

A Study on the Relationship between Maker Spirit and Employee Innovation Performance

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Abstract: This study combines the existing literature research results related to the maker spirit to construct a theoretical conceptual model with employees as the main body. Taking Zhenjiang enterprises as the research sample, collecting relevant data in the form of questionnaires, using SPSS statistical analysis software to perform statistical analysis on the data. The research results show that the maker spirit has a positive effect on the innovation performance of employees; knowledge sharing behavior, innovative self-efficacy, and innovation motivation play a part of the mediating role of the maker spirit on the innovation performance of employees. Finally, this research puts forward suggestions for companies to improve innovation performance from two aspects: how to cultivate the spirit of maker and how to improve innovation performance from the perspective of employees.

1. Introduction

In 2018, General Secretary Xi Jinping proposed to focus on the reform of the Communist Youth League and youth innovation and entrepreneurship, and form a “practical chapter” of Xi Jinping's new era youth thinking. Afterwards, a wave of “entrepreneurship wind” that promoted mass entrepreneurship and innovation has blown up in our country. The development of the global Internet era now calls for innovation, and innovation has become the core of the development strategy of mainstream companies in the world today. In the fierce market competition, only innovation can an enterprise break through the original development dilemma and speed up the improvement of its production performance. Nowadays, many makers have appeared in the vision of enterprises. They are a group that loves creativity, is willing to put it into practice and are brave to innovate. Their quality is named “maker spirit.” How to improve the innovation performance of employees through a high maker spirit, and then improve the innovation performance of enterprises, is not only an important practical problem that many companies urgently need to solve, but also a new hot spot in academic research.

Under the current development environment and various constraints, the current research in the academic circle focuses on the impact of craftsmanship, entrepreneurship, and innovation on enterprise innovation performance. The rise of the maker movement has made grassroots innovation a reality. With the development of the maker movement, the maker spirit, as an important spiritual trait of the maker group, increasingly reflects its unique spiritual charm. The maker spirit has an important influence on the innovation performance of employees, but the academic circles have not yet reached a consensus on the definition of maker spirit, and related research is even rarer. Maker spirit, as an intangible core competitiveness, once transformed into actual results, it will inevitably benefit the improvement of employees' innovation performance, and ultimately promote the company to stand in the forefront of the market.

Based on this, in order to in-depth explore the mechanism of the maker spirit on employee innovation performance, this research first clearly defines the concept and connotation of maker

spirit, and then from the perspective of employees, explores the impact of maker spirit on employee innovation performance. The impact, to a certain extent, has enriched the research on maker spirit and employee innovation performance, and also provided theoretical guidance and reference for improving enterprise innovation performance.

2. Literature Review

2.1 Related Research on Makers

For the research on the subject of maker, the content is mainly based on the development of maker education and the formation of maker space. Zhu Zhiting and Sun Yanyan^[1] summarized the relevant connotations of maker education in detail, and believed that the development of maker education was mainly the result of the integration and interaction of information technology and maker education, and provided new directions for future maker education. Technical Support. Huang Zhaoxin^[2] and others analyzed the cultural background of maker education in detail from the three aspects of policy, technology and creative ability, and pointed out that the development model of maker education in universities should integrate the collaborative exploration of the three groups of curriculum, teachers and students. , And take the maker space as the carrier. Wang Youmei^[3] and others elaborated on the four modes of makerspace in American universities and discussed the future operation mode and development direction of makerspace in China. Wang Dening^[4] and others used several typical maker spaces as the basis of analysis to analyze several operating modes of domestic maker spaces. Li Shuangshou^[5] and others took the i. Center Maker Space of Tsinghua University as an example, introduced the concept of Maker Space in detail, and explored and practiced the construction of Maker Space.

Chris Anderson^[6] first proposed the term Maker, and believed that Maker is a group that is good at manufacturing and sharing with the help of information networks. Phil McKinney^[7], the former global vice president of HP, emphasized the creativity of the public and believed that everyone can be a maker. Shane^[8] believes that internal maker activities are creative activities that integrate the company's resources and manpower, tap the potential commercial value of the market, and increase corporate profits as the ultimate goal. Kuratko^[9] believes that internal maker activities emphasize the full use of each member's innovative ability.

