

Influence Mechanism of Organizational Quality Acquired Immune on Quality Performance Based on Immune perspective

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Abstract: Based on the perspective of immune, this study builds a model of the relationship between organizational quality acquired immune and quality performance, and explains the mediating effect of quality culture, organizational learning, and moderating effect of knowledge integration capabilities. Based on the results of a questionnaire investigation of senior middle and senior management personnel from 324 manufacturing companies in the eastern region, Bootstrap was used to conduct an empirical study on the relationship between organizational quality acquired immune, quality performance, dual learning, quality culture, and knowledge integration capabilities. The empirical results show that organizational quality acquired immune can not only improve quality performance through dual learning, but also improve quality performance with the help of quality culture. After considering the enterprise's knowledge factors, it is concluded that the relationship between knowledge integration capabilities and dual learning and quality performance The intensity has a significant regulating effect.

1. Introduction

“Quality management” is a form of management that is gradually produced in response to a series of quality problems brought about by industrialized production. In modern enterprise management, the way to measure the quality of enterprises gradually becomes consensus. In the process of measuring the quality control and effects of products and services, the term “quality performance” was gradually derived. Modern quality management essentially reflects the changing process of the enterprise's dynamic adaptation to the internal and external environment of the market. “Survival of the fittest, elimination of the unsuitable” is a biological evolution perspective, and it also applies to the living environment of modern enterprises. Quality is the foundation of business survival. Without quality, there is no market. Quality is the key and guarantee. From the perspective of biological immune and biological evolution to analyze the quality of the enterprise can better analyze the external environment of the enterprise and the internal game advantages.

Domestic and foreign scholars have studied quality performance from different perspectives. From the perspective of quality management practice, scholar Garvin believes that based on quality management practice, it can improve quality performance through knowledge creation and innovation capabilities^[1]. Choo believes that quality management practices can promote companies to acquire relevant quality knowledge and enhance their quality performance^[2]. Domestic scholar Jiang Peng believes that quality management practices can improve product quality and product productivity^[3]. Feng Xiaobin believes that quality management practices play a positive role in improving the quality performance of enterprises^[4]. From the perspective of supply chain management, Jiang Tao analyzes and interprets the complex relationship between quality performance, inter-enterprise relationship quality, and knowledge transfer^[5]. Regarding the research on organizational quality acquired immune, in 2014, Li Quanxi built a supply chain quality acquired immune model based on biological immune and studied its mechanism^[6]. Pan Xiangwu made an analogy between biological immune and enterprise quality immune from the perspective of immune, showing that enterprise quality immune includes both inherent and adaptive^[7]. But at present, there are few research results on the correlation between organizational quality acquired immune and quality performance. Based on the theory of organizational quality specific immune, Shi Liping and Liu Qiang used pp method, hierarchical regression analysis and other methods to explore the mechanism of quality performance^[8]. Therefore, considering the effect of different factors on the organizational quality acquired immune and quality performance model is of guiding significance for the practical application of quality management.

This study firstly systematically sorts out the relevant literature on the relationship between organizational quality acquired immune and quality performance, analyzes its mechanism of action and influencing factors; then, based on previous research results, improves the relationship model between organizational quality acquired immune and quality performance; then, Empirical research is used to verify the model; Finally, the conclusion is discussed and summarized. To clarify the methods and processes of organizational quality acquired immune to improve quality performance, and provide a theoretical basis for enterprises to improve quality competitiveness.

2. Theoretical Overview

This section will sort out the relevant literatures of the research variables and propose theoretical assumptions and conceptual models.

2.1 Organizational Quality Acquired Immune

Immune is an innate stress response and its own ability to resist disease. Biological immunity is to resist external dangerous intrusions, monitor internal immune activities, and ensure normal functioning of the human body. Similar to the biological immune system, the organizational immune system is a process in which the organization adopts measures to respond to risks in a timely manner to maintain the normal operation of the organization, record risk information and accumulate experience. Based on the characteristics of biological-like systems, organizational immune can be divided into organizational innate immune and acquired immune^[9]. Through case study analysis, organizational acquired immune includes three key elements of organizational cognition, organizational defense and t organizational memory^[10]. Based on the quality level, the organizational acquired immune has evolved into organizational quality acquired immune, which means that during the quality management process, the organization monitors, defends, and remembers immune activities such as quality to provide guarantee for quality management.

