



The Perceived Risk, Creativity Mechanism, Innovation Performance and Organizational Performance of Factoring Companies

Heng Guo(✉)

School of Business, Macau University of Science and Technology, Macau, China
guoheng_jj@163.com

Abstract. Innovation performance and organizational performance are the fundamental topics in corporate governance. An enterprise with the sound mechanism of innovation performance and organizational performance is poised for increased profitability, boosted organizational competitiveness, sustainable development and governance. However, creativity could also entail enormous risks. A robust risk management has then emerged as the essential element in the management and operation of factoring companies where innovation is hailed as one of its key drivers.

The study explores the relationship between perceived risk, creativity mechanism, innovation performance and organizational performance by using hundreds of members of the Shanghai Commercial Factoring Association, or SCFA, as the research object. The empirical analysis shows that perceived risk has a significant impact on creativity mechanism, creativity mechanism has a significant impact on innovation performance, perceived risk has a significant impact on innovation performance, and innovation performance has a significant impact on organizational performance. Tests of the mediation effect show that innovation performance has a mediating effect on creativity mechanism and organizational performance, while innovation performance has a mediating effect on perceived risk and organizational performance.

Based on the above results, this study puts forward five suggestions for the factoring industry and SCFA management body: Enhance the capability of risk perception; Encourage a culture of innovation in the management of factoring companies; Put emphasis on the impact of innovation mechanism on organizational performance; Establish an organizational environment for the appraisal of innovativeness; Improve management skills and eliminate a labor surplus.

Keywords: perceived risk · creativity mechanism · innovation performance · organizational performance of factoring companies

1 Introduction

Within a highly competitive environment, it has become crucial for factoring companies to continually launch their new products, services, and innovations, endowing themselves with more competitiveness through continuous innovation. The advancement of

internationalization leads to the opening of the financial industry and the gradual deregulation of financial controls and thus facilitates the introduction of new financial products and service models from foreign factoring companies, which will set new challenges for the factoring industry. Given the pressure of competition, the factoring industry, centering on innovation, has successively introduced a variety of differentiated products and services to satisfy the requirements of customers, and innovation has become an important indicator of the development of the factoring industry.

For a financial company, the formation of innovation culture includes creativity, innovation mechanism, and entrepreneurial spirit, among which creativity serves as an important indicator of learning effectiveness and the basis of innovation knowledge while innovation concretizes creativity. Managerial staff in factoring companies play an important role in innovation who influence the innovation performance and organizational performance of the factoring industry. However, huge risks and vacuum in management also accompany the rapid innovation of factoring products. The consecutive “breakdown” of multiple financial institutions/products in 2018 once caused great losses to both investors and the financial industry, triggering panic among customers. Thus, investors began to question the innovation of the financial industry and continued to question the relationship between innovation and risk.

However, the financial industry exists as a process of financial industry innovation as well as the improvement of the financial industry itself. Without the innovation in the financial industry, there would be no thorough financial market system today. The key question is how to prevent the crisis of financial innovation products from transforming into one in the entire financial system. As risk is a factor that must be considered for the development of the factoring industry, it is imperative to enhance customers’ trust through management and control of perceived risk if customers’ confidence is doomed to be increased through risk management and control.

Perceived risk, with an important role in the development of the factoring industry, has been found rarely mentioned in the previous research on innovation and performance of the factoring industry, that is, how perceived risk would influence organizational performance. Uncertainty, however, is an important factor in the financial industry (Millken, 1987), and its definition is different, which can be roughly divided into two aspects: environmental status and individual perception. While many scholars pointed out that measuring uncertainty by subjective perception proves to be more effective than objective indicators (Miles and Snow, 1978; Hitting, Ireland and Palia, 1982). It can also be found from the actual business activities that the decision-making process and results, in addition to be affected by objective facts and the environment, is also under the influence of the thinking and perception of the managerial decision-makers themselves (Hong, 1997; Xu, 1990). But researches on connecting the uncertainty of subjective cognition and innovation remain insufficient. This research will take the risk and uncertainty of decision-makers’ subjective perceptions as indicators of environmental uncertainty to measure, and explore the relationship between perceived risk and innovation performance in connection with innovation performance, and then explore the relationship between innovation performance and organizational performance.

2 Theoretical Background and Research Hypothesis

2.1 Perceived Risk and Creativity Mechanism

The concept of perceived risk was first put forward by Slovic (1987). It was through his research on finance that he found people's perceived risk to be an important factor influencing investors' purchase intention, investment behaviors and prospective earnings. Creativity promotes innovation while innovation concretizes creativity. The environmental uncertainty must be reduced to minimize the risk of innovation. To reduce the environmental uncertainty, it is imperative to organize information searching and sharing and learning. And the creativity mechanism refers to the efforts made by individuals or organization in developing, maintaining or enhancing creativity, which also includes the education and training to stimulate employees' creativity. Xie and An (2020) believed that the characteristics of innovation significantly affect consumers' willingness for purchase, which is achieved through consumers' perceived risk path; at the same time, individual innovation significantly weakens the negative impact of perceived risk on their willingness for purchase.

