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Zhou, F. and Li, X. and Han, Chunjia and Zhang, Lan and Brij, G. (2023) Unpacking the effect of institutional support on international corporate entrepreneurship in entrepreneurial support systems. *International Entrepreneurship and Management Journal* , ISSN 1554-7191.

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# Unpacking the Effect of Institutional Support on International Corporate Entrepreneurship in Entrepreneurial Support Systems

**Abstract:** Extant research is unclear about the relationship between entrepreneurship support systems and international corporate entrepreneurship (ICE) in emerging economies. This research considered entrepreneurial support systems essentially act as institutional intermediaries and consider resource slack as a mediating variable and dual network embeddedness as a moderating variable to explore the effects of formal institutional support and informal institutional support on ICE. Based on an empirical analysis of data from 480 valid questionnaires from small multinational corporations (MNCs) in Asia-Pacific region, this research found that (1) institutional support has a positive effect on ICE; (2) resource slack mediates institutional support and ICE; and (3) local network embeddedness has a negative moderating effect on the relationship between institutional support and resource slack, and ultra-local network embeddedness has a positive moderating effect on the relationship between institutional support and resource slack. The findings of the study echo the call of scholars to pay attention to the influence of institutional factors on ICE, and clarify the process of institutional support in the entrepreneurial support system on ICE.

**Keywords:** Formal institutional support; Informal institutional support; International corporate entrepreneurship; Resource slack; Local network embeddedness; Ultra-local network embeddedness

## 1. Introduction

The global environment today is continuously changing and challenging, so organizations must innovate with the opportunities and threats constantly emerging if they want to stand out in this context (Autio et al. 2018; Cavallo et al. 2019; Kouatli et al. 2020). International corporate entrepreneurship (ICE), an intersection of new countries and new product lines, is emerging as a powerful instrument for organizations in response of the rapid changes of economy and technology (Ahmed and Brennan 2021; Sadeghi et al. 2019). An obvious advantage of ICE is that it helps corporations cope with market changes efficiently by cultivating core competencies and improving financial performance (Franco-Leal and Diaz-Carrion 2022; Kraus et al. 2018), but little research focus on it to explore further mechanisms (Baier-Fuentes et al. 2019). Nevertheless, the market mechanism is still immature in the process, indicating the main problem is the inadequate effectiveness of entrepreneurial support system (Curran 2020). As Audretsch (2003) point, “technology is important, but globalization will not happen so rapidly if we rely solely on technological advances. He suggests that institutional conditions or political support is critical to the construction of entrepreneurial support systems. Also, it has been demonstrated that institutional support institutional differences may lead to different levels of entrepreneurship in different countries (Sadeghi et al. 2019).

This is also true in the ICE field, MNCs entering new geographic markets face additional

market uncertainty due to the complexity and diversity of international environment, and entrepreneurial support systems as an effective "universal intermediary" network of services connect small-sized production and large market, including individuals and organizations within professional services corporations, social groups and government (Spigel and Harrison 2018; Wang et al. 2015; Skafi et al. 2022). ; The support system essentially acts as an institutional intermediary that allows entrepreneurs' transition between institutional domains as ICE need to establish different relationships with subjects other than the usual market (Dutt et al. 2016; Mair et al. 2012). Although prior studies have identified the significant role of the support system on business start-up activities, such as Autio et al. (2018) who found that entrepreneurship supporters can implement a series of initiatives to overcome structural institutional shortcomings. It not only provides both economic incentives and infrastructure, but also does well in bridging the gap between informal and formal values while promotes reformation for corporations at the individual and network level. Moreover, Taylor (2021) finds the entrepreneurial support system and agent have significant influence on entrepreneurial activities that helps to expand corresponding market scope. Some existing studies are conducted from constructing the support system in universities, but the research with international corporations as the main subject of entrepreneurship is still insufficient, especially those who are currently in developing regions where the institutional system is not yet perfect (Tiemann et al. 2018; Yi 2021). This study will focus on the impact of institutional factors and the coupling process with international entrepreneurial resources based on the specific context of support system.

Prior research has revealed that institutional support endows a dual dimension that can bring multiple resources to international corporations (Zhang 2022). However, there is a research gap in investigating the relationship between the dual institutional support and ICE. For one thing, the institutional support as the most important external environment of corporations (Shu et al. 2019), a key question is about how it could be adapted by coupling with organizational resources, thereby activating ICE. As studied by (Kafouros et al. 2022) formal institutional support not only creates a favorable external institutional environment for the development of strategic flexibility but also provides international corporations with rich resources and decision-making basis. Meanwhile, the social resources that international corporations obtained from informal institutional support, are conducive to form important dynamics that drives substantial development (Horak and Suseno 2022). For another, institutional factors tend to drive the mutual embeddedness of resource access and network relationships in entrepreneurial support system. Different types of market entities form a "universal intermediary " service network, playing the role of intermediaries by offering market connection carriers, intermediate products, and network services (Spigel and Harrison 2018). Corporate strategic network is an instrument for business resource allocation and a crucial role in the effective utilization of resources in ICE under the interaction of institution and network (Bansal and Song 2017). From the perspective of geographical distribution, corporate embedded network is complicated with multiple and regional interactions. Specifically, the local network and ultra-local

networks are important components of it, both are important tools for international corporations to carry and allocate resources (Park and Luo 2001). Also, they have different impacts on corporations' access, development, and absorption of heterogeneous resources owing to geographic difference (Muller and Kunisch 2018). Therefore, network embeddedness with different dimensions supplies a realistic context for corporations to access institutional support while framing boundary conditions for their resource access and strategic decisions.

In this research, we speculated that both the institutional environment and strategy network are important components of the entrepreneurial support system under the condition of developing economy. They provide a strong practical background and research context for the ICE in multinational corporations (MNCs), which play an important role in global risk-taking (Karmaker 2023). This study argues that resource slack will vary with different levels of institutional support, which in turn stimulates ICE based on the interactions of institution and network. From the 180 validated questionnaires of small MNCs in Asia-Pacific region, this study validates the research model and provides some managerial inspirations about intrapreneurial behavior to some MNCs, especially the MNCs facing economy transition.

Our research contributes to the existing literature in several ways. First, our research pioneered exploring the effect of institutional support on ICE in the context of entrepreneurial support systems. Our research advanced the current literatures on antecedents of ICE. Second, our research highlights the entrepreneurial support systems essentially act as institutional intermediaries that provide resource slack and network embeddedness for corporations, which help corporation integrate internal and external resources and promote ICE. The paper is structured as follows. We first present the theoretical model, and build the research hypotheses. We then describe the methodology, including data collection and data analysis, and how we tested the conceptual model, and present the analyses' results. Finally, empirical findings are discussed, and academic and practical implications derived. The paper also provides some concluding remarks with limitations and directions for future research.

## 2. Theoretical Model and Hypothesis

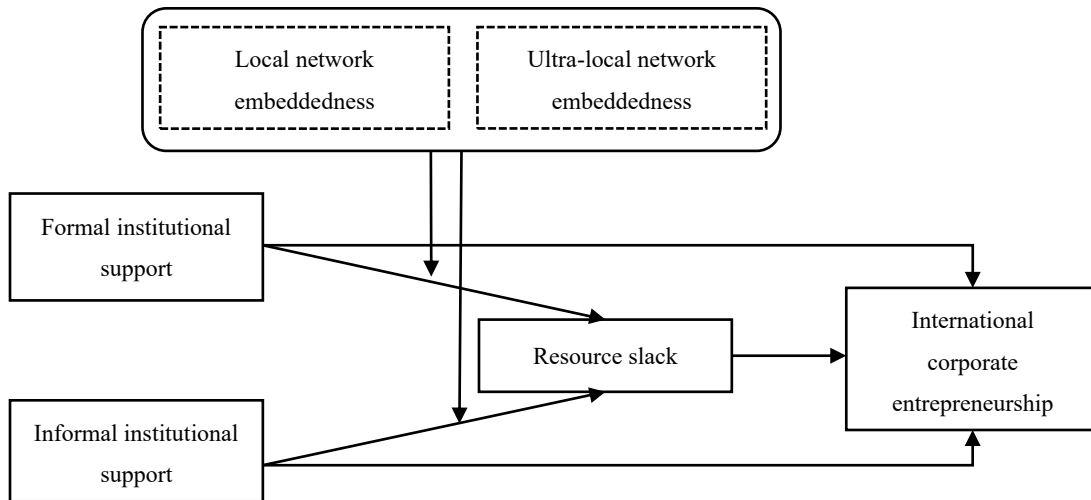
### 2.1. Research model

The entrepreneurial support system is complicated and adaptive, which promotes the achievement of orderly entrepreneurial activities on the basis of supporting and encouraging objects to achieve goals (Spigel and Harrison 2018). It allows entrepreneurs to obtain more needed resources at a lower cost within less time (Autio et al. 2018). The role of government in entrepreneurship is to build the support system. However, the entrepreneurial subjects also include other organizations and individuals in society which means a public social support system for entrepreneurs should be jointly built by the government and society (Stephan, Uhlaner, and Stride, 2015). On the one hand, the government can provide ICE activities with direct institutional and

