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An Empirical Study on Entrepreneurial Orientation, Absorptive Capacity, and SMEs' Innovation Performance: A Sustainable Perspective

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Abstract: Using a survey of 324 small and medium-sized enterprises (SMEs) of the Yangtze River Delta in China, this study discusses the relationship between entrepreneurial orientation, absorptive capacity, environmental dynamism, and corporate technological innovation performance. The results based on a moderated moderation model show that the relationship between entrepreneurial orientation and innovation performance is significantly positive. The absorptive capacity can positively moderate this relationship. When the external environment is in high dynamism, the moderating effect of absorptive capacity will be stronger than when the environment is in low dynamism.

1. Introduction

With the evolution of economic globalization, the competition among enterprises is becoming increasingly fierce, and the capability of technological innovation is becoming more and more important. Technological innovation is not only the key factor to success in global market competition, it also plays an important role in the operation and production of an enterprise [1,2]. Scholars have studied the strategic orientation of enterprise technology innovation (such as learning orientation, market orientation) [3], research and development (R&D) input [4], innovation ability (organizational learning [5], external knowledge acquisition [6]), institution [7], technological innovation performance (innovation output [8], speed of conversion of new product [9], patent [10]). At the same time, improving the innovation performance can increase business performance [11]. Therefore, the study of technological innovation performance is an open research problem that has attracted a large amount of attention from managers and scholars.

Entrepreneurial orientation (EO) plays a critical role in exploring potential market opportunities, developing new business, and enhancing competitive advantage, all of which promote the rapid growth of enterprise. In this context, many scholars have studied different aspects of the relationship between entrepreneurial orientation and firm performance. Although many studies have indicated that EO has a promoting effect on enterprise performance, and have analyzed the impact of EO on firm performance from many aspects [12–14], some scholars also find that there is no obvious relationship between EO and firm performance [15–17]. However, the relationship between entrepreneurial

orientation and enterprise technological innovation performance is relatively weak in the existing literature [18,19].

In a subsequent study, scholars argued that product development or market development plays an important role in the process of EO's impact on performance [16,20], which means that the relationship between entrepreneurial orientation and performance is affected by other variables. EO's value largely depends on characteristics regarding the context in which this orientation is adopted [21]. Therefore, scholars can define the boundary conditions of the relationship between entrepreneurial orientation and technological innovation performance by adding moderating variables, so as to get a more persuasive explanation of their relationship under specific organizational and environmental contexts [22].

This paper aims to investigate the relationship between EO and enterprise technological innovation performance, which simultaneously integrates the absorptive capacity and environmental dynamics by constructing a moderated moderation model. The empirical results will provide a reasonable reference for improving innovation performance, business management, and other aspects of business managers.

2. Theory Development and Hypothesis

2.1. Technological Innovation Performance

The theory of technological innovation was firstly put forward by Schumpeter, who thought that the purpose of technological innovation was to obtain potential profits. Subsequently, many scholars both at home and abroad have explored and carried out research on the subject of technological innovation [23].

Innovation can provide related services for the organization, its suppliers, and its consumers through new technologies, new processes, new methods, new services, and new business development methods, and can obtain a certain value. Technological innovation is a discontinuous event, with a novel idea [24]. The Organisation for Economic Co-operation and Development (OECD) believes that technological innovation is mainly from new products and new technology, and that the significant technological changes are comprehensively from them [25]. Therefore, technological innovation presents characteristics of uncertainty, systematization, pluralism, accumulation, high investment, high income, and high risk.

Enterprises technological innovation performance is used to measure the level of enterprise technology innovation activities or results, i.e., effectiveness. Technological innovation performance refers to the degree that the enterprises introduce the inventions to the market in the narrow sense; in a broad sense, technological innovation performance refers to the process that originality takes from idea to market, including the performance of the invention, technology, and innovation that is achieved in the process. The indicators to measure the enterprises technological innovation performance include the number of patents, the number of patent cited, and the number of new products [26]. Some scholars explained Chinese enterprises technological innovation performance using the enterprise technology innovation efficiency and the enterprise technological innovation output [27–29].

However, at present, there is no uniform standard for measuring the level of technological innovation. The level of technological innovation of enterprises can be measured by R&D expenditure per capita [30]; the level of technological innovation of enterprises can also be measured by the ratio of R&D expenditure to revenues [31]. The patent situation is important in the analysis of innovation capability [10]. Due to inconsistencies in accounting standards, inconsistencies in new product identification, and fictitious expenses, etc. in new product R&D investment compared with sales revenue, it is more objective and comparable to use patents to reflect the ability of technological innovation [32].