Research on the internal mechanism of creativity based on incentives at home and abroad is mainly manifested in the internal mechanism and boundary of individual or team creativity. The motivation or goal of an individual or team to participate in creative activities and the incentives of related behaviors will both affect the creativity of the individuals or a team. Khanna et al. (1998) pointed out that if an organization is to succeed and maintain a competitive advantage, it must constantly monitor events and trends in its environment to understand the degree of environmental uncertainty that affects the organization's operations. The uncertainty of information and the reliability of resources exist as the two main sources of changes in the industrial environment. Buchko (1994) believed that cognition plays an important role in judging the environmental uncertainty. Given the same objective environment, the difference in environmental uncertainty perceived by different managers would lead to different decisions. The higher the degree of uncertainty in the market and technology reaches, the higher the risk faced by product innovation solutions becomes. In order to reduce the perceived risk, information searching or other methods are then generally adopted to reduce uncertainty, thus idealizing the decision. Meyers and Wilemon (1989) regarded that the success of new products is based on the ability of the company's new product development teams to establish, store, and learn from each other. Learning-based innovation strategies include tasks like the collection, recording, review, filtering, and storage of information as well as the clarity and stability of the vision, the support of top management, and the review of old products (Lynn, 1998).

This research, based on the above summary, concludes that the perception ability of decision-makers and individuals has a significant impact on the formulation of creative activity mechanisms, while environmental uncertainty, including perceived risk, will interfere with decision-makers' decisions. If the environmental uncertainty in decision-making is to be reduced, information searching, sharing, and learning must be organized. And the creativity mechanism should include organizational activities such as education and training to stimulate employees' creativity.

The following hypothesis is proposed based on the above research: (1) Perceived risk has a significant impact on creativity mechanism.

2.2 Creativity Mechanism and Innovation Performance

Creativity represents the production of novel ideas, products, processes, or methods. The academia once proposed a five-stage model of creativity (Amabile, 1983), and has extended the research on creativity to the financial field. Lazarus (1984) believed that creativity refers to a series of novel, unique, and potentially valuable viewpoints raised by individuals or team members in an organizational situation, which serves as one of the important sources of innovation development. Ye Liang (2015) and other scholars discussed in depth the connotation and classification of creativity from two dimensions, namely the usefulness and novelty of creativity. Zhang (2020) confirmed in the research center that the dynamic innovation ability will promote the implementation effect of the company's innovation strategy, by which the company can obtain products with leading advantages, thereby gaining greater market share and product premiums with the constant improvement of financial performance. Dynamic innovation ability enables companies to respond to the impact of uncertainty factors more freely in the external environment. Continuous innovation ability enables companies to boast a competitive advantage in the market, enhance their core competitiveness, and obtain better and sustainable product premium effects with financial performance continuing to upgrade.

Several scholars including Woodman, Sawyer and Griffin (1993) put forward an interactive model of innovative behavior from personal perspectives, namely individual, team, environment and society. Among them, individual creativity stands as the prerequisite, including (individual learning knowledge, personality quality, style characteristics, motivation, and abilities), which respectively act on the society and team. For example, individual creativity affects individuals' innovation behaviors under the factor of social organizational background, thus contributing to the team; while team's innovative behaviors are under the influence of the team itself, such as composition, process, characteristics, the background related to the organization and other factors. That is to say, individual, team, environment and social activities are labelled as important factors affecting innovation behaviors in this model. Amabile (2001) proposed his own point of view from the perspective of internal motivation and external motivation and believed that internal motivation will be affected by external motivation from synergy. Different stages of motivation share different needs and influences. For example, the generation of external motivation can prompt individuals to devote more to their work, the devotion degree of which will also affect internal motivation. The time when internal motivation forms is of great significance, leading to the difference in results at the stage of problem formation or idea generation. If within the stage of actual application, external motivation will affect the actual operation process. Specifically speaking, a favorable one facilitates the operation process.

Situ Daxian (1985) believed that the organization's innovative atmosphere is of great significance to the formation of its innovative operation philosophy and company culture. Therefore, he suggested that innovation should be actively encouraged within the organization and suggestions collected, only through which creativity can be better formed. Porter (1980) pointed out that differences remain in the innovation environment

of different types of companies and different nature of companies, varying the degree of influence on organizational innovation performance. Therefore, the formation of a company's competitiveness necessitates a suitable creativity working environment. Some scholars even proposed that the factor of organizational mechanism would stimulate the performance of both organizational and individual creative behaviors (Bharadwaj and Menon, 2000). The positive effect of creativity mechanism on performance was also indicted in Liang and Gu (2016)'s research on the impact of innovative cultural perception on internal motivation and creativity.

The following hypothesis is proposed based on the above research: (2) Creativity mechanism has a significant impact on innovation performance.

2.3 Perceived Risk and Innovation Performance

The diffusion of innovation theory divides the factors that affect the success of product diffusion into product factors and consumer factors. Consumer factors mainly refer to the differences in individual innovation of consumers. When choosing new products, customers tend to encounter different risks resulted from information asymmetry and other reasons, and the perception towards risks differ in different types of consumers.

Hauser and Toubia (2005) defined consumers' individual innovation as the possibility that consumers tend to adopt new products. As perceived risk in the early stage is an important factor in consumers' purchase decisions, its initial origin and subsequent research are mostly applied at the sales level, emphasizing the influence of consumers' subjective perceptions on decision-making. However, if it is used at the organizational level to explore the organization's subjective perception when making decisions, it is essentially similar to the perception of environmental uncertainty. And to explore the impact of perception and cognition on decision-making is only to analyze the differences in units. The past researches have witnessed most scholars regarding risk uncertainty as a similar concept (Wu, 1998) with individual perception adopted to measure environmental uncertainty. However, in the practice field, organizations share a higher acceptability towards risk. Therefore, perceived risk is introduced in this research as the degree of change in the organization's perception of environmental variables.