2.2 Related Research on Maker Spirit

The practice of the maker movement is ahead of the research of maker theory. From its inception to its development, the Chinese maker movement has provided a strong impetus to the development of innovation and entrepreneurship in China. It has also produced a large number of successful makers. They have not only continued the maker tradition of creating brand-new products, but also derived a large number of emerging maker entrepreneurs relying on innovative technology and product entrepreneurship.

Cheng Chen, known as the Maker Evangelist, was among the first batch of Makers in China. He believes: Makers are not just a group of people. Makers are a kind of culture, which is developed with the development of the Internet and open source hardware. A subculture that has slowly grown up. This culture promotes hands-on practice and open source sharing, and calls for everyone to start from their own interests rather than making money as the primary goal^[10]. Chen Fangyi (Frank), one of Ningbo's most active creators, is an evangelist of Ningbo's maker culture. He has participated frequently in maker activities since 2012. He believes: With the advocacy of mass entrepreneurship and innovation, everyone The maker's understanding has gone wrong, and he wants to retrieve the original maker spirit^[11]. Chen Zhengxiang, CEO of Capability Limited's electric skateboard company, a hacker influx of arms, believes that makers are DIY enthusiasts, and there are still differences between domestic and foreign makers. Foreign spaces are divided very finely, such as software, hardware, and cross-border attention to art. Basically there is only hardware in China^[12]. The first generation of domestic makers, Li Dawei, Wu Sili, and Xie Minlin, co-founded Shanghai's earliest maker space XinWorkshop at No.28 Yuyuan East Road, Shanghai.

Li Dawei believes: China's maker community is rapidly growing, and people will feel more about the changes that maker has brought to the world.^[13]

To sum up, although there are certain researches on makers at home and abroad, scholars' research on makers mainly focuses on the characteristics of the maker space, maker culture, etc., and there are relatively few studies based on the maker spirit. At present, the academic circles have not yet formed a unified view on the concept of maker spirit.

2.3 Related Studies on Employee Innovation Performance

Research shows that innovation is a key element that determines the performance and survival of an organization. Damanpour^[14], Han, Kim, and Stivastava^[15], Hurley and Hult^[16], Holt believes that^[17], innovation activities are the adoption of new knowledge or related consensus by individuals, groups, and organizations, and joint efforts A new product or process formed with operation. Higgins believes^[18] that the innovation activities of enterprises can be divided into technological innovation, strategic innovation, product innovation, process innovation, management innovation and marketing innovation, etc., but no matter what kind of innovation activity, the most original innovative ideas are from employees. I got it. Therefore, the first step in organizational innovation is to have innovative employees before they can innovate and form a competitive advantage.

Although organizational innovation ultimately comes from the innovation performance of employees, Tornatzky and Fleische^[19] pointed out that the influencing factors of innovation include individuals, organizations, technology and the environment. In the individual-level research literature, most of them focus on the personality traits of employees, such as their own intelligence, motivation for innovation, the nature of innovators, and employee motivation.

Employee innovation performance is the result of employees purposefully generating, marketing and implementing ideas within their job role, work group or organization that are novel and beneficial to the performance of the role, work group or organization^[20]. In order to enhance employee innovative performance, business organizations must understand the individual and situational factors that influence the formation of employee innovative performance and their mechanisms of action^[21].

In summary, there are many researches on innovation performance at home and abroad. Most scholars who study innovation performance conduct research from the three levels of individual, organization, and environment. However, the innovation performance introduces the maker model to deeply explore the impact of maker spirit on individuals. There is less literature on the impact of innovation performance. Therefore, this research combines the reality of urban makers to study the relationship between maker spirit and employee innovation performance, helping innovative companies to better cultivate maker spirit and improve employee innovation performance.

