

## Business ecosystem research agenda: more dynamic, more embedded, and more internationalized

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# **Business Ecosystem Research Agenda: More Dynamic, More Embedded and More Internationalized**

## **Abstract**

We explore the emerging body of research focusing on business ecosystems (BEs). The study of inter-organizational relationships has evolved from a focus at the level of firm, to the supply chain, the platform, and now towards the BE. The co-evolution of inter-related organizations is an essential element of BE research, rather than static structure. The success of leading internet companies in Asia, such as Alibaba in China, Naver in South Korea, Baharti Airtel in India, and Rakuten in Japan, reflects their strategies and practices of leveraging BEs within a fast-changing age. In order to better understand the mechanisms of BEs, in particular within the Asian context, we propose three key research directions within BEs, including dynamics, embeddedness and internationalization.

## **Keywords:**

Dynamics, Embeddedness, Internationalization, Institutional, Business Ecosystems, Research Agenda

## **1. Asian business ecosystem studies, a research agenda**

The study of business ecosystem (BE) research has attracted interest during the last decade. However, the main bulk of studies have focused on Western ecosystem leaders and conditions. For example, in a recent review of BE studies (Jacobides et al. 2018), only two studies relating to Asia could be identified. Nevertheless, in practice, leading Asian firms such as Rakuten (Japan), Naver (South Korea) and Alibaba (China) have developed ecosystem-leading positions. There are also other examples of innovation-driven Asian firms following their example and deviating from the traditional way of doing business in Asia (see Freeman 1988; Greve 2005; Imai and Itami 1984; Witt and Redding 2014; Nolan and Wang 1999). Nonetheless, these very successful firms have not gained equal attention from ecosystem researchers compared to their Western counterparts, despite the fact that it is well known that Western and Eastern societies differ in several significant business aspects. We therefore feel that this provides good grounds for proposing a specific future Asian BE research agenda.

A BE is defined as an economic community in which a variety of inter-related stakeholders co-evolve (Moore 1993, 1996; Iansiti and Levien 2004a). Several review articles have been conducted, with different focuses, on BE research. For example, Dedehayir, Mäkinen and Ort (2016) studied roles in BE; de Vasconcelos Gomes et al. (2016) focused on the innovation dimension of BE; Tsujimoto et al. (2017) aimed to provide a consensus definition of the BE concept, and Jacobides et al. (2018) studied why and how ecosystems emerge. In this paper, we aim to identify future perspectives for BE research in an Asian context.

With its roots in systems theory and biological evolution (Moore 1993), BE theory has

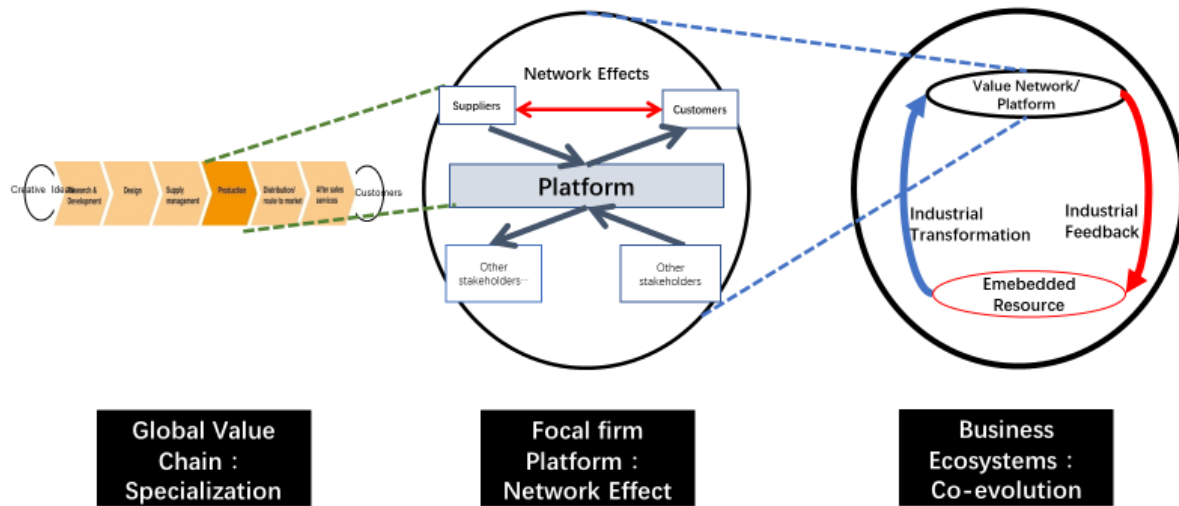
developed various theoretical cross-disciplinary concepts that stretch far beyond an ecological metaphor for strategy thinking (Adner and Kapoor 2010; Gawer and Cusumano 2013; Rong and Shi 2015; Wareham, Fox, and Cano Giner 2014). In this review, we depart from two major streams of research that have strongly affected BE research: network theory (Shang and Shi 2013; Rong et al. 2015a) and platform theory (Gawer and Cusomano 2014, Winter et al. forthcoming).

Asian economies are well known for the intricate relationship that exists between social and business interactions, and this has implications for the view on the traditional value chain (Avgerou and Li 2013; Ou, Pavlou, and Davison 2014; Martinsons 2008). Therefore, recommendations have also been made that the dynamic relationships between social networks and value networks be subject to study (Shang and Shi 2013; Rong et al. 2015b). Additionally, the development of networks has a close relationship with platform development, and a platform of some sort – whether it is a technology or just a venue for meeting (virtually or in person) – is essential for BEs. These relationships are illustrated in Figure 1. Previous platform studies have also established that Asian firms show high levels of innovation, and that these firms have a good track record in competing with global firms (Fuchs 2015; Jiang 2013; Shi and Liang 2015; The Economist 2011).

Although previous studies provide evidence of lessons learned from BE studies in the Asian context, knowledge regarding the role of networks and platforms in Asian BEs is very limited. The purpose of this paper is therefore to propose a future Asian BE agenda.

The research agenda is created by drawing on, and combining, literature on three streams:

(1) BEs, (2) networks and (3) platforms. Focusing on the Asian context, we initiate the discussion by first reviewing changes in the traditional value chain, and then go on to discuss the development of platforms and co-evolution in BEs. As a next step, we discuss and propose three research directions. Finally, we draw conclusions.



**Figure 1. The Evolutionary Path of Business Competition**

**1.1. Global value chain: Specialization and networks**

The traditional view of competition is that firms compete according to the quality and price of their products, and the effectiveness and efficiency of the value chain in delivering their products (Ferdows 1997; Fleisher and Bensoussan 2003; Sanchez 1995; Shi and Gregory 1998). As a consequence, firms have been focused on optimizing structural and infrastructural elements and making strategic choices regarding key tasks and capabilities to create value for customers and remain competitive in the market (Hill and Hill 2009). As part of the traditional view on competition, firms also focus on specializing their business scope and retaining their

core competences, while outsourcing those that are non-core (Christopher 2005; Kano 2017; Quinn and Hilmer 1994). The concept of value chain core competency has received increasing attention from managers and decision makers in terms of thinking about how to nurture and develop competences for competitive advantage (Hafeez, Zhang and Malak 2002; Javidan 1998; Prahalad and Hamel 2000).