The dilemma faced by the innovation uncertainty may be the error in consumer demand prediction at the initial stage, or the wrong estimation of technology, the problem of supplying components, or the misunderstanding between personnel with different functions, or the misjudgment of competitive situation, or insufficient liquidity of financial turnover. All of these could trigger disorder in the innovation system, leading to serious delays in the expected cycle time, rising costs, unstable quality, and even failure of innovation. It has been found through previous researches that the stronger the individual innovation of consumers is, the more willing consumers are to accept new things and the changes brought by. Consumers with high individual innovation boast obvious risk tendencies and preferences. Highly innovative consumers, when choosing consumption, prove to be less susceptible to perceived risk and more likely to accept new products, who would establish themselves as the pioneers in new product consumption with their contribution to weakening the impact of perceived risk on innovation resistance.

The following hypothesis is proposed based on the above research: (3) Perceived risk has a significant impact on innovation performance.

2.4 Perceived Risk, Creativity Mechanism and Innovation Performance

The results brought by innovation are uncertain. Perceived risk comes from the uncertainty of the individuals' choices, worrying that their choice may bring potential negative effects (Laforet, 2010). The innovation uncertainty is just intertwined in the attributes of innovation. Consumers' perceived risk is triggered by the uncertainty contained in the characteristics of innovation, which in turn affects consumers' willingness to adopt. At the same time, the innovation openness can also speed up the flow of innovation resources and promote the effective circulation of internal and external resources, thereby enhancing companies' innovation performance (Miotti et al. 2015). For example, a high-performance work system proves to be effective in enhancing employees' internal perception and increase their willingness to "immerse" in work with more time and energy devoted, thereby facilitating the generation of new ideas and new solutions, strengthening employees' work motivation and inspiring their creativity.

According to the argument of the resource-based viewpoint, if organizations want to maintain long-term and sustainable competitive advantages, they must identify, clarify, cultivate, and develop their unique resources, think from the perspective within the organization, make continuous improvement, and respond to changes in the external environment with its own operating conditions considered. Scholar Huang Yancong (2002) believed that as long as the strategic problem is analyzed from the perspective of company resources, the core point of this theory can be used for analysis.

Therefore, according to the resource-based viewpoint, the construction and accumulation of an organization's core resources presents to be an important subject for decision-makers (Wu, 2000). A successful organization, if to maintain its leading position, must make it imperative to develop and sustain a high degree of innovation within the organization (Robbins, 2003), under which the creativity mechanism plays an important role in inspiring employees' creativity (McNamee, 2004). The creativity mechanism can arouse employees' and organizations' emphasis and demand through the process of influencing employees, so that employees and organizations can actively promote creativity to achieve the goal of creativity. If the company has confirmed that long-term competitive advantages can be obtained from the generation of creativity, then it, in order to achieve the goal, will set up an internal mechanism conducive to creativity through the process of resource utilization and allocation. Such an internal mechanism should either encourage employees to engage in individual creativity or stimulate organizational creativity mechanism, facilitating the discovery of organizational resources and the utilization of core capabilities.

With the advent of the era of internationalization and globalization, what the modern companies faced is an uncertain era. The only constant thing within this environment is "change", calling for a management thinking in this uncertain era. Innovation, itself, is full of uncertainty. As unpredictable changes in the future success rate, market acceptance, return on investment may occur, the influence of environmental uncertainty on companies' strategies is highlighted. A company's decision-making and response are usually based on the environment that the managers perceive. Focused on perception, this situation theory defines the basis of management actions as perception and feeling toward the environment and risks. Milliken (1987) also pointed out that environmental

uncertainty exerts a considerable impact on the strategic planning process, and different perceived risks will affect its environmental analysis and strategy formation.

In summary, it is believed in this research that innovation strategies are affected by the interaction between objectivity (resource-based—creativity mechanism) and subjectivity (external environment—perceived risk), that is, the result of the combination of these two will influence the progress of innovation strategies, which in turn affects innovation performance.

The following hypothesis is proposed based on the above research: (4) Innovation performance has a significant impact on organizational performance; (5) Innovation performance shares a mediating effect between creativity mechanism and organizational performance.

2.5 Innovation Performance, Perceived Risk and Organizational Performance

Cui Ying (2020) believed exploitative innovation to be an innovative method in dual innovation. When the strategy of this innovative method is implemented in an organization, the organization will improve its existing products or services according to the changing demands of the market environment, and develop innovation on the basis of maintaining the original market to improve innovation performance. While with the further improvement of innovation performance, the structural environment within the organization will also adapt to changes accordingly. The finiteness of organizational resources determines the closeness of each element in the organization, and if one is involved, the whole is affected. At this time, corresponding adjustments will also be made in the high-performance work system, that is, the exploitative innovation affects the high-performance work system through its impact on innovation performance.

Innovation has yielded many benefits to organizations, and the impact of innovation on organizational performance has been confirmed by many scholars. For example, innovation saves costs for companies, innovation boosts organizational morale, innovation increases work efficiency of organizations, and innovation improves core capabilities of companies, all of which exert a great influence on organizational performance. Therefore, many organizations regard innovation as an important rule for adapting to market changes, surpassing competitors, and improving company performance. Company innovation capability serves as a key element to promote China's economy to transform from high-speed growth to high-quality improvement. And its role in promoting innovation performance can be mainly reflected in the following two aspects; the first one is to increase R&D investment, and companies boasting stronger innovation capability prove to be more willing to increase innovation input; while the second one is to directly produce innovation results (Li et al., 2013), companies boasting stronger innovation capability also prove to possess more patented technologies, making it more possible to promote innovation performance. The stronger the basic innovation capabilities are, the more beneficial it is to fundamentally promote the improvement of company innovation quality; the stronger the technological innovation capabilities are, the more new products and higher market innovation performance will be, which directly manifests as the greater number of company innovations.