2.2 Quality Performance

“Quality” is a relatively broad concept, and scholars have different views on the measurement of quality performance^[11] and its dimensions. Fynes and Voss^[12] believe that the primary task of quality management is to define quality performance. From the perspective of internal quality and external quality; Curkovic^[13] believes that the components of quality performance include product durability, reliability, design quality, and after-sales service; Flynn^[14] believe that quality performance includes quality reliability, pass rate, and customer satisfaction, regardless of the components of quality performance, should include both internal and external measurement levels. Internal quality performance is consistent with product performance specifications and standards, and external quality performance is consistent with product application quality and customer satisfaction^[15]. Jiang Peng^[16] believes that quality performance can be understood as the organization's quality performance, external quality performance, internal quality performance, product quality performance and process quality performance. Based on the two aspects of process quality and result quality, Wang Bangjun^[17] pointed out that the improvement of enterprise quality performance is due to the improvement of “process quality performance” and “quality management results”; Kaynak^[18] believes that the measurement dimension of quality performance should be product or service quality, productivity, wasted cost, and delivery time; Shi Liping^[19] regards quality performance as a manifestation of the process and results of corporate organizational immunization; Feng Xiaobin^[20] emphasizes that quality performance is effective for quality management process behavior Sex and results. In addition, Ahire^[21], Grandzol and Gershon^[22], Samson and TerZiovski^[23], DowTerziovski^[24] use the structured measurement index structure involved in the national quality awards of their respective countries to measure quality performance. This study believes that quality performance is both the quality performance of the process of organizational immune and the quality performance of products or services.

2.3 Organizational Quality Acquired Immune and Quality Performance

The quality performance discussed in this study is on the one hand the process and results of organizational quality immune. The stronger the organization's ability to acquire quality immune, the better the related quality performance; on the other hand, quality performance includes the process quality of the product or service and quality of results. In the process of organizational quality monitoring, the higher the effect of controlling the quality of the products produced by the internal production chain of the enterprise, the higher the product qualification rate. In the stage of organizational quality memory, companies continue to collect external market demand for product quality and integrate it with internal product production processes and technologies to create emerging products to improve product quality. Therefore, the quality of products or services will be affected by the organization quality immune.

H1: There is a positive correlation between organizational quality acquired immune and quality performance.

2.4 Mediating Effect of Dual Learning

The academic community generally believes that dual learning is a collective term for exploratory learning and exploitative learning^[25], and is an important way to expand and gather knowledge. Some scholars believe that dual learning includes development learning^[26], mining learning^[27] and applied learning^[28]. Exploratory learning is the organization's exploration, extraction and creation of external knowledge. Exploitative learning is the utilization, mining, improvement and extension of existing knowledge within the organization^[29]. The essence of exploratory learning lies in the

exploration and acquisition of new knowledge. The essence of exploratory learning lies in the utilization and improvement of knowledge. In the organizational quality defense stage, on the one hand, companies need to acquire internal knowledge, use and mine invisible knowledge, and deploy and adjust internal resources of the organization; on the other hand, obtain new knowledge from the outside, integrate with existing knowledge, and refine new knowledge responds to risks. In the stage of organizational quality memory, enterprises mainly accumulate experience for dealing with risks in the future by preserving the duality knowledge and methods generated by organizations when dealing with quality risk issues. This study therefore raises hypotheses.

H2: There is a positive correlation between organizational quality acquired immune and dual learning.

Through dual learning, enterprises can absorb advanced knowledge, enrich the knowledge base of enterprise quality, combine old and new quality knowledge, improve product quality standards, and improve enterprise quality performance. Sinkula^[30] believes that the type and stock of knowledge, organizational skills and capabilities within the organization can promote the performance of the enterprise, and dual learning is an important way to achieve internal and external information communication and exchange. At present, the academic community generally believes that dual learning can promote the improvement of enterprise innovation performance^[31-37]. Innovation is an important way to improve quality. Improving innovation performance can also enhance quality performance. Organizational learning is a collection of knowledge recognition, sharing and creation^[38]. With knowledge as the supporting point, through effective knowledge extraction and utilization, new knowledge is created and the enterprise's innovation ability is improved. In addition to innovative performance, Zhong Sumei^[39] found that big data capabilities can improve corporate performance through exploratory learning when studying the impact path of IT capabilities. Jiang Peng believes that improving corporate quality management capabilities and dual learning efficiency can enhance corporate quality performance^[40]. Stimulate the organizational quality acquired immune, improve corporate adaptability, stimulate dual learning capabilities, promote organizational quality learning, acquire and update internal knowledge, and enhance corporate quality performance.