3. Theory and Hypothesis

In order to explore the relationship between maker spirit and employee innovation performance, this article fully combines the research paradigm of entrepreneurship, deeply analyzes the practice of China's maker development since 2014, and further proposes that maker spirit refers to the creation of innovation in a free environment. Customer is the main body, innovation is the core, and the quality is willing to share and diligent in practice. The maker spirit is divided into three dimensions: innovation spirit, sharing spirit, and practical spirit.

(1) Innovative spirit: In essence, the innovative spirit refers to the comprehensive qualities of a person who engages in innovative activities, produces innovative results, and becomes an innovative person.

(2) The spirit of sharing: share your good things for everyone to enjoy, to achieve the effect of one plus one greater than two.

(3) Practical spirit: Through practice, implement one's own creativity and ideas, and create real value.

On this basis, this paper constructs a theoretical model of the relationship between maker spirit and employee innovation performance based on social cognition theory, planned behavior theory

and social learning theory, as shown in Figure 1.

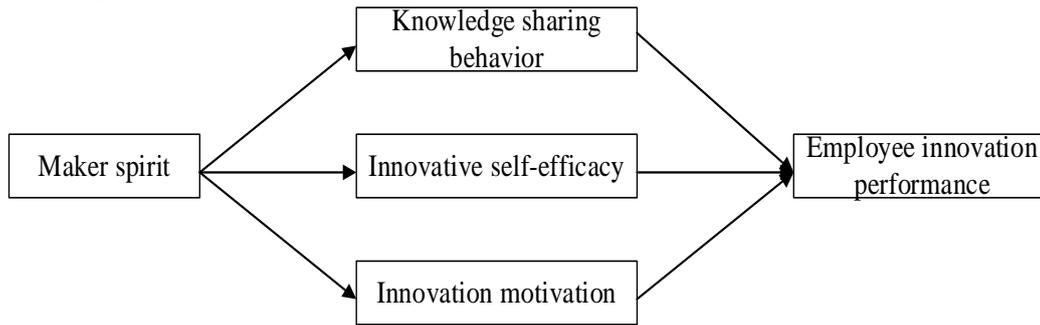


Fig.1 A Theoretical Model of the Relationship between Maker Spirit and Employee Innovation Performance.

3.1 Maker Spirit and Employee Innovation Performance

Maker spirit, as a kind of spiritual force and value orientation to promote innovation, can make innovation subjects give full play to their own subjective initiative, stimulate their creativity and practical ability^[22], and employees can better use new ideas Face the work with methods, create perceivable and practical innovation results, and improve the innovation performance of employees^[23]. Liao Meisheng believes that the maker spirit can improve the innovation performance of employees, that is, the maker spirit can stimulate the innovation potential of the innovation subject and promote the increase of employees' productivity, thereby improving the innovation performance of employees^[24]. Wang Yurong and other studies believe that the maker spirit can significantly improve individual innovation performance^[25]. Among them, the maker spirit improves employee innovation performance by improving individual innovation capabilities. In the situation deduced to this study, employees with a maker spirit are better at proposing new ideas and new solutions at work, and implementing them in practical work, thereby continuously improving their own innovation performance. Based on this, this research proposes the following hypotheses:

H1: Maker spirit is positively affects employee innovation performance.

3.2 Knowledge Sharing Behavior and Employee Innovation Performance

Knowledge sharing behavior is an indispensable link in corporate management, and a high degree of knowledge sharing behavior can improve individual employees' independent innovation ability and innovation performance. Han Ying and Chen Guohong found that knowledge sharing behavior is one of the key factors to improve employee innovation performance, because knowledge sharing behavior is conducive to the exchange and accumulation of experience, breaks the limitations of personal thinking, and promotes innovative thinking, thereby improving personal innovation Performance^[26]. PORTES clearly pointed out that knowledge sharing behavior is inseparable from employee innovation performance^[27]. Zhang Qianjun also pointed out that knowledge sharing behavior plays an important role in the process of improving employee innovation performance^[28]. Deduced to this research situation, knowledge sharing behavior accelerates the transfer and circulation of knowledge, can better catalyze the generation of new ideas and new methods, and thereby improve the innovation performance of employees. Based on this, this research proposes the following hypotheses:

H2: Knowledge sharing behavior positively affects employee innovation performance.

