External knowledge absorption in Chinese SMEs

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4 Challenges in Absorbing External Knowledge

This chapter deals with RQ 2: What challenges do SMEs face when absorbing external knowledge? So far, the challenges which SMEs may face in the knowledge-absorbing processes have not been thoroughly investigated. Previous studies mentioned that, due to their small size and limited resources, SMEs tend to face unique challenges and difficulties that are different from the ones big companies are facing (cf. Anggadwita and Mustafid 2014, Widdup 2018). Our research tries to shed light on what challenges SMEs may face when absorbing external knowledge by interviewing the owner-managers of Chinese SMEs. The structure of this chapter is as follows. Section 4.1 provides the background of the investigation. Section 4.2 describes the research design. The findings and discussions are presented in Section 4.3. Section 4.4 concludes the chapter and leads to the investigation of the next chapter.

4.1 Our Search for Challenges of AC

SMEs play essential roles in the economic and technological development of societies. When compared to larger companies, we see that SMEs, due to a lack of internal resources and competencies, have a stronger motivation to absorb external knowledge and to adopt more open innovation practices. Open innovation involves purposively using knowledge inflows and outflows to boost internal innovation (see Chesbrough 2003). SMEs should open up their boundaries for new knowledge and innovation by collaborating with other organizations (cf. Sağ *et al.* 2016, Kraus *et al.* 2020).

Existing studies have suggested that various factors may impact the external knowledge absorbing process and its outcomes. For instance, Volberda *et al.* (2010) consider the intensity of competitiveness, dynamism, and knowledge characteristics as environmental factors that may affect an organizational AC. Some other authors suggest that organizational culture is another important factor that influences a firm’s AC (e.g., Harrington and Guimaraes 2005, Zerwas 2014, Limaj and Bernroider 2019). These identified factors may either facilitate or hinder the AC processes in organizations. For instance, an open and balanced organizational culture may facilitate absorbing external knowledge processes in firms. A lack of openness and balance in organizational culture may hinder absorbing external knowledge.

So far, the challenges in the AC processes (see Definition 4.1) have attracted limited attention. There is one study conducted by Cuervo-Cazurra and Rui (2017) that focuses on AC challenges in multinational corporates. They identified various (1) internal and (2) external challenges that will hinder big firms that want to absorb external knowledge (see Table 4.1). The identified internal challenges are (A) *managerial biases* and (B) *weak social integration mechanisms*. The external challenges include (A) *muted activation triggers*, (B) *conflicting source relationships*, and (C) *feeble appropriability regimes*.

Definition 4.1: Challenges in the AC Processes

> *Challenges in the AC processes* are defined as obstacles that require firms to invest extra efforts to address them in order to absorb intended external knowledge. In practice, they act as constraining forces that make the AC process more difficult and thus costlier.

Table 4.1: AC Challenges in Multinational Corporates

Categories	Description of the Challenges
1. Internal challenges	A. *Managerial biases* are the prejudices that managers have for or against sources of knowledge.
	B. *Weak social integration mechanisms* are the limitations of the processes and procedures within the firm that enable the coordination of actions and activities among employees.
2. External challenges	A. *Muted activation* triggers are limitations in external clues that limit the incentives of managers and employees to seek external knowledge.
	B. *Conflicting source relationships* are disagreements between the source of external knowledge and the firm in the access and use of knowledge.
	C. *Feeble appropriability regimes* are the underdevelopment in the development and application of rules and regulations that protect intellectual property rights.

Source:Cuervo-Cazurra and Rui (2017)

Nevertheless, the challenges big corporates face when absorbing external knowledge may not be the same as those in SMEs. SMEs exhibit different characteristics in the way how they absorb external knowledge (cf. Liao *et al.* 2003, Gray 2006, Lee *et al.* 2010, Huang *et al.* 2015b). Moreover, SMEs have to deal with the liability of smallness and the resultant shortage of resources. For instance, resource constraints may incentivize SMEs to rely on less expensive and less risky alternatives than formal in-house R&D to acquire new knowledge (cf. Dahlander and Gann 2010, Spithoven *et al.* 2013). So, we postulate that the lack of resources would be one of the most prominent challenges SMEs may face when absorbing external knowledge. However, this is not the case for big corporates, according to Cuervo-Cazurra and Rui (2017). They do not identify any challenges that relate to resource constrictions in the study on multinational corporates.