H3: There is a positive correlation between dual learning and quality performance.

H4: Dual learning plays an intermediary role between organizational quality acquired immune and quality performance.

2.5 Mediating Effect of Quality Culture

The quality culture was first proposed by Schein^[41] and given a conceptual definition. He believes that quality culture includes three layers of meanings. The first layer is composed of explicit factors (organizational structure, organizational plan, method, etc.); the second layer includes Potential factors (organizational goals, organizational strategies, opinions, etc.); the third layer contains organizational beliefs and opinions. In recent years, more and more scholars have conducted research on quality culture. Ehlers^[42] summarized the concept of quality culture as organizational structure factors, external factors and cultural factors. In 2016, Sattler^[43] proposed that the informality and non-structurality of quality is the focus of quality culture, namely quality awareness, attitude and values. In the final analysis, quality culture is a value^[44], a common language formed by companies to meet customer needs, focusing on customer concerns and emphasizing continuous quality improvement^[45]. Regarding the measurement of quality culture, scholars conduct research from different angles. Sattler believes that quality culture includes dimensions such as quality values, trust, and quality orientation. Bowen^[46] believes that quality culture can be measured in terms of employee participation and authorization, sustainable development, and organizational

commitment. This study combines previous research viewpoints and believes that quality culture includes core quality values, continuous improvement, quality orientation and the importance of customers^[47].

The theoretical community has not given a precise identification of the relationship between quality culture and quality performance, and different scholars will draw different conclusions based on different quality environments. Some scholars believe that there is a strong correlation between quality culture and quality performance^[48]. In supply chain quality management, quality culture has a positive effect on quality performance^[49]. Some scholars believe that there is no obvious correlation between the two^[50], because some variables in the quality culture have an effect on quality performance and there is a correlation^[51]. This study believes that quality culture is the quality awareness, attitude and values in the process of continuous quality improvement, and customer requirements. Quality culture has a positive effect on quality performance.

H5: There is a positive correlation between quality culture and quality performance.

H6: Quality culture plays an intermediary role between organizational quality acquired immune and quality performance.

2.6 Moderating Effect of Knowledge Integration Ability

Knowledge integration is the process of knowledge selection, reorganization and management^[52]. In 1999, Grant first proposed the concept of knowledge integration^[53]. Later, scholars understood the integration of knowledge from different perspectives. Jie Yang regards knowledge integration as the transfer, creation and sharing of information and knowledge^[54]. Sankowska^[55] believes that knowledge integration is the cross-refinement of internal and external knowledge. Chen Jing believes that knowledge integration is the process of recombining and recreating heterogeneous knowledge^[56].

Knowledge integration capability is the organization's ability to continuously integrate and reorganize heterogeneous knowledge^[57]. The ability of knowledge integration can promote the sharing of knowledge within the organization through communication between members of the organization, so that knowledge can be quickly diffused and used. Knowledge integration can clarify and order external knowledge and promote the use of knowledge^[58]. Knowledge recognition, acquisition, and heterogeneous knowledge fusion are all related to knowledge integration capabilities^[59]. Enterprises need to re-identify, analyze, differentiate, and absorb the knowledge of different types and different properties acquired from the outside through exploratory learning, and integrate with the original knowledge. The higher the enterprise's knowledge integration ability, the stronger the classification recognition and integration ability of the representative enterprise, which can more clearly select the required knowledge and improve the efficiency of exploratory learning. According to the role of enterprise integration capabilities in absorbing and merging internal and external new knowledge and internal fragmented knowledge, the higher the enterprise knowledge integration capability, the greater the depth and breadth of knowledge stock in the enterprise, the more conducive to improving the efficiency of dual learning. Therefore, the hypothesis is proposed.

H7: Knowledge integration ability has a moderating role between dual learning and quality performance.

H8: Dual learning has a mediating role in the process of organizational quality acquired immune from knowledge integration ability to quality performance.

2.7 Conceptual model

Based on the above assumptions, the conceptual model of this paper is shown in figure 1.

