
Editorial

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1 Introduction

As emerging countries are increasingly gaining prominence in the global economic arena, significant emphasis has been placed on understanding how latecomer firms from these countries can technologically learn, innovate, and successfully catch-up with their counterparts in advanced economies (Kim and Nelson, 2000; Wang et al., 2012). In addition, an increasing number of R&D facilities from advanced countries are locating in emerging countries with an effort to source new knowledge and make full use of new opportunities unleashed by these emerging economies (Liu and Chen, 2012; Reddy, 1997; von Zedtwitz et al., 2004). As a result, emerging countries have become an important innovation playground complementing the traditional R&D bases in advanced countries. The innovation arena thus becomes flat including advanced and emerging countries in today's global competition era.

However, innovation research reveals an asymmetry between advanced and emerging countries. Current innovation theories and practices, mainly derived from the advanced economies and newly industrialised economies, such as Japan, South Korea, Taiwan, and Hong Kong, often fail to provide firms and governments with satisfactory guidance in the context of these new emerging countries (Altenburg et al., 2008; Hobday, 1995). For instance, the existing wisdom of latecomers' technological learning and catch-up, generally drawn from the experiences of Japan and South Korea has long been debated by academic and business communities for its inapplicability in these new emerging countries (Fukugawa, 2009; Song et al., 2011). Because the international economic and technical conditions as well as domestic factor endowments, are largely different from the heyday when East Asian newly industrialised economies were catching up, there thus is a need of new innovation theories for these emerging countries (Chen and Qu, 2003; Liu, 2005; Ning, 2009). Meanwhile, the focus of international business and innovation scholars lies in how global technological advanced countries tap into opportunities in emerging countries, while the perspective from emerging host countries is neglected (Dunning and Lundan, 2009).

Thus, we know very little about innovation in emerging countries compared to knowledge and theories drawn from the experiences of advanced economies. In this special issue, rather than focusing on the whole story about innovation in emerging countries which is a large topic area, we try to shed some light on the topic of collaborative innovation. Collaborative innovation is still a somewhat new concept, but has been gaining momentum over the last decade (Chesbrough, 2003). The collaborative innovation paradigm can be described as a new model where firms collaborate with different innovation parties, such as universities, research institutes, governments and other firms to generate superior innovation (Cassiman and Veugelers, 2006; Laursen and Salter, 2006; Singh, 2005). Accordingly, the new paradigm in emerging economies assumes that firms, universities, governments, research institutes and other firms should team up to reap the new opportunities they have unleashed in terms of the rapid growth of domestic markets, a burgeoning pool of skilled labour, accumulated capital, and low factor costs, as well as what the globalisation brings, such as global technology markets and de-integrated production, global innovation collaboration networks, and rapid foreign direct investments (Wang et al., 2013; Zhang et al., 2011). The collaborative effects of innovation can take place in the forms of sharing technology and other research resources, reduction of repeat research investment, rapid technology development and diffusion, combinations of low factor costs with advanced technology, domestic

technology with foreign technology, and on various intersections, such as between market and technology, existing technology applications and emerging technology research, internal innovation and external collaboration.

To better understand this new innovation paradigm in emerging countries, this special issue has collected five high-quality papers investigating these phenomena from outward (international) and inward (national) perspective. More specifically, two papers focus on the international perspective by proposing a framework for assessing the potential for being an international innovation collaboration partner when viewing an emerging country as a whole. In the same line, another contributor explores the motives for international cooperation on R&D and innovation between Argentinean and Spanish companies. Within the boundary of an emerging country, three papers are collected to present how latecomer firms collaborate with other agents for knowledge and innovation. In the following sections, the main findings of these papers are summarised.

2 Looking outward: an international perspective of collaborative innovation in emerging countries

Since the 1990s, cross-border innovative collaborations have risen rapidly and have been dominated by advanced multinationals seeking knowledge sources and opportunities, first among developed countries, and more recently in emerging countries (Archibugi and Iammarino, 1999). New emerging countries thus increasingly enter into the world innovation playground through being either a new player or potential partner of counterparts in advanced countries. In this new paradigm, the question of how to choose an innovation collaboration partner is becoming more and more relevant for firms seeking to tap into knowledge base of other countries. In this perspective, a firm is confronted by the question of which country it should enter, and what location in that country is appropriate for them to locate their R&D facilities. Extensive previous literature has been dedicated to overseas location choice at the micro or macro levels (Kumar, 2001; Song et al., 2011). At the macro level, particularly from a methodological aspect there is limited research. To address this question, in 'A framework for assessing innovation collaboration partners and its application to BRICs', Giuditta De Prato and Daniel Nepelski develop a methodological framework to evaluate innovation collaboration partners based on commonly used patent documents registered in the United States Patent and Trade Office. Specifically, in their framework, they present four steps to assess a potential country for cross-border innovation collaboration. These include: measuring a country's inventive performance, mapping a country's technological specialisation patterns, evaluating its openness to foreign innovation partners, and finally assessing the economic potential of technology developed by the country's inventors. This framework was validated by using the case of BRIC countries. The authors thus put the cross-innovation perspective forward, and present a convincing way to assess a country; particularly an emerging country's potential for being a partner in the global innovation system.

