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## THE RELATIONSHIP BETWEEN CORPORATE ENTREPRENEURIAL ORIENTATION AND DUAL INNOVATION: THE MODERATING EFFECTS OF KNOWLEDGE RIGIDITY

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### ABSTRACT

*Corporate Entrepreneurial orientation has received substantial empirical attention due to its significant effect on ambidexterity innovation, while the mechanism of the effect has remained to be explored, examined and identified. Based on theoretical researches, the paper built up a conceptual model, using large sample questionnaire survey to empirically examine the mechanism of the relationship between corporate Entrepreneurial orientation and ambidexterity innovation, and moderating effects that knowledge rigidity poses on the relationship. This paper can, to certain extent, inspire high-tech enterprises on improving their knowledge management and innovation management.*

### KEYWORDS

corporate entrepreneurial orientation, dual innovation, knowledge rigidity, moderating effects.

### INTRODUCTION

Dual innovation is defined as improving existing technology and expanding existing products and services to meet the needs of existing customers by exploitative innovation, developing new technologies and new markets to meet future customers' needs by explorative innovation. Some studies found that exploitative innovation and explorative innovation are in a completely different way of thinking and management, however, whether dual innovation can be owned or not has become the controversial topic in academia. In practice, there are many firms succeed in implementation of dual innovation, and firms end in failure ultimately are not less. So how does corporate entrepreneurial orientation affect dual innovation? Unfortunately, we are lack of systematic empirical research currently.

Currently, not many empirical studies deal with the relation between corporate entrepreneurial orientation and dual innovation in the perspective of knowledge rigidity. In this paper, based on the integration of corporate entrepreneurial orientation theory and dual innovation theory we construct a conceptual model of the relationship between corporate entrepreneurial orientation, knowledge rigidity and dual innovation to study different dimensions of corporate entrepreneurial orientation, logical relationship between dual innovation and the role of knowledge rigidity. The paper uses mature high-tech enterprises as research objects as well, which are randomly chosen from eight different high-tech industries in Shenyang city and Dalian city of Liaoning province.

### THEORETICAL REVIEW AND HYPOTHESIS

#### CORPORATE ENTREPRENEURIAL ORIENTATION AND DUAL INNOVATION

In terms of the relationship between corporate entrepreneurial orientation and dual innovation, corporate entrepreneurial orientation as a strategic direction is an important guarantee to achieve dual innovation and it's the important driver of business innovation, and that have become the basic consensus of academia, but there are still some differences of the mechanism of the relationship between them (Kollmann & Stockmann, 2010). Corporate entrepreneurial orientation and its component dimensions have significant but different directions influence on explorative innovation and exploitative innovation (Dess & Lumpkin, 2005); in empirical research, that the influence of different dimensions of corporate entrepreneurial orientation have the same direction, but a different significant degree (Kollmann & Stockmann, 2010). Thus, it can be inferred that different dimensions of corporate entrepreneurial orientation may have different effects on dual innovation.

Enterprise with innovation not only reside in the use of existing strengths, but will actively engage in new opportunities and promote the arising of business innovation (Menguc & Auh, 2006); not only can it promote continuous development of new technologies, new products and explorative innovation, but also help enterprises to update existing products, expand existing markets and carry out exploitative innovation (Garud & Nayyar, 1994; Cho & Pucik, 2005; Kollmann & Stockmann, 2010). Thus we proposed the following hypotheses:

H1a : The innovativeness of corporate entrepreneurial orientation is significantly and positively correlated with explorative innovation.



H1b : The innovativeness of corporate entrepreneurial orientation and exploitative innovation have high positive correlation.

Taking pro-activeness strategy is an inevitable choice, through it firms can learn new rules of the game quickly, use the latest technology, develop new technologies continuously, actively participate in the global market competition, and constantly improve the management experience, management skills and financial resources to adapt to the new situation of enterprises and new institutional environment (Peng & Health, 1996 ; Tan & Tan, 2005) . There also some people believe that pro-activeness can help firms introduce new technologies, improve products in future competition, and seize new opportunities, which have complicated relation with existing product lines, its essence is survey future trends in consumer demand while avoiding recession strategically( Lumpkin & Dess, 1996); strong willingness to move ahead will encourage enterprises to "seek related or unrelated opportunity of existing business to introduce new products ahead of the competitors( Zahra & Covin, 1995). " Then we put forward the hypothesis :

H2a : The pro-activeness of corporate entrepreneurial orientation and explorative innovation have high positive correlation.

H2b : The pro-activeness of corporate entrepreneurial orientation and exploitative innovation have high positive correlation.

