RESEARCH ON THE IMPACT OF UNIVERSITY-INDUSTRY COLLABORATION ON COLLEGE STUDENTS' ENTREPRENEURIAL ABILITY WIYH RESOURCE BRICOLAGE AS A MEDIATOR*

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Abstract

The important role of cross-organizational reorganization of resources in the process of university-enterprise collaborative innovation in enhancing the entrepreneurial ability of university students is generally recognized, but how to promote resource collocation and deep synergy between universities and enterprises, which in turn can affect the entrepreneurial ability of university students, is an urgent issue. In this study, 688 students from applied colleges and universities across China were used as research subjects to study the impact of university-enterprise collaborative innovation process on students' entrepreneurial ability and its mechanism of action through scale measurement and semi-structured interviews. The results show that school-enterprise collaborative behaviour has a significant impact on the entrepreneurial ability of university students; resource pooling plays a partially mediating role between university-enterprise collaborative behaviour and university students' entrepreneurial ability; innovation policy and campus innovation atmosphere play a significant moderating role between university-enterprise collaborative behaviour and university students' entrepreneurial ability. This study expands the research horizon of resource pooling and collaborative innovation, and provides a new perspective for the development of collaborative innovation theory.

Keywords: Resource Bricolage, University-Enterprise Collaborative Innovation, Entrepreneurial Ability, Entrepreneurship Policy, Campus Innovation Atmosphere

Introduction

In order to achieve high-quality development, China must "improve the national innovation system, solve the outstanding problems of duplication in access to innovation resources, scattered research forces and unclear functional positioning of innovation bodies, and improve the overall effectiveness of the innovation system". In 2012, China established 38 collaborative innovation centres to promote in-depth cooperation between universities and enterprises and to facilitate the sharing of resources, and in 2015, the Chinese Ministry of Education guided some local general undergraduate universities to transform into application-oriented universities, with the aim of deepening the integration of industry and education and establishing a model of integration and collaborative education. The core objective is to improve the entrepreneurial ability of university students. China's practice over the years has proved that university-enterprise collaborative innovation is feasible: the government, universities, enterprises, financial institutions, R&D institutions and intermediaries should work together with enterprises to build an innovation chain with division of labour and organic integration, forming a collaborative innovation system with Chinese characteristics, which

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helps cultivate innovative and entrepreneurial talents and can improve the entrepreneurial ability of university students.

However, although the Chinese government and society have recognized the important role of cross-organizational reorganization of resources in the process of university-enterprise collaborative innovation in enhancing students' entrepreneurial ability , and have enacted a series of innovative policies to encourage and promote university-enterprise collaborative innovation. However, universities and enterprises have not achieved deep synergy, and have not effectively applied the maximum value of innovation resources to the enhancement of students' entrepreneurial ability. How to promote the sharing of resources and deep synergy between universities and enterprises, and thus influence the entrepreneurial ability of university students, has become an important issue that needs to be addressed urgently in the development of Chinese universities and society.

Based on the above discussion, this paper conducts an in-depth study of students and enterprises involved in university-enterprise collaboration through scale measurement and semi-structured interviews, based on the resource bricolage and using Chinese applied universities as the research target, to explore how resource bricolage occurs in the process of university-enterprise collaborative innovation and how it affects the entrepreneurial ability of university students.

Purpose of the study

This paper focuses on the resource utilization patterns in the process of university-enterprise collaboration in China. Firstly, it delves into the relationship between school-enterprise collaborative behavior and resource bricolage in university-enterprise collaborative innovation, as well as the motivational basis for resource bricolage by both university-enterprise collaborative innovation subjects, which in turn supports universities and enterprises to obtain more advantageous resources to enhance their own organizational advantages. Secondly, the mechanism of university-enterprise collaborative behaviour on university students' entrepreneurial ability is explored in depth, and the rich innovation resources are categorised, and the degree of influence of each type of resources on university students' entrepreneurial ability through different modes of utilisation and their paths of action are empirically analysed.