3.3 Innovation Self-Efficacy and Employee Innovation Performance

According to the theory of social cognition, individual cognition has an important influence on individual behavior. The clearer the individual's cognition of oneself, the more recognized and confident they are of their own abilities, and the purpose and efficiency of their behavior will be greatly improved, that is, the innovative self-efficacy of employees. The stronger the sense, the higher its own innovation performance. Wang Ning, Zhao Xiping, etc. believe that the individual

innovation self-efficacy of employees can positively promote employee innovation performance, which can enhance the individual innovation self-efficacy of employees in seeking feedback information and improve their own creativity and practical ability^[29]. Deduced to the situation in this research, the individual innovation self-efficacy of employees can enhance their perception of innovation processes and creative activities, and form an inherent belief and drive for their own innovation capabilities. By influencing employees behavior choice, employees can improve themselves Creativity, thereby improving employee innovation performance. Based on this, this research proposes the following hypotheses:

H3: Innovation self-efficacy positively affects employee innovation performance.

3.4 Innovation Motivation and Employee Innovation Performance

Innovation motivation can improve the innovation performance of employees by promoting the innovation behavior of employees. Because innovation motivation is the support point of innovation activities, which can promote and maintain innovative behaviors. The innovation performance of employees is essentially a test of the value of employees innovation behaviors. To a large extent depends on the innovative activities of employees. Amabile believes that innovation motivation is one of the necessary conditions for improving employees innovation performance. It lays the foundation for the improvement of employees creativity by stimulating employees' intrinsic work motivation, thereby effectively promoting the improvement of innovation performance^[30]. Barrick, Stewart and Piotrowski pointed out in an empirical study that innovation motivation can have a positive impact on employee innovation performance^[31]. Deduced to the situation in this research, innovation motivation can prompt employees to generate innovative ideas, increase expectations for innovation results, encourage employees to actively respond to innovative activities, and improve their innovation performance. Based on this, this research proposes the following hypotheses:

H4: Innovation motivation positively affects employee innovation performance.

3.5 The Mediating Role of Knowledge Sharing Behavior

(1) Maker spirit and knowledge sharing behavior.

According to Ajzen's theory of planned behavior, willingness has a significant positive effect on behavior, that is, the stronger an individual's willingness for knowledge sharing behavior, the more inclined to engage in knowledge sharing behavior. Individuals with a maker spirit are inherently more likely to have intentions and interest in the behavior of knowledge sharing, and show positive behaviors to practice. Zhao Shusong believes that the maker spirit plays a direct role in inducing knowledge sharing behaviors, because the maker spirit can stimulate individuals' interest and pleasure in knowledge sharing behaviors, and this interest and pleasure is exactly what individuals carry out knowledge sharing behaviors. motivation^[32]. Prakash and other studies have found that companies with a maker spirit can better create an atmosphere of free sharing, thereby promoting knowledge sharing behavior^[33]. Deduced to the situation in this study, under the influence of the maker spirit, employees will have interest and pleasure in the behavior of knowledge sharing, and they are more willing to engage in knowledge sharing behavior. Based on this, this research proposes the following hypotheses:

H5: Maker spirit positively affects knowledge sharing behavior.

(2) The mediating role of knowledge sharing behavior between maker spirit and employee innovation performance

Combined with the above two logical relationship hypotheses between maker spirit and employee innovation performance, knowledge sharing behavior and employee innovation performance, maker spirit and knowledge sharing behavior (i.e. on the basis of hypothesis H1, H2 and H5), we infer that maker spirit will indirectly affect employee innovation performance through the intermediary mechanism of knowledge sharing behavior. The specific assumptions are as follows:

H6: knowledge sharing behavior plays an intermediary role between maker spirit and employee innovation performance.