resource supports in the context of developing economy (Peng 2002; Zhou 2013). The institution-based view holds that both the formal and informal institutional environments have a significant impact on corporations' strategic decision-making (Wang et al. 2019). Different institutional environments will offer resources and information needed to corporations in carrying out intrapreneurial activities which play a crucial role in their strategic decision-making and innovation (Park and Luo 2001). In terms of institutional type, institutional support is a binary structure consisting of formal and informal institutional support (Xin and Pearce 1996). Formal institutional support obtained by corporations can not only send signals of legitimacy to the market but also improve the environment of ICE through increasing opportunities, willingness and resources (Yiu et al. 2014). For countries experiencing transitional economy, there are still many imperfections in the factor market. Corporations try to establish political relations with the government to obtain favorable policies and scarce resources from informal institutional support (Zhang et al. 2022; Zhou 2013). It helps to enhance intrapreneurial performance. Hence, different levels of institutional support have a crucial influence on ICE. Also, the complementary characteristics of formal rule-based and informal relationship-based institutional support can bring heterogeneous resources for it (Xie et al. 2015). On the other hand, social network theory believes that the entrepreneur and entrepreneurial behavior are embedded in evolving social structures and relationship patterns. Meanwhile, the entrepreneurial support system constructed by these social structures and relationships will in turn act on them. In fact, the decision-making and implementation of ICE is the result of the joint effect from both internal and external factors. The impetus for ICE comes from the underutilized resources in corporations. Differences in corporation's control and understanding of the institutional environment will lead to differences in their own embedded networks and resource slack, which to a certain extent reflects to difference in ICE activities and effects. Therefore, ICE is constrained and motivated by the institutional support of the embedded entrepreneurial support system, while affected by the social relations and structures of the embedded network (McKeever et al. 2015).

From the institution-based view and embeddedness theory, this study argues that the public social support required for ICE is composed of institutional and network factors. Institutional support of institutional factors can influence ICE in both formal and informal institutional support. Resource slack plays the mediation role in the process as resource is a necessary condition for the occurrence of corporate behavior. Besides, corporations require necessary resources to be embedded in social networks to implement ICE. According to the geographical distribution, network embeddedness can be divided into local and ultra-local network embeddedness. They constitute the boundary conditions of ICE as an important external network relationship of corporations' economic activities in the process of obtaining resources. Shepherd et al. (2019) suggest that ICE is a resource docking activity based on resources. It can enhance, expand, and create novel capabilities to support the renewal of the organization's competitiveness through the effective management of resources to "revitalize" them. The research model of this paper is shown in Figure 1.

**Figure 1.** Research model



## 2. 2. Hypothesis

### 2.2.1 The relationship between institutional support and ICE

Institutional support is offered by governments and administrative agencies for corporations to reduce the problems owing to the imperfect system in economic transition, and it has been shown to significantly boost international entrepreneurship (Oparaocha 2015; Xin and Pearce 1996). And it is considered to be associated with the uncertainty and risk associated with opening new product lines (Wang et al. 2015). The institution-based view argues that the establishment of social networks, resource acquisition, external financing, and internal organizational revolution in the intrapreneurial process are all influenced by the constraints of the institutional environment (Ketteni and Kottaridi 2019; Sadeghi et al. 2019). Clough et al. (2019) also point out that an adequate supply of entrepreneurial resources and related institutional support is a key factor in ensuring the successful implementation of ICE in a new environment. However, our review of the literature in the field finds that ICE research focused on developed countries dominates the research in developing countries, and the study targets are mainly located in North America or Europe, which lacks guidance for developing regions with relatively backward institutional environments (Ahmed and Brennan 2021). Also the limitation in geography and techniques may cause corporations fall into the market context of information incompleteness and resources inequality (Smith et al. 2013). So, in order to broaden the scope of application of the study findings globally, this study take institutional factors into account.

Additionally, intrapreneurs in corporations are actively influencing the system while being influenced by the system (Elert and Henrekson 2017). And compared with mature economies, there are several disadvantages in the immature system of developing countries, which makes entrepreneurs face multiple institutional barriers in ICE. In particular, "institutional

entrepreneurship" may also occur, which aims at changing the existing institutional logic and introducing a new system to improve the current consensus on goals and the way to achieve them (Huang et al. 2019). Under the changing international environment, this study argues that institutional support is a significant factor in international entrepreneurship research. The ICE is not only passively affected by institutional support, but also proactively affect the support system built by the local government via institutional entrepreneurship, facilitating the entry into the foreign market and establish connections with foreign customers and suppliers (Sadeghi et al. 2019). Institution is made up with both formal and informal systems, this paper will discuss the relationship between institutional support and ICE in terms of these two aspects.

Formal institutional support is the formal support provided by government administrative agencies for corporations to reduce the negative impact of imperfect market mechanisms, and these support policies are based on rules and regulations, such as government subsidies and tax exemptions for technology innovation-oriented corporations, government procurement of innovative products, support for the establishment of cooperative communities and industry-university research alliances, intellectual property protection, etc. (Kafouros et al. 2022). From the perspective of "passive" acceptance, firstly, government subsidies and policy preferences can support the capital investment of corporations effectively (Ketteni and Kottaridi 2019; Qu et al. 2017; Zhou 2013). Secondly, formal institutional support can help corporations to achieve continuous innovation by obtaining support from other stakeholders (Qu et al. 2017). For instance, high-tech corporations recognized by the government are more likely to obtain commercial loans (Li et al. 2019). Finally, the industry-university alliances supported by the government are conducive to reducing the R&D pressure of corporations (Forcadell and Úbeda, 2022). The enthusiasm and capacity of corporations to carry out innovative entrepreneurial activities will be improved (Snow et al. 2011). Also, current policy supports from governments to improve intellectual property protection are conducive to improving entrepreneurial performance (Chen 2022). From the perspective of "active influence", entrepreneurs mostly act within the existing institutional framework in the early stages of a new venture, which makes their decision-makings constrained by institutions. With the promotion of entrepreneurship, entrepreneurs will have influence on institutions. For the role of government in the entrepreneurship support system, Kubera (2017) suggested that the government is required to play a support-oriented role to be a supervisor rather than a leader. By analyzing the diversity of entrepreneurial ecosystems in Europe, Audretsch and Belitski (2016) found that government played a certain role in bridging the trough of entrepreneurial failure by removing barriers like complex business registration regulations and weak legal enforcement strategies. Hence, the role of the government in the entrepreneurship support system changes from a leader to a supplier. The government can improve the existing system or create a new one to help them legalize their entrepreneurial process through "institutional entrepreneurship" when entrepreneurs with sufficient resources encounter institutional barriers to starting a business (Lee and Hung 2014). H1 is proposed based on the above discussion:

H1: Formal institutional support has a significant positive effect on ICE.

