Effect of Absorptive Capability and Governance Mechanisms on Co-innovational Performance-Based on Empirical Research on R&D Cooperation between Competitive Enterprises

Guoyong Ma[1, 2], Chunsheng Shi[2], Rui Ma[1], Jiaying Bai[1]

1. School of Economics and Management, Northeast Forestry University, Harbin 150040, China
2. School of Economics and Management, Harbin Institute of Technology University, Harbin 150001, China
Email: 374183628@qq.com

Abstract: With the R&D cooperation between competitive enterprises as the research object, the effect of absorptive capability and governance mechanisms on co-innovational performance, the effect of absorptive capability on governance mechanisms and the regulating role of absorptive capability in the relationship between governance mechanisms and co-innovational performance are discussed in the paper. The empirical result shows that as for the R&D cooperation between enterprises, the stronger the absorptive capability, the greater the tendency to adopt contractual governance for R&D cooperation between competitive enterprises, no significant correlation between absorptive capability and relational governance; both contractual governance and relational governance have significant positive effect on co-innovational performance; absorptive capability has a positive regulating role in the relationship between governance mechanisms and co-innovational performance, but absorptive capability has no positive regulating role in the relationship between relational governance and co-innovational performance.
[Guoyong Ma, Chunsheng Shi, Rui Ma, Jiaying Bai. **Effect of Absorptive Capability and Governance Mechanisms on Co-innovational Performance -Based on Empirical Research on R&D Cooperation between Competitive Enterprises.** *World Rural Observ* 2015;7(2):47-54]. ISSN: 1944-6543 (Print); ISSN: 1944-6551 (Online). http://www.sciencepub.net/rural. 8

Key words: R&D cooperation between competitive enterprises; absorptive capability; governance mechanism; co-innovational performance

1. Introduction

With the increasing pressure of market competition and increasingly prominent integration trend of technology, more and more companies have found it impossible to build up and maintain competitive advantages by merely relying on their own resources and capability. Cooperation with external organizations can help enterprises to break through their own constraints and realize cross-organizational integration of resources and capability, and has become one the important strategic choices made by enterprises to realize competitive advantages. Seen from the practice investigation result, that some enterprises choose to conduct R&D cooperation with their competitor on their product markets has become an important mode of R&D cooperation between organizations. This not only involves the cooperation between multinational companies, such as the cooperation between Dell and Compaq to develop electronic products and the cooperation between General Motors and Fuji Heavy Industries to conduct auto design and development, but also involves the cooperation between foreign enterprises and local enterprises, such as the strategic R&D alliance between Anheuser-Busch, US and Qingdao Beer and the CDMA terminal development and procurement jointly conducted by SK Telecom, South Korea and China Unicom, and the R&D cooperation between domestic competitors, such as the cooperation between Jiangsu Daquan Group and Guodian Technology & Environment Group Corporation Limited to develop polycrystalline silicon projects.

Existing research shows that though the R&D cooperation between enterprises is common but that the failure rate of such cooperation is high[1], with R&D cooperation failure bringing huge losses to enterprises. As for competitors with fundamentally opposite interests, the failure rate of R&D in the form of cooperation tends to be higher, and consequences of such R&D cooperation tend to more serious. Therefore, it is of great theoretical significance and practical value to explore how to increase the success rate of R&D cooperation between enterprises and improve the innovation performance based on cooperation between enterprises.

Currently, some scholars have studied the relationship between governance mechanisms and cooperation performance from the angle of relationship management, with the aim to explore what kind of governance can help improve cooperation performance. Through collation of existing literature, the following representative research is found: the research on the interactive effect between the internal governance mechanisms and performance of enterprises conducted by Zhou Yixiang, with the 509 listed companies on Shanghai and Shenzhen stock markets during 1999-2008 as the