Nonetheless, over the last two decades, along with the rapid development of outsourcing strategies and practices, we have seen a wave of globalization processes of multinational companies restructuring their operations internationally and developing international manufacturing networks (Colotla, Shi and Gregory 2003; Shi and Gregory 1998). The vast majority of manufacturing activities are being carried out in dispersed, but interdependently coordinated, locations around the world (Rudberg and Olhager 2003). Through networking, companies can gain better resources and partners, thereby improving their value chain output by increasing their efficiency and agility and reducing lead-time (Lakhani, Kuruvilla and Avgar 2013). Thus, from a traditional viewpoint, the success of business competition resides in management of the value chain, whether it is local or global (Antràs and Chor 2013; Gereffi, Humphrey and Sturgeon 2005; Kogut 1984).

Although it has brought valuable knowledge to the research community, the theory of value chains suffers from a problem: it is limited to issues of managing a sequential, controllable chain of events. Value chain theory therefore lacks the capability of explaining the dynamics and unforeseen events that firms experience in practice (Peppard and Rylander 2006; Sherer 2005). Thus, in parallel with the development of value chain theory, the theory of value networks developed. This perspective brings knowledge about key dimensions, such as process

change and trust mechanisms (Sherer 2005). The notion of network is also important since networks can bring access to resources that the firm would otherwise lack (Birley 1985). Studies of value networks have brought significant knowledge about the dynamics in business life. For example, Christensen and Rosenbloom (1995) explained that new entrants can create technological disruption by managing emerging value networks. Indeed, value networks have been studied in a number of industries, such as e-commerce (Sherer 2005; Leong et al 2016), mobile operators (Peppard and Rylander 2006) and wireless communication (Pagani and Fine 2008), and for the purpose of creating industrial symbioses (Hein et al. 2017).

A number of value network studies have also taken an Asian perspective. For example, Funk (2009) studied the mobile phone industry in Japan; Shoulian and Jianglei (2003) studied the Chinese telecommunication industry; Bu and Gao (2010) studied the network trading environment in China; Lin and Zhang (2005) studied the Publishing industry in Taiwan; and Wang, Lai and Hsiao (2015) studied mobile application services in Taiwan.

A feature of value networks that makes them particularly interesting to study is the fact that the structures and contents of the value network are always changing (Allee 2000; Lin and Zhang 2005). Such dynamics are of special interest from a BE perspective, since BEs consist of a combination of value chains and value networks.

## ***1.2. Focal firm platform: Network effect***

Since early 2000, with the rapid emergence and business application of the internet, more and more platform-based business model have grown (Evans and Schmalensee 2010). Platform

competition has received considerable attention in recent research (Tiwana 2015) across many industry sectors; for example, media (Reisinger 2012), broadband (Lee 2006), pay TV (Weeds 2016), online video (Liu 2013) and software (Economides and Katsamakas 2006), videogame (Cennamo and Santalo 2013). In the era of value-chain-centric businesses, firms could create value from information asymmetry. However, in the age of platform-based business, suppliers can instead link with customers directly, as information becomes available (Halaburda and Yehezkel 2013). Focal firms create value by accumulating more suppliers and customers, rather than through agency work (Armstrong 2006). Moreover, the value is co-created with various stakeholders, including complementary providers and customers (Scholten and Scholten 2012; Pera, Occhiocupo and Clarke 2016).

Platform competition emphasizes the role of network effects (Cennamo and Santalo 2013; Chakravorti and Roson 2006). That is, the value of a product/service increases in line with the number of people that use it. This indicates a two-sided market to explain the network effect in platform-based business competition: the focal firm will earn more benefits if its platform is home to more users, from both supply and demand sides (Katz and Shapiro 1994; Parker and Van Alstyne 2005; Rochet and Tirole 2003, 2006; Shankar and Bayus 2003). For instance, in the ICT (Information Communications Technology) industry the more complementors join the ecosystem to supply complementarities, the more valuable the platform becomes to consumers due to a greater variety of choice (Scholten and Scholten 2012). Hence, the network effect between supply and demand sides is key to sustaining the platform business (Armstrong 2006; Li and Pénard 2014; Rochet and Tirole 2003). Management scholars have also proposed a similar concept to restructure the industry and reduce the transaction cost between partners in



order to leverage industrial-level innovation (Gawer and Cusumano 2014; Wulf and Butel 2017).

Platforms have become a core foundation to many technology industries, not only enabling new products and services but also influencing strategies, shaping business models, and even transforming entire industries (Basole and Karla 2011). For example, in the software industry, the platform concept has shifted business competition toward a platform-centric ecosystem (Tiwana, Konsynski and Bush 2010). Platform research has been extended into several streams, including pricing structure over supply and demand (Armstrong 2006), platform competition (Zhu and Iansiti 2012), suppliers' technology strategy (Cusumano 2010) and customers' multi-homing strategy (Landsman and Stremersch 2011), as well as some social issues in the platform (Suarez 2005). Furthermore, various complementors besides the focal firm with the platform have been studied in order to identify the determinants of successfully nurturing a platform-based ecosystem (Boudreau and Jeppesen 2015; Kapoor and Agarwal 2017; Pierce 2009).

### ***1.3. Business ecosystem: Co-evolution***

Due to the network effect, a large number and range of stakeholders accumulate around the platform, which forms the BE. A BE, in particular a healthy one, is believed to reinvent value (Kandiah and Gossain 1998; Li 2009; Mäkinen and Dedehayir 2012) and brings competitive advantages to companies participating in it (Adner 2006; Clarysse et al. 2014) by initiating, identifying and integrating stakeholders to create value in the ecosystem (Rong et al. 2015b; Winter et al. 2018). The concept of BE is also believed to be capable of better explaining multi-sided business competition (Boudreau and Lakhani 2009; Eisenmann, Parker and Van

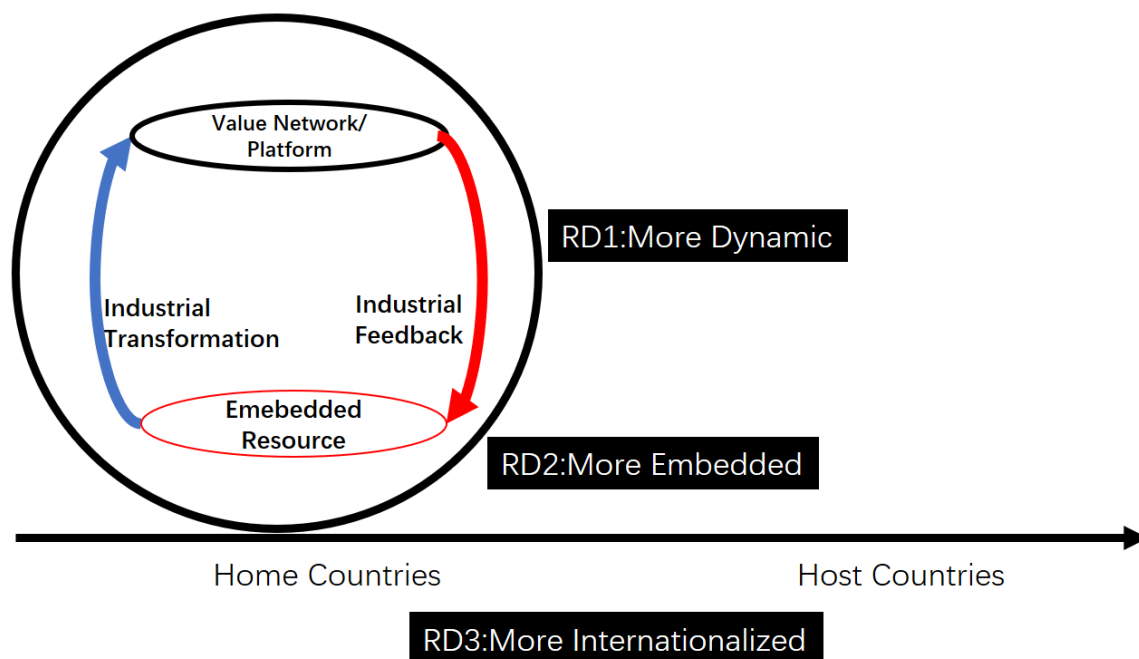
Alstyne 2006;). Obviously, competition is no longer limited to being among individual firms, as firms are now relying on a network of business partners; thus, the competition is BE against BE (Gawer and Cusumano 2014; Liu and Rong 2015; Rong et al. 2015a).

