can help create clarity on how organizational arrangements between multiple actors, such as universities, firms, and governments, and incubation/spin-off procedures enable resource combinations, upgrading of ambidextrous capabilities, and establishment of direct ties in international markets for start-ups to enter global markets. Such studies could combine multiple theoretical approaches such as ambidexterity (O'Reilly & Tushman, 2013; Raisch & Birkinshaw, 2008), real options (cf. McGrath, 1999), entrepreneurial ecosystems (cf. Acs, Stam, Audretsch, & O'Connor, 2017; Autio, Nambisan, Thomas, & Wright, 2018), and examine the IES from different institutional settings.

Following an inductive approach, our research design does not allow the explicit test of boundary conditions and, therefore, is limited to offering statistical generalizability. For instance, there may be organizational and environmental contingencies for the IES process. A challenge for emerging market firms engaged in cross-border venturing resides in their ability to develop a proprietary portfolio of technologies which underpin their international competitiveness. The cases examined in this study are established high-tech companies with abundant resources, research talent, and organizational capabilities to develop valuable technologies that can be transferred to their spin-off units for overseas ventures. Future studies can investigate different categories of organizations to identify what conditions and thresholds exist for creating an adequate base of technologies and knowledge needed to nurture overseas spin-offs. Applying a large-scale survey can help verify the factors which encourage parent firms to create spin-offs. Moreover, investigating relationships between the technology life cycle and the propensity of parent firms to establish IES are interesting research avenues. There is also a scope for future studies to examine the impact of geopolitics and trade wars on IES and internationalization of high-tech firms from China.

Lastly, we acknowledge that IES formation is a highly complex process embedded within the nexus of technology life cycles and radical innovation, such as the birth of new global industries, fluctuating consumer and product trends, and evolving capital market conditions which influence the risk-taking behaviors of entrepreneurs and investors. As such, future research should seek to capture such trends in order to map out enabling and constraining factors which shape the early growth trajectories of IES. Our in-depth investigation of how Chinese parent firms and their overseas entrepreneurial ventures leverage incubating-parenting platforms for IES serves to illustrate some important ways that innovative organizational designs can translate into unique asymmetrical advantages for international entrepreneurship, especially in high technology industries. Future studies can examine how internationalizing new entrepreneurial firms leverage ambidexterity to synergize their exploratory and exploitative learning for entering more lucrative markets in new global industries as these firms expand overseas. Such studies might explore the linkages between different approaches toward learning and their impact on financial performance.

Data availability statements. The authors confirm that the primary (interview) data supporting the findings of this study are available within the article. The secondary (archival) data that support the findings of this study are openly available in Open Science Framework (OSF) at <https://osf.io/b2ym8/>, DOI 10.17605/OSF.IO/B2YM8

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Notes

1. With written consent from the interviewees, the disclosure of their identities was permitted.
2. Key archival data (e.g., corporate documentation) included in the analyses of this study are accessible from the Open Science Framework (<https://osf.io/b2ym8/>).

Appendix

Table A1. Comparative summary of cases in the incubation stage from start-up to IPO

