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The Influence of Quality Knowledge Domain Coupling on Innovation Performance

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Abstract: Innovation is based on knowledge and aims at knowledge creation, knowledge has become the primary resource to realize enterprise innovation, and knowledge has become the key resource to promote enterprise innovation and gain competitive advantage. This study studies the influence of the coupling of quality knowledge domain on the innovation performance of enterprises. On the basis of theoretical analysis, a theoretical model is constructed. This study refers to the survey of relevant scholars, obtains 293 effective survey data through survey, and uses bootstrap method to conduct empirical analysis according to the survey data to explore the impact of quality knowledge domain coupling on enterprise innovation performance Mechanism. The results show that: (1) the coupling of quality knowledge domain has an influence on innovation performance; (2) the quality knowledge network plays an intermediary role; (3) the dynamic quality knowledge management ability plays a regulating role; (4) the quality knowledge integration mechanism has a moderating effect on knowledge domain coupling and innovation performance.

1. Introduction

Innovation is based on knowledge and aims at knowledge creation. Knowledge is both the primary resource and a key resource for promoting innovation in enterprises [1]. When it is difficult for the knowledge owned by the company to collide with new sparks, the reconstruction hopes to supplement the knowledge field and hopes to remedy the knowledge gap [2,3]. If an enterprise wants to obtain sustainable competitive advantage by promoting innovation, it needs to optimize its allocation based on obtaining advantageous resources [4]. This highlights the importance of coupling. Coupling knowledge from different or similar fields can drive innovation [5]. The first scholars who proposed the concept of knowledge domain coupling are Yayavaram and Ahuja. They believe that knowledge domain coupling is the degree to which knowledge elements in different or similar fields are combined during the knowledge search process [6]. This study draws on the perspectives of Yao Yanhong [7] and Yayavaram, and studies the knowledge domain coupling from

the quality level, that is, the quality knowledge domain coupling, that is, the innovative enterprise searches and combines different knowledge elements in the quality knowledge base, this process of obtaining synergies through dynamic associations and mutual fits between companies [8,9].

Based on the view of resource foundation, this study analyzes the mechanism of the coupling of quality knowledge domains on the innovation performance of enterprises under the influence of quality knowledge integration mechanism, dynamic quality knowledge management capabilities and enterprise quality knowledge network. According to previous studies, explore the influence mechanism of quality knowledge domain coupling on innovation performance, and what role the quality knowledge integration mechanism, dynamic quality knowledge management capability, and enterprise quality knowledge network play on the above mechanisms. Exploring these issues can help find the mechanism of the role of quality knowledge behind the differences in innovation performance of enterprises.

2. Theoretical Basis and Assumptions

This section mainly introduces the theory of each variable and related scholar's study, and makes assumptions based on the survey in this study.

2.1. Coupling of Quality Knowledge Domains and Enterprise Innovation Performance

The set of quality knowledge elements owned by an enterprise and the relationships constructed between the quality knowledge domains to which these elements belong form an enterprise quality knowledge base, and innovation is a reorganization of the quality knowledge elements in the knowledge base [10]. The connection between knowledge elements is more important than knowledge diversity. This study draws on the principle of the division of knowledge element attributes, [11] and divides the quality knowledge into complementary quality knowledge according to the redundancy and repetition of the quality knowledge domain of the participating partners and the quality knowledge domain of the company itself. Coupling and alternative quality knowledge is coupled in two dimensions.

Complementary quality knowledge refers to the quality knowledge that is lacking in the enterprise itself and owned by partners that can effectively integrate with the existing quality knowledge base of the enterprise to achieve cross-integration and innovation. The coupling of this type of knowledge with the original quality knowledge is complementary quality Knowledge coupling. Obtaining complementary quality knowledge resources from partners can make up for corporate knowledge gaps and expand innovation opportunities. But just stepping into new technological fields does not guarantee successful innovation. The complementary quality knowledge searched by the enterprise is synergistically coupled with the original quality knowledge, and the knowledge relationship that has not been captured has surfaced or a new connection has been established between knowledge elements, which will help the company break through the existing knowledge limitations and develop more Innovative new products or finding new ways to solve problems [12]. Second, the tacit knowledge generated by knowledge interaction can expand the scope of enterprise technology niche and provide innovation possibilities for the reconstruction of different types of knowledge elements.

Substitute quality knowledge refers to the part of the quality knowledge owned by the partner that is similar to the enterprise's own foundation. This type of quality knowledge resource that participates in the process of collaborative cooperation is called alternative quality knowledge coupling. Alternative quality knowledge can promote cognitive proximity between enterprises, strengthen the basis of cooperation between the two parties, better interactive learning and understand the application of quality knowledge elements in a wider range to improve innovation efficiency [13]. In summary, this study makes the following assumptions.

H1: Coupling of quality knowledge domains has a positive impact on corporate innovation performance.

2.2. Intermediary Role of Enterprise Quality Knowledge Network

As a kind of self-issued behavior of resource reorganization, the coupling of quality knowledge domain cannot directly promote innovation. This study assumes that the impact of the coupling of quality knowledge domains on corporate innovation performance is achieved by the quality knowledge network.