Relatively speaking, the firm with lower risk-taking ability keep the view that high speed decision will hinder the analysis of existing products and technologies about their advantages and disadvantages, and blind action may also lead to reduced reliability of existing products (Cardinal, 2001), therefore explorative innovation and exploitative innovation will be postponed, responding to the changing environment conservatively (Hughes & Morgan, 2007). Visibly, risk-taking not only ensures the availability of resource in explorative innovation, but also reduces the previous path-dependence in the process of innovation, thus it has different effects on the two innovations. Then we put forward the following hypotheses:

H3a : The risk-taking of corporate entrepreneurial orientation and explorative innovation have high positive correlation.

H3b : The risk-taking of corporate entrepreneurial orientation and exploitative innovation have high positive correlation.

#### THE MODERATING EFFECTS OF KNOWLEDGE RIGIDITY

A high level of solutions to problems arising from the organization's past experience and its expansion of knowledge generates in the process of adaptation of the new situation( Sternberg, 1985); if this solution is proved to be effective, it may be rigid rules or practice during repeated execution, and the extent of its rigidity gradually increased with the continuous application of this specific knowledge. When it comes to the relation between outcome variables such as corporate entrepreneurial orientation and innovation performance, we should take the role of organization and environmental factors into consideration (Lumpkin & Dess, 1996), the structure , the processes and the rigid degree of the enterprise knowledge management should be an important consideration in the contextual study (Liao, 2002). Enterprise knowledge management structures and procedures are regarded as a key factor affecting the direction and degree of innovation in an uncertain environment because of its relating to the choice of new knowledge (Grant, 1996). In all kinds knowledge rigidity dimensions, the two dimensions proposed by Liao et al (2008) has been recognized by many scholars, and they have reliable measurement , the measurement of this paper pay more attention to the two dimensions of learning rigidity and empirical rigidity proposed by them.

The innovativeness, pro-activeness and risk-taking of corporate entrepreneurial orientation will generate a lot of new knowledge(including explorative and exploitative knowledge) which may be rejected in the rigid knowledge management process, and organizational learning rigidity especially with such characteristics (Liao et al., 2008 ; Sharifirad 2010) . Thus, even the corporate entrepreneurial orientation will lead to enterprise knowledge structure changes and promote innovation, learning rigidity has rigid characteristics that may reject any changes, high learning rigidity may inhibit the changes corporate entrepreneurial orientation brought. Then we suggest the following hypotheses :

H4a : The learning rigidity has negative regulation for the relation between corporate entrepreneurial orientation and explorative innovation.

H4b : The learning rigidity has negative regulation for the relation between corporate entrepreneurial orientation and exploitative innovation.

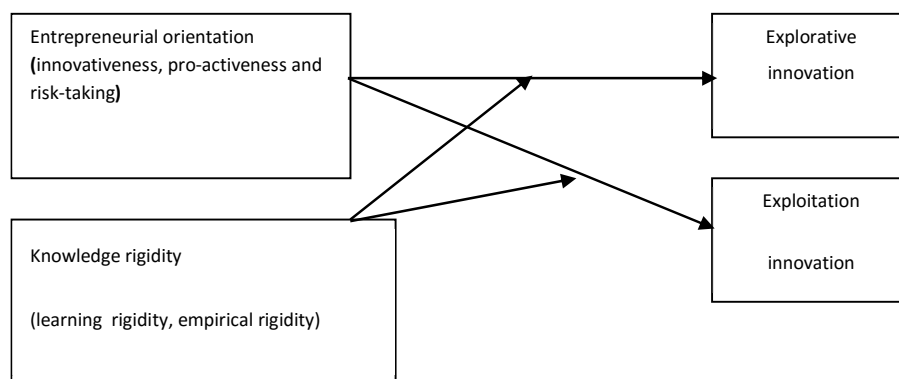
Bierly et al (2007) found that the degree of technical association and the application of explorative knowledge are negative correlation. In contrast, the new exploitative knowledge is acceptable for existing knowledge management experience (March, 1991); that the effect of incremental innovation is based on past learning effect, and previous methods or products enable enterprises to quit risky choice( Levinthal & March, 1993, Dess & Lumpkin, 2005). Therefore, in the enterprise which has a high degree of empirical rigidity, corporate entrepreneurial orientation may cause companies to tend to choose the existing knowledge, and strengthen the exploitative research and innovation, reduce the impact of corporate entrepreneurial orientation on explorative innovation as well. The hypotheses are as follows:

H5a : The empirical rigidity has negative regulation for the relation between corporate entrepreneurial orientation and explorative innovation

H5b : The empirical rigidity has positive regulation for the relation between corporate entrepreneurial orientation and exploitative innovation

Based on what are suggested above, this paper constructs the conceptual model: the moderating effect of knowledge rigidity in the relationship between corporate entrepreneurial orientation and dual innovation. As shown in figure 1.