Informal institutional support from the government is the result of the corporation's own political behavior, which is a subjective political connection between corporations and government officials without formal agreement (Zhang 2022). Zhou (2013) and Zhao et al. (2021) have stated that informal institutional support contributes to organizational innovation and internationalization. This study suggests that informal institutional support can facilitate ICE in a variety of ways including helping corporations to access key resources to reduce operating costs, identifying potential intrapreneurial opportunities, adapting to the new international environment and so on. Taking identifying potential business opportunities as an example, the information published by the government is too general and limited in the transitional economic environment. In contrast, government officials have a wealth of market information (Ahsan and Fernhaber 2019). By establishing connections with the government, corporations are more likely to receive subsidies, which are more helpful to construct good partnerships with research institutions and universities to provide supports for innovation and ICE (Ketteni and Kottaridi 2019; Wang et al. 2020). At the same time, formal and informal institutional supports constitute the context for entrepreneurs, which will influence their whole entrepreneurial process (Ketteni and Kottaridi 2019). Entrepreneurs also actively use them to their benefit except passively being influenced (Yiu et al. 2014). Entrepreneurs can promote institutional entrepreneurship supported by formal and informal institutions. Especially, the process of institutional entrepreneurship in developing economy is a game of interests, emotions and perceptions between entrepreneurs and the government (Stephan et al. 2015). With the long-term political connections, entrepreneurs can influence the government to introduce new policies and improve the institutional environment through their own resources and supports from relevant authorities (Zhang et al. 2022). It will reduce the impact of the imperfect formal system on corporations and achieve a complementary effect with formal institutional support (Yoon et al. 2018; Zhou 2013). Therefore, corporations with high informal institutional support will have the advantage of obtaining effective government information, grasping business opportunities, and formulating and adjusting business directions. In a nutshell, aligning with industrial development policies will facilitate the success of ICE. H2 is proposed based on the above discussion:

H2: Informal institutional support has a significant positive effect on ICE.

### **2.2.2 The mediation of resource slack between institutional support and international ICE**

Resource slack refers to the accumulation of resources in an enterprise that are temporarily idle but may be reused in the future, in excess of normal business needs (Shahzad et al. 2016). In the entrepreneurial support system, building a systematic structure for continuous access to scarce and valuable entrepreneurial resources is the key to ensuring the success of ICE, especially in the absolutely unfamiliar international environment (Garcia-Sanchez et al. 2018). Entrepreneurs need



to continuously identify, acquire, assimilate, and transform external resources and creatively integrate them with the existing resources and demands of organizations (Barney et al. 2011; Zhang et al.). However, corporations do not live in an ideal world which means their production and operation are always in a specific institutional environment (Ketteni and Kottaridi 2019). With the aim of obtaining legal support for production and operation activities in the institutional environment, corporations are required to identify and react fast to important changes in the international environment, adjust their strategic decisions in time, and allocate internal resources efficiently to respond to the changing environment (Baumgartner 2014; Garcia-Sanchez et al. 2018). Government as a policy maker and the main medium of information dissemination, endow a large amount of policy-based resource information required for the implementation of corporations' innovation and entrepreneurial activities (Acs et al. 2014). Formal and informal connections with the government can provide corporations with faster support to access policy-based resources (Zhang et al. 2000). It will promote corporations to implement entrepreneurial strategies to gain market competitiveness and improve firm performance (Garcia-Sanchez et al. 2018).

Institutional factors can guide the allocation and development direction of resources. Hence, corporations with institutional support will have comparatively more channels and resources to seek autonomy (Lu et al. 2007; Oparaocha 2015), because institutional support from the government can effectively expand access to resources, minimize constraints on access to resources from external conditions, and help corporations obtain critical and heterogeneous resources needed for entrepreneurial activities. The government can offer resources and an environment conducive to innovation to corporations through formal institutional support (Saka-Helmhout et al. 2022). For one thing, it will reduce resource constraints in the entrepreneurship. For another, it contributes to transmitting signals of great value to external markets and institutions in order to help firms obtain resources needed for entrepreneurship, reduce resource constraints and increase resource slack (Franco-Leal and Diaz-Carrion 2022; Stephan et al. 2015). Informal institutional support is government support formed by establishing connections between corporations and government. It helps to obtain a large amount of non-public market information and other resources formulated by the government. Corporations' resource reserves can be improved to promote the formation of resource slack by helping corporations reduce the tortuosity of obtaining information and operation costs to obtain key policy information resources more quickly (Liu et al. 2019). Hypotheses are proposed based on the above discussion:

H3a: Formal institutional support has a significant positive impact on resource slack.

H3b: Informal institutional support has a significant positive impact on resource slack.

The interaction between institutional and organizational changes is common under the background of transitional or developing economy (Taylor 2021). Corporations can choose to acquire their core competitiveness in the international market via entrepreneurial behavior, which cannot be achieved without institutional support from the local government. Formal and informal

institutional supports will provide them with the resources needed for entrepreneurial activities. It has been revealed that resource slack can motivate corporations to engage in new industries and fields, improve their enthusiasm for innovation, and facilitate strategic change (Nohria and Gulati 1996; Wang et al. 2015). Gruber et al. (2010) argue that resource slack can be transformed into wealth that can help corporations carry out strategic change in critical moments, which will encourage them to venture into more areas and carry out innovation. Godoy-Bejarano et al. (2020) also suggests that there will be more resource slack when corporations face environmental changes, and enhance the likelihood of strategic changes. The abundance of resource slack will enhance the entrepreneurial risk-taking capacity of management teams to put more resource slack on strategic change (Zhang et al. 2022). Additionally, it will supply resources needed for strategic change and innovation, which make corporations engage in intra-firm entrepreneurial activities actively and improve competitiveness.

The abundance of resource slack will enhance the entrepreneurial risk-taking capacity of management teams to put more resource slack on strategic change. Furthermore, it will supply resources needed for strategic change and innovation, which make corporations actively engage in intra-firm entrepreneurial activities and improve competitiveness (de Jong et al. 2021). On the basis of the above analysis, this study concludes that the more resource slack a corporate has, the faster it will respond to changes in both internal and external environment. The rapid response offers sufficient support for corporations to implement their internal entrepreneurship in advance under the rapid changes of the market (Peters et al. 2011). For one thing, it could improve their motivation to engage in ICE in the face of rapid environmental changes. For another, it can strengthen their determination to implement risky changes and support corporations' entrepreneurial activities to solve existing problems. Hence, the following hypotheses are proposed.

H4a: Resource slack plays an intermediary role between formal institutional support and international ICE.

H4b: Resource slack plays an intermediary role between informal institutional support and international ICE.

### **2.2.3 The moderating effect of dual network embeddedness**

It is believed that ICE is influenced by the external environment formed by the support environment of the entrepreneurial support entities (Theodoraki and Messeghem 2017). Previous research has displayed that both abundant local and ultra-local network embeddedness can reduce the risk and cost of communication between corporations (Tang et al. 2020; Wigren-Kristofersen et al. 2019). It can significantly promote the possibility and success rate of corporations' strategic change and collaboration, and the digital network relationships formed make it easier for units to work together and share data (Nyagadza 2022; Hu et al. 2022). First, the connection between a corporation and its nearby corporation constitutes a local network relationship and form a local

external environment for direct contact with business operations (Luo et al. 2020). It will promote the dissemination of knowledge and resources between corporations in the local network organization (Vlasov et al. 2018). Second, a close local social network relationship will prompt corporations within the local network organization to build formal network relationships in communication while increasing their closeness (Luo et al. 2020), also it enables the coordination of interfaces across heterogeneous enterprises in different domains and the automation of integrated data processing (Gorecki 2021; Tay and Mourad 2020). Last, corporations could rely on this well-connected local network environment and utilize formal and informal communication mechanisms to better access resources from various knowledge sources including competitors, customers, suppliers and public technology sectors, within the organization (Liu and Shao 2022). Hence, most previous studies conclude that the embeddedness of local networks would help to absorb local knowledge and form unique local resources effectively (Pan et al. 2020; Vlasov et al. 2018). In general, frequent interaction is conducive to corporations' access to resources and it can facilitate the retrieval of matching resources (Nhi and Le 2022). The close network relationship established by frequent contact in the local network organization due to geographical and cognitive proximities will also make the local network highly embedded (Vlasov et al. 2018). The knowledge and resources owned by actors within the local network organization are frequently shared. It will result in high homogenization of information as well as high similarity of resources in the organization. For start-ups, such similarity is detrimental to the activity heterogeneity of entrepreneurial resources (Sadeghi et al. 2019). What's worse, the knowledge boundary limited by established networks may result in the obsolescence of entrepreneurial knowledge, which is not conducive to the success of entrepreneurship (Andersen 2013). The highly homogeneous network relationship is formed through frequent interaction with local networks. The long-term in-depth local network embeddedness relationship makes corporations bear more reciprocal obligations in local network relationships. However, it may also cause unexpected rigidity and rigidity in networks that constrain corporations to explore entrepreneurial opportunities and construct complementary entrepreneurial teams, which is not conducive to corporate's resource slack. For further study, the following hypotheses are proposed.

H5a: Local network embeddedness regulates the relationship between formal institutional support and resource slack negatively.