First, the Swedish industry has proposed the concept of a knowledge network [14]. After that, some scholars investigated from different angles on this basis. There are also some foreign scholars who analyze from the perspective of their constituent elements, including that they are composed of information, academic experts, and knowledge [15]; and that people and enterprises are the subject of knowledge [16]. Finally, the quality of corporate knowledge network of this study refers to the quality level of knowledge within the enterprise network, employees gather to share knowledge in order to create quality through the accumulation of knowledge and the quality of network quality and use of knowledge.

Whether it is complementary quality knowledge or alternative quality knowledge, the quality knowledge resources are obtained from outside the company to make up for the knowledge gap in the company. Coupling is used to supplement the quality knowledge within the company, which can enable employees to understand more quality knowledge, promote the mutual exchange of internal personnel of the enterprise, break through the existing knowledge limitations, thereby expanding the quality knowledge network within the enterprise.

Many scholars have conducted survey on knowledge networks and innovation performance. Foreign scholars Guan and Liu explored the role of non-redundant, direct and indirect relationships in the network on the performance of exploratory innovation [17]. In addition, domestic scholars have also conducted extensive survey on network structure, studying the impact of knowledge networks on innovation performance from different perspectives, including cooperation networks [18], innovation cooperation networks[19], and the impact of knowledge networks on exploratory innovation [20,23], Relationship perspective [11,21,22], heterogeneity of internal and external knowledge [22], etc. Combined with previous studies, this study believes that the continuous expansion of the enterprise quality knowledge network can increase the opportunities for enterprises to achieve innovation. In summary, this study makes the following assumptions.

H2: Coupling of the quality knowledge domain is positively promoting the enterprise quality knowledge network.

H3: Enterprise quality knowledge network is promoting the innovation performance of enterprises.

H4: Enterprise quality knowledge network plays a mediating role between the coupling of quality knowledge domains and innovation performance.

2.3. Dynamic Quality Knowledge Management Capability

This study defines the connotation of dynamic quality knowledge management capabilities, referring to the survey of Liu Libo [30] scholars, and based on its survey, it mainly defines it from the quality level. It is believed that the dynamic quality knowledge management capability is to combine external acquisition with existing quality knowledge inside the enterprise to create new quality knowledge, so as to meet the purpose of responding to changes in the internal and external environment of the enterprise in a timely manner. At present, the importance of quality is getting higher and higher, which requires enterprises to have rapid environmental response capabilities to meet the requirements for quality, so the importance of dynamic quality knowledge management capabilities of enterprises is particularly prominent.

At present, knowledge management survey has achieved some results in terms of process and division. Nonaka's survey from the process perspective [24]. Different scholars have different views on the survey of processes. Nehal [25] and others believe that there should be four stages of knowledge capture, sharing, absorption and utilization; Kalsom [26] believes that it includes knowledge generation, knowledge acquisition, knowledge transfer, Knowledge sharing, knowledge storage, knowledge reconstruction, knowledge utilization, and knowledge protection; Derrick [27] believes that it includes knowledge collection, knowledge organization, knowledge storage, knowledge learning, knowledge assimilation, and knowledge application. Chinese scholar Zhu Xiumei [28] concluded that the three processes of knowledge acquisition, knowledge creation and knowledge integration should be included. Xu Ke [29] thought that it includes three process dimensions: knowledge acquisition, knowledge integration and knowledge utilization. Based on the survey of Liu Libo [30], this study divides dynamic quality knowledge management ability into quality knowledge acquisition ability, quality knowledge transformation ability and quality knowledge application ability. When the quality knowledge domain is coupled with the partner, the company's own dynamic quality knowledge management capability becomes very important. When enterprises are coupled in the quality knowledge domain, if the enterprise has a high dynamic quality knowledge management capability, it will provide more possibilities for capturing the links between knowledge elements, meanwhile, it can shorten the time to fill the gap of quality knowledge, expand innovation opportunities, and enable enterprises to seize the opportunity in market competition. In summary, this study makes the following assumptions.

H5: The impact of dynamic quality knowledge management capabilities to regulate the coupling of quality knowledge domains to innovation performance.

2.4. Moderating Role of Quality Knowledge Integration Mechanism

After acquiring new knowledge, enterprises need to carry out a series of digestion and absorption, and eventually become the knowledge that enterprises can use, which needs to be achieved through the process of knowledge integration [31]. Knowledge integration is the reconstruction and full use