FIGURE1



## METHODOLOGY

### THE STUDY SAMPLE AND DATE COLLECTION

There are two main reasons that the paper uses mature high-tech enterprises as research objects: first, the corporate entrepreneurial orientation and knowledge rigidity usually occurred after the enterprise being mature. Second, the high-tech enterprises have strong market competition, high innovation requires and concentration of innovations. Based on the existing research literatures, the chosen enterprises have operated for over five years since foundation. The paper uses mature high-tech enterprises as research objects, which are randomly chosen from eight different high-tech industries in Shenyang city and Dalian city of Liaoning province, using a large sample survey to collect the necessary data. This study was supported by the Shenyang and Dalian Science and Technology Sector (Technology Bureau), and this study provides basic data of high-tech enterprises in the two regions and assists accomplishing research activities. The team randomly selected high-tech enterprises which have operated for over five years since foundation, including service industry, electronics and information,

bioengineering and pharmaceuticals industry, software development, optomechatronics and three other industries, each type of the industries has 300 enterprises included.

After getting contact with people with the assistance of Technology Bureau, our team members hand out questionnaires by e-mail or coming to their house which are based on their personal time, we'll choose e-mail when their time does not permit or they offered to take e-mail, otherwise, we'll come to their house to send questionnaires, each of the methods take 50 percent of the total questionnaires in final. Middle management staffs these are familiar with knowledge management and technological innovation filled the questionnaires and we select one management staff each enterprise, the resulting questionnaires were sent directly back to the specified mailbox or directly sent to the team members. In the period between June and August of 2014, a total of 520 questionnaires were handed out, 289 (response rate at 55.58%) were collected in which 214 were valid, with effective response rate at 41.15%. To avoid recovery error, this study dose T-test to recycling companies and enterprises unrecovered in enterprise scale and age, the results show that the basic characteristics of two types of enterprises are no significant difference in the level of 0.01, indicating that the unrecovered errors can't threaten our study.

There may be a common method bias in the survey process. To avoid such problems, first, we should put similar contents into different positions in the design of the questionnaire to reduce common method bias by appropriate order of contents; then, Harman single factor test were adopted, we put all the items together to do not rotating exploratory factor analysis and extracted seven factors which explained 62.856% of the total variance together, where the total variance explanation of the first factor was 23.714%, lowering than 30% of determination requirements of the rate of total variance explanation (Podsakoff et al., 2003). So there is no serious common method bias.

**VARIABLE AND MEASUREMENT**

About the measurement of corporate entrepreneurial orientation, Miller (1983) transferred the research focus from individual entrepreneurial behavior into the level of entrepreneurial behavior of enterprises, and developed 3 dimensions scale which is the initial measurement of the company's entrepreneurial orientation. Lumpkin & Dess (1996) developed 5-dimensional construct and increased 2 dimensions, autonomy and competitive aggressiveness, based on Miller's two-dimensional construct. Unlike Miller's (1983) scale, Covin & Slevin (1986) divided the conception of entrepreneurial strategic posture into three dimensions (including innovativeness, risk-taking and pro-activeness), and developed a new measurement scale, the scale is improved twice by them in 1989 and 1991. Currently, the 9-item and 3-dimension scale suggested by Covin & Slevin (1991) is so mature that it's often used to measure corporate entrepreneurial orientation in domestic, this paper use this scale as well. Dual innovation is a combined conception including explorative innovation and exploitative innovation. In terms of the measurement of dual innovation, this paper refers the study of Jansen et al.(2006) and He & Wong (2004), using 7-item to measure explorative innovation and exploitative innovation.

To measure knowledge rigidity, Liao et al. (2008) developed a two-dimensional scale of learning rigidity and empirical rigidity, using seven items represent learning rigidity and empirical rigidity respectively, the empirical study of Sharifirad (2010) and Fang et al. (2012) had adopted the scale. However, in the development of the scale there does not clearly definition of applicable level, resulting in a situation that the organizational level and the individual level all use the scale to conduct empirical studies, our team consulted 7 experts in this field and pre-tested 27 EMBA students, based on which we modified part terms of the questions and formed the formal questionnaire, making it more suitable to the organizational level.

We asked enterprise executives to indicate how thoroughly their firm show the described states of items and tasks using a five-point Likert-type scale varying from 1=strongly disagree to 5=strongly agree. This article also selected variables such as firm age, size, type of ownership and industry as its control variables to control the possible impact on dual innovation.