Stakeholders in a BE can be tightly or loosely coupled. Some are organized into tight value networks or platforms, whilst others are still fragmented and loosely connected with each other (Iansiti and Levien 2004a; Shi and Shi 2017). Those loosely coupled stakeholders can be mobilized with a specific vision and embedded into a new value chain. In return, all of the newly created business will extend the embedded ecosystem's resource pool. From this perspective, the key to the success of a BE is co-evolution among stakeholders and co-creation of value to customers (Adner 2006; Iansiti and Levien 2004b). The concept of BE highlights the process of co-evolution of industrial systems and their dynamic environment, which is full of uncertainties but also business opportunities (Breslin 2011; Moore 2006; Porter 2006; Rong et al. 2015a; Zhang and Liang 2011).

Companies in a BE are not only working cooperatively and competitively (or co-competitively (Basole et al. 2015; Gueguen 2009)), but also co-evolving around a new innovation to support new products and/or services to satisfy customer needs (Hearn, Roodhouse and Blakey 2007; Moore 1993; Rong et al. 2010). The term co-evolution originated in biology. It refers to successive changes among two or more ecologically interdependent but unique species, such that their evolutionary trajectories become intertwined over time (Hackney, Burn and Salazar 2004). Within the BE, the evolution of one company will impact the evolution of others; hence, the core of the BE is co-evolution in a mutually beneficial manner (Xiaoren, Ling and Xiangdong 2014), where co-evolution can be explained as a result of the biological metaphor

adoption (Corallo and Protopapa 2007). A company that undertakes strategic planning without understanding the impact on the BE as a whole is ignoring the reality of the networked environment in which it operates (Iansiti and Levien 2004b), while the “keystone”, leading companies have a stronger influence over the co-evolutionary process (Iansiti and Levien 2004a; Moore 1996). Recently, scholars have also deconstructed the co-evolution mechanisms into three pillars – co-vision, co-design and co-create – to improve understanding of the nature of ecosystem stakeholders’ evolution (Liu and Rong 2015).

In summary, the business of competition has already evolved from the firm to a BE level, following the value chain and platform (Rong, Shu and Yu 2013).



**Figure 2 Direction of Future BE Research**

## **2. Three new research directions of business ecosystems**

Below, we identify three key research trends that address the key nature of competition within BEs (see Figure 2). First, more research should be focused on ecosystem *dynamics*, rather than the ecosystem structure, because the former embodies the nature of ecosystem–stakeholder interaction. Second, researchers should conduct more relational *embedded* research, rather than value-dominant logic research, in BE. We argue that ecosystem studies should pay more attention to the source of innovation. Third, future research should extend its focus into the *international* context, rather than being limited to specific technology at a local level. The more dynamic institutional and cross-cultural environments will allow stakeholders to interact in a more complex way; hence, the relational mechanism will also take place in this pillar as the value network.

### **2.1. Research direction 1: Dynamics**

Considering BE as a complex, interconnected network of companies, we argue that the dynamics of a BE could be one of the most important areas for future research to explore. In particular, given the rise of Asian digital economies, we know little about how BE strategy can be shaped by the local institutional and cultural structures of Asian countries to cope with those dynamics. In previous studies, many scholars have addressed the static structure of a BE. For example, the narrow scope of an innovation ecosystem (Adner 2017; Adner and Kapoor 2010; Kapoor and Lee 2013), role players and platforms (Gawer and Cusumano 2014; Iansiti and Levien 2004a). These studies narrowed down the BE to a value chain structure or platform structure. However, a BE contains various of stakeholders and involves many stakeholders’

interactions (Rong and Shi 2015; Wareham et al. 2014), and its structure evolves all the time in order to cope with the evolving business and social environment (Adomavicius et al. 2008; Liu and Rong 2015). In order to succeed in a BE, it is essential to have a comprehensive understanding of the dynamics within the ecosystem (Piepenbrock 2009; Winter et al. 2018). The effects of ecosystem dynamics are believed to easily breach traditional industry boundaries (Iansiti and Levien 2004b).

Previously, Moore (1996) proposed a lifecycle concept regarding BE, which includes stages such as birth, expansion, authority and review. Subsequently, Rong and Shi (2015) conceptualized the nurturing strategies along those lifecycle stages. Meanwhile, we also can capture the sense of ecosystem dynamics from some industrial cases. Taking Alibaba as an example, originally this company only had a platform for business-to-business transactions. It then embarked into a different ecosystem by introducing a customer-to-customer platform. Then, in order to facilitate platform transactions, it introduced more stakeholders, such as Alipay, which made the ecosystem structure more complicated and diversified. However, those stakeholders were synthesized together to serve the core business process of the platform transaction. This type of BE emergence has also been acknowledged by Jacobides et al. (2018), who suggested that the dynamics behind ecosystem governance should be further studied.

Taking a similar approach to that of Jacobides et al. (2018), we propose that researchers should seek to understand more about the role dynamics and their interactions, rather than simply role structures themselves. McGrath (2010) argued that dynamic contexts like this lead to resource allocation decisions being made at a time when the environment is uncertain, and the components of the business model are not fully understood. A mechanism to govern those

stakeholders and ensure their interactions towards the shared vision is the driving force for a healthy BE.

Hence, we propose that future research on BE should focus more on its dynamics in order to understand how to develop and share the ecosystem vision with other ecosystem partners, explore how to nurture a BE with the involvement of ecosystem partners, identify how the focal firms can explore the embedded resources to sustainably maintain the ecosystem, and identify key mechanisms for the co-evolution of partners within the BE.