	PUC Founder	Technovator
Platform Technology	Founder Group provides PUC Founder with a license to its proprietary fingerprint algorithm to develop a commercial range of biometric products. The FingerTec product line was originally adapted from technology used in automated fingerprint identification systems for criminal investigation and civil registration purposes by various government public security divisions.	Tong Fang Group as China's largest supplier of building automation solutions and network integration, provides Technovator International with a wide array of proprietary technologies in remote monitoring, control, energy analytics, air conditioning, ventilation, heating, and IT integration to develop a new line of integrated building automation and energy management products.
Initial Seed Capital	Initial capital was secured from several sources – (1) Founder HK, a subsidiary of Founder Group which raised capital through IPO in HK Stock Exchange in 1996 became PUC Founder's principal investor, (2) Research funding from the Malaysia Research and Development Grant Scheme to support R&D expenses for initial product development, (3) Revenues from PUC Founder's electronic publishing and management information systems business.	Initial capital was secured from several sources – (1) Tong Fang Group and its investment holding company Resuccess became Technovator's principal shareholders, (2) Equity contributions by Mr. Seah Han Leong, the cofounder of Technovator made him a minority shareholder, (3) Strategic investments were made by two private equity firms Zana China Fund and CTC Capital which were introduced by Technovator International to Tong Fang Group.
Group Platform Resources	Founder Group provides PUC Founder with an array of business services including access to software and hardware sourced from other Founder subsidiaries such as Founder Electronics and Founder Information, top management leadership, Founder Group's brand name, R&D technical support and expertise, administrative and accounting support, and human resources.	Tong Fang Group provides Technovator with a broad spectrum of business services including software and hardware from other subsidiaries such as Tong Fang Artificial Environment and Tong Fang Security Technology Co., product distribution channels, management leadership, Tong Fang's brand name, R&D technical support and expertise, administrative and accounting support, and human resources
Internal Platform Ecosystem	PUC Founder's internal platform ecosystem comprised of three main business lines – electronic publishing, management information systems, and biometrics. Electronic publishing and management information systems constituted PUC Founders' initial core businesses which generated steady revenues. PUC Founder's biometrics division was in its nascent stages of R&D, requiring substantial capital to incubate and develop a new product line. Revenues from PUC Founder's two established business lines helped to subsidize the biometrics division to fund R&D incubation for developing its first biometric prototypes.	Technovator International's internal platform ecosystem comprises of three business lines – integrated building automation systems (iBAS), energy management systems, and control security systems. Technovator's iBAS products constitute an established business line that generates its primary revenue stream. Tong Fang Group and private equity investors also supplied the capital to acquire Distech Controls, a Canadian energy management systems provider. The acquisition enabled Technovator to build competitiveness in the energy systems management industry. Revenues from iBAS business are used to support ongoing incubation of its energy management systems business.

Table A2. Comparative summary of cases in the parenting stage from IPO to international takeoff

	PUC Founder	Technovator
Extended Parent Ownership	PUC Founder's successful IPO on the Bursa Malaysia in 2002 enabled it to raise a sufficient capital base for R&D and global business development. Rather than spinning off into an independent company, PUC Founder remained tethered to Founder Group via controlling equity ownership. Founder Group assumed its role as principal shareholder of PUC Founder with 35.90% ownership while PUC Founder's cofounder Mr. Teh Hong Seng held 10.59% ownership as the company's second largest minority shareholder.	Technovator International's successful IPO on the Hong Kong Stock Exchange in 2011 has enabled it to raise adequate capital to support its ongoing R&D and global expansion. Instead of spinning off into an independent company, Technovator International remains a subsidiary of Tong Fang Group. As the principal shareholder, Tong Fang Group held 32.98% of Technovator International while cofounder Mr. Seah Han Leong held 11.53% ownership as the firm's third largest minority shareholder following Zana China Fund which held 12.55%.
Group Platform Resources	Founder Group continues to provide PUC Founder with access to resources and business services in addition to enhancing its support in several respects. Founder Group helps to transfer two subsidiaries, Founder GlobalTech (HK) and Founder GlobalTech (Shenzhen) to PUC Founder to support its revenue stream and operational capabilities as it continues to incubate its nascent biometrics division. New efforts were made to help PUC Founder establish market legitimacy by enabling PUC Founder to access Founder GlobeTech's (HK) distribution services.	Tong Fang Group continues to provide Technovator International with ongoing resources in several respects. After establishment of Technovator's new subsidiary, Tong Fang Technovator International (Beijing), Tong Fang Group entered into an ongoing purchase agreement to provide raw materials including peripheral equipment, software, and other components utilized by Technovator Beijing in the production process. Other efforts have been made to help Technovator establish market legitimacy by tapping into Tong Fang Group's extensive sales network.
Intra-Group Platform Ecosystem	A series of recurrent related party transactions between Founder Group subsidiaries including Founder HK, Founder Century, Founder Electronics, Founder North America and Founder Order Computer System and PUC Founder were made to shore up its business growth. This included Founder Group subsidiaries entering a series of subcontracting arrangements with PUC Founder to provide services for the development, installation, and implementation of an advertising management system.	A series of recurrent party transactions between Tong Fang Group subsidiaries including Tong Fang Artificial Environment, Tong Fang Security Technology, Tong Fang Health, and Technology and Technovator were made to shore up its business growth. Technovator entered an ongoing subcontracting arrangement with Tong Fang Group to sell its iBAS and EMS products to Tong Fang Group and other affiliated parties for a period of three years. The ongoing subcontracting arrangement has been renewed until the end of 2016.