**RELIABILITY AND VALIDITY TESTING**

The exploratory factor analysis for corporate entrepreneurial orientation scale showed that a representative sample of adequate levels of KMO test value of 0.779, greater than 0.7, surpassing the sample restrictions of the factor analysis; Bartlett test value that representing a relative degree of association between the items is 641.666 (P <0.001) indicating that items are correlated and it's suitable for extracting common factors. Using principal component analysis three common factors were raised, we named them of innovativeness, pro-activeness and risk-taking based on past theory and they explained variances of 23.133%, 22.052%, 20.567% separately, accounting for 65.752% of the cumulative interpretation of the scale variance. Cronbach's alpha values of the three extracted factors were 0.674%, 0.775% and 0.746%, indicating the scale has high reliability. The exploratory factor analysis for explorative innovation and exploitative innovation scale showed that the KMO test value of 0.908, exceeding the sample restrictions of the factor analysis; Bartlett test value is 1395.446 (P <0.001) indicating that it's better to extract common factors. Using principal component analysis two common factors were raised, we called them explorative innovation and exploitative innovation based on past theory and they explained variances of 28.964%, 27.314% separately, accounting for 56.279% of the cumulative interpretation of the scale variance. Cronbach's alpha values of the two factors were 0.867% and 0.866%, the scale has high reliability. The exploratory factor analysis for the revised scale of knowledge rigidity illustrated that the KMO test value of 0.890 which beyond the sample restrictions of the factor analysis; suggesting sample is full; Bartlett test value is 1630.440 (P <0.001) indicating mutual association between items and it's better to extract common factors. Taking principal component analysis two common factors were raised, we called them learning rigidity and empirical rigidity according to past theory and they explained variances of 35.534%, 24.037% respectively, accounting for 59.571% of the cumulative interpretation of the scale variance. Cronbach's alpha values of the two factors were 0.929% and 0.819%, the scale has high reliability.

**EMPIRICAL ANALYSIS AND RESULTS**

The study applied SPSS21.0 to undertake reliability analysis, validity analysis, descriptive analysis, correlation analysis and hierarchical regression analysis of statistics collected from large sample questionnaire survey, analyzing the interaction relationship between variables systematically, thus test the hypothesis.

**DESCRIPTIVE STATISTICS AND CORRELATION ANALYSIS**

Table 1 summarizes the mean value, standard deviation and Pearson correlation coefficient of each variable. In the table, three dimensions of corporate entrepreneurial orientation were significantly positive correlated with the two dimensions of dual innovation. There was a significant positive correlation between learning rigidity and exploitative innovation, and the relation between learning rigidity and explorative innovation were positive but not significant; learning rigidity and 3 dimensions corporate entrepreneurial orientation had no significant correlation. Empirical rigidity had a significant negative correlation with explorative innovation and exploitative innovation; there was a negative correlation between the three dimensions of empirical rigidity and corporate entrepreneurial orientation as well, but just had a significant relationship with risk-taking. There was no significant correlation among the age, scale, types of corporations and dual innovation; however, the relation between the type of enterprise ownership and explorative innovation reached a significant level, indicating it's closely related to explorative innovation.

**TABLE 1: DESCRIPTIVE STATISTICS AND CORRELATION ANALYSIS**

Variable	Mean value	Standar-d deviate-on	1	2	3	4	5	6	7	8	9	10
Firm age	3.27	0.962	1									
Firm scale	2.93	1.170	-0.020	1								
Type of ownership	2.24	0.867	-0.092	0.024	1							
industry	1.60	0.674	0.184**	0.011	0.049	1						
innovativeness risk-taking	3.73	0.822	-0.034	0.047	-0.089	0.135*	1					
pro-activeness	3.52	0.919	-0.053	0.063	-0.069	0.135*	0.378**	1				
risk-taking	3.450	0.904	-0.032	0.033	-0.094	0.059	0.331**	0.572**	1			
Explorative innovation	3.87	0.776	-0.062	-0.030	-0.151*	0.040	0.332**	0.494**	0.537**	1		
Exploitative innovation	3.93	0.732	-0.109	0.022	-0.073	0.072	0.731**	0.337**	0.380**	0.557**	1	
Learning rigidity	2.94	1.075	0.036	-0.062	-0.070	-0.085	-0.026	0.013	0.103	0.108	0.181*	1
Empirical rigidity	3.40	0.716	-0.048	0.034	-0.068	-0.014	-0.064	-0.011	-0.132*	-0.171**	-0.264**	-0.137*

Remarks: \*\* significant correlation (bilateral) at the 0.01 level; \* significant correlation at the 0.05 level (bilateral)

**HIERARCHICAL REGRESSION ANALYSIS**

In this paper, we use hierarchical regression analysis to test the proposed hypotheses. In order to test the proposed theoretical assumptions, this paper using the hierarchical regression model of product terms which gradually adds control variable, independent variable, and the manipulated variable when performing date analysis. To avoid the multicollinearity problem caused after adding product terms, centralized processing is conducted to continuous variable and regulated variable, and then we calculate the interaction terms, substituting into the regression equation to analysis (Friedrich, 1982). Regression analysis results are shown in Table 2. Model 1 and model 5 are control variables to explorative innovation and exploitative innovation regression models, models 2 and model 6 are the main effects regression model of control variables and independent variables (innovativeness, pro-activeness and risk-taking) to explorative innovation and exploitative innovation, model 3, model 4, model 7 and model 8 are full-effects regression model added with interaction.