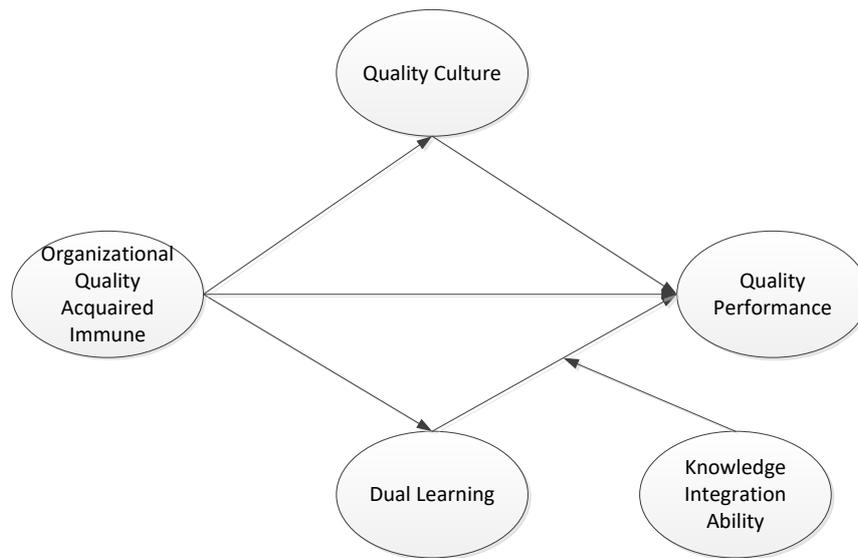


Figure 1: Conceptual model.

3. Research Design

By reviewing the previous literature and establishing a conceptual model, the following investigation and analysis are conducted to further verify the validity of the model.

3.1 Research Sample

This study takes the internal, middle and senior managers of the manufacturing enterprises in the eastern region as the survey object, and mainly distributes the questionnaires through on-site surveys, commissioned surveys and online surveys. In the formal survey of this study, a total of 500 questionnaires were issued. The entrusted survey mainly entrusted relevant institutions and social relations networks to conduct surveys using the network and modern communication tools. Online surveys mainly obtain relevant contact information through the websites and emails of the companies under investigation. On-site field investigations mainly contact relevant companies through social network relationships and friend introductions to conduct on-site and on-site investigations. Before the survey begins, the respondent needs to clearly explain the research purpose and content of the research, so as to increase trust and eliminate confusion and worry. In order to ensure the validity of the questionnaire, a small number of survey questions irrelevant to the research theme and research content are set in the questionnaire, and two or three questionnaires are distributed to the same enterprise as far as possible to ensure the quality and validity of the questionnaire and ensure the survey. The respondent can accurately and fill in the relevant information and materials of the enterprise where the respondent is located. A total of 386 questionnaires were collected in this study, with a recovery rate of 77.20%. There were blank questionnaires in the collected questionnaires, incomplete or incomplete, extreme, regular answers, etc. Therefore, after removing invalid questionnaires, the final 324 questionnaires were sorted out, and the effective rate was 83.94%.

From the sample statistical analysis table, it can be seen that the respondents are 215 men, accounting for 66.4%; women are 109, accounting for 33.6%; 42 respondents under 30 years old, accounting for 13.0%; 30-60 years old 274 people, accounting for 84.5%; 8 people over 60 years old, accounting for 2.4%. According to the statistics of the questionnaire, according to the type of ownership, state-owned enterprises accounted for 36.4%, non-state-owned enterprises accounted for

63.6%; according to the scale of enterprises, enterprises with 150 or less people accounted for 21.9%, enterprises with 151-550 people accounted for 30.2%, enterprises with 501-2000 employees accounted for 27.2%, and companies with more than 2000 employees accounted for 20.7%; according to the years of operation of the enterprise, enterprises with an establishment of less than three years accounted for 17.0%, enterprises with an establishment of 3-10 years accounted for 32.0%, and an establishment of 10-20 years Of companies accounted for 25.9%, and those established 20 years and above accounted for 25.1%.

Table 1: Sample statistical analysis.

