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Stakeholder ties, organizational learning, and business model innovation: A business ecosystem perspective

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ABSTRACT

Business model exists within business ecosystems, and stakeholders can exert a key influence on a firm's business model innovation. Drawing insights from the business ecosystem perspective and resource-based view, this study examines how ties with stakeholders can affect a focal firm's business model innovation and how the relationship is contingent upon the firm's learning types. Analyses of 210 Chinese firms reveal that the relationship between intra-industry stakeholder ties and business model innovation is inverted U-shaped, while extra-industry stakeholder ties have a positive effect on business model innovation. The relationships between both intra-industry and extra-industry stakeholder ties and business model innovation are weakened by exploitative learning but strengthened by exploratory learning. Theoretical and practical implications are discussed.

1. Introduction

Business model innovation (BMI), which involves holistic alterations to the structure and architecture of firms' boundary-spanning activity systems for creating, delivering, and capturing value, has recently attracted considerable scholarly attention due to its ability to increase a firm's competitive advantages (Bouncken and Fredrich 2016; Foss and Saebi, 2017). Nowadays, the locus of value creation and value capture has shifted to the business ecosystem (Adner and Kapoor, 2010) composed of interdependent stakeholders (e.g., customers, competitors, suppliers, social organizations, and other institutions) and the relationships between all stakeholders (Moore, 1993; Wei et al., 2017). Firms are relying increasingly on stakeholders in the business ecosystem to jointly create and capture value by redesigning their business models (Amit and Zott, 2015).

An increasing number of scholars have realized that the business model, despite being often studied as a firm-centric concept, is an ecosystem-embedded construct (Amit and Zott, 2015; Frishammar and Parida, 2019). They acknowledge that BMI extends the dyadic relationships involving multiple ecosystem stakeholders (Sjödin et al., 2020). Hence, BMI is not only constrained by firms' internal factors, but also affected by ecosystem-level factors, particularly stakeholders. Despite this, the literature exploring the antecedents of BMI has been guided mainly by the firm-centric view that focuses on the effects of firms' internal factors (e.g., McDonald and Eisenhardt, 2020; Wei et al., 2017), leaving the role of stakeholders largely underexplored. However, given business model researchers' growing interests in the business ecosystem, one intriguing question is what role ecosystem-level factors, particularly stakeholders who constitute the principal subjects of a business ecosystem (Lu et al., 2014), play in driving BMI? Unfortunately, the answer remains unclear.

To address this gap, we explore how different stakeholders in the business ecosystem affect a firm's BMI through their ties to the firm. The business ecosystem perspective suggests that firms survive in complex networks of interdependent stakeholders with complementary resources (Frishammar and Parida, 2019). Along a similar vein, the extended resource-based view (ERBV) indicates that, to obtain competitive advantages in a networked context, firms need to leverage outside resources embedded in a wider network and can only be accessed through the ties with outside actors (Lai et al., 2012; Park et al., 2017). Therefore, in the context of business ecosystem, resources from stakeholders of the ecosystem are crucial for firms to achieve BMI and gain competitive advantages. Ties with stakeholders as a vital source for firms to acquire and synergize these resources are a prerequisite for BMI. Further, it is important to differentiate the types of stakeholders because the resources they provide vary. Intra-industry stakeholders often offer knowledge and information related closely to the industry, whereas extra-industry stakeholders can provide heterogeneous knowledge and

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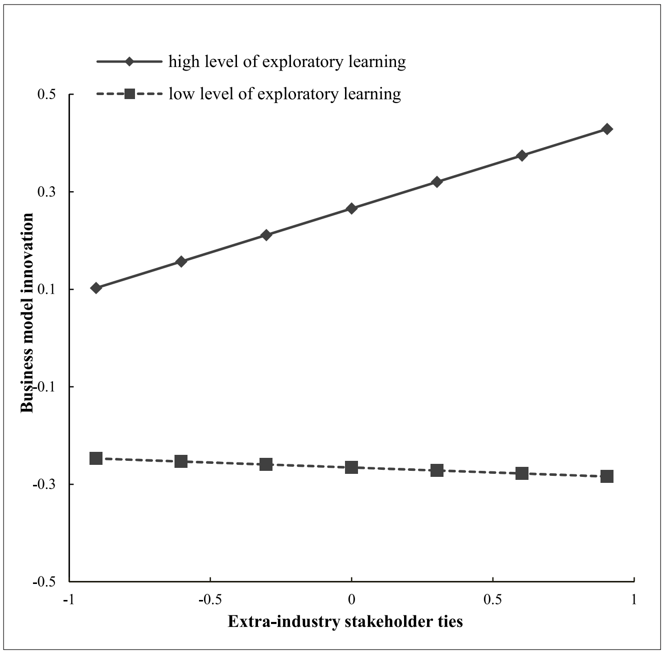

Fig. 6. Interaction effect, exploratory learning and extra-industry stakeholder ties.

model.