**TABLE 2: HIERARCHICAL REGRESSION RESULT**

	The dependent variable: explorative innovation				The dependent variable: exploitative innovation			
	M1	M2	M3	M4	M5	M6	M7	M8
Firm age	-0.072	-0.040	-0.024	-0.042	-0.136*	-0.081	-0.079	-0.093*
Firm scale	0.021	0.000	0.006	-0.001	0.021	-0.015	-0.003	-0.016
Type of ownership industry	-0.146	-0.093	-0.091	-0.104	-0.091	-0.005	0.003	-0.020
innovativeness		0.116*	0.198	-0.039		0.683***	0.682***	0.164
pro-activeness		0.243***	0.670**	0.289		-0.016	0.174	-0.073
Risk-taking		0.351***	0.370	0.097		0.161**	0.190	0.133
Learning rigidity			0.850**				0.517*	
Empirical rigidity				-0.436				-0.758**
Learning rigidity* innovativeness			-0.141				0.024	
Learning rigidity * pro-activeness			-0.732*				-0.319	
Learning rigidity * Risk-taking			-0.108				-0.124	
Empirical rigidity * innovativeness				0.207				0.690*
Empirical rigidity * pro-activeness				-0.044				0.095
Empirical rigidity *risk-taking				0.283				-0.002
F	1.921	17.750***	13.122***	12.066***	1.669	40.174***	29.813***	31.436***
R <sup>2</sup>	0.034	0.363	0.403	0.383	0.029	0.563	0.605	0.618
Regulated R <sup>2</sup>	0.016	0.343	0.372	0.351	0.012	0.549	0.585	0.598

Remarks: \*\*\* significantly related to the 0.001 level (bilateral); \*\* significant correlation at 0.01 level (bilateral); \* significant correlation at the 0.05 level (bilateral) The F value is 17.750 in model 2 of table 2, significant level is less than 0.001, indicating that the overall effect of the regression model is significant; the innovativeness ( $\beta=0.116$ ;  $p < 0.05$ ), pro-activeness ( $\beta=0.243$ ;  $p < 0.001$ ) and risk-taking ( $\beta=0.351$ ;  $p < 0.001$ ) of corporate entrepreneurial orientation are all significantly and positively correlated with explorative innovation and these results support H1a, H2a, H3a. In model 6, F value is 40.174, the significant level is less than 0.001 indicating that the overall effect of the regression model is significant; the innovativeness ( $\beta=0.683$ ;  $P < 0.001$ ) of corporate entrepreneurial orientation and exploitative innovation have high positive correlation which support H1b; the pro-activeness ( $\beta=-0.016$ ;  $P > 0.05$ ) of corporate entrepreneurial orientation and exploitative innovation have negative correlation indicating H2b is invalid; the risk-taking ( $\beta=0.161$ ;  $p < 0.01$ ) of corporate entrepreneurial orientation and exploitative innovation have high positive correlation, inconsistent with H3b.

Model 3 and Model 4 in Table 2 tested the role of two dimensions of knowledge rigidity in the relations of "corporate entrepreneurial orientation—explorative innovation". The results of model 3 show that the learning rigidity has negative regulation for the relation between 3 dimensions of corporate entrepreneurial orientation and explorative innovation, but just in pro-activeness dimension it's significant, so H4a is supported. The results of model 4 indicate that empirical rigidity has positive regulation for the relation between innovativeness and risk-taking dimensions and explorative innovation, inconsistent with H5a; empirical rigidity has negative regulation for the relation between pro-activeness dimension and explorative innovation conforming to hypothesis. H5a is partial supported. Model 7 and Model 8 in Table 2 tested the regulation of two dimensions of knowledge rigidity in the relations of "corporate entrepreneurial orientation—exploitative innovation". The results of model 7 show that the learning rigidity has negative regulation for the relation between pro-activeness and exploitative innovation, this is consistent with H4b; but it has positive regulation for the relation between innovativeness and exploitative innovation which is inconsistent with H4b, thus H4b is partial valid. The results of model 8 show that the empirical rigidity has significant and positive regulation for the relation between innovativeness dimension and exploitative innovation, it also has a positive regulation for pro-activeness and exploitative innovation, conforming to H5b; but the relationship between risk-taking and exploitative innovation are negative regulation, inconsistent with the hypothesis, so H5b is partial supported.