Table A3. Comparative summary of cases in the spin-off stage from international takeoff to final spin-off

	PUC Founder	Technovator
Global expansion	PUC Founder launched a five year 'Going Global' strategy in 2003 which led to the creation of a global distribution network culminating in the expansion of its presence to over 100 countries. By 2011 it recorded a profit growth of over 100%.	Technovator acquired Distech Controls in 2008 to diversify into EMS industry. The joint venture enables Technovator to benefit from Distech Control's proprietary software to upgrade the design of its EMS and iBAS systems while expanding its products and services to the North American market and optimize production for the PRC market. The collaboration enables Distech Controls to acquire 100% shares of Comtec and Acelia from a competitor in Paris, providing Technovator with access to other European markets for extending its global reach.
New Strategic Investors	To support its expansion in a competitive industry and diversify its revenue base, it entered into a conditional reverse acquisition agreement in 2010 with Red Hot Media International, an advertising and media company founded by another Malaysian Chinese entrepreneur in 1996. The entire stake of Red Media Asia, its core business unit would be injected into PUC Founder in exchange for a controlling stake of 62.48% in PUC Founder.	Technovator attracted new institutional and strategic investors to Distech Controls (including the Fonds of Solidarité, EnerTech, Samsung Ventures, and W2 Investments) for a combined fundraising round of \$38 million CAD in in 2013. The introduction of new investors enables Distech and its subsidiaries to expand its market expansion in each of their respective markets while shifting manufacturing to China for reducing costs. Through vertical integration, the combined company achieved a combined profit of \$18.8 million USD by 2014.
Asset reconfiguration	The parent firm Founder Group would dispose of its shares but retain a minority stake of 3.19%. Red Hot Media would utilize Founder Group's network to expand its advertising and media business in the Chinese mainland. PUC Founder announced the spin-off of Fingertec Worldwide for 100 million Malaysian ringgits in September 2014. In June 2015, it announced the disposal of its remaining assets in its biometric division over the next two quarters.	Technovator announces the sale of Distech Controls to Acuity Brands for \$242 million USD. Through this strategic transaction, Technovator secures a profit of \$95 million USD and achieved a grade A certification in the 'Integration of Design and Construction in Building Intelligence Engineering'. In July 2015 Tong Fang Group reached an agreement to transfer its remaining assets in integrated building automation, intelligent urban heating systems and intelligent rail transit systems businesses to Technovator International to complete its spin-off.