H5b: Local network embeddedness regulates the relationship between informal institutional support and resource negatively.

An increasing number of scholars tend to pay more attention to the role of ultra-local network in entrepreneurship research and find it has a significant impact on the process. In the context of developing economy, scholars believe that corporations should build a more open network and establish connections with others to form ultra-local networks and contact with new entities constantly. It will contribute to tracking cutting-edge technologies better in the market and obtain

diversified resources (Tang et al. 2020). In contrast to the local network, corporations in the ultra-local network are far away from each other, and their communications are not so frequent as in the local network. As a result, the homogeneity of resources is relatively lower, which is conducive to the connection between entities in the ultra-local network organization to obtain heterogeneous resources and promote the diversification of resources (Yli - Renko et al. 2001). Current research reveals that corporations establish collaborative connection across geographies with entities from unfamiliar network organizations will enhance the probability of obtaining similar but much more innovative knowledge resources (Vanhaverbeke et al. 2007). Such connection is benefit for corporations to integrate and form competitive resources with own characteristics, which not only helps to reduce the risk of resource homogenization but also is conducive to form resource slack when obtaining information resources supported by formal and informal systems of the government. Compared with the local network, ultra-local network involves wider connections with increasing diversity between organization entities and heterogeneity in shared resources (Theodoraki and Catanzaro 2022). Thus, embeddedness in ultra-local network could provide corporations with more opportunities to obtain heterogeneous resources and stimulate resource slack. Hypotheses are proposed as follow.

H6a: Ultra-local network embeddedness regulates the relationship between formal institutional support and resource slack positively.

H6b: Ultra-local network embeddedness regulates the relationship between informal institutional support and resource slack positively.

### 3. Method

#### 3.1. Measures

To ensure the reliability and validity of the research measurements, we referred to mature scales and measurements of variables that have been validated and published in high-quality journals. The measure of institutional support was adopted from the studies of Li and Atuahene-Gima (2001), Peng and Luo (2000), in which the measurement of institutional support was comprised of 10 items and divided into formal institutional support and informal institutional support. As for resources slack, although some scholars have used financial indicators to measure it, these indicators may not reflect the resources associated with ICE to capture the characteristics of the resources slack in this study, so the measurement of organizational slack referred to Bourgeois (1981), Tan and Peng (2003) and Bao et al. (2019), which included 3 items, such as the internal resources of the company. The measurement of dual network embeddedness, building on the studies of Gulati and Sytch (2007), which consists of 8 items divided into two dimensions: the frequency of communication and relationship persistence. With regard to ICE, this study focuses on small MNCs' entrepreneurial behavior about innovation and strategic renewal (Bojica et al. 2017; Hughes and Mustafa 2017; Thanos et al. 2017). So, this study refers to Zahra and Garvis (2000) to measure ICE and select 7 items that fit the context of this paper. See Appendix A for details. All scales are 5-point Likert-type

scale.

### 3.2 Data collection and sample characteristics

This research collected data via face-to-face surveys and online questionnaires from March 2021 to September 2021, primarily from small MNCs based in Asia-Pacific region. The questionnaire was initially prepared in English and then translated into adopting languages. These corporations have a wide range of activities and have already operated in multiple regions. They are planning to enter new markets, with the intention of opening new product lines according to the investigation. Thanks to the list of corporate contacts provided by China Young Entrepreneurs Association and some alumni associations of universities in Asia-Pacific region, we issued 500 questionnaires to the executives of start-up corporations born from mature corporations, and 234 questionnaires were returned, with a return rate of 36.1%. 54 questionnaires were discarded due to irrelevant topics and 180 valid questionnaires were finally obtained, with an effective rate of about 36%. More information about the sample companies is shown in the table 1.

**Table 1.** Statistical information of sample corporations

Number of staff	<1000	48.3%	Enterprise age	<5 years	47.3%
	1000-3000	41.7%		6-8 years	43.3%
	>3000	10%		8-10 years	9.4%
The ratio of R&D investment in the last 3 years	<0.5%	37.8%	Enterprise assets	<100 million	21.7%
	0.5%-1%	35.6%		100-500 million	35.6%
	1%-1.5%	12.8%		500-2000 million	32.7%
	1.5%-2%	13.9%		>2 billion	10%

To control the common method bias (CMV), we had processed the questionnaire beforehand by anonymous processing and designing screening questions. According to Harman's single-factor test, we used SPSS 26.0 to conduct exploratory factor analysis on all items, and five common factors with eigenvalues greater than 1 were extracted, explaining 75.153% of the total variance. Moreover, the explanatory degree of the first factor was only 20.921%, which was below the reference standard of 40% and less than half of the total factors, indicating that a single factor cannot explain the majority of the variance. Thus, the CMV of this questionnaire data was acceptable. In addition, the nature, size and assets of enterprise were considered as control variables in correlation analysis with other variables and the correlations were all in the moderate range, as shown in Table 2.

**Table 2.** Descriptive statistics and correlations (N = 180)

Variable	1	2	3	4	5	6	7	8	9
1 Enterprise nature	1								
2 Enterprise size	-.155*	1							
3 Enterprise assets	-.110	.735**	1						
4 FIS	.029	.243**	.218**	<b>0.760</b>					
5 IIS	.034	.270**	.222**	.742**	<b>0.767</b>				
6 RS	.086	.199**	.122	.584**	.496**	<b>0.732</b>			
7 LNE	.135	.230**	.177*	.530**	.472**	.517**	<b>0.731</b>		
8 ULNE	.081	.290**	.267**	.551**	.457**	.494**	.709**	<b>0.837</b>	

9 ICE	.107	.244**	.244	.698**	.564**	.653**	.581**	.600**	<b>0.716</b>
Mean	2.48	2.64	3.22	3.59	3.94	3.75	3.75	3.57	3.70
SD	.95	1.22	1.24	0.94	.92	.83	.83	.98	.84

Notes: \*\* means  $p < 0.01$ , \* means  $p < 0.05$ ; the diagonal is the square root of AVE (average variance extracted). "FIS": Formal Institutional Support, "IIS": Informal Institutional Support, "RS": Resource Slack, "LNE ": Local network embeddedness, "ULNE": Ultra-local network embeddedness, and "ICE": International Corporate Entrepreneurship.

### 3.4 Reliability and validity analysis

The study used the internal Cronbach's alpha (CA), the Corrected Item-Total Correlation (CITC) and the combined reliability to evaluate the reliability of the variables (see Table 2). The Cronbach's  $\alpha$  values for specific variables were as follows: formal institutional support (0.927), informal institutional support (0.893), resource slack (0.784), local network embeddedness (0.887), ultra-local network embeddedness (0.949) and ICE (0.927). From Table 3 we can see that the CA for each scale were greater than 0.70, the CITC were greater than 0.50, and the CR were also exceeded 0.70, so it showed that the reliability of this study was acceptable. On the other hand, as for the validity of the variables, the load coefficients of all items in this study are greater than 0.5 and the average extracted variance is above 0.5, showing good convergent validity. Furthermore, comparing the square root of AVE with the correlation coefficient between variables (see Table 1), it can be found that the former is significantly greater than the latter, indicating good discriminant validity.

**Table 3.** Reliability and validity analysis (N=180)

<i>Construct</i>		<i>Indicators</i>	<i>Factor loading</i>	CITC	CR	CA	AVE
Institutional Support	Formal Institutional Support (FIS)	FIS1	.638	.732			
		FIS2	.800	.831			
		FIS3	.831	.838			
		FIS4	.858	.840	.905	.927	.578
		FIS5	.721	.803			
		FIS6	.659	.610			
		FIS7	.786	.725			
	Informal Institutional Support (IIS)	IIS1	.769	.809			
		IIS2	.797	.849	.811	.893	.589
		IIS3	.735	.717			
Resource Slack (RS)		RS1	.776	.683			
		RS2	.762	.728	.775	.784	.536
		RS3	.652	.580			

		LNE1	.654	.694			
	Local Network	LNE2	.708	.756			
	Embeddedness	LNE3	.754	.764	.821	.887	.536
	(LNE)	LNE4	.803	.799			
Network							
Embeddedness		ULNE1	.803	.880			
	Ultra-Local Network	ULNE2	.867	.879			
	Embeddedness	ULNE3	.823	.863	.903	.949	.700
	(ULNE)	ULNE4	.853	.884			
		ICE1	.726	.769			
		ICE2	.810	.836			
	International	ICE3	.749	.782			
	corporate Entrepreneurship	ICE4	.684	.767	.880	.927	.513
	(ICE)	ICE5	.721	.793			
		ICE6	.656	.729			
		ICE7	.652	.713			

### 3.5 Hierarchical regression analysis

In this study, several regression equations were constructed to test the hypotheses by means of hierarchical regression analysis, and the results have been shown in Table 4.