2.2. Entrepreneurial Orientation

Entrepreneurial orientation can summarize the performance of style, decision, and action in the process of the company's business strategy. The entrepreneurial spirit that is shown by the enterprise is often reflected in the connotation; however, EO is focused on how the enterprise do the business [19]. The measurement dimension of EO has evolved from a single dimension to a multidimensional one. Miller (1987) used three dimensions to describe EO: innovativeness, proactiveness, and risk-taking [33].

Innovativeness refers to the tendency for enterprises to adopt and support creative processes, which may bring new products, new technologies, new services, new inventions, new tests, and so on. Innovativeness motivates enterprises to increase investment to carry out technology innovation activities such as new technology acquisition, new product development, and so on; thus, it can improve enterprise technological innovation ability [34]. Moreover, innovativeness can promote enterprise reform and innovation, accelerate the flow and transformation of new knowledge, and contribute to the generation of new knowledge and technology, which improves enterprise innovation performance [35,36].

Proactiveness refers to the tendency for enterprises to take the positive marketing strategy, proactive action, and leading strategy to introduce new products, new processes, new technologies, and new services in order to transcend the competitors. In order to gain the competitive advantage, proactive enterprises tend to take advantage of the market opportunities ahead of competitors, and take the lead in introducing new products and services. In the competitive industry and market, proactiveness plays a vital role in obtaining and maintaining the competitive advantage of the enterprise [37]. Thus, enterprises with proactiveness tend to find new market opportunities more easily, and take quick action on these opportunities, and then bring innovative performance to enterprises [38].

Risk-taking refers to the tendency for enterprises to take bold action in order to pursue high reward [33], and it can be explained from two aspects of technology and market. In the technological aspect, risk-taking reflects the willingness of enterprises to invest resources for technological innovation strategies or projects with a high risk of failure and uncertainty [39], and is closely related to entrepreneurial risk preferences and attitudes towards new technologies. The spirit of adventure can promote an enterprise's innovation, create new rules, and enhance the competitive advantage of enterprises [40]. Risk-taking helps an enterprise form an organizational atmosphere of tolerance and risk; it is also a way to encourage the experiment [41], which speeds up the acquisition, learning, and absorbing of the new external technology, and ultimately improves the enterprise's technology innovation performance [42]. In the market aspect, it reflects the willingness and tendency of the enterprise to undertake the uncertainty risk of entering a new market [43], and is closely related to the risk preference of enterprises. Under this tendency, enterprises often act positively when they cannot predict the future market, and constantly seek, discover, and make use of new opportunities to create the first-mover advantage and get the benefits of innovation.

The influencing factors in the technological innovation performance of entrepreneurs are varied. Some scholars believe that the entrepreneurial behavior can directly affect the innovation of product, process, and management [44], and they make creative innovations as an indicator of EO in their research. Entrepreneurial orientation can enhance the proactiveness, risk-taking, and willingness of innovation. At the same time, it goes without saying that the innovativeness has positive impacts on the enterprise technology innovation [45]. Enterprises start to continually take the strategy of entrepreneurial orientation, which contains innovativeness, proactiveness, and risk-taking, in order to maximize innovation performance, and continuously enhance the core competitiveness of the enterprise and promote the firm's performance. Therefore, we state.

Hypothesis 1. *EO positively influences the technological innovation performance of enterprises.*

2.3. Absorptive Capacity

In Hypothesis 1, we discuss the direct relationship between EO and enterprise innovation performance. However, it is necessary to break through the limitation of only investigating the bilateral relationship between entrepreneurial orientation and innovation performance, and test the context factors such as environment variables and organizational variables as well. Next, this paper analyzes the role of absorptive capacity in the relationship between EO and innovation performance.

Absorptive capacity is defined as an ability to recognize the value of new information, assimilate it, and apply it to commercial ends. It is described by three dimensions of knowledge: acquisition, knowledge assimilation, and knowledge application [46]. Knowledge acquisition is the ability of the enterprise to identify and obtain the external knowledge that is vital to the operation of the enterprise; knowledge assimilation is the ability of the enterprise to analyze and understand the external knowledge and integrate the new knowledge with the existing knowledge; and knowledge application is the ability of enterprises to commercialize new knowledge to achieve the goal of organization.