research object [2]; the vegetable circulation channel-based practice case by Zhang Chuang, Xia Chunyu and Liang Shouyan, in which the features of effect of governance mechanisms on transaction performance are studied[3]; Gui Huangbao thinks the formal alliance governance mechanisms and informal governance mechanisms can enhance alliance stability and performance in the research on governance mechanisms of strategic alliances for cooperative innovation [4]; Wang Longwei, Ren Shenggang and Xie En regard governance mechanisms as a regulation variable in the research on the effect of cooperative R&D on the innovation performance of enterprises, empirically studying the regulating role of contractual governance and trust in the relationship between cooperative R&D and innovation performance of enterprises[5]; Shi Huibin and Li Yuan have studied the issues concerning the dynamic selection of alliance governance mechanisms based on resource protection and utilization and pointed out that different governance mechanisms have different effects on the creation of alliance value[6] ; Liu Xuemei has studied the effect of governance mechanisms of focus enterprises and cooperative partners on the realization of strategic objectives of alliance portfolios and realized the important role of official governance and non-official governance mechanisms [7]; Gao Weihe, LiuYong, Chen Xinkang and Jiang Xiaodong have studied the regulating role of governance mechanisms between coordination and communication and corporate performance [8].

Currently, the research on the effect of governance mechanisms on co-innovational performance needs to be further expanded in the following aspects: (1) In the research on the effect of governance mechanisms on co-innovational performance, governance mechanisms are mostly considered as exogenous variables, while governance mechanisms have endogenous characteristics[9], and governance mechanism endogenization-based exploration of effect of governance mechanisms on co-innovational performance is seldom involved in current research. (2) Currently, there is few empirical research with R&D cooperation between competitive enterprises as the object, and seen from the practice in the R&D cooperation between competitive enterprises, scientific cooperation governance mechanism theories are needed as guidance. (3) Currently, absorptive capability hasn't been introduced into relevant research on the effect of governance mechanism on co-innovational performance, thereby, but absorptive capability is an important factor influencing the cooperative relationship, cooperative process and cooperative performance of enterprises, so it is essential to introduce absorptive capability into the research on the relationship between governance mechanisms and cooperative innovative performance.

With the R&D cooperation between competitive enterprises as the research object, the effect of absorptive capability and governance mechanisms on co-innovational performance, the effect of absorptive capability on governance mechanisms based on the endogenization of governance mechanism and the regulating role of absorptive capability in the relationship between governance mechanisms and co-innovational performance are studied. Based on the actual investigation data about the R&D cooperation between competitive enterprises, examination and analysis of the hypotheses proposed in this paper are conducted.

2. Theoretical Review

2.1 Particularities of R&D cooperation between competitive enterprises

The R&D cooperation between competitive enterprises is a "dynamic process in which enterprises that produce the same or similar products jointly participate in the R&D process, bear R&D cost and share R&D risks and achievements based on contracts, differentiation, complementarily and relevance" [10] Compared with R&D cooperation between ordinary organizations, the R&D cooperation between competitive enterprises has the following particularities: (1) The commodities produced by competitive enterprises have substitutional relationship of a certain degree, indicating great exclusiveness between different commodities, which determines highly inconsistency in the fundamental interests of competitive enterprises; (2) Due to the highly inconsistency in the interests of both parties involved in the cooperation, each party focuses a lot on its own input-output ratio and keeps an eye on the input-output ratio of the other party, each party hoping that the input-output ratio it has achieved is not lower than or even higher than the other party's, in which case, the fairness of the cooperation is an important guarantee for further cooperation of both parties; (3) There exists inclination of opportunism in both parties, contributing to great uncertainty of cooperation, so both parties assume high risks involved in such cooperation.

2.2 Absorptive capability

Absorption and utilization of external knowledge is an important factor for innovation and establishment of competitive advantage of enterprises. Absorptive capability is enterprise's ability to process external knowledge to meet the enterprise's own development needs [11], including the ability to digest external knowledge and the ability to create new knowledge [12]. At the same time, this ability is also the ability developed and embedded in bilateral or multilateral relations in view of a specific partner. In this paper, absorptive capability is defined as "an

embedded dynamic process of competitive enterprises effectively utilizing partners' knowledge during the connection with partners, a series of practices and processes made up of knowledge and skills". [12]