3.6 The Mediating Role of Innovative Self-Efficacy

(1) Maker spirit and innovation self-efficacy

Maker spirit is the internal driving force of innovation behavior, which is essentially maker's cognition and self-confidence of its own innovation ability, thus improving their innovation self-efficacy^[34]. Chong and Ma found that there is a positive correlation between maker spirit and innovation self-efficacy, among which maker spirit can promote employees to have multiple tendencies towards work methods and improve their own expectations and efforts^[35]. Mathisen and Ellen believe that maker spirit has a positive impact on employees innovative self-efficacy because maker spirit can fully mobilize the innovative thinking and work autonomy of innovation subject^[36]. Deduced to the situation in this research, maker spirit can encourage employees to actively practice and innovate in their work, improve their creativity, and actively seek new working methods so that employees can have a higher evaluation of themselves so as to improve their innovation self-efficacy. Based on this, this study puts forward the following hypotheses

H7: Maker spirit positively affects innovation self-efficacy.

(2) The mediating role of innovation self-efficacy between maker spirit and employee innovation performance

Combined with the above two logical relationship hypotheses between maker spirit and employee innovation performance, innovation self-efficacy and employee innovation performance, maker spirit and innovation self-efficacy (that is, on the basis of hypotheses H1, H3 and H7), we infer that maker spirit will indirectly affect employee innovation performance through the intermediary mechanism of innovation self-efficacy. The specific assumptions are as follows:

H8: innovation self-efficacy plays a mediating role between maker spirit and employee innovation performance.

3.7 The Mediating Role of Innovation Motivation

(1) Maker spirit and innovation motivation

According to the social learning theory, maker spirit can urge individuals to turn innovative ideas into reality, encourage individuals to take positive actions and stimulate the innovation motivation of the subject. Cheng Zhihui and others believe that maker spirit can improve individual's positive perception of innovation behavior itself, thus triggering individual innovation motivation^[37]. Zhou and others verified that maker spirit has a significant positive impact on innovation motivation because maker spirit advocates innovation and practice, which is not only the internal factor to promote innovation behavior, but also the factor to promote individual innovation motivation^[38]. Deduced to the situation in this study, employees with maker spirit will show more confidence in their innovation ability, and also expect to implement innovation activities. In this way, innovation motivation will be triggered more easily. Based on this, this study puts forward the following hypotheses^[37]:

H9: Maker spirit positively affects innovation motivation.

(2) The mediating role of innovation motivation between maker spirit and employee innovation performance

Combined with the above two logical relationship hypotheses between maker spirit and employee innovation performance, innovation motivation and employee innovation performance, maker spirit and innovation motivation (i.e. on the basis of hypothesis H1, H4 and H9), we infer that maker spirit will indirectly affect employee innovation performance through the intermediary mechanism of innovation motivation. The specific assumptions are as follows:

H10: innovation motivation plays an intermediary role between maker spirit and employee innovation performance.

4. Research Method

4.1 Questionnaire Design

The questionnaire consists of six parts, including personal basic information, maker spirit scale,

knowledge sharing behavior scale, innovation self-efficacy scale, innovation motivation scale and employee innovation performance scale. In order to ensure the authenticity and reliability of the data, this study based on the existing mature scale, and adjusted the wording of individual items according to the specific needs.

Among them, the maker spirit scale adopts the dimensions of innovation spirit, sharing spirit and practice spirit in the maker spirit scale proposed by covin. J.G^[39], with a total of 6 items. The knowledge sharing behavior scale adopts the research results of LINHF^[40] on enterprise knowledge sharing behavior, with a total of 4 items. The innovation self-efficacy scale adopts the dimension of innovation self-efficacy in the self-efficacy model proposed by Tierney^[41], with a total of 4 items. The innovation motivation scale adopts TIERNEYP^[42] innovation motivation dimension of leadership and employee creativity, with a total of 5 items. The employee innovation performance scale adopts the research results of Janssen O^[43], which has 8 items.

In the design of the questionnaire, the main body adopts the “Likert Scale” method. Among them, “1” represents very inconsistent, “2” represents inconsistent, “3” represents average, “4” represents consistent, “5” represents very consistent.