Literature Review and Research Hypothesis

Based on theories of collaborative innovation and resource bricolage, this paper empirically examines the relationship between five variables: resource bricolage, university-enterprise collaborative innovation , entrepreneurial ability, entrepreneurial policy and campus innovation atmosphere, by distributing questionnaires to research participants, collating and analysing data.

1.Theory of Collaborative Innovation

With the advent of the knowledge-based economy, industry-university-research innovation alliances have gradually become a hot topic of concern for industry and academia worldwide, and the theory of collaborative innovation has emerged, gradually enriched and improved. Based on the existing research, Chesbrough (2003) put forward the theory of open innovation, arguing that enterprises and universities should carry out a wide range of collaborative activities in terms of external knowledge sources, in which internal and external innovation resources are integrated between the two parties, which can improve the value

creation ability of resources. etzkowitz & Leydesdorff (1995) proposed the triple helix theory, which emphasises that the three parties - universities, industry and government - should enhance multiple interactions while playing their distinctive roles.

2. Resource Bricolage Theory

The French anthropologist Levi Strauss (1968) was one of the first scholars to start studying resource bricolage, and in his monograph Wild Thinking he proposed that resource bricolage is a constructivist way of thinking, arguing that people should constantly rediscover the intrinsic properties of things and fully explore their intrinsic value when dealing with problems. Baker & Aldrich (2000) attempted to use patchwork to help entrepreneurs solve the dilemma of resource constraints, and patchwork began to enter the field of entrepreneurial ability research. Baker & Nelson (2005) were the first to define the concept and refine the dimensions of resource scaling by analysing the cases of 29 start-ups. They argue that resource bricolage in entrepreneurial ability is the process of assembling and using existing resources to solve new problems or develop new opportunities. They also describe resource bricolage in more specific terms: immediate action, existing resources and the integration of resources for new purposes, leading to three core concepts, namely 'scrapping', 'breaking through resource constraints' and 'improvisation'. creation'.

3. Definition of core concepts

University-enterprise collaborative behavior is positioned in this paper as the sum of a series of activities in which the Chinese universities and enterprises involved in the collaboration facilitate cross-organisational access and collocation of various types of resources to meet the educational resources needed to enhance the entrepreneurship policy of university students, driven by innovation policies, in order to achieve the goal of collaborative innovation.

Resource bricolage is defined in this paper as the process of creative use of various resources by both schools and enterprises in China based on the goal of collaborative innovation, through the synergistic interaction between subjects and under the role of synergistic behaviour to promote the entrepreneurial ability of university students.

Entrepreneurial ability are defined in this paper as the specific competencies that entrepreneurs need to pursue entrepreneurial success in China, including opportunity capabilities, commitment capabilities, conceptualisation capabilities, financing capabilities and operational capabilities.

Entrepreneurship policy is defined in this paper as the sum of the policies and measures implemented by the Chinese government to promote innovation activities and regulate innovation agents.

Campus innovation atmosphere is defined in this paper as the sum of all spiritual and material cultural forms that can influence the behaviour and values of all members of the university in Chinese universities.

4. Research hypothesis

The relationship between university-enterprise collaborative behavior and entrepreneurial ability

Entrepreneurial ability are not innate, they can be acquired (Man, 2012). In China, collaborative school-enterprise behaviour can facilitate deeper cooperation between universities and the industrial sector in scientific research, education, industrialisation and other innovative activities (Chinese scholar Xiang, 2013), as well as accessing and piecing together the various educational resources needed to meet the entrepreneurial competencies of

university students. With the continuous development of entrepreneurial learning research in China, the collation of literature induction reveals that each different entrepreneurial ability requires different educational resources to shape and exercise, and that universities can obtain and integrate all the resources needed to cultivate students' various entrepreneurial abilities through active participation in university-enterprise collaboration, and make reasonable use of heterogeneous resources outside the organization to realize the enrichment of their own innovative and entrepreneurial educational resources, thus enhancing university students' entrepreneurial The paper proposes the following hypothesis Based on the above analysis, this paper puts forward the hypothesis that.

H1:university-enterprise collaborative behavior has a impact on entrepreneurial ability.