2.3 Governance mechanism

Governance mechanisms are an institutional guarantee for organizations realizing their goals, able to realize coordination and control or the behavior of an organization itself and the members in the organization, mete out relevant rewards and penalties, prevent moral hazard and adverse selection behavior, reduce uncertainty and promote the realization of goals of the organization[13]. Currently, scholars generally divide governance mechanism into contractual governance and relational governance. Contractual governance is based on transaction cost theories, emphasizing the incentive function and supervision function of governance mechanism, mainly including entering into contracts and special asset investment[14]. The conclusion of a formal contract can realize certain provisions on the code of conduct, rights and duties of an organization itself and the members in the organization in a comprehensive and specific manner. Such governance mechanisms are usually clearly formulated in advance, and are mandatory. Relational governance is based on social relation theories and social capital theories, emphasizing the importance of informal relations, including the mutual trust of both parties involved in the cooperation and participants' confidence in the cooperation process and cooperative partners[15].

2.4 Co-innovational performance

Performance is an important measure for realization of organizational goals and unity of efficiency and effectiveness of organizational activities. The performance of R&D cooperation between competitive enterprises is used as realization degree of goals of R&D cooperation between enterprises as competitors. In the opinion of Anderson (1990), the cooperation between enterprises involves different motives, resource differences and difficulties in measuring many resources, resulting in the intangibility and quantitative difficulty in the performance of R&D cooperation between competitive enterprises to a large degree. It is thought in the paper that the performance of R&D cooperation between competitive enterprises is holistic concept expression, not measured from the angle of a certain party or certain parties involved in the cooperation, but measured from the angle of the sum of all parties involved in the cooperation.

3. Research Hypothesis and Model Construction

3.1 Absorptive capability and governance mechanisms

Absorptive capability refers to an enterprise's ability to absorb external knowledge and internalize it into its own knowledge. During the cooperation between competitive enterprises, as the interests of both parties are fundamentally opposite, so each party is worried that the other party will steal, absorb and learn its knowledge and skills, eventually causing it to reduce or lose competitive advantage. Therefore, the cooperation between competitive enterprises tends to be task-oriented, and in order to reduce the risks involved in the cooperation between both parties and prevent each other's opportunistic tendency; each party is more likely to manage bilateral cooperative relations in the form of contracts.

It is because of high uncertainty of R&D cooperation between competitive enterprises that both parties face high risks. It is hard to regulate, control and guide the behavior of both parties by depending on non-mandatory informal relationships, so the stronger the absorptive capability, the smaller the tendency to adopt relational governance for R&D cooperation between competitive enterprises. Based on the analysis above, the following hypotheses are put forward:

Hypothesis 1: the stronger the absorptive capability, the greater the tendency to adopt contractual governance for R&D cooperation between competitive enterprises.

Hypothesis 2: the stronger the absorptive capability, the smaller the tendency to adopt relational governance for R&D cooperation between competitive enterprises.

3.2 Absorptive capability and co-innovational performance

In the opinion of Cohen and Levinthal[16], absorptive capability refers to an enterprise' ability to identify, evaluate, digest and apply external knowledge and commercialize it. During the R&D cooperation process, a competitive enterprise can obtain tacit knowledge that it doesn't have from its partner and internalize such knowledge into its core competitiveness. With the improvement of the enterprises, it is easier for the resources input by both parties of the cooperation to exert complementary and synergistic effects, thus improving R&D co-innovational performance. Based on the analysis above, the following hypothesis is put forward:

Hypothesis 3: absorptive capability has a positive role in promoting co-innovational performance.

3.3 Governance mechanism and co-innovational performance

Under the premise of cooperative partners having opportunistic tendency, entering into a contract is fundamental to the realization of cooperation performance of enterprises[17]. Governance mechanisms can prevent the opportunistic tendency of cooperative partners and maintain and promote

cooperation stability, thereby improving the cooperation performance between organizations[18]. Contractual governance can guide cooperative partners to implement cooperative behavior according to the concluded contract, reduce the opportunistic tendency involved in the R&D cooperation between competitive enterprises and maintain the stability and continuity of cooperation.

