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Opportunistic Behavior and Ambidextrous Alliance: How to Use Different Governance Mechanisms to Success?

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Abstract: How to design the governance mechanism to avoid the negative effects of opportunistic behavior in ambidextrous alliance? Based on data collection from 370 enterprises as samples, this paper examines the relationship between opportunistic behavior and two types of ambidextrous alliance, and further studies the moderating effects of control governance and relational governance distinctively. The results show that opportunistic behavior negatively related to both exploratory alliance and exploitative alliance; the inhibitory effect of opportunistic behavior on exploratory alliance will be larger by using contract governance while be decreased with relational governance. On the contrary, the inhibitory effect of opportunistic behavior on exploitative alliance will be smaller by using contract governance, and relational governance can increase it. This study further deepens the understanding that alliance governance research.

Keywords: ambidextrous alliance; opportunistic behavior; governance mechanism; contract governance; relational governance

JEL Classification: M10; M15; M19

1. Introduction

With the increasingly fierce competition and the rapid innovating progress of science and technology, enterprises are generally faced with the problem of resource capacity deployment, dealing the dilemmas between efficiency and flexibility, convention and breakthrough (Lavie et al., 2012). No matter large enterprises or small enterprises, it is difficult to solve the contradictions among different internal activities by themselves. Therefore, more and more enterprises establish ambidextrous alliance to get rid of the constraint of internal resources and realize capability reconstruction. Based on complementary resources of partners, ambidextrous alliance can achieve such goals as sharing R&D investment, reducing R&D risks, shortening R&D cycle, gaining scale advantages, and rapidly entering new technologies or markets (Rothaermel & Deeds, 2006). However, with the increasing complexity of ambidextrous activities, a large number of ambidextrous alliances fail to achieve expected goals (Dyer & Singh, 1998). An important reason for this phenomenon is the opportunistic behavior in ambidextrous alliances, which cause disruptions and conflicts, and are viewed as a barrier to the success of inter-organizational transactions (Williamson, 1984). How to prevent and reduce opportunistic

behavior in ambidextrous alliance has become a problem that both theoretical research and enterprise practice must solve.

As an important way to manage alliance, contract and relational governance mechanism are the main instruments for dealing with opportunistic behavior. However, prior researches show double-sword effects of both contract and relational governance on opportunistic behavior, and consistent findings are far from being reached (Liu et al., 2009). Specifically, contract governance can set clear behavioral boundaries and detailed contracts to protect specific alliance investment so as to avoid opportunistic behavior, while will also erode positive attitudes and further encourage opportunistic behaviors; relational governance brings greater autonomy and creates more conditions for opportunistic behaviors, while is benefit for trust and cooperating culture for alliance. Given these inconsistent conclusions, how to effectively govern opportunism using contract or relational governance remains unclear. Further, the ambidextrous alliance can be divided into exploratory alliance and exploitative alliance, which can bring different innovative values. Specifically, exploratory alliance is the strategic cooperation between enterprises and upstream partners in new product development, new technology exploration, testing new methods and so on; exploitative alliance refers to the cooperation established between enterprises and downstream partners on sales network, franchise, brand franchise, etc. (Okamuro, 2007). Then, will the governance mechanisms be different for different types of ambidextrous alliances? If so, what kind of governance mechanism can be designed to work best? Unfortunately, the research for answering the governance problem of ambidextrous allianceon is very limited.

In order to make up for this lack of research, this paper will analyze the influence of opportunistic behavior on ambidextrous alliance, and further explore the moderating effects of two alliance governance mechanisms, contract governance and relational governance. The research in this paper is helpful to deeply understand the influence of governance mechanism on opportunistic behavior in ambidextrous alliance, and can also guide enterprises to design appropriate governance mechanisms to reduce opportunistic behavior in cooperative R&D and promote the success of the alliance.