The rest of this chapter will be focused on examining the challenges that SMEs face in their knowledge-absorbing processes.

4.2 Research Design

The research design for the investigation of the challenges is the same as the research design described in chapter 3. The investigations for RQ 1 and RQ 2 are conducted at the same time with the same interviews. A detailed description of the research design for RQ 1 can be found in Section 3.2. Below we describe our qualitative research for RQ 2.

We adopted a qualitative research approach and used in-depth semi-structured interviews as the primary data collection method. The sixteen interviews on SMEs were conducted from August 12th to September 9th in 2016 in three different cities of China: Beijing, Shanghai, and Shenzhen. All the audio recordings, transcriptions, and text notes were reviewed and analyzed with professional qualitative data analysis software MAXQDA. Admittedly, it is a subjective task. Therefore, the findings of the study were based on our best knowledge and experience in the qualitative research method, but they are inevitably subject to bias and limitations.

4.3 Challenges in the AC Processes

Analyzing the answers from all the interviewees, we found seven challenges that SMEs may face in their AC processes. Depending on where the challenges stem from, they are categorized into two groups: (1) internal challenges (see Subsection 4.3.1) that stem from within the firm, and (2) external challenges (see Subsection 4.3.2) that come from the environment in which the company operates.

Below we provide two examples of interview excerpts that indicate an internal challenge (*lack of business reputation*) and an external challenge (*weak appropriability regime*).

One interviewee answered: *"Sometimes you meet people who look down on you if you are from small firms. They may despise you for not being able to solve 'small' problems"* (coded as lack of business reputation).

The second interviewee commented: *"For marketing things, we are not willing to communicate (with others) because any unique ideas may easily get copied. It happens very fast that your idea is copied. In the current business environment of China, it is hard to protect intellectual property rights. If you tell it to others, they just copy it. For instance, if you have an idea having not been fully implemented and you tell it to another company, they may think it is a good idea as well and implement it faster than you, especially when the firm is big and with more resources"* (coded as weak appropriability regime).

4.3.1 Internal Challenges

The owner-managers of Chinese SMEs perceive the following five obstacles as significant internal challenges when they try to absorb external knowledge. They include (A) lack of resources, (B) limited internal expertise and competencies, (C) lack of social capital, (D) lack of business reputation, (E) negative attitudes towards external knowledge.

A: Lack of Resources

SMEs in our interview series often express that having limited resources is a significant challenge that they face when absorbing external knowledge. Absorbing external knowledge is associated with costs, and thus firms need to invest in resources. Lack of relevant resources will limit the ability of firms to absorb external knowledge effectively. For instance, some authors suggest that firms with a relative abundance of resources can experiment and engage in riskier innovation projects and indulge the need for exploration (cf. Laursen and Salter 2006a, Wiklund *et al.* 2009, Sisodiya *et al.* 2013, Sok and O'Cass 2015). With limited resources, SMEs have to rely on less risky and less expensive mechanisms to absorb external knowledge (cf. Dahlander and Gann 2010, Spithoven *et al.* 2013). Consequently, it may limit a firm's searching scope for external knowledge and the options of specific EKA mechanisms that are effective but involve relatively higher costs.

In our interviews, owner-managers of SMEs often opt against knowledge absorbing mechanisms that involve higher costs and managerial complexity. Let us consider the consequences. Some interviewees explicitly stated that purchasing products or services and hire new talents as EKA mechanisms for new knowledge are too expensive. Therefore, to save costs, they tend to choose free sources and personal networks as the primary sources of external knowledge. Indeed, limited options of EKA mechanisms may restrain their ability to get the most valuable knowledge. For example, as we discussed in Subsection 3.4.2, referring to free sources may help SMEs obtain explicit knowledge quickly with minimum costs. Nevertheless, the knowledge stored in online media is often accessible to the public. The explicit and public nature of the knowledge may make it less valuable as it can be exploited by everyone. The validity of the information in the free sources might not be checked and hence dubious.