In the opinions of Monica L.Perry & Sanjit Sengupt, etc.[19], trust and commitment can contribute to the success of alliances. Bierly & Scott Gallagher think that the trust and confidence between cooperative partners can reduce the opportunistic tendency[20] involved in the cooperation. The trust between both parties of cooperation can promote the communication and exchanges between cooperative partners and knowledge & information sharing, conducive to complementarities and synergies of knowledge; at the same time, higher trust in each other contributes to larger possibility of promoting the consistency of the goals of both parties involved in the cooperation, conductive to the realization of cooperation goals. Based on the analysis above, the following hypotheses are put forward:

Hypothesis 4: contractual governance has a positive role in promoting co-innovational performance;

Hypothesis 5: relational governance has a positive role in promoting co-innovational performance

3.4 Relating role of absorptive capability in the relationship between governance mechanisms and co-innovational performance

A contractual governance mechanism provides definite supervision rules and incentive rules for the cooperation behavior of competitive enterprises and guarantees stable cooperation under the framework. Under the control of this contractual mechanism, the stronger absorptive capability competitive enterprises have, the easier, the deeper knowledge exchange both parties can conduct, more efficient knowledge integration tends to be.

Under the premise of sustaining and fostering informal relationships between competitive enterprises, the more trust both parties have in each other, the easier it is to exert the advantages of cooperative partners, which is conductive to the organizational learning of enterprises, thereby improving the core competitiveness of the enterprises and helping improve co-innovational performance to a certain degree. Based on the analysis above, the following hypotheses are put forward:

Hypothesis 6: positive role of absorptive capability in regulating the relationship between contractual governance mechanisms and co-innovational performance;

Hypothesis 7: positive role of absorptive capability in regulating the relationship between relational governance mechanisms and co-innovational performance.

Based on the analysis of the relationship between absorptive capability, governance mechanisms and co-innovational performance in the paper, the following model has been constructed, as shown in Fig.1

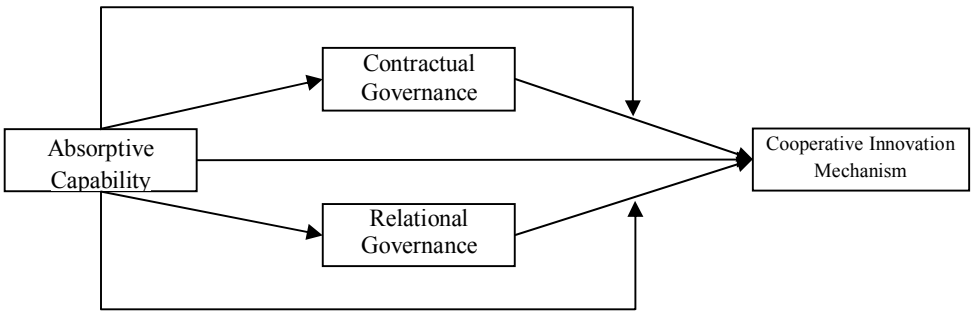

Figure 1 Model of absorptive capability, governance mechanisms on the co-innovational performance

4 Research Method

4.1 Scale design

This paper is intended to study the relationship between absorptive capability, governance mechanisms and co-innovational performance. In the design of variable indicators, the scale indictors used by scholars are adopted as much as possible. Based on the features of R&D cooperation between competitive enterprises, expert advice and interviews with enterprises, the variable indicator scales involved have gone through targeted improvement to improve the reliability and validity of the scales. With reference to the research achievements of Wang Tianli [21] and Wu Xiaobo [22], a Likert five-point scale involving4 items

is designed for absorptive capability; based on the views of Heide[23] and Houston & Johnson [24] about contractual governance mechanisms and on the particularities of R&D cooperation of competitive enterprises, a Likert five-point scale involving 3 items is designed for contractual governance; with reference to the views of Zaheer[25], Ye Fei[26] and Hu Enhua[27], a Likert five-point scale involving 4 items is designed for variables of relational governance; with reference to the views of Hou & Li[28] and Li[29], a Likert five-point scale involving 4 items is designed for co-innovational performance.