In the field of strategic human resources management, the relationship between company innovation performance and high-performance work systems has always been a

research hotspot in the academia. Cui Ying (2020) believed that when the innovation performance of a company is improved, it will inevitably be reflected in the improvement of the financial performance of the enterprise, and problems are likely to occur according to the original balanced resource allocation mechanism. Therefore, the high-performance work system of the original organization should adjust along with the innovation performance to adapt to this new balance and improve the original high-performance work system.

With the influence of organizational innovation on organizational performance, most of the results obtained in the field of researches on organizational innovation indicate that better organizational performance will be generated by innovation in no matter what kind of industry. For example, Damanpour and Evan (1984) researched on the public library to explore how the coordination between management innovation and technological innovation would influence organizational performance. And it turned out that under normal circumstances, the organizations conducting both technological and management innovation boast higher organizational performance than those only conducting technological innovation. Bessant Caffyn and Gilbert (1996) found that organizational performance could be increased through learning, independent creation and thinking. Kim and Mauborgne (1997) pointed out that innovation means differentiating the value line of a bank company from that of its competitors in order to strive for higher competitiveness in a homogeneous market and increase organizational performance. Scholar Hurley and Hult (1998) believed that only when a company is equipped with the ability to innovate, can it develop a competitive advantage and thus achieve a higher level of performance. Han et al. (1998) verified that both technological innovation and management innovation have a direct and positive impact on organizational performance. Scholars including Yamin, Gunasekaran and Mavondo (1999) have found, in the discussion of the relationship between innovation indicators and performance, that the management innovation, technological innovation and product innovation of organizations are all positively correlated with performance. Moreover, organizational performance is under the influence of different aspects of innovation. For example, organizations, through technological innovation, can improve or upgrade the original technology, and finally reduce the cost of the organization's products. Jiang Zhengxin (2000) also demonstrated that the organizational learning tendency of companies shares a positive and significant relationship with company innovation, and company innovation capabilities have a positive and significant relationship with organizational performance.

Gopalakrishnan (2000) regarded the main purpose of company innovation to be improving the efficiency of the work within the organization or the achievement of goals, thereby improving or enhancing organizational performance. It is in his research with commercial bank as the example that innovation is divided into two dimensions, namely innovation speed and innovation intensity, the impact of which on organizational performance is further explored. In terms of innovation speed, it is believed in the research that the market share can be obtained faster with faster innovation speed, which in turn increases the company's revenue and earnings and enables product innovation to access a larger and attractive market, thus affecting financial performance. However, as an organization adopts innovation more quickly than other competitors, fewer available consultations lead to uncertainty, making the issues related to innovation also uncertain.

Meanwhile, it is found that employees fail to possess a strong perceptual effectiveness of innovation speed. While in terms of innovation intensity, a high degree of innovation intensity demands a large number of new products, procedures and implementations. However, these innovations may be just to fight against competitors rather than to meet the development needs of the organization. At the same time, as innovation is not completely related to financial performance, the intensity of innovation does not necessarily have an impact on financial performance. And employees' preference to innovative activities come from their ideas, so employees share a positive evaluation on the effectiveness of organizational innovative activities, and they also believe that more innovations will make the organization better. Therefore, a high degree of innovation intensity will give effect to employees' perceptions. The research results indicate that innovation intensity can increase the perceptual effectiveness of execution, but cannot directly increase financial performance.

The significant correlation between innovation and organizational performance has also been proved in early researches. For example, Hagedoorn and Cloodt (2003) once conducted research on more than 1,200 international companies, using research funding, number of patents, and investment in new products as innovation variables to study the impact on organizational performance, the results of which were significant and positive. Agarwal et al. (2003) verified the positive impact innovation on organizational performance. Bare and Frese (2003) believed that process innovation can enhance the achievement of organizational goals, and product innovation gains easier access to a larger and attractive market. Lee and Choi (2003) took middle and senior managers as the research object and manufacturing, service, and financial industries as the main industries to prove organizational innovation's positive impact on organizational performance.

It can be found from summarizing the above-mentioned researches that organizational innovation can be used to save costs, increase organizational efficiency, boost employees' morale, strengthen the core capabilities of companies, gain easier access to the market, improve organizational coordination, and differentiate the company from competitors and also further promote organizational performance such as marketing effectiveness, asset management, operational efficiency and financial performance. And it can also be seen from these researches that organizational innovation serves as an important factor affecting organizational performance. Because the meaning of organizational innovation can endow the organization with more competitiveness in the market; the formation of organizational innovation can further facilitate organizational performance. Therefore, this research believes that a correlation exists between organizational innovation performance and organizational performance.

The following hypothesis is proposed based on the above research: (6) Innovation performance shares a mediating effect between perceived risk and organizational performance.

In summary of the six above-mentioned theoretical hypotheses, a mediation model has been constructed in this paper. (Displayed as Fig. 1).