The relationship between university-enterprise collaborative behavior and resource bricolage

Senyard (2009) found that the tighter the relationship between members is, the more heterogeneous the team members are, the more conducive to the effect of resource bricolage. In this paper, the object of university-enterprise collaborative behaviour is the various resources in the process of collaboration between Chinese universities and enterprises. The universities and enterprises involved in the collaboration promote the cross-organisational acquisition and collocation of various resources through deep collaboration in order to achieve the goal of innovation. From this connotation, university-enterprise collaborative behavior is very important in the process of university-enterprise collaborative innovation for resource bricolage. In the process of resource bricolage, university-enterprise collaborative behaviour is a dynamic representation of the innovative capabilities exercised by the collaborative subjects, which directly determines the outcome of resource bricolage. Accordingly, this paper puts forward the hypothesis that.

H2:university-enterprise collaborative behaviour has a impact on resource bricolage.

The relationship between resource bricolage and entrepreneurial ability

The premise and foundation of collaborative innovation is the belief that the resources needed to achieve innovation goals are dispersed across different organisations. Chinese scholars Guo and Cai (2017) analysed data from 279 Chinese high-tech start-ups and found that flexible knowledge integration helps diversified knowledge absorption and transformation to build the capacity to explore opportunities, while efficient knowledge integration helps build the capacity to exploit opportunities. Chinese universities can, with the synergistic behaviour of the university and enterprises, piece together the resources possessed by different organisations and creatively use the available resources and their own resources to break down the resource constraints or redundant practices, so that the innovative resources can effectively work on entrepreneurial ability . Based on the above discussion this paper proposes the hypothesis that.

H3: resource bricolage has a effect on the entrepreneurial ability of university students.

Mediating effect hypothesis for resource bricolage

Resource bricolage is the link between opportunity discovery and resource development, reflecting the choice of resource use and the methodological approach of considering resource use as a way to discover, create and develop opportunities (Chinese scholars Yu, Li and Tao, 2017). The resource bricolage in this paper is a creative process of using various resources to promote entrepreneurial ability of university students based on the goal of collaborative innovation and the role of synergistic behaviour between Chinese university and enterprises. Through literature combing and theoretical analysis, it is found that the process of resource

bricolage between the two main subjects of school and enterprise is actually the process of establishing a deep collaborative relationship between them. In other words, the process of assembling resources and the deep collaboration between the university and the enterprise are achieved in the same process. Therefore, studying how resources are creatively utilised in the process of collaboration is the key to enhancing entrepreneurial ability. Based on the above analysis this paper proposes the hypothesis.

H4:resource bricolage has a mediating effect between university-enterprise collaborative behaviour and entrepreneurial ability.

Moderating effects of entrepreneurship policy hypothesis

Based on stakeholder theory, an organisation's external stakeholders can also influence its achievement of organisational goals. Chinese scholars Li and Zhang (2012) empirically found that five entrepreneurial ability policies - business support, financial support, entrepreneurial ability education, supporting measures, and entrepreneurial culture - all had a significant positive impact on the entrepreneurial motivation of Chinese university students. The Chinese government's innovation policies are widely agreed to be the enablers of entrepreneurial success among university students. Being familiar with innovation policies and having the ability to piece together government resources can help university students take fewer detours when starting a business. Based on the above discussion this paper proposes the hypothesis

H5:entrepreneurship policy has a moderating effect on university-enterprise collaborative behaviour and entrepreneurial ability.

Hypothesis on the moderating effect of the campus innovation atmosphere

Resource bricolage is an activity of reorganising creative resources, and the internal climate of an organisation has an important influence on whether participants adopt resource bricolage behaviour. In their study, Chinese scholars Gu and Shen (2019) found that the establishment of an entrepreneurial climate, such as organizational innovation incentives, organizational support, and external orientation, was more conducive to improving resource bricolage performance. Chinese scholars Li and Zhang (2012) found in their empirical analysis that entrepreneurial culture has a significant pulling effect on the enhancement of entrepreneurial ability among university students. A harmonious campus innovation atmosphere helps guide university student entrepreneurs to establish correct values, cultivate a good entrepreneurial spirit, stimulate strong entrepreneurial interest and generate good entrepreneurial motivation, thus effectively enhancing overall entrepreneurial ability. Accordingly, this study proposes the following hypotheses.