4.2 Samples and data

With R&D cooperation between cooperative enterprises, the relationship between absorptive capability, governance mechanisms and co-innovational performance is studied in this paper. Therefore, during the selection of research object, the author has tried to select the enterprises that are cooperating and have cooperated with competitors and carefully selected the enterprises meeting the requirements. From May 2009 to March 2012, the author investigated the research objects in the forms of live interviews and distribution of network questionnaires, with the enterprises investigated including state-controlled enterprises, private enterprises and foreign-controlled enterprises, with the investigation mainly targeted at the middle and top-level management personnel and technical personnel involved in the R&D cooperation between cooperative enterprises.

The paper involves the distribution of 210 survey questionnaires, including 150 valid questionnaires, with an effective recovery rate of 71.4%, which can ensure a good grasp of the features of competitive enterprises and relevant respondents. It is found by sorting out the survey questionnaires that there are 60 pairs of dual enterprises involved in the same R&D cooperation, so the data from questionnaire survey of these 60 pairs of competitive enterprises having R&D cooperation are used as the data basis for hypothesis tests in this paper.

5. Results

5.1 Validity and reliability of questionnaires

Cronbach's α value is adopted to test the reliability of questionnaires and the questionnaires with *Cronbach's* α value greater than 0.7 are considered to have high reliability. *SPSS19.0* is adopted to process questionnaire data after screening. Consistency calculation shows that all *Cronbach's* α values of absorptive capability, contractual governance, relational governance and co-innovational performance questionnaire scales are greater than 0.7, indicating the scale indicators in this paper have high reliability.

In terms of validity testing, the indicators of absolute fit of goodness, $\chi^2 / f < 3$, $GFI < 1$ and $RMSEA < 0.1$, show that the scale models have good absolute fit of goodness; in terms of questionnaire scale design, the scales that have been used by scholars are adopted as much as possible, with the opinions of relevant experts and features of R&D cooperation between competitive enterprises combined with the scales at the same time, contributing to the good validity of the questionnaire scales; in terms of validity construction, KMO and Bartlett tests, $KMO < 0.6$ and $Baerlett < 0.05$, have shown the good construction validity of the questionnaire scales in this paper; at the same time, the indicators for relative goodness of fit IFI, TLI and CFI are close to 1, proving high relative goodness of fit. In terms of multicollinearity test of variable indicators, there exist no multicollinearity or heteroscedasticity problems with the design of variable indictors in this paper.

5.2 Hypothesis testing and analysis

SPSS19.0 is used to process and analyze questionnaire data, with the empirical results as shown in Table 1: Models 1 and 2 are the regression models for the effects of absorptive capability on contractual governance and relational governance respectively; Models 3, 4 and 5 are the regression models for the effects of absorptive capability, contractual governance and relational governance on co-innovational performance respectively, based on which the interaction items of contractual governance and absorptive capability and the interaction items of relational governance and absorptive capability, Models 6 and 7 are constructed to test the role of absorptive capability in regulating the relationship between contractual governance, relational governance and co-innovational performance respectively.

Seen from the regression result of Model 1, the ΔR^2value of the model is 0.036**, indicating that above the significance level p<0.01 (two-tail test), the model interpretation power is significant, and the coefficient of the influence of absorptive capability on contractual governance is 0.821** (p<0.01), indicating that absorptive capability has a significant positive effect on co-innovational performance in the R&D cooperation between competitive enterprises, thereby supporting *H1*.

Seen from the regression result of Model 2, theΔR^2 value of the model is 0.001**, indicating that above the significance level p<0.01 (two-tail test), the model interpretation power is extremely significant and that the hypothesis about the effect of absorptive capability on relational governance is not supported, thereby not supporting *H2*.

Seen from the regression results of Models 3, 4

and 5, the ΔsR^2 values of the models are 0.052*, 0.021**and 0.087**, indicating that above the level p<0.05, the interpretation power of Model 3 is significant, and that the level p<0.05, the interpretation power of Models 4 and 5 are significant. Based on the results in Table 1, the coefficient of the influence of absorptive capability on co-innovational performance is 0.729**, indicating that the absorptive capability of both parties involved in the cooperation has a significant positive promotion effect on co-innovational performance in the R&D cooperation between competitive enterprises, thereby supporting *H3*; the coefficient of the influence of contractual governance on co-innovational performance is 0.847**, indicating that contractual governance has a significant positive promotion effect on co-innovational performance, thereby supporting *H4*; the coefficient of the influence of contractual governance on co-innovational performance is 0.550**, indicating that contractual governance has a significant positive promotion effect on co-innovational performance, thereby supporting *H5*.