Through the contrast among model 2, model 3, and model 4 of table 2 variance explanation significantly increased from 36.3% to 40.3% after introducing the interaction items of learning rigidity and corporate entrepreneurial orientation; the variance explanation of model 4 also significantly increased from 36.3% to 38.3% after introducing the interaction items of empirical rigidity and corporate entrepreneurial orientation. Similarly, we can find that variance explanation significantly increased from 56.3% to 60.5% until introducing the interaction items of learning rigidity and corporate entrepreneurial orientation by comparison among model 6, model 7, model 8 in table 2; after the introduction of interaction term of empirical rigidity and corporate entrepreneurial orientation variance explanation of model 8 significantly increased from 56.3% to 61.8% as well. To further displaying the role of knowledge rigidity on the relationship between entrepreneurial orientation and dual innovation, in this paper, we take the regulation of learning rigidity for the relation between pro-activeness and explorative innovation, the regulation of empirical rigidity for the relation between innovativeness and exploitative innovation as examples, using simple regression analysis to analyze the relationship between variables and represented them by coordinate, as shown in figure 2 and figure3. The specific approach is to divide them into two groups firstly and then the two groups are conducted regression analysis respectively, the group are divided based on the sample dates and the mean value of learning rigidity (empirical rigidity). Figure 2 shows learning rigidity has a negative regulation for the relation between pro-activeness and explorative innovation, in the high value group of learning rigidity the value of  $\beta$  of pro-activeness is 0.320( $P < 0.01$ ); while in the low value group of learning rigidity the value of  $\beta$  of pro-activeness is 0.560; indicating that correlation of pro-activeness and explorative innovation is weaker in high learning rigidity than less learning rigidity. Figure 3 shows empirical rigidity has a regulation for the relation between innovativeness and exploitative innovation, in the high value group of empirical rigidity the value of  $\beta$  of innovativeness is 0.791( $P < 0.01$ ); in the low value group the value of  $\beta$  of innovativeness is 0.540( $P < 0.01$ ); indicating that correlation of innovativeness and exploitative innovation is stronger in high empirical rigidity than less empirical rigidity.

FIGURE 2: THE REGULATION OF LEARNING RIGIDITY FOR THE RELATION BETWEEN PRO-ACTIVENESS AND EXPLORATIVE INNOVATION

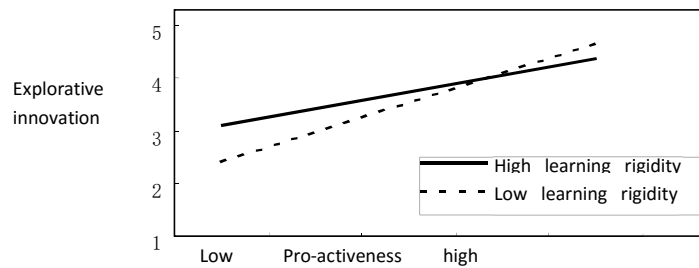
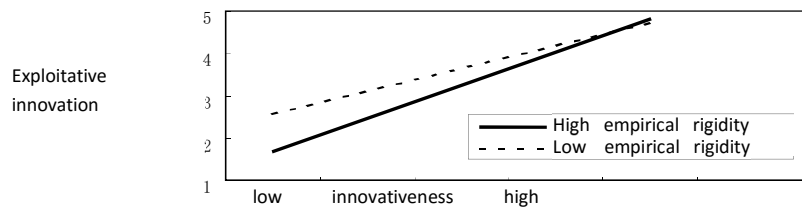


FIGURE 3: THE REGULATION OF EMPIRICAL RIGIDITY FOR THE RELATION BETWEEN INNOVATIVENESS AND EXPLOITATIVE INNOVATION



## CONCLUSIONS AND IMPLICATIONS

### RESEARCH CONCLUSIONS

This paper discusses the relation between corporate entrepreneurial orientation and dual innovation, and the moderating effects of knowledge rigidity. Studies have shown that corporate entrepreneurial orientation has different effects on explorative innovation and exploitative innovation, knowledge rigidity has regulation for the relation of them. To strengthen corporate entrepreneurial orientation's significant effect on dual innovation, enterprises should pay full attention to the promotion and hinder of knowledge rigidity.

First, significant positive correlation was found between three dimensions of corporate entrepreneurial orientation (innovativeness, pro-activeness and risk-taking) and explorative innovation. However, correlation between the three dimensions and exploitative innovation is more complex. The reason why three dimensions of corporate entrepreneurial orientation have significant positive correlations with explorative innovation is probably because it's easier to form a strong culture of innovation and entrepreneurial atmosphere in the corporation with entrepreneurial orientation, this kind of corporation often encourages staffs to propose new ideas and supports them to explore new technique and new markets, and make them tolerate the uncertainty of new products and new market expansion to a greater degree. The innovativeness and risk-taking of corporate entrepreneurial orientation and exploitative innovation have high positive correlation, however, pro-activeness is negative correlation with exploitative innovation but not significant. This may because the exploitative innovation emphasizes expansion, improvement and enhancement according to existing knowledge, skills, processes and structure to maintain a competitive position in existing markets, and the tendency of innovativeness inspires the enthusiasm of exploitation innovation. In some extent, risk-taking can also promote exploitative innovation, perhaps because a certain degree of high risk activities can be allowed under the premise of path dependence. However, this paper concluded that pro-activeness and exploitative development have no significant negative correlation, contrary to Cardinal's (2001) conclusion, the reason perhaps is that the tendency of rapid decision-making of pro-activeness is incompatible with robustness property of exploitative innovation which is based on the path dependence. Second, although effects of the three dimensions on dual innovation vary, there is no obvious conflict overall. In other words, it is considered that explorative innovation and exploitative innovation have the same direction. Conclusions of this paper is conflict with previous studies that dual innovation is driven by different factors, therefore there is "ambidexterity paradox" (March, 1991,2006), conclusions in this paper found that corporate entrepreneurial orientation makes dual innovation has common contributing factors, which conforms to the conclusion of Kollmann and Stockmann (2010), therefore, the conclusion of the paper provides empirical evidence on the "complementarity" of dual innovation in China.