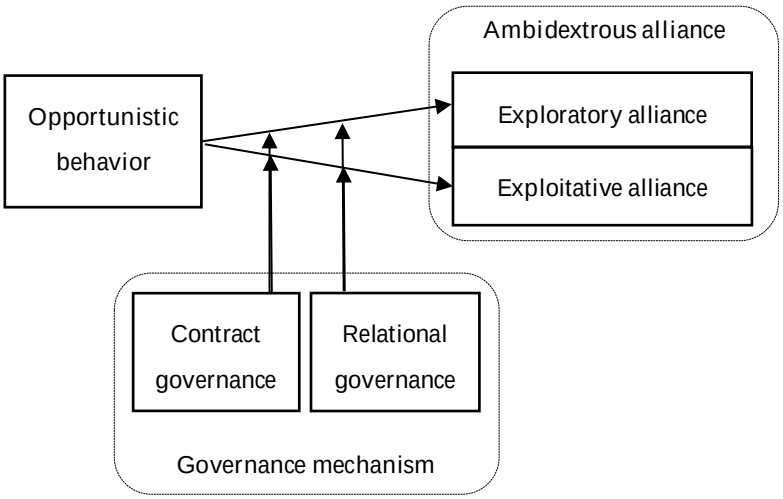

Figure 1. The proposed theoretical model

1.1. Opportunistic Behavior and Ambidextrous Alliance

Opportunistic behaviors refer to that in the case of information asymmetry, enterprise does not disclose all information truthfully and engages in other behaviors that benefit others at the expense of others, such as behaviors that making promises but failing to fulfill them, exaggerating needs to achieve expectations, changing facts to achieve expectations, etc. (Carson et al., 2006). Opportunistic behaviors adversely affect ambidextrous alliance in three ways. First, opportunistic behaviors reduce knowledge sharing between partners which resulting in the deficiency of both exploratory and exploitative alliance. If opportunism occurs, enterprises will terminate knowledge sharing and exchange in order to protect their core knowledge, thus inevitably affecting alliance performance. Second, opportunistic behaviors extremely reduce the trust between partners, further reduce the possibility and intensity of further cooperation. Third, it may shift enterprise' attention to preventing opportunistic behaviors, while ignoring the original purpose of alliance cooperation, which greatly reduces the efficiency of alliance, either for exploratory alliance or exploitative alliance.

- Hypothesis 1a: Opportunistic behavior negatively influence exploratory alliance.
- Hypothesis 1b: Opportunistic behavior negatively influence exploitative alliance.

1.2. The Moderating Effect of Contract Governance on Opportunistic Behavior and Ambidextrous Alliance

Contract governance means to explain and regulate the expected behavior in the process of cooperative research and development by signing contracts, and give partners the right to punish the violation of the rules, so as to prevent and reduce the intentional behavior of the parties to harm the interests of the other party and the behavior of making promises and not fulfilling them. At the same time, by signing contracts to regulate the behavior of the parties in the process of collaborative research and development, and using these standards to evaluate the behavior of the parties, the parties can avoid exaggerating the needs or changing the facts to achieve their expectations. In conclusion, contract governance can effectively reduce opportunistic behavior in collaborative research and development.

For exploratory alliance, enterprises try to acquire external knowledge of new technologies and processes, which is usually scattered and disordered with large knowledge width. It is difficult to make clear the acquisition, decomposition, integration and reorganization of such knowledge through clear behaviors or processes. In the process of cooperation, enterprises often face problems such as knowledge structure gap and lack of experience, so it is difficult to determine appropriate contracts and norms to reduce opportunistic behavior in this type of alliance, and the complexity and uncertainty of exploratory alliance aggravate this problem. Therefore, it is difficult for contract governance to alleviate the negative relationship between opportunistic behavior and exploratory alliance, but will aggravate its side effects.

On the contrary, the members of the exploitative alliance have similar resource reserves and knowledge structure, and the knowledge span is small. It is not only easier to decode

and absorb the invisible knowledge or situational knowledge such as market or customer acquired in the exploitative alliance, but also easy to form a stable and efficient convention and routine process. Therefore, it is easier to determine appropriate contracts and norms to reduce opportunistic behaviors in this type of alliance, so that contract governance can be used more effectively to prevent opportunistic behaviors, alleviate the negative relationship between opportunistic behaviors and exploitative alliance, and reduce its side effects.

- Hypothesis 2a: Contract governance positively moderating the relationship between opportunistic behavior and exploratory alliance, which means contract governance increase the negative effect of opportunistic behavior on exploratory alliance.
- Hypothesis 2b: Contract governance negatively moderating the relationship between opportunistic behavior and exploitative alliance, which means contract governance reduce the negative effect of opportunistic behavior on exploitative alliance.