Seen from the regression result of Model 6, the ΔR^2value of the model is 0.022**, indicating that above the significance level p<0.01 (two-tail test), the model interpretation power is significant, and at this time the coefficient of the regulation of absorptive capability in the relationship between contractual governance and co-innovational performance is 0.667** (p<0.01), indicating that absorptive capability has a significant positive regulating role in the relationship between contractual governance and co-innovational performance in the R&D cooperation between competitive enterprises, thereby supporting *H6*.

Seen from the regression result of Model 7, the ΔR^2value of the model is 0.001**, indicating that above the significance level p<0.01 (two-tail test), the model interpretation power is extremely insignificant and that the hypothesis about the features of the regulation of absorptive capability in the relationship between contractual governance and co-innovational performance is not supported, thereby not supporting *H7*.

Table1 Empirical Results of Effect of Absorptive Capability and Governance Mechanisms on the Co-innovational Performance

Variable	Contractual Governance	Relational Governance	Co-innovational Performance				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Absorptive Capability	0. 821**	-0.278*	0.729**	0.661**	0.619	0.594**	0.604
Contractual Governance	1			0.847**	0.568**	0.527	0.594
Relational Governance		1			0.550**	0.613	0.599**
Contractual Governance× Absorptive Capability						0.667**	0.631
Relational Governance× Absorptive Capability							0.588*
R^2	0.745**	0.602*	0.568	0.702	0.715**	0.645**	0.509
Adjusted R^2	0.770**	0.688*	0.667	0.683	0.726**	0.721*	0.621*
ΔR^2	0.036**	0.001**	0.052*	0.021**	0.087**	0.022**	0.001**
Whether they support hypotheses or not	Supporting H1	Not supporting H2,	Supporting H3	Supporting H4	Supporting H5	Supporting	Not supporting H7

Note: ** indicates significance level p<0.01 (two-tail test), * indicates significance level p<0.05two-tail test).

6. Conclusions and Enlightenments

6.1 Conclusions

With the R&D cooperation between competitive enterprises as the research object, the relationship between absorptive capability, governance mechanisms and co-innovational performance is studied, and the hypotheses about the effects of absorptive capacity on co-innovational performance, governance mechanisms on co-innovational performance and absorptive capability on governance mechanisms and the role of absorptive capability in regulating the relationship between governance mechanisms and co-innovational performance are put forward, based on which hypothesis testing is conducted through the analysis of investigation and survey data, with the research results show: (1) The stronger the absorptive capability, the greater the tendency to adopt contractual governance for R&D cooperation between competitive enterprises, indicating that due to highly inconsistency in the interests of both parties involved in the cooperation, contributing to more complex cooperation risks, in order to reduce each other's opportunistic tendency, protect their respective core knowledge and ability and maintain their respective interests and competitive advantages, both parties are more likely to adopt contractual governance to definitely provide cooperation behavior in the cooperation process and regulate and guide the cooperation behavior of both parties. (2) Absorptive capability has a positive promotion effect on co-innovational performance, indicating the stronger capability a competitive