of internal and external knowledge. On the basis of overcoming the uncertain environment, knowledge is absorbed, reconstructed, and transformed to improve innovation performance [32]. When an enterprise develops knowledge accumulation for product innovation purposes, it will change the knowledge base of the enterprise, resulting in certain information processing needs. Some studies have pointed out that the purpose of enterprises to establish a knowledge integration mechanism is to process information to meet the information processing needs [33,34]. Organizational information processing theory abstracts the organization into an information processing system [35]. According to OIPT's theoretical logic, the market knowledge and technical knowledge accumulated by enterprises are different information entities that need to be processed. In order to transform knowledge into innovative results, knowledge needs to be used. Integration mechanism can complete the processing of the accumulated knowledge of the enterprise. Existing studies have pointed out that increasing the use of knowledge integration mechanisms can provide team members with a platform and conditions for knowledge interaction and in-depth learning, and create a common experience basis, common language, and common reference framework for team members[36], enabling knowledge sharing, Coding and rapid diffusion will help team members to effectively integrate and configure knowledge[36,37], promote the conversion of knowledge base to highly innovative products[38], and also promote enterprise innovation performance[39]. The quality knowledge integration mechanism is to increase the use of the knowledge integration mechanism at the quality level and speed up the processing of information, so that enterprises can quickly absorb, restructure, and transform quality knowledge when coupling quality knowledge domains, thereby improving innovation performance. In summary, this study makes the following assumptions.

H6: Quality knowledge integration mechanism regulates the impact of quality knowledge domain coupling on innovation performance.

2.5. Integration Model

In summary, the theoretical model of this study is shown in the following figure.

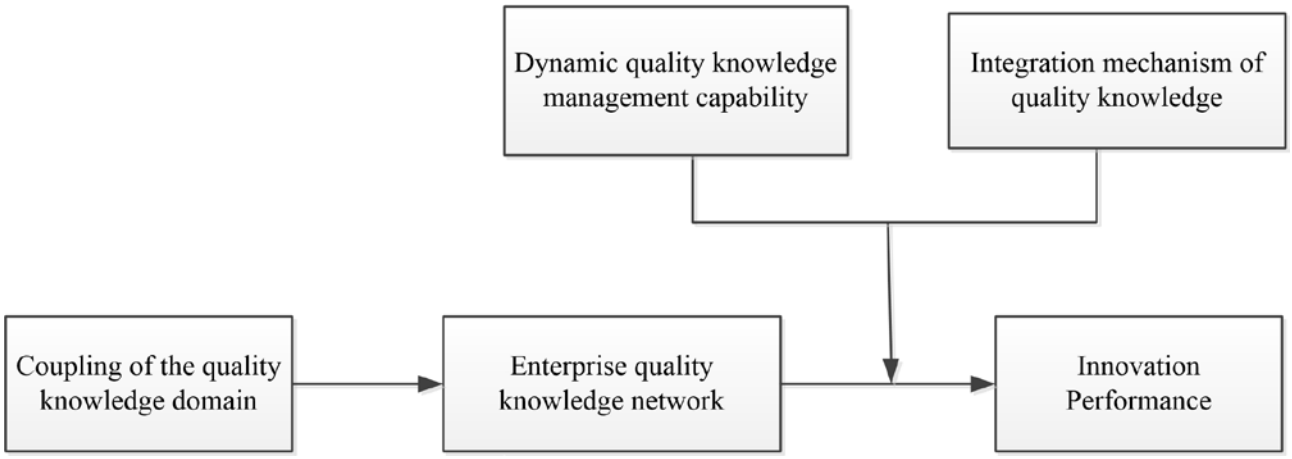

Figure 1: Theoretical model.

It can be seen from the structure that an adjusted mediation model can be formed, and from this, hypotheses can be made.

H7: There is a regulated mediating role of the enterprise quality knowledge network in the process of coupling dynamic quality knowledge management capabilities from the quality knowledge domain to the innovation performance.

H8: There is a regulated mediating role of the enterprise quality knowledge network in the process of coupling knowledge integration capabilities from the quality knowledge domain to the innovation performance of the enterprise.

3. Research Design

This section mainly introduces the research objects, questionnaire distribution, variable measurement and reliability and validity test.

3.1. Research Objects and Questionnaire Distribution Analysis

This subsection mainly introduces the research objects and questionnaire distribution of this study.

3.1.1. Research Objects and Questionnaire Distribution

The data in this study are from manufacturing companies in the eastern region. The content of the survey is to ask leaders to evaluate the relevant situation of the enterprise. A total of 450 questionnaires are distributed in this survey. Excluding those with obvious filling rules, the remaining valid questionnaires are 293.

Considering the survey characteristics of the questionnaire and the convenience of the interviewees, this study uses three methods to distribute the questionnaire.

The first method is field research. Conduct surveys with the grassroots managers of the company through the social network relationship of the mentor and the recommendation of friends. This method is based on the teacher's social network relationship, so 120 questionnaires are selected for distribution according to the specific situation.

The second method is to distribute questionnaires through third-party websites. It is clearly stipulated in the questionnaire that middle and lower-level managers must answer the questionnaire and pay a certain technical service fee. This method is carried out by using the information technology of the network, and has the characteristics of fast and convenient, so 210 questionnaires are selected and distributed.

The third method is to find various contact methods disclosed by the company on the Internet to issue questionnaires. Using this method is easy to get the company's relevant contact information, but the interview success rate is relatively low, so 120 questionnaires are selected for distribution.