1.3. The Moderating Effect of Relational Governance on Opportunistic Behavior and Ambidextrous Alliance

With a high level of relational governance, enterprise will consider the interests of partners and take reciprocal actions to protect the interests of alliance, rather than intentionally hurting the interests of the other party or making promises but not fulfilling them. At the same time, it emphasizes trusting partners, communicate honestly, and don't exaggerate needs or change facts to achieve desired goals.

For exploratory alliance, relational governance can alleviate the negative impact of opportunistic behavior on exploratory alliance. On the one hand, exploratory alliances often involve new knowledge and heterogeneous knowledge, and at the same time need new conventions and new practices to integrate new knowledge into organizational content. By emphasizing the maintenance of trust relationship, cooperative atmosphere and reciprocal actions among partners, relational governance enables enterprises to act consciously when a large number of unpredictable and implicit processes are involved, and can limit opportunistic behaviors from both emotional and value identification aspects, thus reducing the adverse impact on exploratory alliances. On the other hand, relational governance is more values-oriented and relatively free of complicated institutional and process constraints, so that enterprises can concentrate their limited energy on alliance objectives rather than preventing opportunistic behaviors, thus reducing the negative impact of opportunistic behaviors on alliance performance.

On the contrary, the knowledge span of exploitative alliance is small, and the difficulty of integrating different skills or knowledge between enterprises is low, which is easy to form organizational inertia in the process of iteration and upgrading of organizational conventions. If dependent on relational governance, it is easy for enterprises to be confined to fixed organizational conventions and routine processes, and it is difficult to detect or even encourage opportunistic behaviors. Therefore, relational governance is not conducive to mitigating the negative effects of opportunistic behaviors on exploitative alliances.

- Hypothesis 3a: Relational governance negatively moderating the relationship between opportunistic behavior and exploratory alliance, which means contract governance reduce the negative effect of opportunistic behavior on exploratory alliance.
- Hypothesis 3b: Relational governance positively moderating the relationship between opportunistic behavior and exploitative alliance, which means contract governance increase the negative effect of opportunistic behavior on exploitative alliance.

2. Methodology

2.1. Sample and Data Collection

We collected data through a survey in China. The samples were randomly selected out of firm lists offered by MBA centers and local High-tech Industrial Development Zones. We filed-interviewed or emailed the questionnaire with an explanation of the objectives and requirements of the survey. 494 firms finally accomplished the questionnaires, and finally we received 370 valid questionnaires with an effective response rate of 74.9%. All the respondents were senior executives such as CEO, COO or CFO which had at least three years' management experiences in target firms so as that they well understood status quo of the firms.

2.2. Measures and Analysis

All the measures (see Table 1), except those special stated, were measured on a 5-point Likert scale, ranging from "1" representing "strongly disagreement" to "5" represents "strongly agreement". We adopted the measures of exploratory (Cronbach's alpha = 0.899) and exploitative alliance (Cronbach's alpha = 0.859) suggested by Rothaermel and Deeds (2006), Yang et al. (2014), Atuahene-Gima and Murray (2007). Opportunistic behavior (Cronbach's alpha = 0.872) was measured with a 4-item scale developed by Rokkan (2003), Wuyts and Geyskens (2005). Contract governance (Cronbach's alpha=0.814) and relational governance measured (Cronbach's alpha=0.855) were all developed by Jap and Ganesan (2000) and Poppo et al. (2002) with a 4-item scale respectively. To account for the alternative explanations of the factors outside the model, four variables were incorporated and controlled: (1) Firm size which was measured by the number of a firm's full-time employees with an ordinal scale (1: fewer than 50; 2: 51-200; 3: 201-500; 4: 501-1000; 5: more than 1000) (Graves & Langowitz, 1993; Zahra et al., 2000). (2) Firm age was measured by the years since the firm was established (1): fewer than 3 years; 2: 3-5 years; 3: 6-10 years; 4: 11-30 years; 5: more than 30 years). (3) Technology uncertainty was comprised with five items according to the work of Jaworski and Kohli (1993) (Cronbach's alpha = 0.848). (4) Alliance stability was comprised with three items according to the work of Sohi et al. (2008) (Cronbach's alpha = 0.783). To analyze the proposed model, we applied SPSS 20.0.

3. Results

3.1. Descriptive Statistics Results

We conducted descriptive statistics and correlation analysis. The correlation matrix, means and standard deviations for the variables are also been reported in Table 1.