H6: campus innovation atmosphere has a moderating effect on university-enterprise collaborative behaviour and entrepreneurial ability .

Based on the above discussion, an empirical research model was developed for this study, as shown in Figure 1.

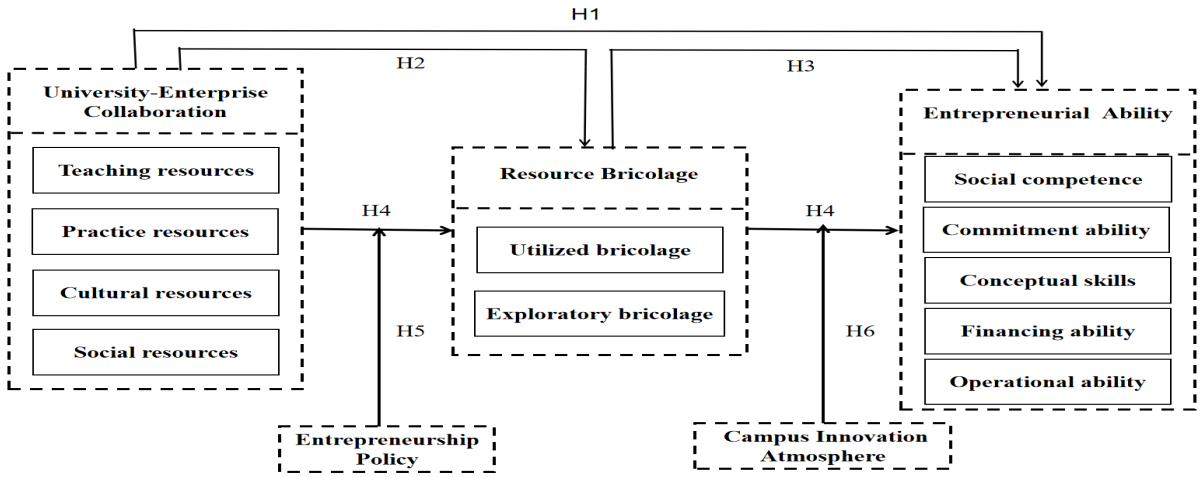

Figure 1: Empirical research model

Study design

1. Variable measurements

Independent variable: university-enterprise collaborative behaviour. This paper draws on the Entrepreneurial Competency Development Resource Scale designed in the PhD thesis of Ren (2016), a Chinese scholar, in terms of the competency development process of entrepreneurial ability. The scale has good reliability and validity of the test items, and has been widely borrowed and referred to by Chinese scholars. In this paper, four types of educational resources, namely teaching resources, practical resources, cultural resources and social resources, were selected to measure the scale, and the scale was adapted to suit the research context of this paper, resulting in 16 items.

Dependent variable: entrepreneurial ability. This paper draws on the measurement scale of Chinese scholars Xie, Liang and Chen (2017), which has been widely borrowed and referred to by Chinese scholars and has good reliability and validity. In this paper, five dimensions of opportunity capability, financing capability, commitment capability, conceptual capability and operational capability are selected, with a total of 16 questions. The test items are colloquially presented in this paper to make them more understandable to the university students surveyed.

Mediating variable: resource bricolage. This paper draws on Senyard's (2009), and Chinese scholar Sun's (2018) measurement scales, and selects two dimensions, utilised resource bricolageand exploratory resource bricolage, with a total of six question items. The scale is a more established scale in Chinese academia and many Chinese scholars have adopted the scale.

Moderating variable: entrepreneurship policy . This paper draws on the government policy dimension of Dai's (2012) Entrepreneurial Environment Measurement Scale, a well-established scale that has been used by many Chinese scholars in the context of Chinese research. The scale was adapted to better suit the context of this paper, and five questions were developed.

Moderating variable: campus innovation atmosphere. This paper draws on the motivational mechanism dimension of Chinese scholars Zheng, Jin and Ma's (2009) organizational climate of innovation measurement scale, with four question items. The scale has good reliability and validity and has been adopted by many Chinese scholars.