## ***2.2. Research direction 2: Embeddedness***

Previous studies have mainly focused on value creation and capture in the BE (Adner and Kapoor 2010; Ceccagnoli et al. 2012; Clarysse et al. 2014), which also largely overlaps with business model studies (Amit and Zott 2001; Baden-Fuller and Haefliger 2013; Teece 2010). However, they seem to have paid less attention to the embedded resource (Avgerou and Li 2013; Granovetter 1985) around the established value chain or platform ecosystem. The embedded resources will enable stakeholders by triggering a greater network effect (Suarez 2005) and more opportunities to connect and co-create value (Saarikko, Jonsson and Burström forthcoming; Shi and Shi 2017). Shi and Shi (2017) suggested that the embedded resources will be mobilized by the ecosystem's focal firms and transformed into a connected value chain or platform and renew the existing ones. The embedded resource pool contains different institutions (Abdi and Aulakh 2012; Ansari, Wijen and Gray 2013), social networks, governments, industrial associations, other industrial stakeholders and local communities, who are not involved in the existing value network but could be potential contributors (Moore 1996;

Parente, Geleilate and Rong 2018; Rong et al. 2017).

Taking Uber as an example, we can see that it has embraced more and more stakeholders into its platform-based BE. Besides Uber ride, it has introduced Uber Eat (a platform-based takeaway business) by involving multiple freelancing delivery drivers in its platform ecosystem. In China, Didi acquired Uber and embraced even more stakeholders, including leasing companies, bus services and designated-driver services. Obviously, the current business competition has moved beyond the traditional focus on the relationship between supplier and buyer to place more emphasis on the relationships between all stakeholders (Grönroos 2000). These relationships are complex, collaborative, unfolding and reciprocal and should be viewed as elements embedded within the value co-creation processes (Vargo 2009).

It is believed that value is not created in a singular discrete production-consumption event, but rather unfolds over multiple time periods at the intersection of multiple networks of resources (Chandler and Wieland 2010). These embedded resources are organizationally complex, but play an important role to the competitiveness of a business or an industry sector (Ahn and York 2011). From the resource-based view, competitive advantages are based on embeddedness in the organization fabric and other factors such as value, rareness and uniqueness (Barney 1991, 2001). Within the Asian context, the embedders of those social, cultural, and political factors in the BE are vital to the success of digital business (Avgerou and Li 2013; Martinsons 2008; Ou et al. 2013).

Hence, regarding the embedded resource pool, we propose that the second research direction should focus on the embeddedness of BE so as to explore how to mobilize the

embedded resources to renew an existing BE, to understand the key stakeholder roles and their interaction within the embedded resources pool, and to investigate how to nurture the embedded resource pool and balance it with and existing or new business models.

### **2.3. *Research direction 3: Internationalization***

After establishing BEs in their home country, many companies will try to explore the global market, competing for dominance and survival (Javalgi et al. 2005). Many companies from mobile internet business sectors have come to China but have failed when competing with local counterparts. For example, Uber was acquired by Didi in the ride-sharing industry, eBay left the Chinese market because of Alibaba, and Groupon was defeated by Meituan in the group-buying sector. Businesses engaged in the mobile internet field are more successful as a result of employing a BE strategy. One reason for this is that, in this sector, many and various stakeholders from other sectors will contribute to the core platform – for example, mobile payment, social network messengers – and these vary by country. Thus, besides the traditional liability of foreignness (Johanson and Vahlne 2009; Zaheer 1995), we also have to face the more complicated liability of the foreign “ecosystem”, as opposed to the direct network resource (Chen 2003; Chen and Chen 1998; Johanson and Mattsson 1988; Rong et al. 2015b). An alternative approach suggested by some scholars that businesses use social mechanisms to coordinate those key resources (Kano 2017).

Some countries have highly developed ecosystems to support firms (Neubert 2016); however, others entail considerable institutional uncertainties, where newly internationalizing firms have access to very limited social and economic resources and networks. For instance,



within Asian countries, multinational companies confront serious difficulties when entering into or growing within markets due to limited access to the local BEs (Bhattacharya and Michael 2008; Oh and Larson 2011; Fuchs 2015). In this context, developing ecosystem stakeholders and nurturing local partners is essential when starting a business in a foreign market, in particular in the Asian countries. For example, ARM, the leading semiconductor company, spent its first two-years after entering China in 2001 nurturing ecosystem partners, before it got its first business deal (Rong et al. 2015a). Based on this case, three steps related to nurturing BEs in foreign markets have been proposed: incubate complementary partners, identify leading partners and integrate ecosystem partners (Rong et al. 2015b).

Furthermore, BEs have been shown to play a critical role in the growth of born-global firms (Tanev 2012). These born-global firms often act as key players in ecosystems that support large multinational enterprises (Zander, McDougall-Covin and Rose 2015); however, the most important thing is that those firms have the potential to become a leading species in the ecosystem of international trade (Bouncken, Meunch and Kraus 2015; Knight 2015; Knight and Cavusgil 2004). As one of the core organizational capabilities of born-global firms, creating a BE of various stakeholders helps with internationalization and improves their international performance (Kudina, Yip and Barkema 2008; Carvalho, Santos and van Winden 2014). However, the ways in which ecosystems advance the internationalization goals of young born-global firms remains still underexplored (Cavusgil and Knight 2015).

Hence, we propose that further research on BE should focus more on internationalization so as to understand the key challenges and opportunities during ecosystem internationalization, to explore how to internationalize the business via an ecosystem-based business model, and to

identify how to govern the collective actions among ecosystem partners' internationalization process.

### **3. Conclusion**

A growing body of literature, across the disciplines of strategic management, systems science, and operational research, has been developed to uncover the mechanisms, structures, and strategic options of BEs in different sectors and different countries. However, very few studies have addressed Asian countries. Many fast growing, leading firms in Asia have been successful at managing their BEs to achieve competitive advantages not only in their home market but also globally. In order to better understand their managerial and strategic practices, this paper proposes that future research address dynamics, embeddedness, and internationalization. In particular considering the Asian context, further in-depth BE-related research will help researchers and practitioners to better understand how businesses could successfully enter into or effectively operate in Asian countries.