First, we conducted regression analysis with formal and informal institutional support as the independent variable and ICE as the dependent variable. Considering the control variables, the model 5 show a significant positive effect of formal institutional support on ICE ( $\beta=0.668>0$ ,  $p<0.001$ ) and Hypothesis 1 (**H1**) get supported. In Model 7, informal institutional support also has a significant positive effect on ICE ( $\beta=0.525>0$ ,  $p<0.001$ ) and Hypothesis 2 (**H2**) get supported.

Second, we conducted regression analysis of formal and informal institutional support on resource slack separately after adding the control variables. As shown in Table 4, model 2 and model 3 verified that formal institutional support ( $\beta=0.568$ ,  $p<0.001$ ) and informal institutional support ( $\beta=0.472$ ,  $p<0.001$ ) can positively affect resource slack, so **H3a** and **H3b** are supported.

Third, we include the mediating variable (resource slack) into model 5 and model 7 separately, and obtain model 6 and model 8. In model 6, the regression coefficients of both formal institutional support ( $\beta=0.459$ ,  $p<0.001$ ) and resource slack ( $\beta=0.368$ ,  $p<0.001$ ) on ICE are significant. In model 8, the regression coefficients of both informal institutional support ( $\beta=0.294$ ,  $p<0.001$ ) and resource slack ( $\beta=0.490$ ,  $p<0.001$ ) on ICE are significant. In detail, after adding the mediating variable (resource slack), the regression coefficients are still significant but the absolute values have become lower. And compared to model 5 and model 7, the  $R^2$  of model 6 and model 8 increased by 0.087 and 0.122 respectively, which suggests that resource slack partially mediates the relationship between institutional support and ICE. **H4a** and **H4b** are supported.

**Table 4.** Hierarchical regression analysis (N=180)

DV		RS			ICE				
		Module 1	Module 2	Module 3	Module 4	Module 5	Module 6	Module 7	Module 8
CV	Nature	.120	.082	.084	.148*	.103	.073	.107	.066
	Size	.257*	.149	.142	.165	.037	-.018	.037	-.033
	Assets	-.053	-.102	-.078	.139	.082	.119	.112	.150
IV	FIS		.568***			.668***	.459***		
	IIS			.472***				.525***	.294***
Mediator	RS						.368***		.490***
	R <sup>2</sup>	.055	.356	.260	.090	.506	.593	.344	.522
	ΔR <sup>2</sup>		.301	.205		.416	.503	.254	.432

Notes: \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ ; the diagonal is the square root of AVE (average variance extracted). "FIS": Formal Institutional Support, "IIS": Informal Institutional Support, "RS": Resource Slack, "ICE": International Corporate Entrepreneurship; all variables are standardized.

To further examined the mediation of resource slack, we used PROCESS v3.5 of SPSS 26.0 to conduct a bootstrapping analysis, referring to Preacher et al. (2007) and Hayes and Scharkow (2013) on mediating analysis model (Model 4). The sample size was 5000, and the confidence interval was 95%. The results show a significant mediating effect of resource slack, with a 95% confidence interval of [0.247, 0.483] (excluding 0) and an effect size of 0.365. Moreover, after controlling the mediating variable (resource slack), the effect of formal institutional support on ICE remains significant with a 95% confidence interval of [0.337, 0.575] (excluding 0) and an effect size of 0.456. Detailed results are shown in Tables 4 and 5.

**Table 5.** Formal Institutional Support on ICE: a mediated test of Resource Slack

Regression		Goodness of fit test			Significance of regression coefficients				
DV	IV	R	R <sup>2</sup>	F	$\beta$	SE	t	Boot LLCI	Boot ULCI
RS		.596	.356	24.142***					
	FIS				.569	.063	9.03***	.445	.673
	Nature				.087	.066	1.329	-.042	.217
	Size				.124	.075	1.638	-.025	.272
	Assets				-.083	.073	-1.136	-.226	.061
ICE		.770	.593	50.724***					
	FIS				.456	.069	7.568***	.337	.575
	RS				.365	.060	6.110***	.247	.483



Nature	.077	.052	1.471	-.026	.180
Size	-.014	.060	-.240	-.133	.104
Assets	.096	.058	1.667 <sup>+</sup>	-.017	.210

Notes: \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ ; "FIS": Formal Institutional Support, "IIS": Informal Institutional Support, "RS": Resource Slack, "ICE": International Corporate Entrepreneurship; all variables are standardized. LLCI = lower limit confidence interval; ULCI = upper limit confidence interval. The same below.

**Table 6.** Formal Institutional Support on ICE: the mediating effect of Resource Slack

	Boot Effect	Boot SE	Boot LLCI	Boot ULCI
FIS→ICE	.456	.060	.337	.575
FIS→RS→ICE	.208	.048	.119	.303

Notes: bootstrap sample size = 5000, the confidence level of all confidence intervals is 95%. The same below.

As shown in table 6, the indirect effect of resource slack in the influence of formal institutional support on ICE is 0.208, with a 95% confidence interval of [0.119, 0.303] (excluding 0), which suggests a significant mediating effect of resource slack between formal institutional support and ICE. Thus, resource slack was confirmed to mediate the effect of formal institutional support and ICE. Therefore, H4a is again validated.

We then test the mediating role of resource slack in the effect of informal institutional support on ICE. After setting control variables, we analyzed the data with informal institutional support as the independent variable, resource slack as the mediating variable, and ICE as the dependent variable. The results show a significant mediating effect of resource slack with a 95% confidence interval of [0.367, 0.605] (excluding 0) and an effect size of 0.486. Moreover, after controlling the mediator (resource slack), the effect of informal institutional support on ICE remains significant with a 95% confidence interval of [0.175, 0.423] (excluding 0) and an effect size of 0.299. The results are shown in Table 7 and 8.

**Table 7.** Informal Institutional Support on ICE: a mediated test of Resource Slack

Regression		Goodness of fit test			Significance of regression coefficients				
DV	IV	R	R <sup>2</sup>	F	$\beta$	SE	t	Boot LLCI	Boot ULCI
RS		.510	.260	15.387***					
	IIS				.483	.069	6.966***	.346	.620
	Nature				.089	.070	1.267	-.050	.228
	Size				.118	.081	1.452	-.042	.278
	Assets				-.063	.078	-.809	-.217	.091
ICE		.722	.522	37.931***					
	IIS				.299	.063	4.762***	.175	.423
	RS				.486	.060	8.035***	.367	.605

Nature	.070	.057	1.237	-.042	.182
Size	-.027	.065	-.415	-.156	.102
Assets	.121	.062	1.935 <sup>+</sup>	-.002	.244

**Table 8** Informal Institutional Support on ICE: the mediating effect of Resource Slack

	Effect	Boot SE	Boot LLCI	Boot ULCI
IIS→ICE	.299	.063	.175	.423
IIS→RS→ICE	.235	.055	.141	.354

As shown in table 5, the indirect effect of resource slack in the influence of informal institutional support on ICE is 0.235, with a 95% confidence interval of [0.141, 0.354] (excluding 0), which suggests a significant mediating effect of resource slack between formal institutional support and ICE. Thus, resource slack was confirmed to mediate the effect of formal institutional support and ICE. Therefore, H4b is again validated.

### 3.6 Moderated mediation effect

To further verify the moderating role of local network embeddedness and ultra-local network embeddedness in the mediating effect of formal institutional support on ICE through resource slack. This study refers to previous scholars' statistical tests for mediators with moderation, using SPSS PROCESS for statistical testing from Hayes and Scharkow (2013). The program is able to test both the mediated model with conditioning and the mediated model with conditioning based on the bias-corrected percentile Bootstrap method.

#### (1) The moderating role of local and ultra-local network embeddedness between formal institutional support, resource slack, and ICE.