Feature	Category	Proportion (%)	Feature	Category	Proportion (%)
Survey object gender	Male	66.4	Business size	<150	21.9
	Female	33.6		151-500	30.2
Age	<30	13.0		501-2000	27.2
	30-60	84.5		>2000	20.7
	>60	2.4	Business nature	State-owned enterprise	36.4
Business age	Under 3 years	17.0		Non-state-owned enterprise	63.6
	3-10 years	32.0			
	10-20 years	25.9			
	Over 20 years	25.1			

3.2 Variable Measurement

Based on the research purpose of this study, referring to the mature scales at home and abroad, combined with corporate practice, corporate surveys and questionnaire surveys to generate this scale. The organizational quality acquired immune mainly refers to the research results of Shi Liping^[60] and Ma Jing^[61]; the quality performance refers to the related research of Cao Yonghui^[62]; the dual learning mainly refers to the related measurements of Zheng Danling^[37] and Wu Di^[63] Table; quality culture reference measurement scale compiled by Sun Peidong^[45]; knowledge integration ability refers to the research conclusions of Gardner^[57] and Wu Zhiding^[64] to compile the measurement scale. Summarize the main references of each measurement, as shown in table 2.

Table 2: Variable measures.

Variable	References
Organizational quality acquired immune	Shi Liping and Ma Jing
Organizational quality performance	Cao Yonghui
Dual learning	Zheng Danling and Wu Di
Quality culture	Sun Peidong
Knowledge integration ability	Gardner and Wu Zhiding

3.3 Reliability and Validity Tests of Variables

In this study, SPSS25 software was used to test the reliability and validity. The test results used CITC, KMO, Battle, and Cronbach's a values to test the reliability. Validity is tested by AVE, correlation coefficient, and square root of the arithmetic of CR and AVE.

Table 3: Reliability and validity.

Variable	KMO	Bartlett Chi Square	P	CITC	Cronbach's Coefficient	Factor	AVE	CR	\sqrt{AVE}
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Organizational quality acquired immune	0.925	7164.757	0.000	0.901	0.977	0.785-0.939	0.7611	0.9794	0.8724
Organizational quality performance	0.829	1445.009	0.000	0.925	0.915	0.731-0.908	0.7056	0.9346	0.8400
Dual learning	0.878	1433.129	0.000	0.880	0.920	0.747-0.914	0.7208	0.9392	0.8490
Quality culture	0.911	2315.025	0.000	0.920	0.953	0.845-0.920	0.7863	0.9626	0.8867
Knowledge integration ability	0.824	947.687	0.000	0.765	0.913	0.862-0.946	0.7941	0.9391	0.8911

The factor loads of various variables in table 3 are generally between 0.7 and 0.9; the combined reliability CR value is around 0.9; the AVE values are all greater than 0.7, indicating that the scale has good convergence validity. The KMO value of each variable in the table is greater than 0.8; the significance level is 0.000, which is less than the specified standard value of 0.001; the Cronbach's coefficient is also above 0.9; the CITC value is also around 0.9; the scale has good reliability. Further testing, the square root of the average variance extraction (AVE) corresponding to each variable and the size of the correlation coefficient between each variable, to determine the distinguishing validity of the scale. For example, the square root of the knowledge integration ability AVE is 0.8911, the correlation coefficients of the knowledge integration ability and other variables are 0.69, 0.78, 0.704, 0.744, and the square root of the knowledge integration ability AVE is greater than the correlation coefficient, indicating that the knowledge integration ability has a good discrimination validity. In summary, the scales have high reliability and validity, which lay a good data foundation and scale foundation for subsequent empirical analysis.

4. Hypothesis Testing and Empirical Analysis

Based on the above theoretical assumptions and data collection, the following tests and empirical analysis are performed.

4.1 Main Effect Test

In order to test the direct effect of tissue quality acquired immunity and quality performance, quality performance is used as the dependent variable and organizational quality acquired immune is the independent variable for regression, as shown in Table 4.

Table 4: Main effect table.

R ²	Adjust R ²	F	Variable	Standardized coefficient	T	P
0.770	0.770	1079.806	C		10.855	0.000
			Organizational quality acquired immune	0.878	32.860	0.000

The table 4 shows that organizational quality acquired immunity has a positive effect on quality performance ($\beta=0.878$, $p<0.001$). Hypothesis 1 is verified. Quality performance can be analyzed from the perspective of biological immune, through tissue quality monitoring, organizational quality defense, and memory. Form a definite influence path and promote quality performance improvement.

4.2 Mediation Effect Test

In order to test the process mechanism of organizational quality acquired immune and quality performance, a three-step method was used to test the mediating effect of dual learning and quality culture.