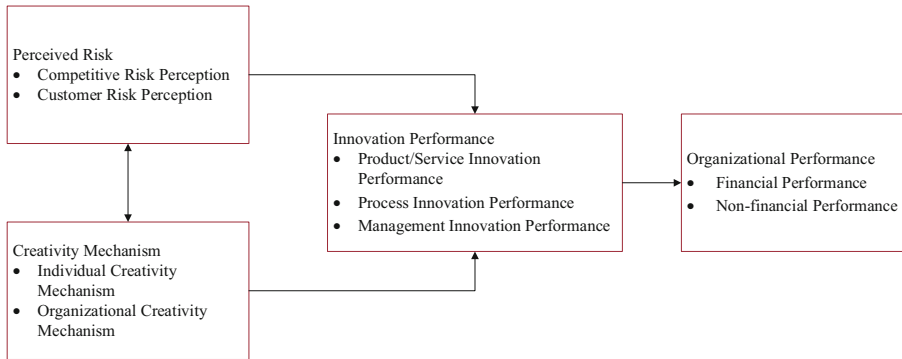


Fig. 1. Theoretical Model Diagram

3 Research Method

3.1 Study Sample

The sample of this study were collected from a random survey of 332 enterprises of Shanghai Factoring Co. Ltd. in 2019. The first stage was the pre-test of the questionnaire, with a total of 16 copies distributed. 15 valid questionnaires were collected. Through the results of the pre-test questionnaire, the questionnaire was adjusted and supplemented, so as to obtain the best factor structure, and finally form a formal questionnaire. The second stage was the formal distribution stage of the questionnaires. A total of 326 questionnaires were distributed. After questionnaire matching and invalid questionnaire processing, 280 questionnaires were finally collected. 261 of them were valid, and the valid rate was 80.06%, of which 42.2% were men and 57.8% were women. In terms of education level, master's degree or above accounted for 25.2%; bachelor's degree accounted for 74.4%; and junior college education or below accounted for 0.7%.

3.2 Questionnaire Distributing

Measuring Tools

The questionnaire of this study is designed on the basis of sorting out relevant scholars' literature. The questionnaire is divided into four parts: perceived risk, creativity mechanism, innovation performance and organizational performance, in which innovation performance is used as an intermediary variable. In addition to basic data, the above were measured by the 7-point scale of Likert scale. According to the current situation of the company and the description of each item, "1" given by the respondents means "strongly disagree" and "7" means "strongly agree".

1. Perceived risk: the perceived risk scale is revised and prepared based on the previous scale of Cox and Cunningham (1967). In this study, perceived risk is defined as the uncertainty and influence of personal subjective feeling on the expected results, or the possibility and influence of the expected loss. The scale includes two dimensions and 13 items: 7 items of competitive risk and 6 items of customer risk. The coefficients of Cronbach's α are 0.855/0.905 respectively.

2. Creativity mechanism: the creativity mechanism scale was revised based on the previous scale of Bharadwaj and Menon (2000). This study defines creativity as meaningful innovative behaviors that can promote the development of organizations and individuals through various activities taken by organizations or individuals with external environmental mechanisms. The scale includes two dimensions and 17 items: 5 items of personal creativity mechanism and 12 items of organizational creativity mechanism. The coefficients of Cronbach's α are 0.88/0.943 respectively.

3. Innovation performance: the entrepreneurial performance scale was revised and compiled based on the previous scale of Liu Changyong (2002). In this paper, innovation performance is defined as the effectiveness of the organization's operation in various fields, and the performance goal that can be achieved through product service innovation, process innovation and management innovation to finally create a competitive advantage for the organization. The scale includes three dimensions and 28 items: 6 items of product/service innovation performance, 8 items of process innovation performance, 14 items of management innovation performance. The coefficients of Cronbach's α are 0.89/0.93/0.947 respectively.

4. Organizational performance: the entrepreneurial performance scale was revised and compiled based on the previous scale of Nisha (2017). This paper defines the organizational performance of the factoring company as that the factoring company uses financial indicators and non-financial indicators to measure the goal completion rate of the factoring company itself, and makes the factoring company's competitiveness and business performance achieve the enterprise strategic goal by evaluating the resource utilization degree and ability improvement effect of the factoring company. The scale includes two dimensions and 13 items: 8 items of non-financial performance and 5 items of financial performance. The coefficients of Cronbach's α are 0.894/0.11 respectively.

The scale is a mature questionnaire, which has high credibility in previous studies. This paper adopts a quantitative method for research and analysis, which needs to use reliability and validity measurement tools. Cronbach's Alpha reliability coefficient is used for reliability analysis to check the consistency of each research variable in each measurement item in this research questionnaire. To have good reliability, Cronbach's alpha coefficient must be greater than 0.7. The Cronbach values of all factors in this study are greater than the acceptable standard of 0.7, indicating that all variables and factors have good internal consistency reliability, which can be used for the analysis of this study. The standard of CITC value > 0.5 shows that the measurement items meet the basic requirements of this study.

4 Data Analysis

4.1 Correlation Analysis

In this study, a more rigorous AVE method was used to evaluate the differential validity. Fornell and Larcker (1981) believed that the open root of AVE of each factor must be greater than the correlation coefficient of each paired variable, indicating that there is differential validity between the factors. The open root of AVE of each factor is greater than the standardized correlation coefficient outside the diagonal. Therefore, this study

Table 1. Correlation Analysis

	Perceived risk	Creativity mechanism	Innovation performance	Organizational performance
Perceived risk	1			
Creativity mechanism	.298**	1		
Innovation performance	.515**	.553**	1	
Organizational performance	.321**	.220**	.283**	1

Note: **, P < 0.01

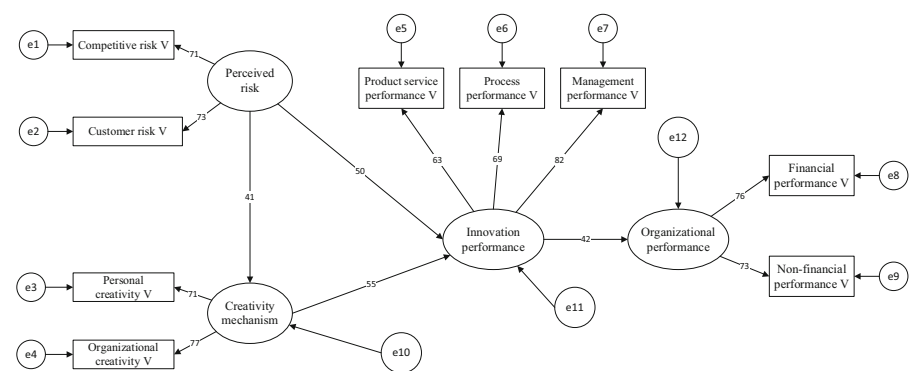


Fig. 2. SEM Model

still has differential validity. The oblique lower triangle is the correlation coefficient. See Table 1 for details.