enterprise have, more tacit knowledge and skills the enterprise can absorb through R&D cooperation and internalize them into its own core competence, conductive to the realization of cooperative goals. (3) Contractual governance has a positive promotion effect on co-innovational performance, indicating that in the R&D cooperation between competitive enterprises, contractual governance clearly provides the rights, duties and responsibilities of enterprises, able to regulate the cooperation behavior of both parties involved in the cooperation, reduce uncertainty of cooperation, ensure cooperation stability, help realize win-win cooperation and promote the improvement of co-innovational performance. (4) Relational governance has a positive promotion effect on co-innovational performance, indicating that maintaining informal cooperative relationship is of great important for improving co-innovational performance, and that the trust and communication between both parties involved in the cooperation can enhance mutual understanding, eliminate mutual misunderstanding, promote the organizational learning of the enterprises involved in the cooperation and resource integration and exert the complementary effect and synergistic effect of resources, ultimately improving the co-innovational innovation performance. (5) The positive regulation of absorptive capability in the relationship between contractual governance mechanisms and co-innovational performance indicates that the stronger the absorptive capability of both parties, more likely it is to realize the goals of the R&D cooperation between competitive enterprises under the governance of contractual mechanisms. (6) During the R&D cooperation between competitive enterprises, absorptive capability has an insignificant effect on relational governance, and at the same time, the role of absorptive capability in regulating the relationship between relational governance and co-innovational performance is insignificant, either.

6.2 Enlightenments for Management

The research in this paper has enriched the research perspectives of co-innovational performance, of certain guiding significance for improving the co-innovational performance in the R&D cooperation of competitive enterprises. In view of the R&D cooperation of competitive enterprises, the following enlightenments for management are presented:

(1) In the R&D cooperation of competitive enterprises, both parties involved in the cooperation should try to enter into a complete cooperation contract to clearly provide the amount of cooperation resources to be input by participants (including quantity and time of material resources to be input, and the requirements for the academic qualifications, posts and technical ability of personnel to be input)and the mechanism for interest distribution between both parties. At the same time, the mode and channel for solving the conflicts involved in the cooperation process should be included in the cooperation contract to reduce uncertainly and maintain cooperation stability in the cooperation process. Besides, a contract involving both incentives and constraints should be concluded to effectively control and guide the R&D cooperation process.

(2) Great importance should be attached to the relational governance in R&D cooperation, a management mechanism for the cooperative relationship between competitive enterprises shall be established and communication and exchanges between both parties involved in the cooperation should be strengthened to promote mutual trust and reduce the contradictions and conflicts in the cooperation as much as possible. Formal and informal liaisons between the middle and top-level management personnel and technical personnel should be enhanced, an information feedback mechanism should be established and at the same time, competitive enterprises should build up their own reputation and create good images of integrity.

(3) Competitive enterprises should try to improve their absorptive capacity and focus on the acquisition, absorption, digestion, internalization and application of external knowledge. Therefore, competitive enterprises should cultivate their own ability to search for, acquire, internalize and apply external knowledge.

Acknowledgement

This research was supported by NSFC (1272176) & the Fundamental Research Funds for the Central Universities (DL11AC41)

References:

[1] Gerwin D. Coordinating new product development in strategic alliances [J]. Academy of Management Review,2004,29(2):241-257.

[2] Zhou Yixiang. Interactive Effect between Internal Governance Mechanisms and Corporate Performance [J]. Journal of Shanxi Finance and Economics University, 2011, 33 (4):93-105.

[3] Zhang Chuang, Xia Chunyu, Liang Shouyan. Relationship Exchange, Governance Mechanisms and Transaction Performance: A Comparative Case Study on the Circulation Channel of Vegetables [J]. Management World, 2009, 8:124-140.

[4] Gui Huangbao. Governance Mechanisms of Strategic Alliances for Cooperative Innovation [J]. Science and Technology Management Research, 2011 (16):18-21.

[5] Wang Longwei, Ren Shenggang, Xie'en. Study on the Effect of Cooperative R&D on Innovation