We used PROCESS v3.5 of SPSS 26.0 to conduct a bootstrapping analysis, referring to Hayes and Scharkow's (2013) research on mediating model with moderator (Model 10). Controlling for enterprise nature, enterprise size, and enterprise assets, this study develops a moderated mediation model in order to explore whether the mediating effect of resource slack on formal institutional support affecting ICE is moderated by dual network embeddedness (see Table 9).

First, from the perspective of the independent variable (formal institutional support), the effect of formal institutional support on resource slack is significant ( $\beta=0.422$ ,  $t=5.960$ ,  $p<0.001$ ), and the interaction of formal institutional support with Local network embeddedness ( $\beta=-0.220$ ,  $t=-2.457$ ,  $p<0.05$ ) and Ultra-Local network embeddedness ( $\beta=0.210$ ,  $t=2.446$ ,  $p<0.05$ ) were also significant for resources slack.

Second, from the perspective of the dependent variable (ICE), both formal institutional support ( $\beta=0.368$ ,  $t=5.861$ ,  $p<0.001$ ) and resources slack ( $\beta=0.317$ ,  $t=5.136$ ,  $p<0.001$ ) can significantly and positively affect ICE. However, the interaction of formal institutional support with local network embeddedness ( $\beta=0.088$ ,  $t=1.202$ ,  $p>0.1$ ) and ultra-local network embeddedness ( $\beta=-0.069$ ,  $t=-0.980$ ,  $p>0.1$ ) on ICE are not significant. Therefore, we conclude that the relationship between formal institutional support and resources slack can be moderated by local network embeddedness and ultra-local network embeddedness, so **H5a** and **H6a** are supported.

To better express the moderating effect of local network embeddedness and ultra-local network

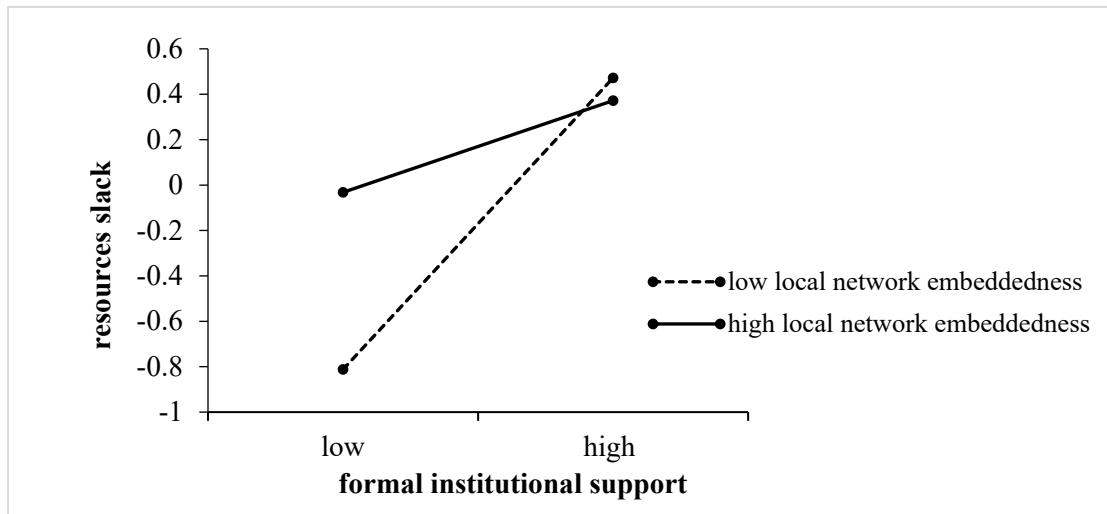
embeddedness between formal institutional support and resources slack respectively. We plot moderating roles as shown in Figure 2 and Figure 3.

**Table 9.** Formal institutional support on ICE: Analyzing moderated mediation effects

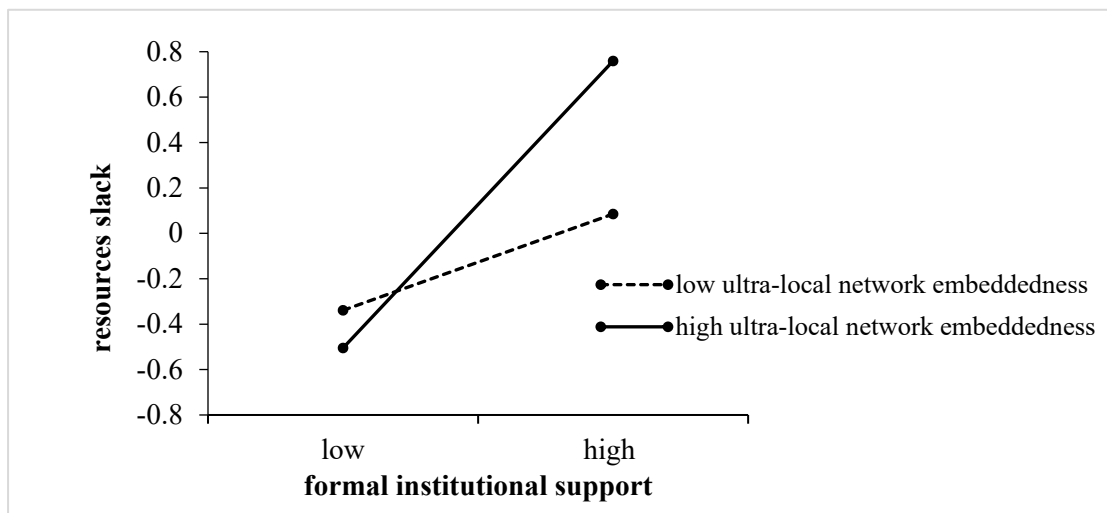
Regression		Goodness of fit test			Significance of regression coefficients				
DV	IV	R	R <sup>2</sup>	F	$\beta$	SE	t	Boot LLCI	Boot ULCI
RS		.657	.432	16.270***					
	FIS				.422	.071	5.960***	.282	.562
	LNE				.170	.102	1.662	-.032	.372
	FIS*LNE				-.220	.090	-2.457*	-.396	-.043
	ULNE				.127	.105	1.217	-.079	.334
	FIS*ULNE				.210	.086	2.446*	.041	.379
	Nature				.044	.063	.689	-.081	.168
	Size				.087	.074	1.188	-.057	.231
	Assets				-.079	.070	-1.117	-.217	.060
ICE		.792	.627	31.729***					
	FIS				.368	.063	5.861***	.244	.492
	RS				.317	.062	5.136***	.195	.439
	LNE				.101	.083	1.212	-.063	.265
	FIS*LNE				.088	.073	1.202	-.057	.233
	ULNE				.135	.085	1.591	-.032	.302
	FIS*ULNE				-.069	.070	-0.980	-.208	.070
	Nature				.055	.051	1.079	-.046	.160
	Size				-.038	.059	-0.637	-.154	.079
	Assets				.086	.057	1.515	-.026	.198

Notes: \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ ; "FIS": Formal Institutional Support, "IIS": Informal Institutional Support, "RS": Resource Slack, "ICE": International Corporate Entrepreneurship; all variables are standardized. Bootstrap sample size = 5000, the confidence level of all confidence intervals is 95%. The same below.

**Figure 2.** Moderating effect of local network embeddedness between formal institutional support and resources slack



**Figure 3.** Moderating effect of ultra-local network embeddedness between formal institutional support and resources slack



**(2) The moderating role of local and ultra-local network embeddedness between informal institutional support, resource slack, and ICE**

Similarly, after controlling for the nature, size and assets of the enterprise, this study develops a moderated mediation model in order to explore whether the mediating effect of resource slack on informal institutional support affecting ICE is moderated by dual network embeddedness (see Table 10).