4.2 Model Test

Using AMOS23.0 to perform the calculation, the SEM model diagram in Fig. 2 and the model fitting test in Table 2 are obtained.

(1) Model Fitting Test

It can be seen from the above table that CMIN/DF is 1.841, less than 3. AGFI, GFI, NFI, TLI, IFI and CFI all meet the standards of more than 0.9. SRMR is 0.04, less than 0.08. RMSEA is 0.053, less than 0.08. All fitting indexes meet the general research standards. Therefore, it can be considered that this model has a good fitting degree.

Table 2. Model Fitting Test Results

Model fitting pointer	Optimal standard value	Statistical value	Fitting situation
CMIN	_____	42.334	_____
DF	_____	23	_____
CMIN/DF	<3	1.841	Meet the standards
SRMR	<0.08	0.040	Meet the standards
GFI	>0.8	0.968	Meet the standards
AGFI	>0.8	0.937	Meet the standards
NFI	>0.9	0.948	Meet the standards
IFI	>0.9	0.976	Meet the standards
TLI	>0.9	0.961	Meet the standards
CFI	>0.9	0.975	Meet the standards
RMSEA	<0.08	0.053	Meet the standards

Table 3. Path Coefficient

Path			Standardization coefficient	Non-standardized coefficient	S.E.	C.R.	P	Hypothesis
Creativity mechanism	<---	Perceived risk	0.411	0.448	0.098	4.57	***	Valid
Innovation performance	< ---	Perceived risk	0.5	0.486	0.085	5.7	***	Valid
Innovation performance	< ---	Creativity mechanism	0.548	0.487	0.079	6.187	***	Valid
Organizational performance	< ---	Innovation performance	0.422	0.513	0.104	4.937	***	Valid

4.3 Hypothesis Test

(1) Direct Hypothesis Effect Test

After testing, the results are shown in Table 3:

H1: Perceived risk has a significant positive impact on creativity mechanism ($\beta = 0.411$, $p < 0.05$); the hypothesis test results are valid;

H2: Perceived risk has a significant positive impact on innovation performance ($\beta = 0.5$, $p < 0.05$); the hypothesis test results are valid;

H3: Creativity mechanism has a significant positive impact on innovation performance ($\beta = 0.548$, $p < 0.05$); the hypothesis test results are valid;

H4: Innovation performance has a significant positive impact on organizational performance ($\beta = 0.422$, $p < 0.05$). The hypothesis test results were valid.

(2) Mediating effect test

Table 4. Intermediary Indirect Effects

Path	Indirect effect value	Bias-Corrected		Percentile	
		95% CI		95% CI	
		Lower	Upper	Lower	Upper
Perceived risk – innovation performance – organizational performance	0.306	0.166	0.499	0.156	0.479
Creativity mechanism – innovation performance – organizational performance	0.231	0.128	0.386	0.117	0.363

After the test by AMOS23.0 software, the results are shown in Table 4. This study uses Bootstrapping method (using Bootstrap method to run 5,000 times to obtain the level values of Bias-Corrected and Percentile with 95% confidence) to verify the mediation effect. The test results show that if the Bootstrap confidence interval does not contain 0, the corresponding indirect effect exists.

It can be concluded from Table 4 that the indirect effect value of perceived risk on organizational performance through innovation performance is 0.306, which does not include 0 in the Lower and Upper value ranges of Bias-Corrected and Percentile 95% CI, indicating the presence of indirect effect. The indirect effect value of creativity mechanism on organizational performance through innovation performance is 0.231, which does not include 0 in the Lower and Upper value ranges of Bias-Corrected and Percentile 95% CI, indicating the presence of indirect effect. This shows that perceived risk directly affects the organizational performance of the factoring company through innovation performance. At the same time, creativity mechanism directly affects the organizational performance of the factoring company through innovative performance.

5 Conclusion

The purpose of this study is to analyze the relationship between perceived risk, creativity mechanism, innovation performance and organizational performance, as well as understand the relationship between perceived risk and creativity mechanism, and the impact of perceived risk on creativity and innovation performance. At the same time, it is hoped that by paying attention to the impact of perceived risk and creativity of the factoring industry on organizational performance, we can understand how to strengthen the perception of competitive risk and customer risk of the managers of the factoring company, and actively improve the creativity mechanism, so as to overcome the deficiencies in products, services and processes of the factoring industry and to improve the innovation performance of the factoring industry as a whole, and further better the organization's sorting performance. This study focuses on the above problems, carries out point-line combination and in-depth analysis for the above problems, and draws the following conclusions:

Hypothesis 1: Through analysis, this study has confirmed that perceived risk has a significant impact on the mechanism of creativity. This also fully shows that the competitive risk and customer risk of the organization will interfere with the creativity of the organization and individuals. To solve this problem, factoring industry organizations need to actively collect and share internal information (including customers' demands, characteristics, preference for risk, moral hazard, market situation, etc.), and create a better learning space for the development of innovation mechanism of factoring industry organizations by establishing a learning atmosphere, including participating in internal exchanges, participating in innovation proposals, providing effective resources, etc.