B: Limited internal Expertise and Competencies

Even though smaller firms could be quicker in noticing new market changes and new opportunities, they may not be able to capitalize on the new opportunities due to a lack of relevant expertise and knowledge (cf. Bougrain and Haudeville 2002, Gilmore *et al.*

2013, Bigliardi and Galati 2016). Indeed, many surveyed SMEs list a lack of internal expertise and relevant knowledge as a challenge to learning from others. Previous AC research has agreed that knowledge absorption requires the recipient to own specific relevant knowledge. The proximity of the internal and external knowledge base may significantly impact the effectiveness of knowledge absorption (cf. Cohen and Levinthal 1990, Mattes 2012, Rafique *et al.* 2019).

It is particularly pressing when a firm intends to go for some new business, and the required knowledge is different from its current knowledge base. Though SMEs may be able to accumulate in-depth knowledge in specific and narrow domains, they often lack heterogeneous expertise and competencies across different disciplines. Lack of knowledge breadth will limit an SME's ability to evaluate and assimilate knowledge in new areas, which will negatively impact their ability to innovate (cf. Cohen and Levinthal 1990, Leiponen and Helfat 2010, Zhou and Li 2012, Xu and Cavusgil 2019).

C: Lack of Social Capital

Social capital (see Definition 4.2) is a multi-dimensional concept related to different entities networking and connecting with each other to facilitate specific actions based on trust, reciprocity, and cooperation to facilitate specific actions. It is a unique relational resource derived from social networks and used to create benefits for different actors (cf. Adler and Kwon 2002, McElroy *et al.* 2006, Dubos 2017). Social capital can either be a substitute for or a complement of other resources.

Definition 4.2: Social Capital

> *Social capital* is defined in this study as the goodwill available to individuals or groups. Its source lies in the structure and content of the actor's social relations. Its effects flow from the information, influence, and solidarity it makes available to the actor (Adler and Kwon 2002, p. 23)

Social capital acts as a facilitator to knowledge creation and has a positive impact on knowledge transfer (cf. Adler and Kwon 2002, Gooderham *et al.* 2011, Ortiz *et al.* 2017).

Network ties, shared language and codes, trust, and obligations are essential aspects of a firm's social capital (cf. Nahapiet and Ghoshal 2000, Dubos 2017).

The interviews indicated that SMEs' lack of social capital hinders their ability to absorb external knowledge. Though they interact with the environment for various resources, the ties and relations with external sources often lack formality and strong obligation to each other. As knowledge assimilation entails interactions between two sides, complex and tacit knowledge assimilation requires a certain level of mutual trust and cooperation to support the process (cf. Bosch-Sijtsema and Postma 2010, Ko 2014, Hasnain 2017). Most SMEs in the interview mentioned that weak ties with external sources make it unable for them to access a range of important knowledge sources and reduce the effectiveness of transferring external knowledge into them. They often report that (1) lack of external acquaintances in potential knowledge sources limits their access to the sources, and (2) lack of commitment and trust between them and the knowledge sources hinder their ability to assimilate and exploit the intended knowledge.

D: Lack of Business Reputation

Lack of business reputation (Definition 4.3) is also frequently expressed by SMEs as a challenge to absorbing external knowledge. A firm's reputation is considered a valuable intangible asset that can be leveraged via social capital for strategic consequences.

Definition 4.3: Business Reputation

> *Business reputation* is defined in this study as "a collective assessment of a company's attractiveness to a specific group of stakeholders relative to a reference group of companies with which the company competes for resources" (Fombrun 2012, p. 100).

Business reputation is a general organizational attribute that reflects the extent to which external stakeholders see the company as "good" or "bad" (cf. Roberts and Dowling 2002, Horn *et al.* 2015, González-Rodríguez *et al.* 2019). A positive reputation allows firms to form more social capital, while at the same time, social capital may enable the firm to establish a good reputation (cf. Carroll 2013, Vig *et al.* 2017). Reputation can be based on owning cutting-edge knowledge in specific fields or owning star managers or employees known in the industry. A good reputation is seen as a signal by potential partners that the firm has the capabilities to provide reciprocity and hence improve the probability of a firm gaining external resources and new knowledge. Strong positive reputations may help firms to attract better employees and partners, which are important sources of new knowledge.