References

- Acs, Z. J., Stam, E., Audretsch, D. B., & O'Connor, A. 2017. The lineages of the entrepreneurial ecosystem approach. *Small Business Economics*, *49*(1): 1–10.
- Aguinis, H., & Solarino, A. M. 2019. Transparency and replicability in qualitative research: The case of interviews with elite informants. *Strategic Management Journal*, *40*(8): 1291–1315.
- Al-Aali, A., & Teece, D. J. 2014. Entrepreneurship and the theory of the (long-lived) international firm: A capabilities perspective. *Entrepreneurship Theory and Practice*, *38*(1): 95–116.
- Asmussen, C. G., Foss, N. J., & Pedersen, T. 2013. Knowledge transfer and accommodation effects in multinational corporations: Evidence from European subsidiaries. *Journal of Management*, *39*(6): 1397–1429.
- Autio, E., Nambisan, S., Thomas, L. D., & Wright, M. 2018. Digital affordances, spatial affordances, and the genesis of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal*, *12*(1): 72–95.
- Barkema, H. G., & Shvyrkov, O. 2007. Does top management team diversity promote or hamper foreign expansion? *Strategic Management Journal*, *28*(7): 663–680.
- Birkinshaw, J., Brannen, M. Y., & Tung, R. L. 2011. From a distance and generalizable to up close and grounded: Reclaiming a place for qualitative methods in international business research. *Journal of International Business Studies*, *42*(5): 573–581.
- Brannen, M. Y., & Voisey, C. J. 2012. Global strategy formulation and learning from the field: Three modes of comparative learning and a case illustration. *Global Strategy Journal*, *2*(1): 51–70.
- Buckley, P. J., Clegg, L. J., Voss, H., Cross, A. R., Liu, X., & Zheng, P. 2018. A retrospective and agenda for future research on Chinese outward foreign direct investment. *Journal of International Business Studies*, *49*(1): 4–23.
- Cannella Jr., A. A., Park, J. H., & Lee, H. U. 2008. Top management team functional background diversity and firm performance: Examining the roles of team member colocation and environmental uncertainty. *Academy of Management Journal*, *51*(4): 768–784.
- Cantwell, J. 1989. *Technological innovation and multinational corporations*. Oxford, UK: Basil Blackwell.
- Cantwell, J., & Piscitello, L. 2000. Accumulating technological competence: It's changing impact on corporate diversification and internationalization. *Industrial and Corporate Change*, *9*(1): 1–51.
- Cao, Q., Gedajlovic, E., & Zhang, H. 2009. Unpacking organizational ambidexterity: Dimensions, contingencies, and synergistic effects. *Organization Science*, *20*(4): 781–796.
- Carpenter, M. A., & Fredrickson, J. W. 2001. Top management teams, global strategic posture, and the moderating role of uncertainty. *Academy of Management Journal*, *44*(3): 533–545.
- Celo, S., & Chacar, A. 2015. International coherence and MNE performance. *Journal of International Business Studies*, *46*(5): 620–628.
- Chatterji, A. K. 2009. Spawn with a silver spoon? Entrepreneurial performance and innovation in the medical device industry. *Strategic Management Journal*, *30*(2): 185–209.
- Cheng, J. L. 1983. Interdependence and coordination in organizations: A role-system analysis. *Academy of Management Journal*, *26*(1): 156–162.
- Choi, Y., Cui, L., Li, Y., & Tian, X. 2020. Focused and ambidextrous catch-up strategies of emerging economy multinationals. *International Business Review*, *29*(6): 101567.
- Chung, W., & Alcácer, J. 2002. Knowledge seeking and location choice of foreign direct investment in the United States. *Management Science*, *48*(12): 1534–1554.
- Cui, L., & Aulakh, P. S. 2019. Emerging market multinationals in advanced economies. In R. Grosse & K. E. Meyer (Eds.), *The Oxford handbook of management in emerging markets*: 609–630. New York: Oxford University Press.
- Cui, L., Meyer, K. E., & Hu, H. W. 2014. What drives firms' intent to seek strategic assets by foreign direct investment? A study of emerging economy firms. *Journal of World Business*, *49*(4): 488–501.
- Cui, L., Fan, D., Guo, F., & Fan, Y. 2018. Explicating the relationship of entrepreneurial orientation and firm performance: Underlying mechanisms in the context of an emerging market. *Industrial Marketing Management*, *71*(5): 27–40.
- Cui, L., Fan, D., Liu, X., & Li, Y. 2017. Where to seek strategic assets for competitive catch-up? A configurational study of emerging multinational enterprises expanding into foreign strategic factor markets. *Organization Studies*, *38*(8): 1059–1083.
- Eisenhardt, K. M., & Graebner, M. E. 2007. Theory building from cases: Opportunities and challenges. *Academy of Management Journal*, *50*(1): 25–32.
- Fichman, M., & Levinthal, D. A. 1991. Honeymoons and the liability of adolescence: A new perspective on duration dependence in social and organizational relationships. *Academy of Management Review*, *16*(2): 442–468.
- Fiol, C. M., & Lyles, M. A. 1985. Organizational learning. *Academy of Management Review*, *10*(4): 803–813.
- Flick, U. 2009. *An introduction to qualitative research*. London: Sage.
- Foss, N. J., & Pedersen, T. 2019. Microfoundations in international management research: The case of knowledge sharing in multinational corporations. *Journal of International Business Studies*, *50*(9): 1594–1621.
- Gammeltoft, P., & Cuervo-Cazurra, A. 2021. Enriching internationalization process theory: Insights from the study of emerging market multinationals. *Journal of International Management*, *27*(3): 100884.
- Gao, Q., Cui, L., Lew, Y. K., Li, Z., & Khan, Z. 2021. Business incubators as international knowledge intermediaries: Exploring their role in the internationalization of start-ups from an emerging market. *Journal of International Management*, *27*(4): 100861.
- Glaser, B. G. 1998. *Doing grounded theory: Issues and discussions*. Mill Valley, CA: Sociology Press.