Hypothesis 2: This study confirms that the formation of innovation mechanism in an organization has a significant impact on organizational innovation performance. Therefore, employees in the organization should be encouraged to participate in the enterprise's innovation culture. At the same time, it is suggested that the organization should improve the competitiveness of the enterprise through the establishment of creativity mechanism, so as to significantly facilitate the innovation performance of the enterprise in the creation of new products and services, market introduction, thus improving the product quality of the factoring industry and improving the organizational process of the factoring industry. Through the analysis of this study, the individual and organizational creativity mechanism in the organization has a significant impact on innovation performance, including product and service innovation, process innovation and management innovation.

Hypothesis 3: Perceived risk has a significant impact on innovation performance. The dilemma faced by the uncertainty of innovation will bring errors to consumers' demand in the short term. At the same time, perceived risk is an important factor in consumers' purchasing decision, such as wrong estimation of technology, misunderstanding among personnel, misjudgment between competitive situations, or insufficient liquidity of financial turnover. These competitive risk perception and customers' risk perception will affect the deficiency of the innovation system, resulting in the provision of products or services by the factoring industry, such as periodic delay, rising cost, unstable quality, and even affect the innovation performance. Therefore, it is suggested that the factoring industry should do a good job in market prediction, process control, environmental change and customer perception before making business development decisions. Only in this way can we better promote the improvement of innovation performance.

Hypothesis 4: Innovation performance has a significant impact on organizational performance.

Innovation can improve organizational performance, which has been confirmed by many scholars. This study also found that innovation performance has a significant impact on organizational performance. Therefore, it is suggested that in order to improve the organizational performance of the factoring industry, the factoring industry must improve in different aspects such as products and services, process innovation and management innovation, so as to improve the organizational performance of the factoring industry in terms of marketing effectiveness, asset management, operation efficiency and financial performance, thus creating conditions for the organization to further enhance its market competitiveness.

Hypothesis 5: innovation performance has a mediating effect between creativity mechanism and organizational performance, and innovation performance has a mediating effect between perceived risk and organizational performance.

This study found that the creativity mechanism mainly plays a role of both individual creativity mechanism and organizational creativity mechanism to better promote the improvement and promotion of organizational performance. At the same time, the improvement of organizational performance must require the factoring company to fully respond to organizational changes, to consider the organizations' perception of competitive risk and customers' risk in the external environment, such as the competitor's target market, changes in the technological environment, the competitor's innovation capability, the allocation of resources among factoring companies and customers' demands, preferences, characteristics, risks and other aspects in order to better improve the performance of the factoring industry.

At the same time, as an innovation performance, in order to solve the perceived risk, the factoring industry must put forward new products or services, launch diversified products to attract different customers, or develop perfect and timely services or processes, so as to eliminate the problem of customers' perceived risk to the factoring industry. This study also proposes that innovation strategies are affected by the interaction of the objective and the subjective, that is, resource basis – creativity mechanism, external environment – perceived risk, and then affect organizational innovation performance. When analyzing the samples of factoring industry in Shanghai, it is found that innovation performance has an intermediary effect in creativity mechanism and organizational performance, and innovation performance has an intermediary effect in perceived risk and organizational performance. This shows that the factoring industry in Shanghai, as a service-oriented organization, should do enough in all aspects of innovation performance in order to better promote the performance level of the factoring industry.

This paper also has some limitations and aspects to be further studied. Firstly, the scale types of state-owned factoring companies, private factoring companies and factoring companies are not distinguished respectively. Therefore, there may be deviations in the research results, which cannot effectively reflect the above problems in all factoring industries. It is suggested that in future research, we can expand the range of samples and optimize the distribution of samples, so that all variables are more uniform in distribution and that the results are more universal. Thirdly, in this paper, the mechanism of perceived risk and creativity plays an intermediary effect. Future research can continue to tap other potential intermediary variables, or integrate these intermediary variables into the same framework for testing, so as to further reveal the mechanism between innovation performance and organizational performance. Finally, this study only focuses on mediating conditions and does not involve other situational factors. Therefore, scholars should also investigate and explore the interaction of multiple situational factors in future research, so as to more comprehensively understand the problems in the operation of factoring industry.