These three ways of issuing questionnaires are complementary relationships. The field survey is based on the teacher's social network relationship and academic experience, and selects some representative companies as survey objects to ensure that the data surveyed are representative. The two methods of making electronic questionnaires through the questionnaire star website and searching the company's website for yellow pages and emails are carried out randomly to ensure the randomness of the survey data.

3.1.2. Questionnaire Recovery

In the process of questionnaire recovery, in order to get an effective and reliable questionnaire, setting the recovery standard includes the following three. The first is to recycle extreme questionnaires, such as many answers in the items are very poor or excellent, are considered invalid questionnaires; the second is to recover questionnaires that contain missing or missing items. For such questionnaires, telephone tracking and personal tracking are required. If the missing items can be obtained, it is regarded as a valid questionnaire. If not, it is regarded as an invalid questionnaire; the third is a questionnaire that does not match the content of the questionnaire answered by the recycling company and the actual research needs.

The questionnaire survey lasted 3 months. Finally, a total of 120 questionnaires were distributed through the first method, and 82 questionnaires were recovered. Among the questionnaires recovered, there were 3 invalid questionnaires due to failure to meet the recovery criteria, and the remaining 79 valid questionnaires. The effective recovery rate was 65.83%. Through the second method, 210 questionnaires were distributed and 146 questionnaires were recovered. Among them, 4 questionnaires were invalid due to failure to meet the recovery criteria, and 142 valid questionnaires remained, with an effective recovery rate of 67.62%. Through the third method, 120 questionnaires were distributed and 75 were recovered. 3 invalid questionnaires were caused due to failure to meet the recovery standard, and 72 valid questionnaires remained, with an effective recovery rate of 60%. A total of 293 valid questionnaires are finally formed by this method, which theoretically met the requirements of the sample size for analysis.

3.2. Variable Measurement

For the measurement of variables, this study adopts Linker seven-point scoring method. For the measurement of the coupling of quality knowledge domains, reference is made to the survey by Yao Yanhong [40] and other scholars. The higher the score, the more coupled the company and the partner; the measurement of enterprise quality knowledge network has not yet reached agreement. This study draws on the scale used by Liang Kaili [42]. The higher the score, the stronger the enterprise knowledge network. The measurement and reference of this variable refer to Liu Libo [30] and other scholars. Developed scale, the higher the score, the stronger the company's dynamic quality knowledge management capabilities; the quality knowledge integration mechanism refers to the scale of Luca [33]. The higher the score, the better the quality knowledge integration mechanism of the enterprise.

Table 1: Variable items.

Variable		Item	References
Coupling of the	Complementary quality knowledge domain coupling	Companies often draw on the quality experience and know-how of partner companies in customer service	Yao Yanhong [40] Yayavaram[6]
		Companies often draw on the quality knowledge of partner companies in product production	
		Companies often draw on the quality knowledge of partner companies' procurement plans for raw materials or components	
		Companies often draw on the quality knowledge of partner companies in raw material management	

quality knowledge domain		Companies often draw on the quality knowledge of partner companies in the management of finished and semi-finished products	
		Companies often draw on the quality management knowledge of partner companies in personnel management	
		Companies often draw on the quality knowledge of partner companies in transport management	
	Alternative quality knowledge domain coupling	Companies often obtain similar quality knowledge and skills in product production from partners	
		Companies often get quality-related knowledge from their partners about purchasing plans for raw materials or components	
		Companies often get similar quality-related knowledge in raw material management from partners	
		Companies often obtain similar quality management knowledge from partners about finished and semi-finished products	
		Companies often get similar quality management-related knowledge from partners	
		Companies often get similar quality management knowledge from their partners	
Enterprise quality knowledge network		Some employees' quality ideas or ideas have a great impact on others	Liang Kaili [42]
		Employees know or understand the personal circumstances or information of many team members	
		Employees are often at the center of quality knowledge interaction	
		Quality-related communication between employees is timely	
		Employees will actively share some useful quality-related information, materials and ideas	
		There are many forms of informal communication between employees about quality knowledge	
		Solidarity and cooperation among employees	
		Employees have confidence in the quality capabilities of other employees in the company	
		Employees can trust each other in quality-related communication	
Innovation performance		Enterprises develop new products or technologies faster	Han[41]
		There are many successful cases cited by corporate innovation technologies	
		High corporate profitability	
		High market share of enterprises	
		More investment in R & D	
Quality knowledge integration mechanism		Companies use formal reports or memos to record quality knowledge	Luca [33]
		Companies communicate information and exchange the acquired quality knowledge	
		Companies conduct face-to-face discussions between multinationals on quality knowledge	