- He, S., Khan, Z., & Shenkar, O. 2018. Subsidiary capability upgrading under emerging market acquirers. *Journal of World Business*, 53(2): 248–262.
- Hennart, J. F. 2012. Emerging market multinationals and the theory of the multinational enterprise. *Global Strategy Journal*, 2(3): 168–87.
- Hsu, C. W., Lien, Y. C., & Chen, H. M. 2013. International ambidexterity and firm performance in small emerging economies. *Journal of World Business*, 48(1): 58–67.
- Huang, C., Conde, F., Cui, L., & Fu, Y. 2022. What motivates emerging economy firms to internationalize? A replication and extension of Ahsan et al. (2020) in the context of China. *Management and Organization Review*, 18(6): 1136–1169.
- Huber, G. P. 1991. Organizational learning: The contributing processes and the literatures. *Organization Science*, 2(1): 88–115.
- Ito, K., & Rose, E. L. 1994. The genealogical structure of Japanese firms: Parent-subsidiary relationships. *Strategic Management Journal*, 15(2): 35–51.
- Johanson, J., & Vahlne, J. E. 2009. The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership. *Journal of International Business Studies*, 40(9): 1411–1431.
- Johnson, P., Buehring, A., Cassell, C., & Symon, G. 2006. Evaluating qualitative management research: Towards a contingent criteriology. *International Journal of Management Reviews*, 8(3): 131–156.
- Keupp, M. M., & Gassmann, O. 2009. The past and the future of international entrepreneurship: A review and suggestions for developing the field. *Journal of Management*, 35(3): 600–633.
- Khan, Z., & Lew, Y. K. 2018. Post-entry survival of developing economy international new ventures: A dynamic capability perspective. *International Business Review*, 27(1): 149–160.
- Khan, Z., Lew, Y. K., & Marinova, S. 2019. Exploitative and exploratory innovations in emerging economies: The role of realized absorptive capacity and learning intent. *International Business Review*, 28(3): 499–512.
- Khan, Z., Rao-Nicholson, R., & Tarba, S. Y. 2018. Global networks as a mode of balance for exploratory innovations in a late liberalizing economy. *Journal of World Business*, 53(3): 392–402.
- Khan, Z., Amankwah-Amoah, J., Lew, Y. K., Puthusserry, P., & Czinkota, M. 2022. Strategic ambidexterity and its performance implications for emerging economies multinationals. *International Business Review*, 31(3): 101762.
- Kim, H., Wu, J., Schuler, D. A., & Hoskisson, R. E. 2020. Chinese multinationals' fast internationalization: Financial performance advantage in one region, disadvantage in another. *Journal of International Business Studies*, 51(7): 1076–1106.
- Ko, W. W., & Liu, G. 2019. How information technology assimilation promotes exploratory and exploitative innovation in the small-and medium-sized firm context: The role of contextual ambidexterity and knowledge base. *Journal of Product Innovation Management*, 36(4): 442–466.
- Kogut, B., & Chang, S. J. 1991. Technological capabilities and Japanese foreign direct investment in the United States. *The Review of Economics and Statistics*, 73(3): 401–413.
- Kotabe, M., Parente, R., & Murray, J. Y. 2007. Antecedents and outcomes of modular production in the Brazilian automobile industry: a grounded theory approach. *Journal of International Business Studies*, 38(1): 84–106.
- KrAsia Insights. 2021. A closer look at Paytm's (formerly) USD 20 billion empire. [Cited 24 December 2023]. Available from URL: <https://kr-asia.com/a-closer-look-at-paytms-usd-20-billion-empire/>
- Kumar, V., Singh, D., Purkayastha, A., Popli, M., & Gaur, A. 2020. Springboard internationalization by emerging market firms: Speed of first cross-border acquisition. *Journal of International Business Studies*, 51(2): 172–193.
- Lacetera, N. 2009. Different missions and commitment power in R&D organizations: Theory and evidence on industry-university alliances. *Organization Science*, 20(3): 565–582.
- Lavie, D., & Drori, I. 2012. Collaborating for knowledge creation and application: The case of nanotechnology research programs. *Organization Science*, 23(3): 704–724.
- Lawton-Smith, H., Romeo, S., & Bagchi-Senb, S. 2008. Oxfordshire biomedical university spinoffs: An evolving system. *Cambridge Journal of Regions, Economy and Society*, 1(2): 303–319.
- Lew, Y. K., Sinkovics, R. R., Yamin, M., & Khan, Z. 2016. Trans-specialization understanding in international technology alliances: The influence of cultural distance. *Journal of International Business Studies*, 47(5): 577–594.
- Lew, Y. K., Zahoor, N., Donbesuur, F., & Khan, H. 2023. Entrepreneurial alertness and business model innovation in dynamic markets: international performance implications for SMEs. *R&D Management*, 53(2): 224–243.
- Leydesdorff, L., & Fritsch, M. 2006. Measuring the knowledge base of regional innovation systems in Germany in terms of a Triple Helix dynamics. *Research Policy*, 35(10): 1538–1553.
- Li, L., Liu, X., Yuan, D., & Yu, M. 2017. Does outward FDI generate higher productivity for emerging economy MNEs? Micro-level evidence from Chinese manufacturing firms. *International Business Review*, 26(5): 839–854.
- Li, Y., & Cui, L. 2018. The influence of top management team on Chinese firms' FDI ambidexterity. *Management and Organization Review*, 14(3): 513–542.
- Lord, M. D., Mandel, S. W., & Wager, J. D. 2002. Spinning out a star. *Harvard Business Review*, 80(6): 115–121.
- Luo, Y., & Bu, J. 2018. Contextualizing international strategy by emerging market firms: A composition-based approach. *Journal of World Business*, 53(3): 337–55.
- Luo, Y., & Rui, H. 2009. An ambidexterity perspective toward multinational enterprises from emerging economies. *Academy of Management Perspectives*, 23(4): 49–70.
- Luo, Y., & Tung, R. 2007. International expansion of emerging market enterprises: A springboard perspective. *Journal of International Business Studies*, 38(4): 481–498.