Table 5: The mediating role of dual learning.

Outcome: Dual learning							
Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	0.8695	0.7560	0.1506	997.6679	1.0000	322.0000	0.0000
Model							
	coeff	se	t	p	LLCI	ULCI	
Constant	1.5491	0.0964	16.0617	0.0000	1.3594	1.7389	
Organizational quality acquired immune	0.6838	0.0216	31.5859	0.0000	0.6412	0.7264	
Outcome: Quality performance							
Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	0.8962	0.8031	0.1435	654.8201	2.0000	321.0000	0.0000
Model							
	coeff	se	t	p	LLCI	ULCI	
Constant	0.4855	0.1264	3.8421	0.0001	0.2369	0.7341	
Dual learning	0.3982	0.0544	7.3187	0.0000	0.2911	0.5052	
Organizational quality acquired immune	0.4767	0.0428	11.1432	0.0000	0.3926	0.5609	

As shown in table 5, First, the relationship between organizational quality acquired immune and dual learning is tested. The regression model formed by organizational quality acquired immune and dual learning is the R square of 0.7560, the F value is 997.6679, and the p value is equal to 0, indicating the model fitting effect Good, the p value of the model coefficient test is also equal to 0, and the coefficient of organizational quality acquired immune is 0.6838, indicating that there is a significant positive effect of organizational quality acquired immune and dual learning, and H2 is verified; second, according to the main effect test above The results indicate that there is a positive effect between organizational quality acquired immune and quality performance; finally, the intermediary variable binary learning is introduced into the regression model, and compared with the main effect, it is found that the effect of organizational quality acquired immune on quality performance from a higher level to 0.4767, within the 95% confidence interval, the three levels do not contain 0, indicating that dual learning has a significant intermediary effect. Hypothesis 3 and hypothesis 4 are true.

Table 6: The mediating role of quality culture.

Outcome: Quality culture							
Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	0.9080	0.8244	0.1599	1511.7571	1.0000	322.0000	0.0000
Model							
	coeff	se	t	p	LLCI	ULCI	
Constant	0.7584	0.0994	7.6302	0.0000	0.5628	0.9539	
Organizational quality acquired immune	0.8674	0.0223	38.8813	0.0000	0.8235	0.9113	
Outcome: Quality performance							
Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	0.9067	0.8222	0.1297	741.9725	2.0000	321.0000	0.0000
Model							
	coeff	se	t	p	LLCI	ULCI	
Constant	0.7342	0.0973	7.5491	0.0000	0.5428	0.9255	
Quality culture	0.4855	0.0502	9.6748	0.0000	0.3867	0.5842	
Organizational quality acquired immune	0.3279	0.0479	6.8405	0.0000	0.2336	0.4222	

Similarly, table 6 shows the test process of the mediating effect of quality culture. The regression model formed by organizational quality acquired immune and quality culture is 0.8244, F value is 1511.7571, and p value is equal to 0, indicating that the model fits better and the model The coefficient test p value is also equal to 0, and the coefficient of organizational quality acquired immune is 0.8674, indicating that there is a significant positive effect between organizational

quality acquired immune and quality culture; the introduction of intermediate variable quality culture into the regression model, and the main effect a comparison revealed that the effect of organizational quality acquired immune on quality performance dropped from a high level to 0.3279, and none of them contained 0 in the 95% confidence interval, indicating that quality culture has a significant intermediary role, and H5 and H6 get verification.

4.3 Moderating Effect of Knowledge Integration Ability and Mediated Effect Test

In order to test the boundary conditions of knowledge integration ability, on the one hand, the effect of the interaction between dual learning and knowledge integration ability on quality performance is tested, and on the other hand, the mediating effect to be adjusted needs to be estimated.

Table 7: Moderating effect of knowledge integration ability.

Outcome: Quality performance							
Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	0.8919	0.7954	0.1496	414.7018	3.0000	320.0000	0.0000
Model							
	coeff	se	t	p	LLCI	ULCI	
Constant	-0.8552	0.3973	-2.1524	0.0321	-1.6370	-0.0735	
knowledge integration ability	0.5558	0.1012	5.4950	0.0000	0.3568	0.7548	
Dual learning	0.9080	0.1004	9.0437	0.0000	0.7105	1.1055	
int_1	-0.0629	0.0229	-2.7432	0.0064	-0.1081	-0.0178	
Product terms key: int_1 Dual learning * knowledge integration ability							
	R2-chng	F	df1	df2	p		
int_1	0.0048	7.5250	1.0000	320.0000	0.0064		

Table 7 shows that the interaction items of knowledge integration ability and dual learning have an impact on quality performance. The interaction item R side is 0.0048, F value is 7.5250, and P value is less than 0.01. Therefore, hypothesis 7 is verified.