5. Discussion

5.1. Main findings

Drawing on the business ecosystem perspective and ERBV, we seek to extend the understanding of how stakeholders affect firms' BMI. We examine the differential impacts of intra- and extra-industry stakeholder ties on BMI and the moderating effect of organizational learning.

Our results suggest that a firm's intra- and extra-industry stakeholder ties have different effects on its BMI due to the different resources they provide. Specifically, we hypothesized an inverted U-shaped relationship between intra-industry stakeholder ties and BMI due to two countervailing mechanisms: a diminishing positive mechanism of access to unique and novel resources; and a rising negative mechanism of resource inertia. We also hypothesized a positive relationship between extra-industry stakeholder ties and BMI. Our analyses provided empirical support for both hypotheses. Scholars have suggested that the benefits of extra-industry stakeholder ties may be greater than those of intra-industry stakeholder ties, as they can offer firms more heterogeneous resources (Geletkanycz and Hambrick, 1997; Yoo et al., 2009). Thus, we provide additional support to previous studies that find that intra- and extra-industry stakeholder ties have differing effects on firms' strategic activities (Atuahene-Gima et al., 2016; Yoo et al., 2009).

Furthermore, our results reveal the role of two types of organizational learning in the process of BMI. We find that exploitative and exploratory learning serve as important moderators in the stakeholder ties-BMI relationship. The moderating effect of organizational learning on the relationship between intra-industry stakeholder ties and BMI is interesting and unique. Our findings show that at higher levels of exploitative learning, the inverted U-shaped relationship between intra-industry stakeholder ties and BMI is flatter, while this relationship is steeper when the level of exploratory learning is higher. Moreover, the positive relationship between extra-industry stakeholder ties and BMI is weakened by exploitative learning but strengthened by exploratory learning. These results mean that exploratory learning can increase the benefits of stakeholder ties for BMI, whereas exploitative learning does not. In addition, by demonstrating the moderating roles of exploitative and exploratory learning, we provide evidence that supports previous research suggesting that dynamic capability plays a significant role in firms' BMI (Teece, 2018). Moreover, although not hypothesized, exploitative and exploratory learning are found to directly affect BMI but their effects are opposite, demonstrating the importance of diverse types of organizational learning for BMI.

In addition, our results reveal significant effects of some relevant control variables on BMI. Innovation often comes with high risk (Craig et al., 2014), and our results support this view by showing that firms with lower risk orientation are less likely to innovate business models. We also find that technological turbulence positively affects BMI, demonstrating that technological change is an important driver of BMI (Teece, 2010). Moreover, the results show that negative interpretation of environment hinders BMI, which is contrary to the point of Saebi et al. (2017) that the perceived threat of environments stimulates the transformation of business models. Although the conflicting results may be due to sample differences, they could also be due to contextual factors such as institutional support of innovation in a country and cultural differences in risk management.

5.2. Theoretical implications

We contribute to research on BMI in two ways. First, unlike previous literature on BMI which often focuses on firm-centric factors, we emphasize the role of ecosystem-level factors such as stakeholders and theoretically and empirically demonstrate how stakeholder ties in a business ecosystem affect firms' BMI. Prior research focuses primarily on the driving role of firm internal factors in BMI (e.g., Martins et al., 2015; McDonald and Eisenhardt, 2020). We not only direct the scholarly attention to external factors of the ecosystem but also dive deep into unraveling the relationship between distinct stakeholder (i.e., intra- and extra-industry stakeholder) ties and BMI. This is a meaningful contribution, because little attention to the role of ecosystem has been paid despite the repeated calls for the identification of BMI antecedents beyond the firm level (Amit and Zott, 2015; Frishammar and Parida, 2019). Our theorization and findings thus offer new insights and enrich the field of research on the drivers of BMI.

Second, we provide a more nuanced understanding of stakeholders' impact on BMI. Our study responds to the calls for consideration of the role of stakeholders in BMI (Spieth et al., 2016) and contributes to a more in-depth exploration of the impact of stakeholders on BMI. On the one hand, adopting the perspective of resource difference and following Geletkanycz and Hambrick (1997), we distinguish the stakeholder ties from the industry effects and find that they have varying impacts on BMI. We provide empirical evidence to support the importance of stakeholders to BMI, adding to the valuable work of Amit and Zott (2015) on stakeholder activities as an antecedent of BMI. On the other hand, we reveal the important boundary conditions of the effect of stakeholder ties on BMI by showing that the effectiveness of stakeholder ties on BMI depends on specific organizational learning (i.e., exploitative vs. exploratory learning) adopted by firms. Our study thus not only deepens the understanding of how organizational learning plays a role in leveraging stakeholder ties, but also demonstrates the joint effects of factors at the firm and ecosystem levels on BMI.