Finally, research in this paper of regulations of knowledge rigidity for corporate entrepreneurial orientation and dual innovation expanding existing theories. Knowledge rigidity was found to negatively regulate corporate entrepreneurial orientation and explorative and exploitative innovation, which conformed to hypothesis of the research. This might due to the fact that knowledge rigidity emphasizes stability of routine process and constancy of source of knowledge, such rigidity is adverse to any kind of reform, and results in a negative regulative effect, which conforms to the conclusion that knowledge inertia will hinder organizational innovation of Huff & Huff (2000). In contrast, empirical rigidity has a positive regulative effect on corporate entrepreneurial orientation and explorative and exploitative innovation, which could result from the fact that as empirical rigidity is based on path dependence, it is prone to improvement and perfection of current path. This conclusion changes a common view of extant documents that (knowledge) rigidity is adverse to innovation in dynamic environment.

### MANAGEMENT IMPLICATIONS

Above all, enterprises should work as a positive role of corporate entrepreneurial orientation when promoting dual innovation management. Gaining a competitive advantage need to achieve dual innovation under the dynamic environment but dual innovation not easy acquired has been a problem troubled corporations in a long time. Many studies found that the dual innovation paradox is mainly because explorative innovation and exploitative innovation has heterogeneous antecedents (especially in the organization).Conclusions of this study show that corporate entrepreneurial orientation is an important antecedent to simultaneously promote explorative innovation and exploitative innovation. Enterprises can promote dual innovation through the implementation of corporate entrepreneurial orientation for obtaining sustainable competitive advantage in dynamic environment.

Then, enterprises should attach great importance to the promotion and repression of knowledge rigidity in innovative practices based on corporate entrepreneurial orientation. In the background that knowledge management has become the next "fashion", most companies are able to recognize the importance of knowledge for innovation, but they lack of understanding of learning rigidity and its impact on the mechanism of knowledge innovation awareness. For enterprises that urge for exploitative innovation, empirical rigidity should play an important role so as to invoke the positive effect of corporate Entrepreneurial orientation; but for enterprises which urge for explorative innovation, it is crucial to reduce or even avoid the influence of empirical rigidity.

In an unstable and ever-changing environment, enterprise's need for explorative innovation has been elevating, hence, highlighting the importance of overcoming empirical rigidity and breaking route dependence. Enterprises can encourage employees to adopt new ideas to solve problems to overcome empirical rigidity. At the same time, no matter what kind of innovation corporate conducts, enterprises should strive to overcome or avoid empirical rigidity.

## STUDY LIMITATIONS

Limitation of this paper is mainly reflected in dates. Data samples come from Shenyang and Dalian, Liaoning Province, which may affect the universality of conclusions, the follow-up studies should broaden the research area and according to this we could conduct comparative study of sub-regions, in order to test and improve the conclusions. At the same time, innovation has a significant time lag, studies also have found that the long-term impact of corporate entrepreneurial orientation is greater than the short-term impact (Zahra & Covin, 1995), the follow-up studies could consider dynamic tracking research method to carry out a longitudinal time series studies, which would make conclusions more convincing.

Studies on knowledge rigidity in this article are still worth exploring. Although founding knowledge rigidity has a positive or negative regulation for the relation between corporate entrepreneurial orientation and dual innovation, this paper did not make deep research in how to control or reduce knowledge rigidity. And the paper only discusses the relation between the interaction of corporate entrepreneurial orientation and knowledge rigidity and dual innovation, but for the problem on how to promote the relation of explorative innovation and exploitative innovation there is a lack of in-depth discussion, which also provides the right topics for further study. In addition, there may be other disturbance variables between corporate entrepreneurial orientation and dual innovation, such as the dynamic environment and so on, we recommend that future research could investigate other disturbance variables, in order to understand if there are any other factors that might affect the corporate entrepreneurial orientation and dual innovation.