Table 8: Adjusted mediation test.

Outcome: Quality performance							
Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	0.9181	0.8429	0.1152	427.9187	4.0000	319.0000	0.0000
Model							
	coeff	se	t	p	LLCI	ULCI	
Constant	-0.1504	0.3560	-0.4224	0.6730	-0.8509	0.5501	
Organizational quality acquired immune	0.3900	0.0397	9.8212	0.0000	0.3118	0.4681	
Dual learning	0.4201	0.1012	4.1532	0.0000	0.2211	0.6191	
knowledge integration ability	0.3820	0.0905	4.2203	0.0000	0.2039	0.5601	
Int_1	-0.0355	0.0203	-1.7453	0.0819	-0.0755	0.0045	
Product terms key: Int_1: Dual learning * knowledge integration ability							
	R2-chng	F	df1	df2	p		
M*W	0.0015	3.0460	1.0000	319.0000	0.0819		

It can be seen from table 8 that for quality performance, the three variables of organizational quality acquired immune, dual learning, and knowledge integration ability all play a role in it, but the interactive items of dual learning and knowledge integration ability, in organizational quality acquired immune is used as an independent variable, it has no effect on quality performance (confidence interval [-0.0755, 0.0045] contains 0, F=3.0460, p=0.0819>0.05), so it is assumed that H8 is not true.

5. Conclusion and Inspiration

Through the analysis and research of the literature and data, the following conclusions and management revelations are drawn on the mechanism of the impact of organizational quality acquired immunity on quality performance.

5.1 Analysis Conclusion

Based on the perspective of immunization, this paper uses the 324 data from the questionnaire survey to analyze the mechanism between organizational quality acquired immunization and quality performance, and obtains the following conclusions.

(1) The process of improving quality performance can be cut in from the perspective of biological immune. According to the specific immune used by organisms in responding to hazards, analogous companies respond to quality risks. Organizational quality acquired immune has a positive impact on enterprise quality performance. (2) Dual learning and quality culture play an intermediary role between organizational quality acquired immune and quality performance. This shows that organizational quality defense and memory can rely on organizational learning knowledge to improve the enterprise's own defense capabilities, accumulate risk experience, and at the same time it is a way to promote corporate quality performance. (3) Knowledge integration ability regulates the impact of dual learning on quality performance. This shows that dual learning can play a role in improving quality performance, and knowledge integration can adjust the effect of dual learning on quality performance.

5.2 Theoretical Contribution and Management Inspiration

The theoretical contribution of this study is shown in recent years: some scholars have studied quality performance from the perspective of quality management practice or supply chain, and few scholars have studied quality performance from the perspective of immunity. This study studies the impact path of quality performance from the perspective of biological immune. Taking organizational quality acquired immune as an entry point, exploring the impact mechanism of organizational quality acquired immune on quality performance is helpful for a comprehensive understanding of the role of quality performance. At the same time, in addition to organizational quality acquired immune, certain variables cannot be ignored between organizational quality acquired immune and quality performance. Through combing the literature for enterprises to find the influencing factors of quality performance under biological immune conditions. It is helpful for enterprises to further understand quality performance.

Secondly, the intermediary effect of dual learning and quality culture on the two is expounded, and the role of dual learning and quality culture in the mechanism of organizational quality acquired immune and quality performance is revealed. Finally, it shows that the ability of knowledge integration plays a regulating role between dual learning and quality culture, which enriches the influence path of quality performance and expands the theoretical model.

5.3 Research Limitations and Future Research Directions

The limitations of this study: On the one hand, this study examines the antecedent variables and role paths of the organization's quality performance from the perspective of biological immune through empirical research, but only from the perspective of dual learning, quality culture and knowledge integration capabilities. The influence mechanism of other variables. On the other hand, this study selects manufacturing companies to collect data and lacks comparative analysis of data from

different industries. Therefore, in future study, exploring the impact of other variables and collecting differentiated industry data is the focus of further study.

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