## Reference

- Abdi, Majid, and Preet S. Aulakh. 2012. "Do Country-Level Institutional Frameworks and Interfirm Governance Arrangements Substitute or Complement in International Business Relationships?" *Journal of International Business Studies* 43 (5): 477–97.
- Adner, Ron. 2006. "Match Your Innovation Strategy to Your Innovation Ecosystem." *Harvard Business Review* 84 (4): 98-107.
- Adner, Ron. 2017. "Ecosystem as Structure An Actionable Construct for Strategy." *Journal of Management* 43 (1): 39–58.
- Adner, Ron, and Rahul Kapoor. 2010. "Value Creation in Innovation Ecosystems: How the Structure of Technological Interdependence Affects Firm Performance in New Technology Generations." *Strategic Management Journal* 31 (3): 306–33.
- Adomavicius, Gediminas, Jesse Bockstedt, Alok Gupta, and Robert J. Kauffman. 2008. "Understanding Evolution in Technology Ecosystems." *Communications of the ACM* 51 (10): 117–22.
- Ahn, Mark J., and Anne S. York. 2011. "Resource-Based and Institution-Based Approaches to Biotechnology Industry Development in Malaysia." *Asia Pacific Journal of Management* 28 (2): 257–75.
- Allee, Vema. 2000. "Reconfiguring the Value Network." *Journal of Business Strategy* 21 (4): 36–39.
- Amit, Raphael, and Christoph Zott. 2001. "Value Creation in E-Business." *Strategic Management Journal* 22 (6–7): 493–520.
- Ansari, Shahzad, Frank Wijen, and Barbara Gray. 2013. "Constructing a Climate Change Logic: An Institutional Perspective on the 'Tragedy of the Commons.'" *Organization Science* 24 (4): 1014–40.
- Antràs, Pol, and Davin Chor. 2013. "Organizing the Global Value Chain." *Econometrica* 81 (6): 2127–2204.
- Armstrong, Mark. 2006. "Competition in Two-Sided Markets." *The RAND Journal of Economics* 37 (3): 668–91.
- Avgerou, Chrisanthi, and Boyi Li. 2013. "Relational and Institutional Embeddedness of Web-Enabled Entrepreneurial Networks: Case Studies of Netpreneurs in China." *Information Systems Journal* 23 (4): 329–50.
- Baden-Fuller, Charles, and Stefan Haefliger. 2013. "Business Models and Technological Innovation." *Long Range Planning* 46 (6): 419–26.
- Barney, Jay. 1991. "Firm Resources and Sustained Competitive Advantage." *Journal of Management* 17 (1): 99–120.
- Barney, Jay B. 2001. "Resource-Based Theories of Competitive Advantage: A Ten-Year Retrospective on the Resource-Based View." *Journal of Management* 27 (6): 643–50.
- Basole, Rahul C., and Jürgen Karla. 2011. "On the Evolution of Mobile Platform Ecosystem Structure and Strategy." *Business & Information Systems Engineering* 3 (5): 313–22.
- Basole, Rahul C., Martha G. Russell, Jukka Huhtamäki, Neil Rubens, Kaisa Still, and Hyunwoo Park. 2015. "Understanding Business Ecosystem Dynamics: A Data-Driven Approach." *ACM Transactions on Management Information Systems (TMIS)* 6 (2): 1-32.

- Bhattacharya, Arindam K., and David C. Michael. 2008. "How Local Companies Keep Multinationals at Bay." *Harvard Business Review* 86 (3): 20–33.
- Birley, Sue. 1985. "The Role of Networks in the Entrepreneurial Process." *Journal of Business Venturing* 1 (1): 107–17.
- Boudreau, Kevin J., and Lars B. Jeppesen. 2015. "Unpaid Crowd Complementors: The Platform Network Effect Mirage." *Strategic Management Journal* 36 (12): 1761–77.
- Boudreau, Kevin, and Karim Lakhani. 2009. "How to Manage Outside Innovation." *MIT Sloan Management Review* 50 (4): 69-76.
- Bouncken, Ricarda B., Miriam Muench, and Sascha Kraus. 2015. "Born Globals: Investigating the Influence of their Business Models On Rapid Internationalization." *The International Business & Economics Research Journal (Online); Littleton* 14 (2): 247-56.
- Breslin, Dermot. 2011. "Reviewing a Generalized Darwinist Approach to Studying Socio-Economic Change." *International Journal of Management Reviews* 13 (2): 218–35.
- Bu, Huabai, and Yang Gao. 2010. "The Reflection and Rebuilding of the Enterprise Value Chain Mode in the Network Trading Environment Based on the Value Network." *International Business Research* 4 (1): 260-65.
- Carvalho, Luís, Inês Plácido Santos, and Willem van Winden. 2014. "Knowledge Spaces and Places: From the Perspective of a 'Born-Global' Start-up in the Field of Urban Technology." *Expert Systems with Applications, Empirical Approaches in Knowledge City Research*, 41 (12): 5647–55.
- Cavusgil, S. Tamer, and Gary Knight. 2015. "The Born Global Firm: An Entrepreneurial and Capabilities Perspective on Early and Rapid Internationalization." *Journal of International Business Studies* 46 (1): 3–16.
- Ceccagnoli, Marco, Chris Forman, Peng Huang, and D.J. Wu. 2012. "Cocreation of Value in a Platform Ecosystem: The Case of Enterprise Software." *MIS Quarterly* 36 (1): 263–90.
- Cennamo, Carmelo, and Juan Santalo. 2013. "Platform Competition: Strategic Trade-offs in Platform Markets." *Strategic Management Journal* 34 (11): 1331–50.
- Chakravorti, Sujit, and Roberto Roson. 2006. "Platform Competition in Two-Sided Markets: The Case of Payment Networks." *Review of Network Economics* 5 (1): 118-42.
- Chandler, Jennifer D., and Heiko Wieland. 2010. "Embedded Relationships: Implications for Networks, Innovation, and Ecosystems." *Journal of Business Market Management* 4 (4): 199–215.
- Chen, Homin, and Tain-Jy Chen. 1998. "Network Linkages and Location Choice in Foreign Direct Investment." *Journal of International Business Studies* 29 (3): 445–67.
- Chen, Tain-Jy. 2003. "Network Resources for Internationalization: The Case of Taiwan's Electronics Firms." *Journal of Management Studies* 40 (5): 1107–30.
- Christensen, Clayton M., and Richard S. Rosenbloom. 1995. "Explaining the Attacker's Advantage: Technological Paradigms, Organizational Dynamics, and the Value Network." *Research Policy* 24 (2): 233–57.
- Christopher, Martin. 2005. *Logistics and Supply Chain Management: Creating Value-Added Networks*. Harlow: Pearson education.
- Clarysse, Bart, Mike Wright, Johan Bruneel, and Aarti Mahajan. 2014. "Creating Value in Ecosystems: Crossing the Chasm between Knowledge and Business Ecosystems."

- Research Policy* 43 (7): 1164–76.
- Colotla, Ian, Yongjiang Shi, and Michael J. Gregory. 2003. “Operation and Performance of International Manufacturing Networks.” *International Journal of Operations & Production Management* 23 (10): 1184–1206.
- Corallo, Angelo, and Stefania Protopapa. 2007. “Business Networks and Ecosystems: Rethinking the Biological Metaphor.” *Digital Business Ecosystems*: 6064: 1-6.
- Cusumano, Michael. 2010. “Technology Strategy and Management: The Evolution of Platform Thinking.” *Communications of the ACM* 53 (1): 32–34.
- de Vasconcelos Gomes, Leonardo A., Ana L.F. Facin, Mario S. Salerno, Rodrigo K. Ikenami. 2016. “Unpacking the innovation ecosystem construct: Evolution, gaps and trends.” *Technological Forecasting and Social Change* (In press). <https://doi.org/10.1016/j.techfore.2016.11.009>.
- Dedehayir, Ozgur, Saku J. Mäkinen, and J. Roland Ort. 2016. “Roles during Innovation Ecosystem Genesis: A Literature Review.” *Technological Forecasting & Social Change*. (In press). <https://doi.org/10.1016/j.techfore.2016.11.028>.
- Economides, Nicholas, and Evangelos Katsamakos. 2006. “Two-Sided Competition of Proprietary vs. Open Source Technology Platforms and the Implications for the Software Industry.” *Management Science* 52 (7): 1057–71.
- Eisenmann, Thomas, Geoffrey Parker, and Marshall W. Van Alstyne. 2006. “Strategies for Two-Sided Markets.” *Harvard Business Review* 84 (10): 92-101.
- Evans, David S., and Richard Schmalensee. 2010. “Failure to Launch: Critical Mass in Platform Businesses.” *Review of Network Economics* 9 (4): 1-28.
- Ferdows, Kasra. 1997. “Making the Most of Foreign Factories.” *Harvard Business Review* 75: 73–91.
- Fleisher, Craig S., and Babette E. Bensoussan. 2003. *Strategic and Competitive Analysis: Methods and Techniques for Analyzing Business Competition*. Upper Saddle River, NJ: Prentice Hall.
- Freeman, Christopher. 1988. “Japan: a new national system of innovation?”, In *Technical Change and Economic Theory*, edited by Giovanni Dosi, and Christopher Freeman, 330-348. London: Pinter.
- Fuchs, Christian. 2015. “Baidu, Weibo and Renren: The Global Political Economy of Social Media in China.” *Asian Journal of Communication* 26 (1): 14-41.
- Funk, Jeffrey L. 2009. “The emerging value network in the mobile phone industry: The case of Japan and its implications for the rest of the world.” *Telecommunications Policy* 33 (1–2): 4–18.
- Gawer, Annabelle, and Michael A. Cusumano. 2014. “Industry Platforms and Ecosystem Innovation.” *Journal of Product Innovation Management* 31 (3): 417–33.
- Gereffi, Gary, John Humphrey, and Timothy Sturgeon. 2005. “The Governance of Global Value Chains.” *Review of International Political Economy* 12 (1): 78–104.
- Granovetter, Mark. 1985. “Economic Action and Social Structure: The Problem of Embeddedness.” *American Journal of Sociology* 91 (3): 481–510.
- Greve, Henrich R. 2005. “Japan’s Network Economy: Structure, Persistence, and Change.” *Administrative Science Quarterly* 50:140–143.
- Grönroos, Christian. 2000. “Relationship Marketing: The Nordic School Perspective.”