The implementation of the entrepreneurial orientation strategy itself is the interaction between enterprises and the outside world, as well as the interaction among departments. It is a nonlinear process that effectively integrates the internal and external resources of enterprises and is closely related to the acquisition, digestion, transformation, and utilization of knowledge.

Risk-taking makes the enterprise tend to take bold action to pursue a high return [33]. From a technological perspective, innovation needs to invest a lot of resources, and meanwhile, the development of new technologies, new products, and new processes is highly uncertain. With high absorptive capacity, it can speed up the acquisition, learning, and utilization of new technologies [42], and effectively control or reduce the risks and uncertainties caused by risk-taking behavior, thereby improving the enterprise's technological innovation performance. From a market perspective, risk-taking makes enterprises tend to undertake various operational risks in order to achieve success in the market. A high absorptive capacity helps enterprises make more active use of favorable entrepreneurial opportunities and absorb valuable external knowledge resources. Thus, it can respond quickly to changes in the external environment, and reduce market risks and uncertainties.

Entrepreneurial-oriented enterprises usually have strong innovativeness, which motivates enterprises to increase investment to carry out technology innovation activities such as new technology acquisition, new product development, and so on. Thus, innovativeness can improve enterprise technological innovation ability [34]. A high absorption capacity can help enterprises identify and obtain new external knowledge, assimilate newly acquired knowledge, and combine with existing knowledge to generate new knowledge. Thus, enterprises can use knowledge to solve practical problems [47]. In addition, a high absorptive capacity can also increase the frequency of innovation [48], and improve innovation speed and innovation performance.

Enterprises with proactiveness are more likely to have faster environmental-scanning speeds and stronger opportunity recognition ability and discovery ability than other companies [49]. In the face of potential development opportunities, enterprises will act in advance to quickly obtain information resources from the outside world (customers, competitors, markets, etc.) [50]. With a high absorptive capacity, enterprises can understand these information resources quickly and accurately, combine the acquired information resources with their existing knowledge more effectively, and promote the transformation of new knowledge. The efficiency of transforming these knowledge into products and services increases, which can improve enterprise innovation performance.

Compared with the general enterprises, the entrepreneurial firms with high absorptive capacity are often able to identify market opportunities, acquire market information, and understand customers' needs; in doing so, they pertinently carry out the technology innovation, and improve the enterprise's performance. Overall, the entrepreneurial firms with a high absorptive capacity can promote technological innovation performance. Therefore, we state.

Hypothesis 2. *Enterprise absorptive capacity moderates the positive relationship between EO and the technological innovation performance of enterprises.*

2.4. Environmental Dynamism

We discuss the impact of absorptive capacity on the relationship between EO and enterprise innovation performance in Hypothesis 2. This impact is mainly caused by the following: absorptive capacity can effectively help enterprises obtain external opportunities and information, convert these opportunities and information into new technologies and products, and improve enterprise innovation performance.

Environmental dynamism has an important impact on enterprise innovation performance [12,51]. Dynamic environment refers to the uncertainty and unpredictability of environment changes of enterprise. The definition of a dynamic environment is described from various angles in the related research [52–54].

Miller analyzed four aspects of environmental dynamism: changes in the growth opportunities of enterprises in the environment, changes in the technology that is in the industry, changes in services or products, and changes in the R&D program of an enterprise [55]. Many scholars analyze the innovation performance of enterprise with EO in a dynamic environment from the two aspects of market uncertainty and technological uncertainty [52,56]. Market uncertainty generally changes customer needs and preferences, and technological uncertainty usually shows the rapid replacement of new technologies and new products [57].

When the external environment is in high dynamism, external threats becomes larger [58,59], market uncertainty and technological uncertainty arise, the life cycle of products are shortened, and the customer needs and customer preferences change quickly. Therefore, it is vital for enterprises to develop new products in response to various changes [51,60]. Absorptive capacity contributes to a rapid and flexible response [61].

When market uncertainty is high, enterprises with high absorptive capacity can quickly perceive external changes. If they understand these changes correctly, enterprises can find hidden business opportunities, quickly grasp market opportunities, and enter the market before their competitors. Thus, they can monopolize a dominant position, and reduce the external risks and disadvantages brought about by environmental dynamism [12]. High absorptive capacity helps enterprises reallocate existing resources, access external information quickly, understand the information, and take advantage of it effectively in order to adapt to the new environment [62,63]. High environmental dynamism brings some troubles for enterprises with EO that want to obtain good performance. Absorptive capability plays an important role in the process of solving these troubles.