First, from the perspective of the independent variable (informal institutional support), the effect of informal institutional support on resource slack is significant ( $\beta=0.342, t=4.668, p<0.001$ ). The interaction of informal institutional support with ultra-local network embeddedness ( $\beta=0.167, t=2.083, p<0.05$ ) was significant for resources slack, but the interaction with local network embeddedness ( $\beta=-0.158, t=-1.786, p<0.1$ ) is in significant edges

Second, from the perspective of the dependent variable (ICE), both informal institutional

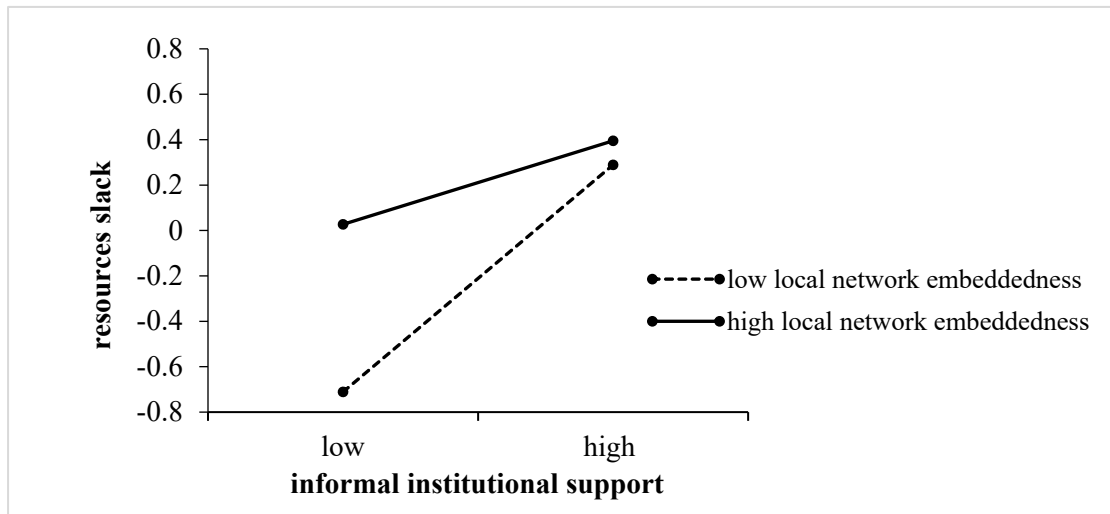
support ( $\beta=0.226$ ,  $t=3.565$ ,  $p<0.001$ ) and resources slack ( $\beta=0.383$ ,  $t=6.131$ ,  $p<0.001$ ) can significantly and positively affect ICE. Similar to the previous results, the interaction of informal institutional support with local network embeddedness ( $\beta=0.068$ ,  $t=0.931$ ,  $p>0.1$ ) and ultra-local network embeddedness ( $\beta=0.003$ ,  $t=0.048$ ,  $p>0.1$ ) on ICE are not significant. Therefore, we conclude that the effect of informal institutional support on resource slack can be moderated by ultra-local network embeddedness, and local network embeddedness plays a weak moderating role in the process, so **H5b** and **H6b** are supported.

To better express the moderating effect of local network embeddedness and ultra-local network embeddedness between informal institutional support and resources slack respectively. We plot moderating roles as shown in Figure 4 and Figure 5.

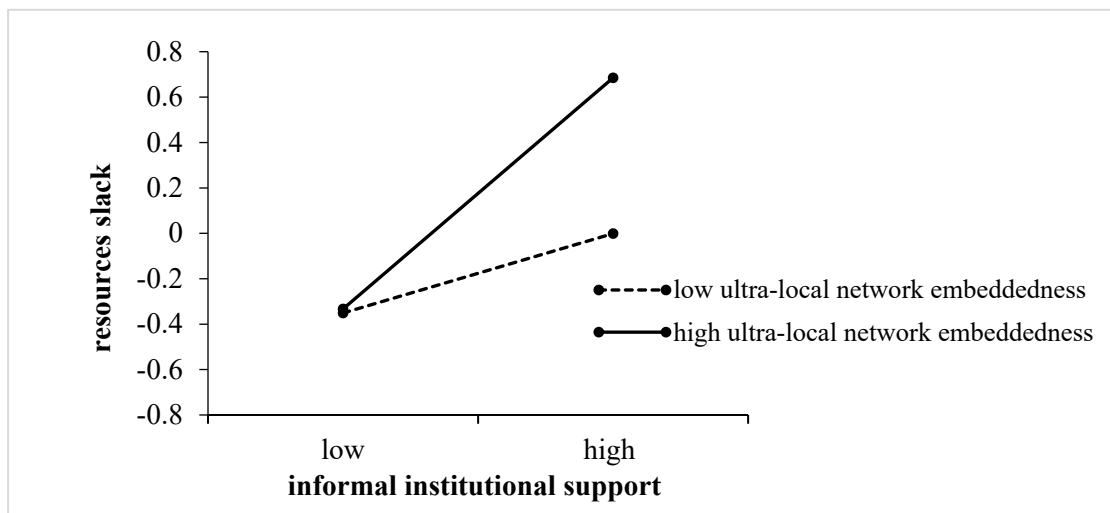
**Table 10.** Informal institutional support on ICE: Analyzing moderated mediation effects (N=180)

Regression		Goodness of fit test			Significance of regression coefficients				
DV	IV	R	R <sup>2</sup>	F	$\beta$	SE	t	Boot LLCI	Boot ULCI
RS		.615	.379	13.025***					
	IIS				.342	.073	4.668***	.197	.486
	LNE				.211	.106	1.982*	.001	.420
	IIS*LNE				-.158	.088	-1.786 <sup>+</sup>	-.332	.017
	ULNE				.176	.106	1.658	-.033	.385
	IIS*ULNE				.167	.080	2.083*	.009	.325
	Nature				.036	.066	.537	-.095	.166
	Size				.073	.076	.967	-.076	.223
	Assets				-.072	.073	-.996	-.216	.071
ICE		.763	.582	26.267***					
	IIS				.226	.063	3.565***	.101	.351
	RS				.383	.062	6.131***	.260	.506
	LNE				.088	.088	1.006	-.085	.261
	IIS*LNE				.068	.073	.931	-.076	.211
	ULNE				.218	.087	2.500*	.046	.390
	IIS*ULNE				.003	.066	.048	-.128	.134
	Nature				.042	.054	.783	-.064	.149
	Size				-.050	.062	-.804	-.172	.073
	Assets				.098	.060	1.644	-.020	.216

**Figure 4.** Moderating effect of local network embeddedness between informal institutional support and resources slack



**Figure 5.** Moderating effect of ultra-local network embeddedness between informal institutional support and resources slack



## 4. Discussion and conclusion

### 4.1. Discussion

The development of the Internet economy has highly increased the uncertainty of the international environment, so it is difficult for corporations, especially MNCs, to maintain a sustainable competitive advantage relying on past resources and capabilities (Kyvik 2018; Forcadell and Úbeda 2022). Entrepreneurial support systems bridge the institutional gap between informal and formal international markets, which contributes to the linkage of the entrepreneurship to the institutional environment in macro level, as well as to a virtuous circle of "universal intermediary" in the entrepreneurship support systems (Theodoraki and Catanzaro 2022). This process triggers more ICE by reducing transaction costs, decreasing uncertainty and accelerating the accumulation of key

resources (Autio et al. 2018). The institutional environment, represented by the government, has a huge impact on the business management of corporations, and the process of this institutional action is highly embedded in the multi-level strategic network of corporations with the participation of multiple subjects (García-Sánchez et al. 2018). Based on the dualistic view of institutional support, this study argues that the complementarity of formal and informal institutions can lead to heterogeneous resources, as well as the rebuilding and utilization of existing redundant resources, which provides a resource pool for ICE. Specifically, the conclusions are as follows.

First, institutional support in the entrepreneurial support system plays an important role in the implementation of ICE in the developing economy. On the one hand, formal institutional support has a positive effect on ICE enhancement, which echoes the proposition of Zhou (2013) and Zhang et al. (2022) to focus on government influence on entrepreneurship. On the other hand, informal institutional support can positively influence corporations to implement corporate entrepreneurial strategies, indicating that informal institutions are as important as formal institutions in the process. Previous literature in the field of ICE has mainly explored its consequential effects, while research on its antecedents has only concerned managerial traits (Boudreaux et al. 2019; Shir et al. 2019; Saxton et al. 2016). However, in developing countries, the economic environment has a greater impact on ICE, so the study of the institutional environment as an explanatory factor is of great practical and theoretical importance. This study demonstrates that both formal institutional support and informal institutional support positively influence intrapreneurial behavior, indicating that institutional support is a key affecter that corporations need to pay attention to when implementing ICE.

Second, resources slack mediates the effect of institutional support on ICE. Based on the resource-based view, this study argues that government institutional support is an important source for corporations to obtain external resources. Formal institutional support provides corporations with a large number of policy-based resources, and informal institutional support provides corporations with abundant resources such as market information. These equip companies with the resources necessary to start a business within the company and increase the slack of resources in the company. The richer the resources slack a company has, the more basic resources are available to invest in innovation decisions, thus facilitating ICE. The findings shed light on the central role of resources in the process by which institutional support affects ICE, verifying that resource slack plays a conducive role between institutional support and ICE ((Franco-Leal and Diaz-Carrion 2022). Specifically, effective absorption of various government resources and policies brings redundant resources to corporations and enhances their efficient utilization, which in turn activates ICE.