Table 1. Descriptive statistics and correlations

Variables	Mean	S.D.	1	2	3	4	5	6	7	8
1 Firm size	3.68	1.12	1							
2 Firm age	3.49	1.647	.448**	1						
3 Technology uncertainty	0.0023	0.85607	.124**	.145**	1					
4 Alliance stability	0.0038	0.85566	0.024	0.058	.109*	1				
5 Exploratory alliance	0.0013	0.85434	-0.014	-0.018	.273**	.265**	1			
6 Exploitative alliance	0.0027	0.79374	-0.042	-0.054	.229**	.273**	.535**	1		
7 Contract governance	0.0019	0.81633	0.008	0.053	.216**	0.077	.192**	.218**	1	
8 Relational governance	0.0016	0.82912	-0.026	0.046	.247**	.452**	.309**	.393**	.255**	1
9 Opportunistic behavior	-0.003	0.81834	-0.011	-0.039	.094*	-.116*	-.107*	0.014	.237**	-.104*

Note: No. of samples is 370. * $p < 0.05$, **$p < 0.01$, ***$p < 0.001$ (two tailed).

3.2. Reliability and Validity

First, we conducted an exploratory factor analysis on the scale items by the principal component method rotated with Varimax, and all the factor loadings are above 0.7 indicating high convergent validity (Fornell & Larcker, 1981). And average variance extracted (AVE) for all constructs were also computed and greater than 0.50, which still got good verification of validity. Second, the reliability analyses were conducted. We computed the Cronbach's alpha values and reported in the Chapter of Methodology. And all constructs have a composite reliability (CR) value greater than 0.875, above the cut-off of 0.7, implying that the variance captured by the factor is significantly more than the variance indicated by the error components (Bagozzi & Yi, 1988).

3.3. Hypotheses Testing Results

Table 2 shows the results of the regression analysis. Model 1 and Model 4 are the regression results of control variables on exploratory alliance and exploitative alliance respectively. Model 2 and Model 5 added independent variable, and the results showed that opportunistic behavior negatively influenced on exploratory alliance ($b = -0.163$, $p < 0.001$; Model 2) and exploitative alliance ($b = -0.071$, $p < 0.05$; Model 5). Thus, Hypothesis 1 was supported. To test the moderating effect of control variables, all the relevant interactions were entered. Model 3 showed that the interactive effect of contract governance and opportunistic behavior on exploratory alliance was significantly positive ($b = 0.106$, $p < 0.05$), while the interaction of relational governance and opportunistic behavior was significantly negative ($b = -0.044$, $p < 0.05$). Thus, Hypothesis 2 is supported. Meanwhile, Model 6 showed that the interactive effect of contract governance and opportunistic behavior on exploitative alliance was significantly negative ($b = -0.048$, $p < 0.1$), while the interaction of relational governance and opportunistic behavior was significantly positive ($b = 0.063$, $p < 0.05$). Thus, Hypothesis 3 is supported. We also used slope tests to further demonstrate the moderating effects of contract and relational governance on the relationship between opportunistic behavior and exploratory/exploitative alliance.

Table 2. Results of regression analysis

Variables	Exploratory alliance			Exploitative alliance		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Firm size	0.118***	0.113***	0.114***	0.114***	0.114***	0.107***
Firm age	0.092***	0.105***	0.100***	0.114***	0.118***	0.118***
Technology uncertainty	0.334***	0.339***	0.351***	0.213***	0.231***	0.231***
Alliance stability	0.159***	0.165***	0.157***	0.144***	0.134***	0.130***
Contract governance (CG)	0.112*	0.152***	0.146**	0.149***	0.176***	0.179***
Relational governance (RG)	0.126*	0.080	0.072	0.257***	0.237***	0.233***
Opportunistic behavior (OB)		-0.163***	-0.139**		-0.071*	-0.057*
CG×OB			0.106*			-0.048†
RG×OB			-0.044*			0.063*
R^2	0.255	0.281	0.288	0.287	0.301	0.305
ΔR^2	0.219	0.241	0.242	0.252	0.264	0.264
F Stats	6.978***	7.026***	6.294***	8.183***	8.113***	7.473***

Note: No. of samples is 370. † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001 (two tailed)

4. Discussion

Using survey method, this paper reveals the influencing mechanism of contract governance and relational governance in solving opportunistic behavior problems, and explores the matching relationship between governance mechanism and ambidextrous alliance. It is found that contract governance and relational governance have opposite effects on different types of ambidextrous alliances. In exploratory alliance, it is suitable to adopt relational governance rather than contract governance. On the contrary, in the exploitative alliance, contract governance is suitable but relational governance is not suitable.