With high environment dynamism, enterprises should respond quickly to changes of customer preferences and maintain the sustainable development of enterprises as well as change their technologies constantly.

When technological uncertainty is high, enterprises meet more challenges when conducting technological innovation activities, affecting enterprises performance negatively [64]. The high technological uncertainty makes it impossible for enterprises to fully understand or predict the future development, and it also impedes the exchange of information and resources among enterprises. In the development process of enterprises, when faced with technological uncertainty, enterprises tend to explore and innovate, thus further improving their technological innovation performance. In a highly dynamic environment, in the pursuit of more profits, enterprises conduct technological innovation continuously and maintain the development of enterprises [65]. High technological uncertainty makes it difficult for enterprises to acquire or maintain technological advantages, and high absorptive capacity helps enterprises acquire, understand, and utilize innovative resources from inside and outside to improve enterprise innovation performance.

Low environment dynamic means that the external environment is relatively stable, and enterprises have little difficulty in selecting opportunities, making absorptive capacity less important [63]. On the

one hand, consumer needs and preferences change slowly, the necessary resources are relatively easy to obtain; thus, the enterprise can deploy resources freely and realize the planning strategy. Even if their absorptive capacity is low, enterprises can cope with various changes regarding customer needs and preferences, and get higher profits to maintain the development of enterprises [12]. On the other hand, the innovation activities of enterprises will consume the limited resources, leading to an increase in an enterprise's costs. With low dynamic environment, enterprises' willingness to innovate will decrease. In a stable environment, the enterprise can solve the potential problems by using the existing resources and capabilities, or combining resources and capabilities. In this case, the influence of absorptive capacity is not obvious. Moreover, when technological uncertainty is low, external technological change is much more modest, giving enterprises a cushioned opportunity and more time [51]. When technological uncertainty is low, the enterprise has adequate learning time and clear learning objectives, and enterprises can understand and predict the trend of technological change based on their technological stocks. The effect of absorptive capacity on enterprise technological innovation performance has been reduced. Therefore, for Hypothesis 3.

Hypothesis 3. *The moderating effect of absorptive capacity on the relationship between EO and technological innovation performance of enterprises is stronger when environmental dynamism is higher.*

In summary, we put the entrepreneurial orientation, environmental dynamism, absorptive capacity and innovation performance into a whole framework to analyze, and obtained the research model (Figure 1).
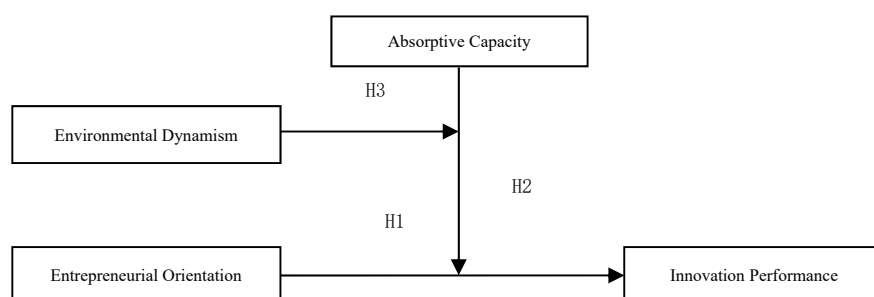

Figure 1. Research model.

3. Methodology and Variable Specifications

3.1. Data Collection

In order to collect the sample, we selected SMEs in China's Yangtze River delta region as the source of data for this study, because SMEs have less internal management interventions and less external constraints [66].

The survey was carried out for six months. Since the data regarding entrepreneurial orientation, absorptive capacity, technology innovation performance, and environment dynamic cannot be directly obtained, this study collected relevant data in the form of a questionnaire. We selected 30 companies in the Yangtze River delta region for preliminary research; then, the questionnaire was revised according to the related results of this preliminary research, in order to ensure the accuracy of the item set.

After the sample survey object was determined, we sent the invitation to the relevant staff in advance, to explain the background and the purpose of this study. At the same time, in order to increase the rate of participation, we sent regular emails to surveyors and personalized emails when necessary to remind them to fill out questionnaires [67]. Then, we started issuing formal questionnaires to 402 companies.