2. Reliability and validity tests

In this study, SPSS 23.0 was used to test the reliability and validity of each variable scale. Table 1 shows that the CITC for each question item is >0.7 and the Cronbach's alpha coefficient for each variable is above 0.9, so overall this questionnaire has high reliability.

Table 1: CITC and reliability analysis table for each variable

	university-enterprise collaborative behaviour	Resource bricolage	Entrepreneurial ability	Entrepreneurship policy	Campus innovation atmosphere
CITC	0.72	0.86	0.79	0.83	0.82
Cronbach's α	0.951	0.956	0.966	0.935	0.923

In this study, the KMO value, the commonality, the variance explained value and the factor loading coefficient were analysed to verify the validity level of the data. Table 3 shows that the commonality values for all the research items are higher than 0.4, indicating that the information of the research items can be extracted effectively. In addition, the KMO value of 0.836 is greater than 0.6, which means that the data are valid. In addition, the variance explained by 1 factor was 76.794% and the cumulative variance explained by the rotation was 76.794% > 50%. This means that the information content of the study items can be extracted effectively. Finally, the absolute values of the factor loading coefficients were all greater than 0.4, indicating that there was a correspondence between the options and the factors and therefore the next step in the analysis could be carried out.

Table 2: KMO and Bartlett's sphericity test for each variable

Name	entrepreneurial ability	entrepreneurship policy	campus innovation atmosphere	resource bricolage	university-enterprise collaborative behaviour	explanation of variance % (before rotation)	cumulative variance explained % (after rotation)	KMO	Barth spherical	df	p
Factor loading factor	0.854	0.898	0.886	0.873	0.869	76.79%	76.79%	0.836	2757.991	10	0
Commonality	0.73	0.807	0.785	0.762	0.755	-	-	-	-	-	-

Empirical testing

This paper uses SPSS 23.0 and AMOS 24.0 to perform descriptive analysis, model fit tests, correlation analysis, regression analysis and model robustness analysis to test the research hypotheses.

1. Data collection

The official questionnaire survey focused on May-June 2021, the research target was 700 students who had participated in university-enterprise cooperation education selected from universities in various regions of China, a total of 700 questionnaires were finally distributed, a total of 697 questionnaires were collected, the recovery rate was 99.57%. After the invalid questionnaires were excluded, 688 valid questionnaires were finally identified, with an effective rate of 98.70% , the ratio of measurement items to respondents was greater than 1:5, close to 1:10, and the sample size met the requirements.

2. model fit test

According to the analysis steps of model fitting, model evaluation and model correction, the paths of the influence of university-enterprise collaborative behaviour, resource bricolage, entrepreneurship policy , campus innovation atmosphere and university students' entrepreneurial ability were initially fitted, evaluated and corrected. After empirical testing, as shown in Table 3, the standardised coefficients of each regression path were >0 and the paths showed a significant positive influence relationship at the 0.01 level.

Table3: Table of model regression coefficients

X	→	Y	Non-normalized path coefficients	SE	Z(CR)	P	Standardised path coefficients
university-enterprise collaborative behaviour	→	Resource bricolage	0.666	0.035	19.179	0.00**	0.596
Entrepreneurship policy	→	Resource bricolage	0.277	0.032	8.568	0.00**	0.266
Resource bricolage	→	Entrepreneurial ability	0.473	0.03	15.503	0.00**	0.507
Campus innovation atmosphere	→	Entrepreneurial ability	0.303	0.031	9.904	0.00**	0.324

Note: → indicates a path relationship

3. Relevance analysis

From the results in Table 4, all four items of entrepreneurial ability and university-enterprise collaborative behaviour, resource bricolage, entrepreneurship policy , and campus innovation atmosphere showed significant correlation with the coefficient values of 0.644, 0.719, 0.730, and 0.657, respectively, and the correlation coefficient values were all greater than 0, implying a positive relationship between entrepreneurial ability and university-enterprise collaborative behaviour, resource bricolage, entrepreneurship policy , and campus innovation atmosphere. There is a positive correlation between entrepreneurial ability and the four items of university-enterprise collaborative behaviour, resource bricolage, entrepreneurship policy and campus innovation atmosphere.