Compared to big firms, SMEs are in a disadvantageous position to win cooperation from other companies for absorbing their knowledge because of a lack of business reputation. According to our interviews, even SMEs with a relative abundance of the resource reported that lack of reputation constrains their potential to collaborate with others for the exploration of new knowledge. When firms choose partners, reputation is an important factor to consider. It may help to send a positive signal to external sources that the firm can be trusted according to its reputation and channel the intended external knowledge into the firm (cf. Lucas 2005, Salvato and Melin 2008, Liu *et al.* 2019).

E: Negative Attitudes towards External Knowledge

Except for some "explicit" challenges such as lack of resources and social capital, there are also "latent" challenges existing in SMEs when absorbing external knowledge, of which the owner-managers or employees may not be aware. Our interviews showed that different interviewees exhibit a different level of openness toward external knowledge and its usefulness. While some owner-managers may hold the attitude that external knowledge is important to internal innovation and business success, others believe that external knowledge only has trivial value and emphasize internal knowledge and expertise as the only critical source. Such a negative attitude is recognized as Not-Invented-Here (NIH) syndrome (see Definition 4.4).

Previously, authors tended to believe that NIH syndrome occurs in the teams of big companies. As they think that they are already in a cutting-edge position in terms of technology or knowledge in their domains, they are reluctant to communicate with external sources for new knowledge. Such a negative attitude may impair a firm's ability to benefit from external knowledge and harm its performance in the long run (cf. Katz and Allen 1982, Antons and Piller 2015). However, our interviews indicate that the NIH syndrome can also occur in SMEs. Many surveyed SMEs hold the belief that the competitiveness built on an open approach towards innovation is unsustainable. In their perception, too much reliance on external sources instead of internal R&D for innovation may risk losing internal core capabilities and being subject to external influences. Such an attitude drives the owner-managers of SMEs away from collaborating with external partners for new knowledge and innovation and makes them emphasize internal R&D and self-independent innovation overly.

Definition 4.4: The Not-Invented-Here Syndrome

The Not-Invented-Here (NIH) syndrome is defined as the negative attitudes of managers and employees towards external knowledge and their reluctance to learn from external sources (adapted from Katz and Allen 1982, Wastyn and Hussinger 2011).

4.3.2 External Challenges

The second set of challenges is external to the firm, in the sense that they depend on factors outside a firm. Two external challenges are listed as (A) issues with contracts and (B) weak appropriability regime.

A: Issues with Contracts

External knowledge absorption concerns interaction and commitment between two parties. Two essential control mechanisms for managing the relationship between the two sides are contracts and trust (cf. Jap and Ganesan 2000, Aalbers 2010, Zhang *et al.* 2018). Most formal mechanisms, such as outsourcing or purchase, involve signing a contract with the partner. Issues entailed in the contract management processes such as ill fulfillment, weak law enforcement, and high costs for a lawsuit are perceived as a big challenge by SMEs when absorbing external knowledge (cf. Lu and Tao 2010, Qian *et al.* 2016). For instance, in the IT industry, the tasks being outsourced are often nonstandard and hard to be defined. Such tasks involve a high degree of complexity when negotiating and managing the contract. Even if the two sides can agree on a contract, it is difficult to ensure that due care and diligence is exercised by the partner in the performance of the SMEs.

Most surveyed SMEs have expressed that contract issues often happen, and managing these issues is a big challenge to them. This is particularly the case when high-risk, complex tasks are being outsourced. If these issues occur, it is almost impossible for them to claim compensation through lawsuits as the legal approaches are perceived to be costly. SMEs often lack the respective resources and capabilities to manage issues. Such anticipation reduces their motivation to absorb external knowledge by establishing a formal contract. Consequently, they have to either turn to internal R&D or informal mechanisms such as referring to personal networks to absorb new knowledge, in which signing a contract is not necessary.