		Companies analyze successful product development cases	
		Companies hire professional consultants to integrate quality knowledge	
Dynamic quality knowledge management capability	Quality knowledge acquisition ability	There is a quality knowledge management system inside the company, which can grasp and collect information in real time	Liu Libo [30]
		Enterprises often communicate with companies on the supply chain nodes to obtain supply chain quality knowledge	
		Companies often follow up with customers and suppliers for advice that can improve or improve the quality of their products or services	
		Companies have a fixed way to understand changes in the market environment	
		Companies often train employees in quality knowledge acquisition	
	Quality knowledge transformation ability	Companies have a fixed procedure to merge the acquired new quality knowledge with the existing quality knowledge to generate new quality knowledge	
		Enterprise managers or technology centers and R & D centers have the ability to improve quality knowledge conversion	
		Companies regularly update the quality knowledge system or quality knowledge base	
		Employees can come up with ideas or suggestions for improvement based on the acquired new quality knowledge	
		Companies have a mechanism for quality knowledge dissemination and sharing internally	
	Quality knowledge application ability	Companies have a practice of applying quality knowledge to solve emerging problems	
		Companies have systematic methods or procedures to apply new quality knowledge for development	
		Companies can apply new quality knowledge in a timely manner to respond to changing market conditions	
		Enterprises can improve staff level through quality knowledge dissemination and quality knowledge sharing	

3.3. Reliability and Validity Test

This study first uses the SPSS software to check the reliability and validity of the data. The results are shown in the table below.

Table 2: Reliability.

Variable	KMO value	Bartlett chi square	P	CITC	Cronbach's coefficient	Factor load	CR	Ave
Innovation performance	0.890	955.978	0.000	0.836	0.909	0.806-0.914	0.9331	0.7365
Quality knowledge integration mechanism	0.854	759.456	0.000	0.793	0.877	0.741-0.894	0.9124	0.6765

Enterprise quality knowledge network	0.945	1797.503	0.000	0.835	0.935	0.777-0.835	0.9457	0.6593
Coupling of the quality knowledge domain	0.959	3053.173	0.000	0.731	0.952	0.722-0.870	0.9587	0.6417
Dynamic quality knowledge management capability	0.937	3463.515	0.000	0.773	0.951	0.681-0.902	0.9582	0.6224

The results of the reliability and validity analysis of the scales are given in the table. The Cronbach's coefficient of each scale is between 0.8-0.96, indicating that the scale is within an acceptable range. The KMO values of each scale are 0.890, 0.8540, 0.945, 0.959, and 0937, all of which are greater than 0.8, and the significance levels are all 0.000, indicating that these indicators have reached acceptable levels. The factor load value is between 0.681-0.914, the combined reliability is greater than 0.9, and the Ave values are greater than 0.5, indicating that the convergence efficiency of the variable is good.

3. Data Analysis and Hypothesis Testing

This section mainly analyzes the collected data and tests hypotheses.

4.1. Descriptive Statistical Analysis of Samples

In the survey sample, it can be seen that the survey objects are mainly grass-roots and middle-level managers, with 152 grass-roots managers, 114 middle-level managers, and 27 senior-level managers; 167 are males, accounting for 57%, and females are 126 people, accounting for 43%, and most people aged 26 to 45, 95 people graduated from undergraduates, 88 graduated from majors, 51 are graduated from high school and below, and 59 are graduated and graduated, with the largest proportion of undergraduates 32.42%. The number of employees with a working age of less than one year is 64, accounting for 21.84%; the number of employees with a working age of 1-3 years is 55, accounting for 18.77%; the number of employees with a working age of 3-5 years is 61, accounting for 20.82%; the number of employees with a working age of 5-10 years is 51, accounting for 17.41%; the number of employees with a working age of more than 10 years is 62, accounting for 21.16%. In the survey sample, 69 people worked in state-owned enterprises, accounting for 23.55%; 121 people worked in private enterprises, accounting for 41.30%; and 58 people worked in joint ventures, accounting for 19.80%; 45 people work in other enterprises, accounting for 15.36%.

Table 3: Descriptive statistical analysis of samples.

Feature	Category	People	Proportion (%)	Feature	Category	People	Proportion (%)
Gender	Male	167	57	Education level	High school and below	51	17.41
	Female	126	43		Specialist	88	30.03
Age	18-25	75	25.60		Undergraduate	95	32.42
	26-35	69	23.55		Graduate student and above	59	20.14
	36-45	82	27.99	Business nature	State-owned enterprise	69	23.55
	46 and up	67	22.87		Private Enterprise	121	41.30
Post	Less than one year	64	21.84		Joint venture	58	19.80

age	1-3 years	55	18.77		Other	45	15.36
	3-5 years	61	20.82	Current position	Primary manager	152	51.88
	5-10 years	51	17.41		Middle managers	114	38.91
	More than 10 years	62	21.16		Senior management	27	9.22

4.2. Analysis of Intermediary Effect

This section mainly analyzes the intermediary variables.

4.2.1. Influence of Quality Knowledge Domain Coupling on Innovation Performance

As an independent variable, the quality knowledge domain coupling plays an important role in innovation performance. The analysis results are shown in the following table.

Table 4: Influence results of quality knowledge domain coupling.