In terms of the choice of staff involved in the investigation, we selected the chief executive officer (CEO), technical manager, personnel manager, marketing manager, financial manager, and other related

senior managers [68]. Finally, among the 402 enterprises participating in the survey, 302 questionnaires were valid, and the total effective rate of participating questionnaires was 75.12%. The samples come from eight industries (Table 1).

Table 1. Sample composition.

Industry	Percentage	Cumulative Percentage
food and beverage	10	3.31
textiles, garments, fur	27	8.94
paper making and printing	26	8.61
petroleum, chemical, plastics	29	9.60
metals, non-metals	49	16.23
electronics, machinery, equipment, instruments	72	23.84
medical and biological products	14	4.64
wood, furniture, other	75	24.83
Total	302	100.00

3.2. Measures

In this study, the questionnaire used established scales that had been tested to measure our constructs. The questionnaire was established on the basis of the scale that has been used and verified by the existing literature [44,69–71]. First, these scales were translated into Chinese. After that, experts were asked to check the Chinese scale to ensure that the Chinese scale accurately reflected the original intention of the original scale. The questionnaire used seven-point Likert questionnaire in the measuring table.

From Table 2, it can be seen that the Cronbach's alpha of the four main variables in the model are greater than 0.7; therefore, the reliability meets the study. At the same time, the Kaiser–Meyer–Olkin (KMO) of variables are also greater than 0.7 by measuring the data of the sample, and meet the requirements.

Table 2. The scales of reliability analysis and validity analysis. KMO: Kaiser–Meyer–Olkin

Variable	Cronbach's alpha	KMO
Entrepreneurial orientation	0.927	0.911
Innovation performance	0.894	0.725
Absorptive capacity	0.912	0.904
Environmental dynamism	0.831	0.836

Entrepreneurial orientation. According to Covin and Slevin's research, EO includes three items: (1) innovativeness, (2) proactiveness, and (3) risk-taking [69]. We modified some scales in order to meet the need of the actual situation; there are nine items to measure entrepreneurial orientation in this study.

Environmental dynamism. There are many ways to measure environmental dynamism. We measured environmental dynamism based on Tan and Litschert's scale [70]. The industrial environment was divided into eight parts: customer, competition, technology, supervision, economy, social culture, and international in their research. Therefore, there are eight items to measure environmental dynamism in this study.

Absorptive capacity. We measure absorptive capacity using Lichtenthaler's scale [71]; we aggregate the three dimensions of exploratory learning, transformative learning, and exploitative learning. The scale is composed of three measuring dimension and 26 items.

Innovation performance. We measured innovation performance using the research developed by Hagedoorn and Cloodt [44]. We used three items to measure innovation performance. In this investigation, respondents were asked to rate the extent to which their firms were successful relative to

their major competitors in terms of introducing new products, applying new patents, and developing new technology or processes.

Controls. Based on the previous literature, we use six control variables in our analysis: firm age, the number of years since the establishment of the enterprise; firm ownership—a dummy variable in this study—in which the non-state-owned Enterprises are 1 and the state-owned enterprises are 0; industry, which will be divided into 10 sectors according to guidelines on industrial classification, and also is a dummy variable in this study; financial performance, measured as the rate of return on common stockholders' equity (ROE) relative to their major competitors; firm size, measured as the number of full-time employee relative to their major competitors; and research and development (R&D) spending, which was measured as the level of R&D expenditure relative to their major competitors.

The variables above have been measured and the results of descriptive statistics are shown in Table 3.

Table 3. Descriptive statistics.

Construct	N	Min	Max	Mean	SD
Entrepreneurial orientation	302	2	7	5.22	1.096
Innovation performance	302	1	5	4.27	1.532
Absorptive capacity	302	2	7	4.97	1.106
Environmental dynamism	302	1	7	4.75	1.042
Ownership	302	0	1	0.89	0.317
Financial performance	302	1	7	4.65	1.340
R&D intensity	302	1	7	4.39	1.521
Firm size	302	1	5	3.17	0.863
Firm age	302	2	168	17.44	22.405

4. Results

4.1. Descriptive Statistics and Correlation Test

The descriptive statistics data analysis and Pearson's correlation analysis show that all of the absolute values of correlation coefficients are less than 0.7, which means the correlations among the key variables are acceptable (Table 4).

Table 4. Pearson correlation matrix.