- (Reprint) in *Handbook of Relationship Marketing*, edited by J.N. Sheth. and A. Prvatiyar, 95-117. Thousand Oaks: Sage Publications.
- Gueguen, Gael. 2009. "Coopetition and Business Ecosystems in the Information Technology Sector: The Example of Intelligent Mobile Terminals." *International Journal of Entrepreneurship and Small Business* 8 (1): 135–53.
- Hackney, Ray, Janice Burn, and Angel Salazar. 2004. "Strategies for Value Creation in Electronic Markets: Towards a Framework for Managing Evolutionary Change." *The Journal of Strategic Information Systems*, Strategic Information Systems in the Post-Net Era, 13 (2): 91–103.
- Hafeez, Khalid, YanBing Zhang, and Naila Malak. 2002. "Core Competence for Sustainable Competitive Advantage: A Structured Methodology for Identifying Core Competence." *IEEE Transactions on Engineering Management* 49 (1): 28–35.
- Halaburda, Hanna, and Yaron Yehezkel. 2013. "Platform Competition under Asymmetric Information." *American Economic Journal: Microeconomics* 5 (3): 22–68.
- Hearn, Greg, Simon Roodhouse, and Julie Blakey. 2007. "From Value Chain to Value Creating Ecology: Implications for Creative Industries Development Policy." *International Journal of Cultural Policy* 13 (4): 419–36.
- Hein, Andreas M., Marija Jankovic, Wen Feng, Romain Farel, Jeremy H. Yune, and Bernard Yannou. 2017. "Stakeholder Power in Industrial Symbioses: A Stakeholder Value Network Approach." *Journal of Cleaner Production* 148: 923–33.
- Hill, Terry, and Alex Hill. 2009. *Manufacturing Strategy: Text and Cases*. New York: Palgrave Macmillan.
- Iansiti, Marco, and Roy Levien. 2004a. *The Keystone Advantage: What the New Dynamics of Business Ecosystems Mean for Strategy, Innovation, and Sustainability*. Boston, MA: Harvard Business School Pr.
- Iansiti, Marco, and Roy Levien. 2004b. *Keystones and Dominators: Framing Operating and Technology Strategy in a Business Ecosystem*. Boston, MA: Harvard Business School.
- Imai, Ken-ichi, and Hiroyuki Itami. 1984. "Interpenetration of organization and market. Japan's firm and market in comparison with the U.S." *International Journal of Industrial Organization* 2: 285–310.
- Jacobides, Michael, Carmelo Cennamo, and Annabelle Gawer. 2018. "Towards a theory of ecosystems." *Strategic Management Journal*. (In press).
- Javalgi, Rajshekhar G., Patricia R. Todd, and Robert F. Scherer. 2005. "The Dynamics of Global E-Commerce: An Organizational Ecology Perspective." *International Marketing Review* 22 (4): 420–35.
- Javidan, Mansour. 1998. "Core Competence: What Does It Mean in Practice?" *Long Range Planning* 31 (1): 60–71.
- Jiang, Min. 2013. "The Business and Politics of Search Engines: A Comparative Study of Baidu and Google's Search Results of Internet Events in China." *New Media & Society* 16 (2): 212–33.
- Johanson, J., and L. G. Mattsson. 1988. "Internationalization in Industrial Systems – A Network Approach." In *The Internationalization of the Firm: A Reader*, edited by Peter J. Buckley and Pervez N. Ghauri, 303–21. London: Academic Press.
- Johanson, Jan., and Jan-Erik Vahlne. 2009. "The Uppsala Internationalization Process Model

- Revisited: From Liability of Foreignness to Liability of Outsidership.” *Journal of International Business Studies* 40 (9): 1411–31.
- Kandiah, Gajen, and Sanjiv Gossain. 1998. “Reinventing Value: The New Business Ecosystem.” *Strategy & Leadership* 26 (5): 28–33.
- Kano, Liena. 2017. “Global Value Chain Governance: A Relational Perspective.” *Journal of International Business Studies*, June, 1–22.
- Kapoor, Rahul, and Shiva Agarwal. 2017. “Sustaining Superior Performance in Business Ecosystems: Evidence from Application Software Developers in the IOS and Android Smartphone Ecosystems.” *Organization Science* 28 (3): 531–51.
- Kapoor, Rahul, and Joon Mahn Lee. 2013. “Coordinating and Competing in Ecosystems: How Organizational Forms Shape New Technology Investments.” *Strategic Management Journal* 34 (3): 274–296.
- Katz, Michael L., and Carl Shapiro. 1994. “Systems Competition and Network Effects.” *Journal of Economic Perspectives* 8 (2): 93–115.
- Knight, Gary. 2015. “Born Global Firms: Evolution of a Contemporary Phenomenon.” In *Entrepreneurship in International Marketing*, edited by Shaoming Zou, Hui Xu, Linda Hui Shi, 3–19. Emerald Group Publishing.
- Knight, Gary A., and S. Tamar Cavusgil. 2004. “Innovation, Organizational Capabilities, and the Born-Global Firm.” *Journal of International Business Studies* 35 (2): 124–41.
- Kogut, Bruce. 1984. “Normative Observations on the International Value-Added Chain and Strategic Groups.” *Journal of International Business Studies* 15 (2): 151–67.
- Kudina Alina, Yip George S., and Barkema Harry G. 2008. “Born Global.” *Business Strategy Review* 19 (4): 38–44.
- Lakhani, Tashlin, Sarosh Kuruvilla, and Ariel Avgar. 2013. “From the Firm to the Network: Global Value Chains and Employment Relations Theory.” *British Journal of Industrial Relations* 51 (3): 440–72.
- Landsman, Vardit, and Stefan Stremersch. 2011. “Multihoming in Two-Sided Markets: An Empirical Inquiry in the Video Game Console Industry.” *Journal of Marketing* 75 (6): 39–54.
- Lee, Sangwon. 2006. “Broadband Deployment in the United States: Examining the Impacts of Platform Competition.” *The International Journal on Media Management* 8 (4): 173–81.
- Leong, Carmen, L. Shan Pan, Sue Newell, and Lili Cui. 2016. “The Emergence of Self-Organizing E-Commerce Ecosystems in Remote Villages of China: A Tale of Digital Empowerment for Rural Development.” *MIS Quarterly* 40 (2): 475–84.
- Li, Yan-Ru. 2009. “The Technological Roadmap of Cisco’s Business Ecosystem.” *Technovation* 29 (5): 379–86.
- Li, Zhiwen, and Thierry Pénard. 2014. “The Role of Quantitative and Qualitative Network Effects in B2b Platform Competition.” *Managerial and Decision Economics* 35 (1): 1–19.
- Lin, Carol Yeh-Yun Y., and Jing Zhang. 2005. “Changing structures of SME Networks: Lessons from the publishing industry in Taiwan.” *Long Range Planning* 38 (2): 145–62.
- Liu, Gordon, and Ke Rong. 2015. “The Nature of the Co-Evolutionary Process Complex Product Development in the Mobile Computing Industry’s Business Ecosystem.”