- Lyles, M., Li, D., & Yan, H. 2014. Chinese outward foreign direct investment performance: The role of learning. *Management and Organization Review*, **10**(3): 411–437.
- Madhok, A., & Keyhani, M. 2012. Acquisitions as entrepreneurship: asymmetries, opportunities, and the internationalization of multinationals from emerging economies. *Global Strategy Journal*, **2**(1): 26–40.
- March, J. G. 1991. Exploration and exploitation in organizational learning. *Organization Science*, **2**(1): 71–87.
- Markides, C. C. 2013. Business model innovation: what can the ambidexterity literature teach us? *Academy of Management Perspectives*, **27**(4): 313–323.
- McGrath, R. G. 1999. Falling forward: Real options reasoning and entrepreneurial failure. *Academy of Management Review*, **24**(1): 13–30.
- McMullen, J. S., & Dimov, D. 2013. Time and the entrepreneurial journey: The problems and promise of studying entrepreneurship as a process. *Journal of Management Studies*, **50**(8): 1481–1512.
- Miles, M. B., & Huberman, A. M. 1994. *Qualitative data analysis: An expanded sourcebook*, 2nd ed. Beverly Hills, CA: Sage.
- Minbaeva, D., Pedersen, T., Björkman, I., Fey, C. F., & Park, H. J. 2003. MNC knowledge transfer, subsidiary absorptive capacity, and HRM. *Journal of international business studies*, **34**(6): 586–599.
- Narula, R. 2012. Do we need different frameworks to explain infant MNEs from developing countries? *Global Strategy Journal*, **2**(3): 188–204.
- O'Reilly III C. A., & Tushman, M. L. 2013. Organizational ambidexterity: Past, present, and future. *Academy of Management Perspectives*, **27**(4): 324–338.
- Pettersen, I. B., & Tobiassen, A. E. 2012. Are born globals really born globals? The case of academic spin-offs with long development periods. *Journal of International Entrepreneurship*, **10**(2): 117–141.
- Phillips, D. T. 2002. A genealogical approach to organizational life chances: the parent progeny transfer among Silicon Valley law firms, 1946–1996. *Administrative Science Quarterly*, **47**(3): 474–506.
- Pitelis, C. N., & Teece, D. J. 2010. Cross-border market co-creation, dynamic capabilities and the entrepreneurial theory of the multinational enterprise. *Industrial and Corporate Change*, **19**(4): 1247–1270.
- Porter, M. E. 1996. What is strategy? *Harvard Business Review*, **74**(6): 61–78.
- Prashantham, S., & Floyd, W. S. 2012. Routine microprocesses and capability learning in international new ventures. *Journal of International Business Studies*, **43**(6): 544–562.
- Pratt, M. G., Rockmann, K. W., & Kaufmann, J. B. 2006. Constructing professional identity: The role of work and identity learning cycles in the customization of identity among medical residents. *Academy of Management Journal*, **49**(2): 235–262.
- Qureshi, I., Kistruck, G. M., & Bhatt, B. 2016. The enabling and constraining effects of social ties in the process of institutional entrepreneurship. *Organization Studies*, **37**(3): 425–447.
- Raisch, S., & Birkinshaw, J. 2008. Organizational ambidexterity: Antecedents, outcomes, and moderators. *Journal of Management*, **34**(3): 375–409.
- Ramamurti, R. 2012. What is really different about emerging market multinationals? *Global Strategy Journal*, **2**(1): 41–47.