4.2 Data Collection

In this study, different cities engaged in innovation and entrepreneurship groups as the research objectives, The methods of field research and questionnaire are used for data collection, in the enterprise survey of Beijing, Shanghai, Guangzhou, Nanjing, Zhenjiang and other places, the research objectives are enterprise employees. The questionnaire will be distributed and collected from July 2019 to August 2019. A total of 780 questionnaires were sent out to 256 enterprises and 533 were returned, of which 421 were valid, with a recovery rate of 53.97%.

The basic conditions of the respondents included gender, age, education and working years. It can be seen from table 1 that the proportion of men and women in the sample is 54.9% and 45.1% respectively, which is relatively average. Most of the respondents aged between 26 and 30 account for 45.4% of the total sample. The respondents with bachelor’s degree are the most, accounting for 54.9% of the total sample. Most of the respondents worked less than 6 years, accounting for 66.5%. The basic characteristics of specific samples and respondents are shown in Table 1.

Table 1 Basic Characteristics Of Respondents Questionnaire

Statistical item	Classification	Frequency	Percentage
Gender	Male	231	54.9%
	Female	190	45.1%
Age	Below 20	15	3.6%
	21-25	135	32.1%
	26-30	191	45.4%
	31-35	43	10.2%
	36-40	20	4.8%
	above 40	17	4.0%
Level of education	High school and below	52	12.4%
	College education	70	16.6%
	Undergraduate	231	54.9%
	graduate and above	68	16.2%
Working years	Within one year	22	5.2%
	1-3 year	85	20.2%
	4-6 year	173	41.1%
	7-9 year	81	19.2%
	10 years and above	60	14.3%

5. The Empirical Research

5.1 Reliability Analysis and Validity Analysis

In this study, the α coefficient proposed by Cronbach was used as the evaluation index for reliability analysis. If the Cronbach α coefficient value is greater than 0.7, the reliability of the

questionnaire is acceptable. Cronbach α =0.768 of maker spirit in this study; Cronbach α =0.761 for knowledge sharing behavior; Cronbach α =0.735; Cronbach α =0.768; Cronbach α =0.796, and the measurement reliability of the variable is high.

In this study, exploratory factor analysis was used to test the discriminant validity among variables. Before, we have analyzed the correlation between the variables by using the KMO value and the Bartlett spherical test. the KMO value in this study is 0.763, greater than the standard threshold value of 0.5, and the Bartlett sphere test is significant, indicating that factor analysis is appropriate.

Then, common factors of the questionnaire are extracted by principal component analysis and orthogonal rotation method, and 5 common factors are extracted. The characteristic roots of the 5 factors are 4.548, 3.186, 2.876, 2.408 and 2.233, all greater than 1. The interpretation rates of variance are 16.244%, 11.378%, 10.273%, 8.601% and 7.974%, respectively. The cumulative variance interpretation rates are 16.244%, 27.623%, 37.896%, 46.497% and 54.472%. It shows that these five factors have a powerful explanatory for variance. The factor load coefficients after rotation are all greater than 0.5, and there is no cross load. The variances of the common factors are all greater than 0.5. Each question should be reserved. In general, the validity of this questionnaire scale is efficient.

5.2 Correlation Analysis

In this study, Pearson analysis is used for correlation analysis of the above variables. Maker spirit is significantly positively correlated with knowledge sharing behavior ($r=0.203$, $p <0.01$). Maker spirit is an obviously positively correlated with innovative self-efficacy ($r=0.207$, $p <0.01$). Maker spirit is significantly positively correlated with innovation motivation ($r=0.255$, $p <0.01$). Knowledge sharing behavior is positively correlated with employee innovation performance ($r=0.180$, $p <0.01$). Innovation self-efficacy is significantly positively correlated with employee innovation performance ($r=0.238$, $p <0.01$). Innovation motivation is significantly positively correlated with employee innovation performance ($r=0.194$, $p <0.01$). Maker spirit is significantly positively correlated with employee innovation performance ($r=0.218$, $p <0.01$).