- Group & Organization Management* 40 (6): 809–42.
- Liu, Xin. 2013. “Platform Competition in the Online Video Industry: A Comparison between the United States and Chinese Markets.” Massachusetts Institute of Technology. <http://hdl.handle.net/1721.1/80691>.
- Lu, Chao, Ke Rong, Jianxin You, and Yongjiang Shi. 2014. “Business Ecosystem and Stakeholders’ Role Transformation: Evidence from Chinese Emerging Electric Vehicle Industry.” *Expert Systems with Applications* 41 (10): 4579–95.
- Mäkinen, Saku J., and Ozgur Dedehayir. 2012. “Business Ecosystem Evolution and Strategic Considerations: A Literature Review.” Paper presented at *Engineering, Technology and Innovation (ICE), 2012 18th International ICE Conference On*, IEEE, Munich, Germany, June 18-20.
- Martinsons, Maris G. 2008. “Relationship-based E-commerce: Theory and Evidence from China.” *Information Systems Journal* 18 (4): 331–56.
- McGrath, Rita Gunther. 2010. “Business Models: A Discovery Driven Approach.” *Business Models* 43 (2): 247–61.
- Moore, James F. 1993. “Predators and Prey: A New Ecology of Competition.” *Harvard Business Review* 71 (3): 75–86.
- Moore, James F. 1996. *The Death of Competition: Leadership and Strategy in the Age of Business Ecosystems*. Boston, MA: Harper Paperbacks.
- Moore, James F. 2006. “Business Ecosystems and the View From the Firm.” *Antitrust Bulletin* 51: 31-75.
- Neubert, Michael. 2016. “Significance of the Speed of Internationalisation for Born Global Firms-a Multiple Case Study Approach.” *International Journal of Teaching and Case Studies* 7 (1): 66–81.
- Nolan, Peter, Xiaoqiang Wang. 1999. “Beyond privatization: Institutional innovation and growth in China’s large state-owned enterprises.” *World Development* 27: 169–200.
- Oh, Myung, and James Larson. 2011. *Digital Development in Korea: Building an Information Society*. Oxon: Routledge.
- Ou, Carol Xiaojuan, Paul Pavlou, and Robert Davison. 2013. “Swift Guanxi in Online Marketplaces: The Role of Computer-Mediated Communication Technologies.” *MIS Quarterly* 38 (1), 209–30.
- Pagani, Margherita, and Charles H. Fine. 2008. “Value Network Dynamics in 3G–4G Wireless Communications: A Systems Thinking Approach to Strategic Value Assessment.” *Journal of Business Research* 61 (11): 1102–12.
- Parente, Ronaldo, Jose-Maurico Geleilate, and Ke Rong. 2018. “The Sharing Economy Globalization Phenomenon: A Research Agenda.” *Journal of International Management* 24 (1): 52–64.
- Parker, Geoffrey G., and Marshall W. Van Alstyne. 2005. “Two-Sided Network Effects: A Theory of Information Product Design.” *Management Science* 51 (10): 1494–1504.
- Peppard, Joe, and Anna Rylander. 2006. “From Value Chain to Value Network: Insights for Mobile Operators.” *European Management Journal* 24 (2–3): 128–41.
- Pera, Rebecca, Nicoletta Occhiocupo, and Jackie Clarke. 2016. “Motives and Resources for Value Co-Creation in a Multi-Stakeholder Ecosystem: A Managerial Perspective.” *Journal of Business Research* 69 (10): 4033–41.



- Piepenbrock, Theodore Frederick. 2009. "Toward a Theory of the Evolution of Business Ecosystems: Enterprise Architectures, Competitive Dynamics, Firm Performance & Industrial Co-Evolution." PhD diss., MIT.
- Pierce, Lamar. 2009. "Big Losses in Ecosystem Niches: How Core Firm Decisions Drive Complementary Product Shakeouts." *Strategic Management Journal* 30 (3): 323–347.
- Porter, Terry B. 2006. "Coevolution as a Research Framework for Organizations and the Natural Environment." *Organization & Environment* 19 (4): 479–504.
- Prahalad, Coimbatore K., and Gary Hamel. 2000. "The Core Competence of the Corporation." In *Strategic Learning in a Knowledge Economy*, edited by Rob Cross, 3–22. Wobum, MA: Elsevier.
- Quinn, James Brian, and Frederick G. Hilmer. 1994. "Strategic Outsourcing." *Sloan Management Review* 35 (4): 43–55.
- Reisinger, Markus. 2012. "Platform Competition for Advertisers and Users in Media Markets." *International Journal of Industrial Organization* 30 (2): 243–52.
- Rochet, Jean-Charles, and Jean Tirole. 2003. "Platform Competition in Two-Sided Markets." *Journal of the European Economic Association* 1 (4): 990–1029.
- Rochet, Jean-Charles, and Jean Tirole. 2006. "Two-Sided Markets: A Progress Report." *The RAND Journal of Economics* 37 (3): 645–67.
- Rong, Ke, Jie Hou, Yongjiang Shi, and Qiang Lu. 2010. "From Value Chain, Supply Network, towards Business Ecosystem (BE): Evaluating the BE Concept's Implications to Emerging Industrial Demand." Paper presented at *Industrial Engineering and Engineering Management (IEEM), 2010 IEEE International Conference on*, IEEE, Marco, China, December 7–10.
- Rong, Ke, Guangyu Hu, Yong Lin, Yongjiang Shi, and Liang Guo. 2015a. "Understanding Business Ecosystem Using a 6C Framework in Internet-of-Things-Based Sectors." *International Journal of Production Economics* 159: 41–55.
- Rong, Ke, and Yongjiang Shi. 2015. *Business Ecosystems: Constructs, Configurations, and the Nurturing Process*. London: Palgrave Macmillan.
- Rong, Ke, Yongjiang Shi, Tianjiao Shang, Yantai Chen, and Han Hao. 2017. "Organizing Business Ecosystems in Emerging Electric Vehicle Industry: Structure, Mechanism, and Integrated Configuration." *Energy Policy* 107: 234–47.
- Rong, Ke, Yongjiang Shi, and Jiang Yu. 2013. "Nurturing Business Ecosystem to Deal with Industry Uncertainties." *Industrial Management & Data Systems* 133 (3): 385–402.
- Rong, Ke, Jinxi Wu, Yongjiang Shi, and Liang Guo. 2015b. "Nurturing Business Ecosystems for Growth in a Foreign Market: Incubating, Identifying and Integrating Stakeholders." *Journal of International Management* 21 (4): 293–308.
- Rudberg, Martin, and Jan Olhager. 2003. "Manufacturing Networks and Supply Chains: An Operations Strategy Perspective." *Omega* 31 (1): 29–39.
- Saarikko, T., K. Jonsson, and T. Burström. Forthcoming. "Software Platform Establishment: Effectuation and Entrepreneurial Awareness." *Information Technology and People*.
- Sanchez, Ron. 1995. "Strategic Flexibility in Product Competition." *Strategic Management Journal* 16 (S1): 135–59.
- Scholten, Simone, and Ulrich Scholten. 2012. "Platform-Based Innovation Management: Directing External Innovational Efforts in Platform Ecosystems." *Journal of the*