References

- Buchko. "Conceptualization and Measurement of Environmental Uncertainty: As Assessment of the Miles and Snow Perceived Environmental Uncertainty Scale" [J]. *Academy of Management Journal*, 1994, Vol. 37, No. 2, pp. 410–425. doi: <https://doi.org/10.2307/256836>.
- Agarwalp, Farndalee. High-performance Work Systems and Creativity Implementation: The Role of Psychological Capital and Psychological Safety [J]. *Human Resource Management Journal*, 2017, 27(3): 440–458.
- Agarwal, A., Bird, S., Cozowicz, M., Hoang, L., Langford, J., Lee, S., Li, J., Melamed, D., Oshri, G., Ribas, O., Sen, S., and Slivkins, A. (2016). Making Contextual Decisions with Low Technical Debt [J]. *ArXiv*.
- Baer, M. and Frese, M. Innovation is not enough: Climates for Initiative and Psychological Safety, Process Innovations, and Firm Performance [J]. *Journal of Organizational Behavior*, 2003,24(1):45–68.
- Bessant, J., Caffyn, S., & Gilbert, J. Learning to Manage Innovation [J]. *Technology Analysis and Strategic Management*,1996, 8(1), 59–70.
- Bharadwaj, S., and A. Menon. Making innovation happen in organizations: Individual Creativity Mechanisms, Organizational Creativity Mechanisms or Both? [J]. *Journal of Product Innovation Management*, 2000,17 (6): 424–434.
- Cox, D. F. Risk Handling in Consumer Behavior-An Intensive Study of Two Cases, in Donald F. Cox (ED.), *Risk Taking and Information Handling in Consumer Behavior* [J]. *Boston: Harvard University Press*,1967,34–81.
- Cunningham, S.M. The major dimension of perceived risk, in Donald F.Cox(Ed.), *Risk taking and information handling in consumer behavior* [J]. *Boston: Harvard University Press*,1967, 82–108.
- Damanpour, F. and Evan,W.M. Organizational Innovation and Performance: The Problem of Organizational Lag [J]. *Administrative Science Quarterly*,1984,29: 392–409.
- Hagedoorn, John & Cloudt, Myriam. "Measuring innovative performance: is there an advantage in using multiple indicators?," [J]. *Research Policy*, Elsevier, 2003, 32(8), pages 1365–1379, September.
- Hauser J R, Toubia O. The Impact of Utility Balance and Endogeneity in Conjoint Analysis [J]. *Marketing Science*,2005, 36(4): 4–5.
- John R. Hauser & Olivier Toubia. "The Impact of Utility Balance and Endogeneity in Conjoint Analysis,"[J]. *Marketing Science*, INFORMS, 2005, 24(3), pages 498–507, August.
- Khanna T, Gulati R, Nohria N. The Dynamics of Learning Alliances: Competition, cooperation, and Relative Scope[J]. *Strategic Management Journal*, 1998, 19(3):193–210.
- Kim, W, C. and Mauborgne, R. Fair Process: Managing in the Knowledge Economy[J]. *Harvard Business Review*, 1997, July-August, pp. 65–75.
- LAFORETS. Retail Brand Extension: Perceived Fit, Risks and Trust[J]. *Journal of Consumer Behavior*, 2010, 7(3):189–209.
- Laforet, S. Size, Strategic, and Market Orientation Effects on innovation [J]. *Journal of Business Research*, 2008,61(7), 753–764.
- Lazarus, R. S. (1984). *Stress Appraisal and Coping*. New York: Springer.
- Lee, H.; Choi, B. Knowledge Management Enablers, Processes, and Organizational Performance: An Integrative View and Empirical Examination. *J. Manag. Inf. Syst.* **2003**,20, 179–228.
- LOVIC P. Perception of Risk [J]. *Science*, 1987, 236(17):280–285
- McNamee, Paul; Mayfield, James. Character N-Gram Tokenization for European Language Text Retrieval [J]. In: *Information Retrieval*, 2004, 7(1/2). pp.73–98.
- Meyers,P. and Wilemon, D. Learning in new product development teams. *J. Prod* [J]. *Innov. Manage.*, 1989, 679–88.

- Miotti, L. y Terranova, E.. A Hill Full of Points in Terra Incognita from Patagonia: Notes and Reflections for Discussing the Way and Tempo of Initial Peopling[J]. *Paleo America*, 2015, 1(2), 181–196.
- Milliken, F.J. Three Types of Perceived Uncertainty About the Environment: State, Effect, and Response Uncertainty. *Academy of Management Review*, 1987, 12:133–146.
- Gopalakrishnan, G. and B.Balaganesan. “Two novel xanthenes from *Garcinia mangostana*.” [J]. *Fitoterapia*, 20007, 1(5):607–609.
- ROBBINS M S, HADWEN B J.The noise performance of electron multiplying charge coupled devices[J]. *IEEE Trans on Electron Devices*, 2003, 50(5):1227–1232.
- R.Hurley & G. Hult. Innovation, Market Orientation, and Organizational Learning: An Integration and Empirical Examination [J]. *Journal of Marketing*, 1986, 2 (3).
- SWoodman, R.W., Sawyer, J.E. and Griffin, R.W. Toward a Theory of Organizational Creativity [J]. *Academy of Management Review*, 1993, 18, 293–321.
- Yamin S., Gunasekaran A., Mavondo F. T. Innovation index and its implications on organizational performance: a study of Australian manufacturing companies[J]. *International Journal of Technology Management*, 1999, 17(5).495–503.
- Cui Ying. Research on the Impact of Exploitative Innovation on the Construction of High-performance Work System. *Economic Survey*, 2020, 37 (5): 133–140.
- Liu Changyong (2002). 12 lessons in entrepreneurship management. Taipei City, *World Culture*.
- Liang Bingqian, Gu qinxuan. The Impact of Innovative Cultural Perception on Intrinsic Motivation and Creativity - from the Perspective of Performance Goal Orientation. *Shanghai Management Science*, 2016, 38 (3): 89–96.
- Zhang Huixia. Environmental Regulation, Dynamic Innovation Capability and Enterprise Financial Performance. *Communication of Finance and Accounting*, 2020, 24:54–57.
- Li Changhong, Guo Jiaqi, Song Zhihong, Fan Jianping. Innovation Input, Innovation Output and Enterprise Performance: An Empirical Study Based on CDM model. *East China Economic Management*, 2013, 27 (5): 164–168.
- Xie Ruyu, An Liren. Influence Mechanism of Innovation Characteristics on the Adoption Intention of New Energy Vehicle Consumers: Regulatory Role of Individual Innovation. *Modern Economic Science*, 2020, 42 (5): 113–121.
- Ye Liang, Lu Lin. Research on the Concept of Creativity and its Influencing Factors Based on the Distinction Between Usefulness and Novelty. *Science and Technology Management Research*, 2015, 35 (18): 252–258.
- Wu Sihua (2000). Nine Theories of Strategy - the Essence of Strategic Thinking. Taipei: *Facebook Culture Press*.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