Table 4: PEARSON correlation coefficients between variables

Pearson correlation - standard format

	Average	Standard deviation	Entrepreneurial ability	university-enterprise collaborative behaviour	Resource bricolage	Entrepreneurship policy	Campus innovation atmosphere
Entrepreneurial ability	3.302	0.709	1				
university-enterprise collaborative behaviour	3.42	0.679	0.644**	1			
Resource bricolage	3.372	0.759	0.719**	0.777**	1		
Entrepreneurship policy	3.574	0.729	0.730**	0.679**	0.671**	1	
Campus innovation atmosphere	3.653	0.757	0.657**	0.709**	0.662*	0.847**	1

* p<0.05 ** p<0.01

4. Hypothesis testing

Table 5: Results of linear regression analysis

Interfactor relationships	Non-standardized coefficients		Standardisation factor	t	p	VIF	R^2	Adjustment of R^2	F
	B	Standard error	Beta						
university-enterprise collaborative behaviour ---> entrepreneurial ability	0.673	0.03	0.644	22.064	0.000**	1	0.415	0.414	F (1,686) = 486.832,
resource bricolage ---> university-enterprise collaborative behaviour	0.696	0.022	0.777	32.341	0.000**	1	0.604	0.603	F (1,686) = 1045.932
resource bricolage ---> entrepreneurial ability	0.673	0.025	0.719	27.106	0.000**	1	0.517	0.516	F (1,686) = 734.746,

*p＜0.05 **p＜0.01

The standardised path coefficients of 0.644 for university-enterprise collaborative behaviour and entrepreneurial ability, 0.777 for resource bricolage and 0.719 for resource bricolage and entrepreneurial ability are all significantly correlated at the P<0.001 level, and hypotheses H1, H2 and H3 hold.

Table 6: Tests of the mediating role of resource bricolage

Interfactor relationships	Non-standardized coefficients		Standardisation factor	t	P	VIF	R^2	Adjustment of R^2	F
	B	Standard error	Beta						
Constants	1.001	0.106	-	9.414	0.000**	-	0.422	0.421	F (1,686) =484.812,
university-enterprise collaborative behaviour ---> entrepreneurial ability	0.673	0.03	0.61	21.012	0.000**	1			

Control variables:resource bricolage
D-W value:2.095
*p＜0.05 **p＜0.01

As can be seen in Table 6, the effect of resource bricolage as a control variable on entrepreneurial ability is reduced from 0.644 to 0.61. The correlation is still significant at p<0.05, but the regression coefficient tends to weaken. This suggests that resource bricolage partially mediates the relationship between university-enterprise collaborative behaviour and university students' entrepreneurial ability, and hypothesis H4 holds.

As can be seen in Figure 2, the interaction term between university-enterprise collaborative behaviour and entrepreneurship policy shows significance (t=-2.136, p=0.033<0.05), implying that there is a significant difference in the magnitude of the moderating variable (entrepreneurship policy) at different levels when university-enterprise collaborative behaviour has an impact on entrepreneurial ability , indicating that the moderating effect is significant and hypothesis H5 holds.

egulatory effect analysis results *(n=688)*

	Model 1					Model 2					Model 3				
	B	Standard error	*t*	*p*	*β*	*B*	Standard error	*t*	*p*	*β*	*B*	Standard error	*t*	*p*	*β*
Constant	3.302	0.021	159.494	0.000**	-	3.302	0.018	186.782	0.000**	-	3.313	0.018	180.321	0.000**	-
University-Enterprise Collaborative	0.673	0.03	22.064	0.000**	0.644	0.287	0.035	8.093	0.000**	0.275	0.288	0.035	8.143	0.000**	0.276
Entrepreneurship Policy						0.529	0.033	15.994	0.000**	0.544	0.519	0.033	15.568	0.000**	0.533
University-Enterprise Collaborative*Entrepreneurship Policy											-0.033	0.015	-2.136	0.000**	-0.054
R^2			0.415					0.574					0.577		
Adjustment R^2			0.414					0.573					0.575		
F 值	F=（1.686）=486.832、*p*=0.000					F（2.685）=461.740、*p*=0.000					F=（3.684）=310.947、*p*=0.000				
$\triangle R^2$			0.415					0.159					0.003		
△F 值	F=（1.686）=486.832、*p*=0.000					F（1.685）=255.814、*p*=0.000					F=（1.684）=4.561、*p*=0.033				