- Knowledge Economy* 3 (2): 164–84.
- Shankar, Venkatesh, and Barry L. Bayus. 2003. “Network Effects and Competition: An Empirical Analysis of the Home Video Game Industry.” *Strategic Management Journal* 24 (4): 375–84.
- Shang, Tianjiao, Yongjiang Shi, 2013. “The emergence of the electric vehicle industry in Chinese Shandong Province: A research design for understanding business ecosystem capabilities.” *Journal of Chinese Entrepreneurship* 5: 61–75.
- Sherer, Susan. A. 2005. “From Supply-chain Management to Value Network Advocacy: Implications for E-Supply Chains.” *Supply Chain Management: An International Journal* 10 (2): 77–83.
- Shi, Yongjiang, and Mike Gregory. 1998. “International Manufacturing Networks – To Develop Global Competitive Capabilities.” *Journal of Operations Management* 16 (2–3): 195–214.
- Shi, Xianwei, and Xingkun Liang. 2015. “Understanding Latecomer Strategy from a Business Ecosystem Perspective.” *Academy of Management Proceedings* 2015 (1): 18506.
- Shi, Xianwei, and Yongjiang Shi. 2017. “Unpacking Entrepreneurial Ecosystem Health.” *Academy of Management Proceedings* 2017 (1): 16215.
- Shoulian, Tang, Zheng Li, and Wang Jianglei. 2003. “The Change From Value Chain to Value Network on Telecommunication.” *Telecommunications Science* 9: 2-10.
- Suarez, Fernando F. 2005. “Network Effects Revisited: The Role of Strong Ties in Technology Selection.” *Academy of Management Journal* 48 (4): 710–20.
- Tanev, Stoyan. 2012. “Global from the Start: The Characteristics of Born-Global Firms in the Technology Sector.” *Technology Innovation Management Review* 2 (3): 5-8.
- Teece, David J. 2010. “Business Models, Business Strategy and Innovation.” *Long Range Planning* 43 (2–3): 172–94.
- The Economist. 2011. “Entrepreneurship in China: Let a Million Flowers Bloom.” The Economist. <https://www.economist.com/node/18330120>.
- Tiwana, Amrit. 2015. “Evolutionary Competition in Platform Ecosystems.” *Information Systems Research* 26 (2): 266–81.
- Tiwana, Amrit, Benn Konsynski, and Ashley A. Bush. 2010. “Research Commentary – Platform Evolution: Coevolution of Platform Architecture, Governance, and Environmental Dynamics.” *Information Systems Research* 21 (4): 675–87.
- Tsujimoto, Masaharu, Yuya Kajikawa, Junichi Tomita, and Yoichi Matsumoto. 2017. “A Review of the Ecosystem Concept – Towards Coherent Ecosystem Design.” *Technological Forecasting and Social Change* (In press). <https://doi.org/10.1016/j.techfore.2017.06.032>.
- Vargo, Stephen L. 2009. “Toward a Transcending Conceptualization of Relationship: A Service-Dominant Logic Perspective.” *Journal of Business & Industrial Marketing* 24 (5/6): 373–79.
- Vasconcelos Gomes, Leonardo Augusto de, Ana Lucia Figueiredo Facin, Mario Sergio Salerno, and Rodrigo Kazuo Ikenami. 2016. “Unpacking the Innovation Ecosystem Construct: Evolution, Gaps and Trends.” *Technological Forecasting and Social Change* (In press). <https://doi.org/10.1016/j.techfore.2016.11.009>.
- Wang, Juite, Jung-Yu Lai, and Li-Chun Hsiao. 2015. “Value Network Analysis for Complex

- Service Systems: A Case Study on Taiwan's Mobile Application Services." *Service Business* 9 (3): 381–407.
- Wareham, Jonathan, Paul B. Fox, and Josep Lluís Cano Giner. 2014. "Technology Ecosystem Governance." *Organization Science* 25 (4): 1195–1215.
- Weeds, Helen. 2016. "TV Wars: Exclusive Content and Platform Competition in Pay TV." *The Economic Journal* 126 (594): 1600–33.
- West, Joel, and George Kuk. 2016. "The Complementarity of Openness: How MakerBot Leveraged Thingiverse in 3D Printing." *Technological Forecasting and Social Change* 102 (January): 169–81.
- Winter, Juha, Sandro Battisti, Thommie Burström, and Sakari Luukkainen. Forthcoming. "Exploring the Success Factors of Mobile Business Ecosystems." *International Journal of Innovation and Technology Management*. doi:10.1142/S0219877018500268.
- Witt, Michael, Gordon Redding. 2014. *Oxford Handbook of Asian Business Systems*. Oxford: Oxford University Press.
- Wulf, Anna, and Lynne Butel. 2017. "Knowledge Sharing and Collaborative Relationships in Business Ecosystems and Networks: A Definition and a Demarcation." *Industrial Management & Data Systems* 117 (7): 1407–25.
- Xiaoren, Zhang, Ding Ling, and Chen Xiangdong. 2014. "Interaction of Open Innovation and Business Ecosystem." *International Journal of U-and e-Service, Science and Technology* 7 (1): 51–64.
- Zaheer, Srilata. 1995. "Overcoming the Liability of Foreignness." *Academy of Management Journal* 38 (2): 341–63.
- Zander, Ivo, Patricia McDougall-Covin, and Elizabeth L. Rose. 2015. "Born Globals and International Business: Evolution of a Field of Research." *Journal of International Business Studies* 46 (1): 27–35.
- Zhang, Jing, and Xiong-Jian Liang. 2011. "Business Ecosystem Strategies of Mobile Network Operators in the 3G Era: The Case of China Mobile." *Telecommunications Policy* 35 (2): 156–71.
- Zhu, Feng, and Marco Iansiti. 2012. "Entry into Platform-Based Markets." *Strategic Management Journal* 33 (1): 88–106.