Variable	Equation	Inspection	
		Se	T
Enterprise Quality Knowledge Network	M=0.630X	0.0384	16.4345
Innovation Performance	Y=0.659X	0.041	14.946

From the above table, it can be seen that the coupling of quality knowledge domain has a positive effect on the quality knowledge network and innovation performance. the path coefficient of the coupling of quality knowledge domain to the quality knowledge network is 0.6304, and the coupling of quality knowledge domain to the creation is 0.6304 The new performance path coefficient is 0.3526, so H1 and H2 hold.

4.2.2. Relationships between Enterprise Quality Knowledge Network and Innovation Performance

According to the table below, it can be seen that the enterprise quality knowledge network has a significant positive effect on innovation performance. Thus H3 is established. Based on the analysis in Table 4 and Table 5, the enterprise quality knowledge network is likely to play an intermediary role. The results are as follows.

Table 5: Regression coefficient of enterprise quality knowledge network and innovation performance.

Standardized regression equation	The Test of Regression Coefficient	
	Se	T
Y=0.668M	0.045	15.302

Table 6: Intermediary role of enterprise quality knowledge network.

	Equation	Inspection		95% confidence interval	
		Se	T	Lower limit	Upper limit
Step 1	Y=0.659X	0.041	14.946		

Step 2	Y=0.668M	0.045	15.302		
Step 3	M=0.6304X	0.0384	16.4345		
Step 4	Y=0.356X+0.4175M+1.0847	0.1610	6.7352	0.7677	1.4017
		0.0581	7.1839	0.3031	0.5319
		0.0528	6.6775	0.2487	0.4565

It can be seen from Table 6 that the intermediary path of the enterprise quality knowledge network is 0.6304 * 0.4175, and does not contain zero within the three confidence intervals of high, medium and low. So the intermediary effect is remarkable, H4 is established. The specific path diagram is as follows.

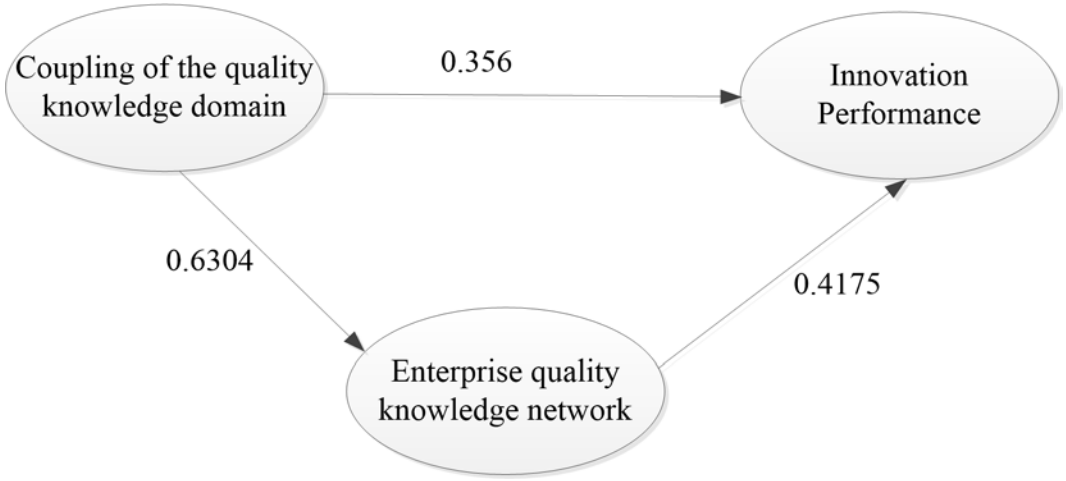

Figure2: Intermediation action chart.

4.3. Analysis of Adjustment Variables

This study adopts the analysis method of Wen Zhonglin et al. Firstly, the dynamic quality knowledge management ability (quality knowledge integration mechanism) returns to the innovation performance and the quality knowledge domain coupling, and the dynamic quality knowledge management ability (quality knowledge integration mechanism) returns to and measures the innovation performance The second R-side is obtained by determining the R-side coefficient, then coupling the independent variable quality knowledge domain, adjusting the variable dynamic quality knowledge management capability (quality knowledge integration mechanism), and regression of the interaction terms between the two, if it is larger than the first R Square, the adjustment effect is significant.

4.3.1. Dynamic Quality Knowledge Management Capability

In this study, dynamic quality knowledge management capability is the adjustment function between quality knowledge domain coupling and innovation performance.

Table 7: Regulatory effects 1.

	Standardized regression equation	R_1^2	R_2^2	$*R^2$	P

Step 1	$Y=0.624W_1$	0.389			0.000
Step 2	$Y=0.440X+0.342\ W_1$	0.503			0.000
Step 3	$Y=0.8689X+0.7304\ W_1\ -0.1294W_1X$		0.5242	0.0209	0.000

Table 8: Regulatory effects 2.

Independent variables	Bootstrapping			BC95% CI	
	B	Se	P	Lower	Upper
Ability of dynamic quality knowledge management	0.7304	0.1247	0.0000	0.4849	0.9759
Coupling of Quality Knowledge Domain	0.8689	0.1377	0.0000	0.5978	1.1399
Interactive Items	-0.1294	0.0363	0.0004	-0.2008	-0.0579

The above table is the data analysis result of the adjustment effect of the dynamic quality knowledge management ability. According to the results, it can be seen that R_1^2obtained in the first step < R_2^2 obtained in the second step, the interactive items of the dynamic quality knowledge management capability and the quality knowledge domain are coupled in The 95% confidence interval does not contain 0, and the P value of the interaction term is less than 0.05, so it is assumed that H5 holds.