Dependent variable: Entrepreneurial Ability
*p<0.05**p<0.01

Figure 2: Testing the moderating role of entrepreneurship policy

As can be seen in Figure 3, the interaction term between university-enterprise collaborative behaviour and campus innovation atmosphere showed significance (t=-2.483, p=0.013<0.05). This means that the magnitude of the moderating variable (campus innovation atmosphere) is significantly different at different levels when it comes to the impact of university-enterprise collaborative behaviour on entrepreneurial ability , indicating that the moderating effect is significant and hypothesis H6 holds.

Regulatory effect analysis results *(n=688)*

	Model 1					Model 2					Model 3				
	B	Standard error	*t*	*p*	*β*	*B*	Standard error	*t*	*p*	*β*	*B*	Standard error	*t*	*p*	*β*
Constant	3.302	0.021	159.494	0.000**	-	3.302	0.019	171.715	0.000**	-	3.317	0.02	165.134	0.000**	-
University-Enterprise Collaborative	0.673	0.03	22.064	0.000**	0.644	0.374	0.04	9.318	0.000**	0.358	0.377	0.04	9.417	0.000**	0.361
Campus Innovation Atmosphere						0.378	0.036	10.495	0.000**	0.404	0.363	0.036	9.951	0.000**	0.387
University-Enterprise Collaborative* Campus Innovation Atmosphere											-0.041	0.017	-2.483	0.000**	-0.069
R^2			0.415					0.496					0.501		
Adjustment R^2			0.414					0.495					0.498		
F 值	F=（1.686）=486.832、*p*=0.000					F（2.685）=337.220、*p*=0.000					F=（3.684）=228.565、*p*=0.000				
$\triangle R^2$			0.415					0.081					0.005		
△F 值	F=（1.686）=486.832、*p*=0.000					F（1.685）=110.149、*p*=0.000					F=（1.684）=6.18、*p*=0.013				

Figure 3: A test of the moderating effect of the campus innovation atmosphere

Study results

1. University-enterprise collaborative behaviour has a significant positive impact on university students' entrepreneurial ability

The coefficient of the effect of university-enterprise collaborative behaviour on the entrepreneurial ability of university students involved in university-enterprise collaborative activities is 0.673 , which reaches significance at the level of $p < 0.001$, which means that the level of students' entrepreneurial ability can be increased by 0.673 for each upward shift in university-enterprise collaborative behaviour. the results of the empirical study prove that the teaching resources, practical resources, cultural resources and social resources involved in the process of university-enterprise collaborative innovation in China are all effective in improving the entrepreneurial ability of Chinese university students.

2. Resource bricolage partially mediates between university-enterprise collaborative behaviour and university students' entrepreneurial ability

The direct effect of university-enterprise collaborative behaviour on the entrepreneurial ability of university students involved in university-enterprise collaborative activities was 0.673. When resource pooling was considered as a control variable, the effect on the entrepreneurial ability of university students weakened from 0.673 to 0.422, and the correlation was still significant at $p<0.05$, but the regression coefficient tended to weaken. This suggests that resource pooling partially mediates the relationship between university-enterprise collaborative behaviour and university students' entrepreneurial ability, influencing the process of integrating innovation resources between Chinese universities and enterprises.