- Reuters. 2022. Brazil's Natura mulls U.S. IPO, spin-off of luxury Aesop brand. [Cited 24 December 2023]. Available from URL: <https://www.reuters.com/markets/deals/brazils-natura-mulls-spin-off-ipo-fund-aesop-expansion-2022-10-17/>
- Rose, E. L., & Ito, K. 2005. Widening the family circle: spin-offs in the Japanese service sector. *Long Range Planning*, **38**(1): 9–26.
- Shapiro, J. M., Ozanne, J. L., & Saatcioglu, B. 2008. An interpretive examination of the development of cultural sensitivity in international business. *Journal of International Business Studies*, **39**(1): 71–87.
- Stettner, U., & Lavie, D. 2014. Ambidexterity under scrutiny: Exploration and exploitation via internal organization, alliances, and acquisitions. *Strategic Management Journal*, **35**(13): 1903–1929.
- Strauss, A., & Corbin, J. 1998. *Basics of qualitative research: techniques and procedures for developing grounded theory*. Thousand Oaks, CA: Sage Publication.
- Styles, C., & Genua, T. 2008. The rapid internationalization of high technology firms created through the commercialization of academic research. *Journal of World Business*, **43**(2): 146–157.
- Sun, X., Rong, N., Sun, M., & Zhu, F. 2023. Combining structural and sequential ambidexterity: A configurational approach using fsQCA. *Management and Organization Review*, **19**(4): 803–837.
- Tang, J. T., Tang, Z., Marino, L. D., Zhang, Y. L., & Li, Q. W. 2008. Exploring an inverted U-shape relationship between entrepreneurial orientation and performance in Chinese ventures. *Entrepreneurship Theory and Practice*, **32**(1): 219–39.
- Tsang, E. W. 2016. *The philosophy of management research*. London: Taylor & Francis.
- Tübke, A. 2004. *Success factors of corporate spin-offs*. New York: Springer.
- Tübke, A., & Empson, T. 2002. Companies as incubators. *The International Journal of Entrepreneurship and Innovation*, **3**(4): 257–264.
- Tushman, M. L., & O'Reilly III, C. A. 1996. Ambidextrous organizations: Managing evolutionary and revolutionary change. *California Management Review*, **38**(4): 8–29.
- Van Maanen, J. 1979. The fact of fiction in organizational ethnography. *Administrative Science Quarterly*, **24**(4): 539–550.
- Wang, C., & Zhang, X. E. 2022. Binary effects of exploratory and exploitative learning on opportunity identification: The different moderations of environmental munificence and entrepreneurial commitment. *Asian Business & Management*, **21**(4): 497–523.

- Wang, S. L., Luo, Y., Lu, X., Sun, J., & Maksimov, V. 2014. Autonomy delegation to foreign subsidiaries: An enabling mechanism for emerging-market multinationals. *Journal of International Business Studies*, 45(2): 111–130.
- Wezel, F. C., Cattani, G., & Pennings, J. M. 2006. Competitive implications of interfirm mobility. *Organization Science*, 17(6): 691–709.
- Zahoor, N., Khan, Z., Marinova, S., & Cui, L. 2024. Ambidexterity in strategic alliances: An integrative review of the literature. *International Journal of Management Reviews*, 26(1): 82–109.
- Zahra, S. A., Ireland, R. D., & Hitt, M. A. 2000. International expansion by new venture firms: International diversity, mode of market entry, technological learning, and performance. *Academy of Management Journal*, 43(5): 925–950.
- Zucchella, A., & Magnani, G. 2016. *International entrepreneurship: theoretical foundations and practices*. London: Palgrave Macmillan.

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