4.3.2. Regulation of Quality Knowledge Integration Mechanism

In this study, dynamic quality knowledge management capability is the adjustment function between quality knowledge domain coupling and innovation performance.

Table 9: Regulation of quality knowledge integration mechanism 1.

	Standardized regression equation	R_1^2	R_2^2	$*R^2$	P
Step 1	$Y=0.955W_2$	0.912			0.000
Step 2	$Y=0.111X+0.886\ W_2$	0.920			0.000
Step 3	$Y=0.2299X+0.9532\ W_2\ -0.0366W_2\ X$		0.9212	0.0015	0.000

Table 10: Regulation of quality knowledge integration mechanism 2.

Independent variables	Bootstrapping			BC95% CI	
	B	Se	P	Lower	Upper
Integration mechanism of quality knowledge	0.9532	0.0541	0.0000	0.8468	1.0596
Coupling of Quality Knowledge Domain	0.2299	0.0566	0.0000	0.1185	0.3413
Interactive Items	-0.0366	0.00154	0.0183	-0.0669	-0.0062

The above table is the adjustment result of the quality knowledge integration mechanism. According to the model regression results, it can be seen that R_1^2 obtained in the first step < R_2^2 obtained in the second step, the regression coefficient of the interaction term coupling the quality knowledge integration mechanism and the quality knowledge domain It is significant. The interaction term does not contain 0 in the 95% confidence interval, and the P value of the interaction term is less than 0.05, so H6 holds.

4.4. Mediating Effect of Adjustment

Based on the intermediary variable and the position of the adjustment variable, the presence or absence of the adjusted intermediary effect is checked. Firstly, the quality knowledge domain coupling and dynamic quality knowledge management capability (quality knowledge integration mechanism) are used to regression the innovation performance of dependent variables, and then the regression coefficients are tested, then the quality knowledge domain coupling of independent variables and the dynamics of adjustment variables are performed The quality knowledge management ability (the quality knowledge integration mechanism) returns to the intermediate variable quality knowledge network, and tests the regression coefficient, again makes the independent variable quality knowledge domain coupling, the intermediate variable quality knowledge network, adjusts the variable movement The state quality knowledge management ability (quality knowledge integration mechanism) returns to the innovation performance of dependent variables, finally makes the independent variable quality knowledge domain coupling, and adjusts the variable dynamic quality knowledge management ability (quality knowledge integration mechanism) The interaction coefficient of medium variable quality knowledge network and medium variable quality knowledge network and dynamic variable quality knowledge management capability (quality knowledge integration mechanism) on innovation performance of dependent variables.

(1) The enterprise quality knowledge network has the regulated intermediary function in the process of the dynamic quality knowledge management ability coupling from the quality knowledge domain to the enterprise innovation performance.

Table 11: Adjusted mediation effects 1.

	Equation	Inspection		95% confidence interval	
		Se	T	Lower limit	Upper limit
Step 1	$Y=0.111X+0.886\ W_2$	0.050	5.249		
		0.051	41.852		
Step 2	$M=0.199X+0.772W_1$	0.028	6.354		
		0.029	24.631		
Step 3	$Y=0.374X+0.327M+0.090\ W_1$	0.053	6.615		
		0.102	3.294		
		0.088	0.961		
Step 4	$Y=0.3288X+0.7147M+0.4494\ W_1\ -0.1026MW_1$	0.0528	6.2305	0.2249	0.4327
		0.1670	4.2798	0.3860	1.0433
		0.1550	2.8990	0.1443	0.7546
		0.0361	-2.8421	-0.1737	-0.0316

In the first step, the quality knowledge domain is coupled, the dynamic quality knowledge management ability is returned to the innovation performance, and the coefficient in the regression result is significant, which is tested in the first step. The second step is to do the quality knowledge domain coupling, the dynamic quality knowledge management ability to the enterprise quality knowledge network regression; the variable coefficient still passes the test. But the third step did not

pass the test, so H7 does not hold.

(2) The enterprise quality knowledge network has a regulated intermediary function in the process of knowledge integration capability coupling from the quality knowledge domain to the enterprise innovation performance.

Table 12: Adjusted intermediary effects 2.