3. Entrepreneurship policy plays a significant moderating role between university-enterprise collaborative behaviour and university students' entrepreneurial ability

University-enterprise collaborative behaviour showed significance in the model when the moderating variable of innovation policy was not considered ($t=22.064$, $p=0.000<0.05$), implying that university-enterprise collaborative behaviour has a significant impact on entrepreneurship. The interaction term between university-enterprise collaboration behaviour and innovation policy was significant when the moderating variable of innovation policy was added ($t=-2.136$, $p=0.033<0.05$). Meaning that in China, when university-enterprise synergistic behaviour acts on university students' entrepreneurship, innovation policy has a significant

difference in the magnitude of the effect at different levels, indicating a significant moderating effect of innovation policy.

4. Campus innovation climate plays a significant moderating role between university-enterprise collaborative behaviour and university students' entrepreneurial ability

When the moderating variable of campus innovation atmosphere was not considered, university-enterprise collaborative behaviour was significant in the model ($t=22.064$, $p=0.000<0.05$), implying that university-enterprise collaborative behaviour has a significant effect on entrepreneurial ability . The interaction term between university-enterprise collaboration behaviour and campus innovation atmosphere was significant when the moderating variable of campus innovation atmosphere was added ($t=-2.483$, $p=0.013<0.05$). This means that the magnitude of the effect of campus innovation atmosphere when university-enterprise synergistic behaviour acts on entrepreneurial ability in China is significantly different at different levels, indicating a significant moderating effect of campus innovation atmosphere.

Summary and discussion

1. Research contribution

This paper designs a mechanism for the impact of resource bricolage on university-enterprise collaboration on university students' entrepreneurial ability in the Chinese context from the perspective of resource bricolage theory, and discovers the process mechanism through which the two innovation agents, university and enterprise, act on university students' entrepreneurial ability through resource bricolage in the process of collaborative innovation. Compared with previous studies, this is an expansion and deepening of the understanding of the mechanism of the innovation resource integration process in collaborative innovation.

This paper constructs a model of the relationship between university-enterprise collaborative behaviour, resource bricolage and entrepreneurial ability in a Chinese research context, defining the concepts, classifying the dimensions, quantifying and measuring the variables of university-enterprise collaborative innovation behaviour, resource bricolage, entrepreneurial ability, entrepreneurship policy and campus innovation atmosphere.

2. Management inspiration

Through the analysis of the questionnaire, it is found that Chinese universities and enterprises involved in university-enterprise collaboration generally believe that they have insufficient innovation resources, and that the funds, technology and talent pool available for innovation are insufficient. This paper puts forward the following countermeasure suggestions.

2.1 Strengthen the breadth and depth of university-enterprise collaborative innovation and establish a comprehensive resource sharing mechanism

It is suggested that the Chinese government take the lead in setting up a resource bricolage platform to guide universities, enterprises, industry associations, financial institutions and other subjects of collaborative innovation to be willing to take the initiative to publicly release their own resources on a regular basis, so that they can not only share their existing R&D infrastructures such as experimental devices and equipment, but also release timely information on collaborative innovation cooperation, which means that they can realize a wider and more effective resource bricolage of university-enterprise collaboration, and also find and identify collaborative cooperation objects at low cost, expand the breadth and depth of university-enterprise collaboration, and expand the openness of both sides of the collaboration.

2.2 Improving incentives for innovation activities and creating a good internal innovation environment

Innovation incentive is the basis and guarantee of collaborative innovation activities between university-enterprise collaborative innovation. It is recommended that the collaborative body should develop an innovation incentive system, improve the incentive for carrying out innovation activities, put the rewards into practice, specifically to each department and individual who contributes to innovation, and create a strong atmosphere of internal entrepreneurial ability .

2.3 Strengthen the planning and guidance of collaborative innovation to help develop students' entrepreneurial skills

It is recommended that the Chinese government establish a number of university-enterprise collaborative innovation demonstration projects for supporting collaborative innovation projects in common technologies and major key technology areas urgently needed by the country, attracting more universities and enterprises to participate in collaborative innovation activities, promoting the in-depth integration of teaching practice, social practice, practical training for employment and entrepreneurial ability with university entrepreneurial ability education, guiding more university students to enhance the core competitiveness of their innovation and entrepreneurial ability projects through their own disciplinary and professional backgrounds, and jointly promoting the development of entrepreneurial ability and quality.

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