Construct	1	2	3	4	5	6	7	8	9
Entrepreneurial orientation	1								
Environmental dynamism	0.428 **	1							
Absorptive capacity	0.663 **	0.432 **	1						
Innovation performance	0.351 **	0.330 **	0.449 **	1					
Ownership	0.144 *	0.008	0.106	0.045	1				
Financial performance	0.301 **	0.274 **	0.367 **	0.461 **	0.048	1			
R&D intensity	0.363 **	0.292 **	0.384 **	0.289 **	0.072	0.216 **	1		
Firm size	0.070	0.004	0.163 **	0.255 **	−0.052	0.306 **	0.078	1	
Firm age	−0.015	0.045	0.031	0.148 **	−0.086	0.046	−0.015	0.209 **	1

Note: ** It is significantly correlated at 0.01 level (bilateral); * It is significantly correlated at 0.05 level (bilateral).

4.2. Test of Hypothesis

In this study, the stepwise regression analysis is used to test our hypotheses.

Firstly, we calculated the variance inflation factors (VIF) for all of the regressions in the model to test for the multicollinearity in order to avoid multicollinearity's disturbance. All of the VIF values are between two to five, indicating no concerns regarding multicollinearity. At the same time, we used mean-centered variables for all of the controls and independent variables in order to remedy potential multicollinearity issues. In the test of the hypothesis, according to the needs of the research, we set up a regression model for analysis one by one; Table 5 shows the results of all regressions in models 1–4.

(1) Testing for H1

We use the hierarchical regression analysis to test H1. Model 1 is designed to contain only all of the control variables (ownership, financial performance, R&D intensity, firm size, firm age). The research makes innovation performance the dependent variable, and the control variables are put into the regression model as the first layer variable. Model 2 adds EO as the independent variable that is put into the regression model as the second layer variable.

The results reveal a significant and positive relationship between EO and innovation performance (β = 0.184, $p < 0.01$), at the same time, the explanatory power of the model increases when EO is introduced (ΔR^2 adj = 0.025, $p < 0.01$). Thus, H1 was supported, which proposed that entrepreneurial orientation can positively influence innovation performance.

(2) Testing for H2

H2 predicts that absorptive capacity moderates the relationship between EO and enterprise innovation performance. To reduce the potential problem of multicollinearity, absorptive capacity and entrepreneurial orientation are calculated by multiplying the men-centered absorptive capacity and entrepreneurial orientation scores for each firm. Model 3 tests the hypothesis by adding the interaction terms between absorptive capacity and entrepreneurial orientation. The results show that absorptive capacity can positively moderate the EO—innovation performance relationship (â = 0.098, $p < 0.05$); thereby, EO is associated with innovation performance when absorptive capacity is high. H2 is supported empirically.

(3) Testing for H3

Model 4 tests H3, which predicted that environmental dynamism moderates the moderation of absorptive capacity on the EO—innovation performance relationship. For the three-way interaction, we multiply the mean-centered entrepreneurial orientation, absorptive capacity, and environmental dynamism scores for each firm, and put them into the regression model as the new variables. The results reveal that the three-way interaction is significant (β = 0.088, $p < 0.05$) and testing that the moderation of absorptive capacity on the EO—innovation performance is generally affected by environmental dynamism. Thus, H3 is verified to stand.

Comparing the results of the four models, we found that as the model continues to introduce more variables, especially the introduction of two moderating variables (AC and ED), the value of Adjusted R^2 is gradually increasing. This shows that our analysis results, which were obtained through a survey of 324 manufacturing enterprises of the Yangtze River Delta in China, confirmed the results of Zahra (1995), which stated that the introduction of moderating variables makes the model more consistent with the reality of enterprises and the complexity of corporate entrepreneurship [22]. Meanwhile, the results are more credible and accurate, and the explanation of the relationship between EO and enterprise innovation performance is more convincing.

Table 5. The moderated moderating analysis of entrepreneurial orientation (EO), absorptive capacity, environmental dynamism and enterprise innovation performance.