	Equation	Inspection		95% confidence interval	
		Se	T	Lower limit	Upper limit
Step 1	$Y=0.440X+0.342W_2$	0.050	8.152		
		0.051	6.348		
Step 2	$M=0.479X+0.348\ W_2$	0.045	9.618		
		0.046	6.997		
Step 3	$Y=0.090X+0.045M+0.871\ W_2$	0.023	3.704		
		0.026	1.798		
		0.021	38.177		
Step 4	$Y=0.0760X+0.1885M+0.9563W_2\ -0.0386MW_2$	0.0227	3.3529	0.0314	0.1206
		0.0633	2.9785	0.0639	0.3131
		0.0597	16.0069	0.8387	1.0739
		0.0157	-2.4573	-0.0695	-0.0077

The first step is to make the quality knowledge domain coupling, the quality knowledge integration mechanism to the innovation performance regression, the coefficient is remarkable, passes the test. The second step is to do the quality knowledge domain coupling, the quality knowledge integration mechanism to the enterprise quality knowledge network regression, the variable coefficient still passes the test. But the third step did not pass the test, so H8 does not hold.

The above is the empirical partial test result and hypothesis test, and some hypotheses are established or not, which are summarized in the following table.

Table 13: Hypothesis test table.

Assumptions	Results
H1: Coupling of quality knowledge domains has a positive impact on corporate innovation performance.	Establishment
H2: Coupling of Quality Knowledge Domain to Promote Enterprise Quality Knowledge Network.	Establishment
H3: The enterprise quality knowledge network is promoting the enterprise innovation performance.	Establishment
H4: The enterprise quality knowledge network plays an intermediary role between the coupling of quality knowledge domain and innovation performance.	Establishment
H5: Influence of Dynamic Quality Knowledge Management Capability Adjustment Quality Knowledge Domain Coupling on Innovation Performance.	Establishment
H6: Effect of Quality Knowledge Integration Mechanism on Quality Knowledge Domain Coupling on Innovation Performance.	Establishment
H7: The enterprise quality knowledge network has the regulated intermediary function in the process of the dynamic quality knowledge management ability coupling from the quality knowledge domain to the enterprise innovation performance.	It's not true

H8: The enterprise quality knowledge network has the regulated intermediary function in the process of the knowledge integration ability coupling from the quality knowledge domain to the enterprise innovation performance.	It's not true

5. Conclusion and Enlightenment

This section is mainly to introduce the survey conclusions of this study and the enlightenment.

5.1. Conclusion

(1) The coupling of quality knowledge domain can promote the innovation performance of enterprises and play an intermediary role among enterprise quality knowledge networks.

Obtaining complementary quality knowledge resources from partners can make up for the knowledge gap of enterprises and expand innovation opportunities. But merely stepping into new technological areas does not guarantee the success of innovation. The complementary quality knowledge searched by the enterprise is synergistically coupled with the original quality knowledge. The unrecognized knowledge connection has surfaced or a new connection has been established between the knowledge elements, which is beneficial to the enterprise to break through the limitations of existing knowledge and thus develop more creative new products or find new ways to solve problems. Secondly, tacit knowledge generated by knowledge interaction can enlarge the scope of enterprise technology niche and provide innovation possibility for the reconstruction of different types of knowledge elements. Alternative quality knowledge can promote the cognitive approach between enterprises, strengthen the foundation of cooperation between the two sides, better carry out interactive learning and understand the application of quality knowledge elements in a wider range, so as to improve innovation efficiency.

The enterprise quality knowledge network studied in this study refers to the knowledge network at the quality level in an enterprise, where the employees gather together, and accumulate and use the quality knowledge through the quality knowledge creation and the quality knowledge sharing. Whether complementary quality knowledge or alternative quality knowledge is to obtain quality knowledge resources through the outside of the enterprise to make up for the knowledge gap within the enterprise, through coupling to supplement the quality knowledge within the enterprise, can make the enterprise The employees of the industry know more quality knowledge, promote the communication among the internal personnel of the enterprise, break through the limitation of existing knowledge, and expand the network of quality knowledge within the enterprise. The continuous expansion of enterprise quality knowledge network can increase the opportunity of enterprise to realize innovation.

(2) Dynamic quality knowledge management capability plays an adjusting role between quality knowledge domain coupling and innovation performance.

When the enterprise is coupled with the partner in the quality knowledge domain, the dynamic quality knowledge management ability of the enterprise itself is very important. If that enterprise has high dynamic quality knowledge management ability when the enterprise conduct quality knowledge domain coupling, it can provide more possibility to capture the connection between the knowledge element, at the same time, it can shorten the time to fill the gap of quality knowledge

and enlarge the creation The new opportunity makes the enterprise seize the first opportunity in the market competition.

(3) The integration mechanism of quality knowledge plays a regulating role between the coupling of quality knowledge domain and innovation performance.

The mechanism of integration of quality knowledge can help enterprises to excavate internal and external knowledge, rebuild and make full use of it, improve the competitive advantage of enterprises, and help enterprises overcome the uncertainty of environment, and absorb and emphasize the knowledge Construction and transformation can effectively improve innovation performance.

5.2. Revelation

This study studies the influence mechanism of quality knowledge domain coupling on enterprise innovation performance, probes into the intermediary function of enterprise quality knowledge network, as well as the regulating function of dynamic quality knowledge management ability and quality knowledge integration mechanism In order to understand the mechanism of quality knowledge domain coupling more systematically, the theory of quality knowledge domain coupling is enriched from the theoretical level.

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