B: Weak Appropriability Regime

The regime of appropriability is an important environmental factor that may impact a firm's knowledge-absorbing activities (cf. Cohen and Levinthal 1990, Zahra and George 2002, Volberda *et al.* 2010, Crowley and Jordan 2018). The regime of appropriability is the extent to which knowledge and innovations can be protected from imitators and generate profits for the companies that own the knowledge and innovations. It depends on the nature of the core knowledge (e.g., tacit vs. codified knowledge) in innovation and the efficacy of legal protection for intellectual assets (cf. Teece and Pisano 1994, Hurmelinna‐Laukkanen *et al.* 2008, Ritala and Hurmelinna‐Laukkanen 2013). Many owner-managers of SMEs have significant concerns about leaking business or technology secrets and being unable to protect their intellectual property when exchanging information with external partners.

Absorbing external knowledge involves companies opening their doors and interacting with external players. Such communication across organizational boundaries may pose threats of secrets leaking to other firms (cf. Dahlander and Gann 2010, Faems *et al.* 2010, Freel and Robson 2017). Firms open to the external environment will have to frequently disclose information and knowledge to external parties and hence are subjected to potential leaks of valuable IP. The risk of leaking business secrets is not only a concern on the donor's side but also a worry on the recipient's side because knowledge absorption requires both sides to disclose a certain amount of information in the communication processes. When the appropriability regime is weak in society, protecting internal IP could be difficult. It will reduce the willingness of a firm to interact with external partners for information sharing and knowledge absorption.

4.4 Chapter Conclusion

This chapter explored what challenges SMEs face in the knowledge-absorbing processes. We conducted 16 in-depth interviews with owner-managers of Chinese SMEs in different industries. The study identifies seven main challenges SMEs may face when absorbing external knowledge (see Table 4.2).

Table 4.2: Summary of the Chapter Findings

<table>
<tr><th>Research Question</th><th colspan="2">Findings</th></tr>
<tr><td rowspan="7">What challenges may SMEs face in the processes of absorbing external knowledge?</td><td rowspan="5">1. Internal challenges</td><td>A. Lack of resources</td></tr>
<tr><td>B. Limited internal expertise and competencies</td></tr>
<tr><td>C. Lack of social capital</td></tr>
<tr><td>D. Lack of business reputation</td></tr>
<tr><td>E. Negative attitudes towards external knowledge</td></tr>
<tr><td rowspan="2">2. External challenges</td><td>A. Issues with contracts</td></tr>
<tr><td>B. Weak appropriability regime</td></tr>
</table>

We categorize them into two groups: (1) internal challenges and (2) external challenges. Five internal challenges are listed as (A) lack of resources, (B) limited internal expertise and competencies, (C) lack of social capital, (D) lack of business reputation, (E) negative attitudes towards external knowledge. Two external challenges are identified as (A) issues with contracts and (B) weak appropriability regime.

According to our study, (1A) lack of resources and (1B) limited internal expertise and competencies are the most mentioned challenges for Chinese SMEs. It is in line with our presumption that SMEs may face unique challenges when dealing with external knowledge due to their smallness and lack of resources. In contrast, in the study by Cuervo-Cazurra and Rui (2017) (see Table 4.1 in Section 4.1), lack of resources and competencies are not identified as challenges of multinational corporates as big companies usually own more resources and competencies needed for absorbing external knowledge than SMEs. Whereas both big and smaller firms may face some other similar challenges. For instance, we have identified (1C) the lack of social capital and (1E) negative attitudes of the owner-managers towards external knowledge as internal challenges of SMEs when absorbing external knowledge. Similarly, Cuervo-Cazurra and Rui (2017) recognize the lack of social integration mechanisms and managerial bias as obstacles to AC of multinational corporates. In both studies, a weak appropriability regime is believed to impose similar constraints on both big and small firms when they try to absorb external knowledge.

The findings of our interviews reveal the challenges that SMEs may face when absorbing external knowledge. Firms, particularly SMEs with limited resources, need to carefully deploy their knowledge-absorbing strategies with external partners, as different strategies will entail different costs and challenges. Therefore, they may have different impacts on firm performance (cf. Lin and Wu 2010, Kang and Kang 2014). The next chapter of the study will focus on testing the performance implications of different EKA mechanisms identified by our study in Subsection 3.4.2.