Variables	Dependent Variable: Technological Innovation Performance			
	Model 1	**Model 2**	**Model 3**	**Model 4**
Controls:				
C0	−0.175	−0.165	−0.176	−0.176
C1	−0.380 *	−0.361 *	−0.378 *	−0.387 *
C3	−0.401 *	−0.390 *	−0.400 *	−0.407 *
C4	−0.420 *	−0.396 *	−0.424 *	−0.430 *
C6	−0.514 *	−0.481 *	−0.507 *	−0.515 *
C5 & C7	−0.563 *	−0.515 *	−0.552 *	−0.559 *
C8	−0.183	−0.172	−0.191	−0.192
C2 & C9	−0.671 *	−0.629 *	−0.641 *	−0.664 *
Ownership	0.013	−0.006	0.005	0.021
Financial performance	0.366 ***	0.321 ***	0.267 ***	0.267 ***
R&D intensity	0.214 ***	0.159 **	0.111 *	0.119 *
Firm size	0.122 *	0.125 *	0.108 *	0.105 *
Firm age	0.069	0.071	0.065	0.071
Main effects:				
EO		0.184 ***	0.100 *	0.064
absorptive capacity (AC)			0.231 **	0.253 ***
environmental dynamism (ED)			0.149 **	0.210 **
Interaction effects:				
EO × AC			0.098 *	0.094 *
EO × ED				−0.155
ED × AC				0.100 *
EO × AC × ED				0.088 *
F	10.087 ***	10.544 ***	10.499 ***	9.118 ***
Adjusted R^2	0.282	0.307	0.349	0.394

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; C0: food and beverage; C1: textiles, garments, fur; C3: paper making and printing; C4: petroleum, chemical, plastics; C6: metals, non metals; C5 & C7: electronics, machinery, equipment, instruments; C8: medical and biological products; C2 & C9: wood, furniture, other.

5. Conclusions

In this study, using a survey of 324 manufacturing enterprises of the Yangtze River Delta in China, we theoretically proposed and empirically examined a framework of the effects of entrepreneurial orientation, absorptive capacity, and environmental dynamism on technological innovation performance in enterprises.

Our results suggest that entrepreneurial orientation has significant positive impacts on enterprise innovation performance, and that absorptive capacity plays a moderating role in the relationship between entrepreneurial orientation and innovation performance. Additionally, the moderating effect of absorptive capacity on the entrepreneurial orientation—innovation performance is generally affected by environmental dynamism. In other words, the moderation of absorptive capacity on the relationship between entrepreneurial orientation and innovation performance is bigger when the environmental dynamism is higher.

The enhancement of an enterprise's entrepreneurial orientation spirit can improve the performance of technological innovation, so as to improve enterprise performance. An entrepreneurship-leading enterprise can bring more opportunities for development, and create more profits, in an increasingly competitive environment. Enterprises should strengthen the cultivation of entrepreneurial orientation internally, so that they can develop faster in a dynamic environment, identify customer requirements under the dynamic environment, and innovate constantly. At the same time, enterprises should strengthen the absorptive capacity and improve enterprise employees' ability to adapt in order to improve enterprise innovation ability in a dynamic environment.

Through the research of this paper, the following suggestions are provided for the innovation of SMEs.

(1) SMEs need to strengthen their cooperation with universities, scientific research institutions, and other external organizations. Universities and scientific research institutions can provide enterprises with more innovative resources, better experimental conditions, new technologies, and new knowledge. At the same time, through cooperation with them, we can broaden our horizons, cultivate enterprises' advanced awareness, and understand the future market and technology development direction, so as to improve the level and ability of technological innovation.

(2) SMEs' managers need to cultivate staff's learning and research ability, enabling employees to have the ability to learn, transform, and apply new knowledge and new technologies. In addition, a team made up of such employees will have higher absorptive capacity, thereby promoting technological innovation performance.

(3) Managers need to build up the enterprise innovation spirit. They should take technological innovation actively, and dare to undertake the risks brought by technological innovation. In addition, managers need to be forward-looking in order to take action ahead of time and take the initiative to challenge the competitors. Thus, the enterprise's technological innovation performance will be improved and the firm performance will be enhanced.

Meanwhile, this study also shows that the government needs to create a good external environment for the SMEs' innovation. They can alleviate the financing difficulties of SMEs through financial policy, tax policy, and other initiatives, and provide equal opportunities for their development. Thus, it will become easier to get resources and information, and improve the initiative of SMEs.

6. Limitations

The following limitations in this paper are worth addressing in future research. First, using the subjective questionnaire survey method, the sample itself has limitations, which may lead to the limitation of the conclusion. Future research should collect more samples and combine relevant cases to carry out analysis and research. Second, empirical design using cross-sectional data may lead to other causal interpretations. It will be more convincing to carry out a longitudinal time series study. Third, the research object only selects the enterprises in the Yangtze River Delta region. If the research conclusions are extended to other areas, scholars need to make further tests on the actual situation in different regions.

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