Performance of Enterprises- Based on the Analysis of Regulation of Governance Mechanisms [J]. Studies in Science of Science, 2011, 29(5):785-791.
[6] Shi Huibin, Li Yuan. Study on Dynamic Selection of Alliance Governance Mechanisms Based on Resource Protection and Utilization [J]. Science of Science and Management of S & T. 2008, 2:161-167.
[7] Liu Xuemei. Alliance Portfolio: Value Creation and Governance Mechanisms [J]. China Industrial Economy, 2012291 (6): 70-82.
[8] Gao Weihe, Liu Yong, Chen Xinkang, Jiang Xiaodong. Coordination & Communication and Corporate Performance: Mediating Role of Commitment and Regulating Role of Governance Mechanisms [J]. Management World, 2010, 11:76-93.
[9] Zhou Jian, Liu Xiaoyuan, Yu Wei. Empirical Research on Corporate Governance Mechanism Interaction [J]. Management Science, 2008, 21 (2): 2-13.
[10] Ma Guoyong, Shi Chunsheng. Effect of Cooperative Relationship and Absorptive Capability on Cooperation Risks - Based on Empirical Study on R&D Cooperation between Competitive Enterprises [J]. Prediction, 2013, 32 (2):36-42.
[11] Zahra S A,George G.Absorptive capacity: a review, reconceptualization, and extension J]. Academy of Management Review, 2002, 27(2) :185-203.
[12] Kim L.The dynamics of Samsung,s technological learning in semiconductors [J].California Management Review,1997,39: 86- 100.
[13] Cannon J P,Achrol R S,Gregory G. Contracts, norms, and plural form governance [J].Academy of Marketing Science,2000,28 (2) :180-194.
[14] Brown J R,Dev C S,Lee D J. Managing marketing channel opportunism: the efficacy of alternative governance mechanisms [J].Journal of Marketing, 2000, 64(2):51- 65.
[15] Kumar N,Scheer L K,Steenkamp J. The effects of perceived interdependence on dealer attitudes [J]. Journal of Marketing Research, 1995, 32(3) :348-356.
[16] Cohen W, Levinthal D. Absorptive Capacity: A New Perspective on Learning and Innovation[J]. Administrative Science Quarterly, 1990, 35 (1):128-152.
[17] Williamson O E. Comparative economic organization: the analysis of discreet structural aternatives[J]. Administrative Science Quarterly, 1991, 36 (2):269-296.
[18] Dickson P H, Weaver K M, Hoy F. Opportunism in the R&D alliances of SMES: The roles of the institutional environment and SME size [J]. Journal of Business Venturing, 2000, 21(4):487-513.
[19] L Monica Perry, Sanjit Sengupt, Robert Krafpel. Effectiveness of horizontal strategic alliances in technologically uncertain environments are trust and commitment enough? [J]. Journal of Business Research, 2004(57):951-956.
[20] Paul e Bierly, Scott Gallageher. Explaining alliance partner selection: fit, trust and strategic expediency long range planning [J].Long Range Planning, 2007(40):134-153.
[21] Wang Tianli, Zhang Xiu'e. Analysis of Absorptive Capability Concept and Interpretation of Misunderstanding [J]. Foreign Economy and Management, 2013, 02:2-11.
[22] Wu Xiaobo, Chen Ying. Empirical Research on the Selection of R&D Modes Based on Absorptive Capability [J]. Studies in Science of Science, 2010, 11:1722-1730.
[23] Heide, J.B., and John, G.. Do Norms Marrer in Marketing Relationships? [J]. Journal of Marketing, 1992,56(4):32-35.
[24] Houston, Mark B.and Shane A.Johson. Buyer-Supplier Contracts Versus Joint Ventures: Determinants and Consequences of Transaction Structure [J]. Journal of Marketing Research, 2000, 37(1):1-15.
[25] Zaheer A, McEvily B, Perrone V. Does trust matter exploring the effects of inter- organizational and interpersonal trust on performance[J]. Organizational Science,1998, 9(1):141-159.
[26] Hu Enhua, Shan Hongmei, Bao Jingjing. Impact of Company Commitment and Union Commitment on Organizational Citizenship Behavior: Mediating Roles of Dual Committees [J]. Prediction, 2012, 31 (5):40-45.
[27] Chen, YS, Lin, MJJ, Chang, CH. The Positive Effects of Relationship Learning and Absorptive Capacity on Innovation Performance and Competitive Advantage in Industrial Markets[J]. Industrial Marketing Management, 2009, 38(2):152-158.
[28] Hou Yinxia, Li Changsheng. Evaluation Index System of Chinese Eco-agriculture Construction[J]. World Rural Observation, 2009, 1(1):35-42.
[29] Li Changsheng. Sustainable Development Ability of State-owned Forest Region in Heilongjiang Province, China[J]. World Rural Observations, 2009, 1(2):12-24.

4/22/2015