## REFERENCES

1. Bierly P E, Daly P S. Alternative knowledge strategies, competitive environment, and organizational performance in small manufacturing firms [J]. *Entrepreneurship: Theory and Practice*, 2007, 31:493-516.
2. Cardinal L B. Technological innovation in the pharmaceutical industry [J]. *Organization Science*, 2001, 12(1):5-20.
3. Cho H J, Pucik V. Relationship between innovativeness, quality, growth, profitability, and market value [J]. *Strategic Management Journal*, 2005, 26(6): 555-575.
4. Covin J G, Slevin D P. A conceptual model of entrepreneurship as form behaviour [J]. *Entrepreneurship: Theory and practice*, 1991, 16(1):7-24.
5. Covin J G, Slevin D P. The development and testing of an organizational-level entrepreneurship scale [C]. *Frontiers of entrepreneurship research*, in Ronstadt R, Hornaday J, Peterson K, Vesper K. eds. Wellesley, MA: Babson College, 1986: 628-639.
6. Dess G G, Lumpkin G T, The role of entrepreneurial orientation in stimulating effective corporate entrepreneurship [J]. *The Academy of Management Executive*, 2005, 19(1): 147-156.
7. Fang C H, Chang S T, Chen G L. Organizational learning capability and organizational innovation: The moderating role of knowledge inertia [J]. *African Journal of Business Management*, 2011, 5(5): 1864-1870.
8. Friedrich B. Rational purchase of medical care and differential insurance coverage for diagnostic services [J]. *Journal of Health Economics*, 1982,1(2):147-156.
9. Garud R, Nayyar P R. Transformative capacity: Continual structuring by inter temporal technology transfer [J]. *Strategic management journal*, 1994, 15(5): 365-385.
10. Grant R M. Prospering in Dynamically- Competitive Environments: Organizational Capability as Knowledge Integration [J]. *Organization Science*, 1996; 7(4): 375-388.
11. He Z. & Wong P, Exploration vs. exploitation: an empirical test of the ambidexterity hypothesis [J]. *Organization science*, 2004, 15(4): 481-494.
12. Huff J O, Huff A S. When firms change direction[M]. Oxford University Press, 2000.
13. Hughes M, Morgan R E. Deconstructing the relationship between entrepreneurial orientation and business performance at the embryonic stage of firm growth [J]. *Industrial Marketing Management*, 2007, 36(5): 651-661.
14. Jansen J P, Van Den Bosch F J, Volberda H W. Exploratory innovation, exploitative innovation, and performance: Effects of organizational antecedents and environmental moderators [J]. *Management science*, 2006, 52(11): 1661-1674.
15. Kollmann T, Stockmann C. Antecedents of strategic ambidexterity: effects of entrepreneurial orientation on exploratory and exploitative innovations in adolescent organizations [J]. *International Journal of Technology Management*, 2010, 52(1): 153-174.
16. Levinthal D A, March J G. The myopia of learning [J]. *Strategic management journal*, 1993, 14(S2): 95-112.
17. Liao S H. Problem solving and knowledge inertia [J]. *Expert Systems with Application*, 2002, 22(1):21-31.
18. Liao S, Fei W C, Liu C T, Relationships between knowledge inertia, organizational learning and organization innovation [J]. *Technovation*, 2008, 28(4): 183-195.
19. Lumpkin G T, Dess G G. Clarifying the entrepreneurial orientation construct and linking it to performance [J]. *Academy of management Review*, 1996, 21(1): 135-172.
20. March J G. Exploration and exploitation in organizational learning [J]. *Organization Science*, 1991, 2(1): 71-87.
21. March J G. Rationality, foolishness, and adaptive intelligence [J]. *Strategic Management Journal*, 2006, 27: 201-214.
22. Menguc B, Auh S. Creating a firm level dynamic capability through capitalizing on market orientation and innovativeness [J]. *Journal of the Academy of Marketing Science*, 2006, 34(1):63- 73.
23. Miller D. The correlates of entrepreneurship in three types of firms [J]. *Management Science*, 1983, 29:770-791.
24. Peng M, Heath P. The growth of the firm in planned economies in transition: institutions, organizations, and strategic choice [J]. *Academy of Management Review*, 1996, 21(2):492-528.
25. Podsakoff P M, Mackenzie S B, Lee J, Podsakoff N P. Common method biases in behavioral research: a critical review of literature and recommended remedies [J]. *Journal of Applied Psychology*, 2003, 88(5):879-903.
26. Sharifirad M S, Relationship between knowledge inertia and organizational learning [J]. *International Journal of information Technology and Knowledge management*, 2010, 2(2): 323-327.
27. Sternberg R G. Beyond I.Q.: a triarchic theory of human intelligence [M]. New York: Cambridge University Press, 1985.
28. Tan J, Tan D. Environment strategy Co-evolution and Co-alignment: A Staged Model of Chinese Soes under Transition [J]. *Strategic Management Journal*, 2005, 26(2):141-157.
29. Zahra S A, Covin J G. Contextual influence on the corporate entrepreneurship performance relationship: a Longitudinal analysis [J]. *Journal of Business Venturing*, 1995, 10(5):43- 58.

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