5.3 Hypothesis Testing

(1) Main effect testing

This study used multiple linear regression to test the effects of maker spirit, knowledge sharing behavior, innovation self-efficacy, and innovation motivation on employee innovation performance. As shown in Table 2, M1 tests the influence of control variables on employee innovation performance. M2 tests that maker spirit has a significant positive impact on employee innovation performance ($\beta =0.214$, $P <0.001$), and H11 is verified. M3 tested that knowledge sharing behavior had a significant positive impact on employee innovation performance ($\beta =0.163$, $P <0.001$), and H15 was verified. M4 tests that innovative self-efficacy has a significant positive impact on employee innovation performance ($\beta =0.221$, $P <0.001$), and H16 is verified. M5 tests that innovation motivation has a significant positive impact on employee innovation performance ($\beta =0.196$, $P <0.001$), and H17 is verified.

Table 2 the Analysis Of Main Effects of Maker Spirit, Knowledge Sharing Behavior, Innovation Self-Efficacy and Innovation Motivation on Employee Innovation Performance

Variable	dependent variable: employee innovation performance				
	M1	M2	M3	M4	M5
constant variable	4.043***	3.137***	3.408***	3.142***	3.309***
control variable					
gender	-0.032	-0.013	-0.039	-0.023	-0.041
age	0.009	0.011	0.005	0.005	0.009
Educational background	-0.037	-0.024	-0.027	-0.033	-0.032
working years	-0.015	-0.012	-0.012	-0.001	-0.020
independent variable					
maker spirit		0.214***			

knowledge sharing behavior			0.163***		
innovation self-efficacy				0.221***	
innovation motivation					0.196***
R ²	0.005	0.05	0.036	0.060	0.043
modified R ²	-0.005	0.038	0.024	0.048	0.032
ΔR ²	0.005	0.045	0.031	0.055	0.038
F	0.521	4.356***	3.089**	5.265***	3.741**
ΔF	0.521	19.603***	13.298***	24.121***	16.541***

Note: *p<0.05, **p<0.01, ***p<0.001.

(2) Mediating effect testing

M6 tests the influence of control variables on knowledge sharing behavior, and M7 tests that maker spirit has a significant positive influence on knowledge sharing behavior ($\beta = 0.217$, $P < 0.001$). H2 is supported. M8 tests the influence of control variables on innovative self-efficacy; M9 tests that maker spirit has a significant positive influence on innovative self-efficacy ($\beta = 0.217$, $P < 0.001$); H3 is supported. M10 tests the influence of control variables on innovation motivation, M11 tests that maker spirit has a significant positive influence on innovation motivation ($\beta = 0.260$, $P < 0.001$). Hypothesis H4 is supported.

M12 tests that maker spirit still has a significant positive impact on employee innovation performance ($\beta = 0.134$, $P < 0.01$), but it is significantly lower than M2 ($\beta = 0.214$, $P < 0.001$). Knowledge sharing behavior, innovation self-efficacy and innovation motivation had significant positive effects on innovation performance (β knowledge sharing behavior = 0.101, $P < 0.05$; β innovation self-efficacy = 0.157, $P < 0.01$; β innovation motivation = 0.129, $P < 0.05$).

Table 3 Regression Analysis On the Mediating Effect of Knowledge Sharing Behavior, Innovation Self-Efficacy and Innovation Motivation