5.3. Managerial implications

This study has several practical implications. First, we offer insights into how firms can overcome resource constraints to leverage the resource pool in their business ecosystem to facilitate BMI. While ties with stakeholders in the business ecosystem can help secure resources for BMI efforts, it is critical for firms to be fully aware that intra- and extra-industry stakeholders have different effects on BMI due to differences in resource characteristics. Deep insight into the current market environment from intra-industry stakeholders can help firms to discover new value creation opportunities; yet they also need to be wary of the resource inertia caused by resource homogeneity when intra-industry stakeholder ties are overly strong. When it comes to ties with stakeholders outside the industry, such as universities, scientific research institutions, and media organizations, these ties can afford firms heterogeneous resources and thereby facilitate their generation of more novel ideas and the discovery of new opportunities to facilitate BMI.

Second, we stress to executives and managers the critical role of capabilities in transforming their resources via stakeholders to BMI. It is as important as resource acquisition to absorb and allocate these resources to facilitate BMI. Firms need to choose the appropriate form of learning to fully utilize these resources. But not all types of learning can play a catalytic role in promoting the effectiveness of stakeholder ties in the BMI process. Firms should consider the idea of a portfolio of stakeholder ties and learning types when implementing their BMI. Engaging in exploratory learning rather than exploitative learning with extra-industry stakeholder ties is more effective. Thus, adopting a portfolio approach to leverage stakeholder ties and organizational learning in BMI maximizes the effectiveness of stakeholder ties on BMI.

Third, although we did not hypothesize the direct impact of organizational learning on BMI, we were able to show that exploratory learning directly facilitates BMI and exploitative learning hinders BMI. Thus, in BMI practice, we advise firms to strengthen exploratory learning to acquire more novel knowledge and stimulus from other fields. Managers need to actively create a stimulating atmosphere to augment exploratory learning activities in their firms. Furthermore, we also caution firms to be alert to the potential negative effects of high exploitative learning in BMI processes. When it comes to BMI, managers should avoid overly focusing on the familiar domains and the utilization of existing knowledge.

5.4. Limitations and future research

This study has several limitations which open avenues for future research. First, we divide the external stakeholders into two categories (i.e., within and outside the industry) without making a more detailed distinction. However, with the development of information technology and the Internet, the boundaries between different industries have become increasingly blurred. In our study, we emphasize the industry in which a firm's main business is located. It is also important to acknowledge that different stakeholders' attitudes toward and desire for BMI can vary, even within the same industry. Such varying attitudes may affect the quality and quantity of resources that stakeholders offer firms. However, we focus more on the characteristics of resources at the industry level. Therefore, future research could divide stakeholders into more refined categories and further explore the different influences of ties with distinct stakeholders (e.g., customers, competitors, and universities) on BMI, and further enrich our research results.

Second, the possible mediating mechanisms affecting the baseline relationship are not considered. For example, we argue that intra-industry stakeholder ties may hinder BMI due to the resource homogeneity and the constraints of existing networks. However, given the database limitations, we could not capture resource homogeneity and inertia. Directly capturing stakeholders' impact on organizational inertia and path dependence and then BMI will be fruitful.

Third, in this study, organization learning is viewed as a dynamic capability, and we focus on how it impacts the stakeholder ties-BMI relationship by affecting the utilization and effectiveness of obtained resources. Scholars could consider other mechanisms that may occur in firms' learning in network ties and potentially impact the stakeholder ties-BMI relationship, such as potential opportunistic behavior or cherry-picking, which in turn affect firms' partnerships or networks.

Fourth, there might be country and design bias in our research design and instrument, thus affecting the generalizability of our findings. For example, our scales of stakeholder ties capture the extent to which firm executives establish good relationships with various stakeholders. Although a "good relationship" is a well-understood concept in Chinese society (Sheng et al., 2011), it may have a different meaning and implication in European countries. Also, the role of external ties may be particularly significant in providing access to valuable sources of resources that may not readily be available through labor markets in emerging economies such as China, because of the lack of necessary institutional infrastructure (Atuahene-Gima et al., 2006). However, in more highly developed markets such as Europe and US., firms can rely on impersonal agents or other channels to access such resources, thus minimizing the role that external stakeholders play. Thus, future research can engage comparative studies to test whether our theoretical model holds in different country contexts. Investigating whether the role of relational governance for ecosystem stakeholders is different in developed and emerging economies, and exploring whether there are distinct governance mechanisms of business ecosystems in different cultural settings to promote BMI, are important.

Finally, the cross-sectional data prevents us from further exploring the effects of stakeholder ties and organizational learning on BMI over time and/or at different stages of BMI. Researchers can combine longitudinal case studies with a portfolio approach to examine the interactions with different stakeholders and the impacts of the portfolio of stakeholder ties and learning mechanisms on BMI over time. Additionally, although we highlight BMI as a set of activities at the ecosystem level, our measurements are made at the firm level, which still takes the firm's perspective of the stakeholders as the starting point, without considering the stakeholders' perspective of the firm. With an ethnography or on-depth case study to gain deeper insights into the interaction among parties involved in emerging ecosystem-embedded business models, future research can reveal insights regarding the process in addition to the outcome of BMI.

Declaration of competing interest

None.

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