Finally, the local network embeddedness negatively moderates the relationship between institutional support and resource slack, and the ultra-local network embeddedness positively moderates the relationship between institutional support and resource slack. The positive effect of institutional support on resource slack is more significant at high ultra-local network embeddedness and more significant at low local network embeddedness. The study further found that the dual network embeddedness was mediated moderator. That is, the interaction of formal institutional support and local network embeddedness, informal institutional support and local network embeddedness, formal institutional support and ultra-local network embeddedness, and informal institutional support and ultra-local network embeddedness is through resource slack to affects ICE. This suggests that corporations are more likely to bring resource slack and promote the

implementation of innovation-focused ICE if they receive formal and informal institutional support from the government and generate strong network embeddedness with ultra-local corporations. However, due to the high embeddedness of high local network, the high similarity of resources between corporations is not conducive to the resource slack, which in turn affects the motivation of ICE.

#### 4.2. Theoretical implications

Firstly, we provide a sound empirical support for investigating institutional support as a crucial antecedent variable to promote ICE in the entrepreneurship support systems context. Previous research indicated five core antecedents of an internal environment that corporate entrepreneurship in developing countries: top management support, time availability, entrepreneurship-relevant rewards/reinforcement, work discretion/autonomy and flexible organizational boundaries (Hughes and Mustafa, 2017). Glinyanova et al. (2022) indicated that resource-based view and its extensions still remain the predominant theoretical perspectives in the field of corporate entrepreneurship. Unlike these studies, our research delivered theoretical explanations of the role of institutional support in the process of ICE and applied institution-based view to crack the formation process mechanism of international entrepreneurship.

Secondly, we contribute to ICE research by applying a novel perspective of entrepreneurial support systems on this concept. Thus, we have shown that the institutional support as the core essence of the entrepreneurial support system could provide both critical resources and social network to promote the smooth progress of international entrepreneurship. Accordingly ICE not only was driven by government-led institutional support but it also facilitated by informal institutional support led by enterprises' strategy network. We are therefore in line with ICE literature claiming that the role of relational mechanisms and knowledge resource plays a crucial role in international entrepreneurship (Zahoor and Al-Tabbaa 2021).

#### 4.3 Industrial policy implications

First, corporations should pay attention to the official policy information released by the government when they want to implement innovation-centered ICE in practice, in order to obtain the resource support of public information from the government. Meanwhile, corporations need to proactively contact with the government, especially to maintain political bonds with the government in their production and business activities, which will help them to quickly access some non-public information resources of the government and help them to successfully carry out relevant innovation and entrepreneurial activities (Franco-Leal and Diaz-Carrion 2022). For example, by responding to "the Belt and Road" initiative, some Chinese international companies have not only successfully opened up the Southeast Asian market, but also achieved the synergistic development of various overseas corporations in the local market by integrating into the overseas economic and trade cooperation zones led by the local government.

Second, the information resources acquired by corporations through formal and informal institutional support and the creative use of them help corporations integrate internal and external resources to form resources slack, which is the key factor for successful ICE. Since resources themselves are also valuable, companies need to realize the abundance of their resources by exchanging, selling, and transforming them with inter-companies (Stephan et al. 2015). Therefore, in production and operation activities, corporations should pay attention to accumulate resources



with direct or indirect value by effective means, so as to integrate diverse enterprise resources, increase resources slack and provide resource reserves for corporations to choose strategies that are more conducive to enhancing market competitiveness in strategic decision-making changes (Zhang et al. 2022).

Finally, corporations should consider the role different networks in influencing the innovative development and occupying market position of corporations. Our findings suggest that when corporations are embedded in ultra-local networks, geographic dispersion and poor linkages facilitate corporations' access to more heterogeneous resources and promote their resource redundancy (Tang et al. 2020). However, when corporations are embedded in local networks, frequent interactions among local networks make resources homogeneous, increase corporations' reciprocal capital, and are not conducive to the formation of firms' redundant resources. Therefore, corporations should focus on developing more diversified links with ultra-local suppliers, customers, peer universities, public science and technology platforms and other knowledge production institutions as well as with supply chain partners in their production and operation activities (Stergiou et al. 2021), in order to obtain more heterogeneous resources, form a certain degree of resource slack, and provide more necessary resource conditions for corporations to implement intra-company entrepreneurial activities.

#### **4.4 Limitations and future research**

First, the sample of this study is 180 small MNCs in Asia-Pacific region, and the findings would be more generalizable if they were conducted in a larger geographic area, so future follow-up studies could be conducted in a larger geographic area.

Second, institutional support is not innate and is regulated by different stages of firm growth. Although this paper has examined the impact of institutional support on ICE using cross-sectional data, it has not examined the different stages of the firm's life cycle in detail, so future research will need to adopt a longitudinal research design in order to more fully examine the causal relationship between the two factors at different stages of firm growth.

Third, this study mainly explores the mediating effect of resources slack between institutional support and ICE from the perspective of corporations, and does not validate the possible mediating variables such as individual-level traits, including CEO risk-taking propensity and executive personality traits, who may play an influential role between institutional support and ICE. Future research can further explore the interactions between the relevant variables as well as the moderating variables, so as to enrich the theoretical research on related aspects.

#### **4.5 Conclusion**

This research was guided by the question of how institutional support affects the international corporate entrepreneurship in the context of entrepreneurial support systems. Building on the resource-based view, we proposed that institutional support is an important source for corporations to obtain external resources in developing countries. Formal institutional support provides corporations with a large number of policy-based resources, and informal institutional support provides corporations with abundant resources such as market information. We analysed the mediation effect of resources slack in the context of Asia-Pacific region, and found that resources slack mediates the effect of institutional support on ICE. This effect is however moderated by the local network embeddedness and ultra-local network embeddedness, which highlights the

importance of social networks and entrepreneurship support systems.

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## Appendix A

Variables	Items
Institutional Support	The government has provided policies and projects that are beneficial to the development of the corporation.
	The government provided necessary technical information and technical support.
	The government has been of great help to the company in obtaining financial support.
	The government has provided great help for the corporation to introduce technology and equipment.
	The government provides the corporation with direct financial policies, including taxes and subsidies.
	The government encourages corporations to protect their intellectual property rights.
	The government provided the necessary legal support for the corporation to enter new markets.
	The corporation takes various measures to establish relationships with government departments.
	The corporation has established a good relationship with government departments.
Resource Slack	Relationships with government departments are important for business development.
	The corporation has sufficient financial resources for discretionary use.
	The corporation has sufficient retained earnings (e.g., retained earnings) to support market expansion.
Network Embeddedness	The process equipment or technology adopted by the company is relatively advanced, but it has not been fully utilized.
	The corporation communicates frequently with the local knowledge application development network (including suppliers, customers, peers).
	The corporation has frequent exchanges with local knowledge generation and diffusion networks (including universities, public technology platforms, etc.).
	The corporation has enduring relationships with local knowledge application development networks (suppliers, customers, peers).
	The corporation has a long-lasting relationship with local knowledge generation and diffusion networks (including universities, public technology platforms, etc.)
	The corporation communicates frequently with the ultra-local knowledge application development network (including suppliers, customers, peers).
	The corporation has frequent exchanges with ultra-local knowledge generation and diffusion networks (including universities, public technology platforms, etc.).
	The corporation has enduring relationships with ultra-local knowledge application development networks (suppliers, customers, peers).
The corporation has a long-lasting relationship with ultra-local knowledge generation and diffusion networks (including universities, public technology platforms, etc.).	
International corporate Entrepreneurship	This corporation shows a great deal of tolerance for high-risk international projects.
	This corporation uses only “tried and true” international procedures, systems, and methods (reverse scored).
	This corporation challenges, rather than responds to, its major competitors across the globe.
	This corporation takes bold, wide-ranging strategic actions, rather than minor changes in tactics worldwide.
	This corporation emphasizes the pursuit of long-term goals and strategies in global terms.
	This corporation is the first in the industry to introduce new products to the international market.
	This corporation rewards taking calculated risks worldwide.