Motives for international innovation collaboration have been widely discussed in the literature with an asymmetric focus on advanced multinationals, but relatively little effort has made so far on emerging multinationals (McCann and Acs, 2011). In most cases, emerging market multinationals are assumed to play a passive role in the international

innovation collaboration. To address the imbalance in this research theme, in ‘Motives for international cooperation on R&D and innovation: empirical evidence from Argentinean and Spanish firms’, Mónica Edwards-Schachter and her colleagues discuss the strategic motives and firm characteristics that affect international cooperation for R&D and innovation between Argentina and Spain. Based on a dataset combining with both qualitative and quantitative data, they found that cross-border innovation collaboration is influenced by a complex interplay of intentions and practical opportunities. Patterns of interaction between firms are strongly affected by the general characteristics of the national innovation systems and sectorial activity, and by the different modes of governance of collaboration partnering among organisations. Moreover, benefiting from their unique research setting, selectively focusing on ‘both sides’ of Spanish and Argentinean firms, they have an interesting finding that a diverging motive among partners negatively influences the propensity to form a partnership. To our best knowledge, this is one of the first contributions in current literature to put partners in both developing and developed countries in the same analytical framework.

3 Looking inward: a national perspective of collaborative innovation in an emerging country

In the context of a single emerging country, our knowledge about innovation collaboration learnt from advanced countries appears to be challenged. Numerous differences exist among emerging and advanced countries, which might lead to different behaviours, results, and evolution processes in innovation collaboration. For example, differences are frequently observed such as institutional stability, asymmetric technological resources and capability distribution, in universities, firms, and other institutes, and in the technology development pattern with a small number of rapid technological growing firms accompanied with a large number of firms with limited technological capability (Liu, 2005; Wang and Zhou, 2013). Thus, how institutional changes, resource endowment structure shifting, and firm growth itself together shape collaboration for R&D and innovation in emerging countries becomes a promising research area. In order to shed some light on this issue, three contributions are carefully selected in this special issue. A short summary of these three papers are presented as follows.

In ‘Collaboration partner portfolio along the growth of Chinese firms’ innovation capability: configuration, evolution and pattern’, Rongkang Ma, Fengchao Liu, and Yutao Sun show that Chinese firms’ R&D collaboration partner portfolios shift through a longitudinal perspective. They found that firms located in China have different innovation strategies. Technologically relatively less advanced firms from mainland China appear to be more active in external R&D collaboration than those from Taiwan and other advanced regions. Meanwhile, Chinese mainland firms with different technological capability growth rates have different R&D partner portfolio characteristics. Specifically, firms with a high growth rate intended to have a smaller number of partners, and a lower level of repeated partnerships, and higher collaboration intensity. Firms with a low growth rate are characterised by the opposite features. Moreover, with the institutional reform of Chinese research institutes, it is observed that the role of research institutes become less important for Chinese mainland firms compared with a rise of universities’ role in external R&D collaboration. This is

consistent with the work of Zhou (2012) and Zhang et al. (2013), which emphasised the prominent role of universities in an emerging country's technological catch-up. Following this hypothesis, Wei Wei and his colleagues test the impact of founders' experiences in forming relationships among new start-ups and universities where knowledge transfer from university to industry is assumed to be important for industrial partners. Exploring factors influencing the link between university and industry thus becomes a crucial research question in emerging countries because findings in this perspective can be directly used to improve university knowledge transfer toward industry given the fact that most universities in these countries are supported by tax-payers, and are normally more technological advanced than firms. Wei Wei et al.'s work just strengthens our understanding pertaining to this important issue. They found that firms whose founding teams have a higher proportion of alumni and a lower proportion of highly-educated individuals are more likely to build up formal ties with the focal local alma mater.

In emerging countries, due to weak intellectual property protection systems, asymmetric technological capabilities between firms and universities, and among different regions, latecomer firms have to leverage internal and external environments to pursue innovation. In 'Contingencies in collaborative innovation: matching organisational learning with strategic orientation and environmental munificence', Jie Zhao et al. follow the absorptive capacity theory by differentiating organisational learning into exploratory and exploitative learning, and further test the role of contingencies including internal strategic orientation and external environmental munificence in innovation collaboration performance. It is found that exploitative learning coupled with opportunity-driven strategic orientation and low environmental munificence enhances collaborative innovation performance, while exploratory learning contingent on resource-driven strategic orientation and high environmental munificence strengthens collaborative innovation performance.

In sum, in an increased internationalised innovation, whatever a country or a firm like or unlike, they are increasingly involved into this new playground. However, to what extent similarities or differences we could draw from different countries, such as advanced versus emerging countries in this study is hard to expected. But one thing a certain is there is a complex interplay between a firm's inherent motivation and external conditions when this firm seek to go abroad for innovation. In this special issue, we focused on innovation collaboration happened internationally and nationally. Due to the volume of this special issue and the limited time that we were able to deliver to, we just shed a little light on this issue. We believe future study can add more new knowledge for both academia, policy-makers, and firm managers.

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