Variable	knowledge sharing behavior		innovation self-efficacy		innovation motivation		employee innovation performance		
	M6	M7	M8	M9	M10	M11	M1	M2	M12
control variable									
gender	0.041	0.061	-0.039	-0.020	0.047	0.071	-0.032	-0.013	-0.022
Age	0.026	0.028	0.021	0.023	0.003	0.006	0.009	0.011	0.005
educational background	-0.063	-0.049	-0.021	-0.007	-0.025	-0.008	-0.037	-0.024	-0.017
working years	-0.017	-0.015	-0.062	-0.060	0.029	0.032	-0.015	-0.012	-0.005
independent variables									
maker spirit		0.217***		0.217***		0.260***		0.214***	0.134***
knowledge sharing behavior									0.101*
innovation self-efficacy									0.157**
innovation motivation									0.129*
R ²	0.011	0.050	0.015	0.055	0.006	0.072	0.005	0.05	0.108
modified R ²	0.001	0.039	0.005	0.044	-0.004	0.061	-0.005	0.038	0.091
ΔR ²	0.011	0.039	0.015	0.041	0.006	0.066	0.521	0.045	0.103
F	1.158	4.413***	1.538	4.839***	0.608	6.454***	0.005	4.356***	6.264***
ΔF	1.158	17.252***	1.538	17.794***	0.608	29.671***	0.521	19.603***	11.952***

Note: *p<0.05, **p<0.01, ***p<0.001.

6. Conclusion

6.1 Research Conclusion

This study draws on the existing literature on maker spirit, employee innovation performance

and related intermediary variables, and constructs a theoretical model of maker spirit and employee innovation performance. The empirical test draws the following conclusions:

Maker spirit has a positive impact on employee innovation performance. The maker spirit can stimulate the innovation potential of the innovation subject, promote the increase of employees' productivity, and thus improve the innovation performance of employees. The more obvious the employee's spirit of sharing, innovation, and practice, the higher the innovation performance of employees. At the same time, the three mechanisms of knowledge sharing behavior, innovative self-efficacy, and innovation motivation play a part of the intermediary mechanism between the maker spirit and employee innovation performance. Among them, the role of innovative self-efficacy is the most obvious. The maker spirit can encourage employees to work. Actively practice and innovate, improve one's own creativity, and actively look for new working methods, so that employees can have a higher evaluation of themselves, thereby enhancing their own sense of self-efficacy in innovation. Therefore, the maker spirit plays a more significant role in the innovation performance of employees under the action of the three mechanisms.

6.2 Theoretical Contribution

First of all, this article is based on entrepreneurial spirit of innovation performance research, scholars research on and the guest, try to combine the existing research, by analyzing existing and the concept of the spirit, a guest, put forward a clear definition to a guest spirit, overcome the research concept in the broad, observation, improve their dynamic capability of rigor and systemic, and promote the development of quantitative research. Secondly, this paper finds that maker spirit positively affects employee innovation performance. Knowledge sharing behavior, innovation self-efficacy and innovation motivation play a partial mediating role in the relationship between maker spirit and employee innovation performance.

6.3 Practical Value

First of all, this article finds that the maker spirit has a positive impact on employee innovation performance. Therefore, in order to improve the innovation performance of employees, companies should focus on cultivating employees' Maker spirit. Secondly, this article finds that the maker spirit can have a positive impact on employee innovation performance through knowledge sharing behavior, innovative self-efficacy, and innovation motivation. Therefore, it is suggested that companies should devote themselves to building a good knowledge sharing platform and mechanism, encouraging the exchange and sharing of knowledge among employees, and enhancing the innovation performance of employees. Therefore, it is suggested that enterprise managers should build a complete innovation performance feedback system, and affirm employees through positive information feedback, thereby enhancing employees' sense of innovation self-efficacy and inspiring employees' innovation performance. Therefore, it is recommended that enterprise managers implement effective incentive measures to effectively transform employees' innovation motivation into employees' innovative behavior and performance.

6.4 Lack of Research

As a result of the limitation of the time and ability, this study has certain defects, and put forward relevant future research direction for defects as follows: first, because of the limitation of some objective factors, such as questionnaire covered samples, questionnaire on narrow distribution and measurement of strong subjectivity, so to some extent, the impact on the accuracy of the conclusion. Therefore, in the future research, more efforts should be made in the aspects of sample collection and use as well as the distribution time. Secondly, there may be defects in the randomness of sampling, such as contingency and randomness, which will reduce the representativeness of the selected samples to a certain extent. Therefore, in the future research, more precision and efforts should be made in sample representativeness.

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