4.1. Theoretical Implications

From the perspective of organizational ambidexterity, this paper discusses the governance of ambidextrous alliance. This paper proposes new perspectives and conclusions for existing studies on how to use governance mechanisms to deal with inconsistent research conclusions on opportunistic behavior. Specifically, from the perspective of contract governance, some studies believe that explicit contract can set clear behavioral boundaries and detailed contracts can be used as the key to protect specific alliance investment, while others point out that regularization and control brought by contract governance will erode positive attitudes and encourage opportunistic behaviors (Liu et al., 2009; Lin & Ho, 2021). In response to these inconsistencies, this study points out that the key lies in the failure to distinguish the types of alliances, and shows that the effect of contract governance in the exploitative alliance is obvious, which supports the former view; well, the effect of contract governance in exploratory alliance is not good, which supports the latter view. There are also disunity and contradictions in the studies on relationship governance. Some studies believe that relational governance brings greater autonomy and hidden space for behaviors, creating conditions for the occurrence of opportunistic behaviors, while others emphasize its beneficial role in increasing trust and other aspects. Similarly, this paper gives an explanation for different types of alliances, that is, relationship governance in exploitative alliances is not

effective, on the contrary, exploratory alliances can significantly inhibit opportunistic behavior. Therefore, the conclusions of this paper reconcile the contradictions of previous studies, and show the effects and influence boundaries of different governance mechanisms from the contingency perspectives.

Furthermore, this paper points out that a mixed and complex governance mechanism is needed to effectively avoid opportunistic behaviors. In the ambidextrous alliance, enterprises cooperate with different business contents (such as R&D activities or marketing), different departments and different levels. Therefore, the forms and levels of opportunistic behaviors are diversified (Seepana et al., 2020). Considering the contrasting effects brought by different types of governance methods, it is necessary to organically combine various governance methods such as contracts, norms, interpersonal relations and trust. It needs to be combined with the selection of appropriate governance ways to produce targeted effects, and more importantly, a complex multi-dimensional governance mechanism is needed. Thus, this study further deepens the understanding that governance mechanisms affect the effectiveness of opportunistic behavior in ambidextrous alliances.

4.2. Practical Implications

Governance mechanism is an important means to reduce opportunistic behavior in alliance. In order to achieve the goal of cooperative research and development, managers need to adopt targeted governance methods according to the characteristics of the alliance and pay attention to the matching of methods and situations. For example, in exploratory R&D cooperation, it is difficult to observe the implicit thinking and hidden behavior of innovation partners, so it is more appropriate to carry out trust construction, reciprocal behavior, and relationship governance. In the incremental innovation or exploitative cooperation, it is better to clarify the rules and behavior boundaries so as to adopt contractual governance. Therefore, only by fully considering the matching of governance mode and governance situation can opportunistic behaviors be effectively avoided. At the same time, managers need to pay attention to the comprehensive application of a variety of methods, rather than adopt a single, universal method, but need to pay attention to the flexible transformation between methods.

4.3. Limitations and Directions for Future Research

This study also has some limitations and points out the direction for future research. First, cross-sectional data is used to verify the hypothesis proposed in this paper, and the evolutionary relationship among different types of ambidextrous alliance, governance mechanisms and opportunistic behavior cannot be found. Future studies can be further analyzed with longitudinal data. Second, the data in this paper is provided by only one party of alliance. Although the validity of this method is generally recognized and widely used in prior research, if data can be obtained from each party it will increase the credibility of the research and deepen the theoretical understanding. Finally, this paper fails to investigate the multifaceted nature of opportunism and does not discuss the mechanism of different types of opportunism. Future studies can distinguish the strong and weak forms of opportunistic

behaviors based on whether they violate written contract norms or implicit relationship norms, and adopt more detailed measurement indicators.

5. Conclusions

This paper empirically explores the effects of opportunistic behavior on two types of ambidextrous alliance, and further studies how control governance and relational governance distinctively influence these effects.

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