Competitive Repertoire and Coordination of Chinese Horizontal Integrating Firms: Moderating Effects of Market Fragmentation

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Abstract

Because of market fragmentation, nowadays Chinese horizontal integrating firms are in a "two-line battle" competition both against MNEs and local firms. This paper attempted to discuss how can a firm, in such "two-line battle" competition, adopt a suitable competitive repertoire matching with its organizational coordination, and how dose market fragmentation have influence on this matching, if there is any. This paper, by empirically testing Chinese firms from three industries, found out that coordination has a negative moderating effect between complexity of repertoire and performance. Moreover, market fragmentation has weakening impact to the interaction between complexity and coordination. The conclusion enriched the analysis framework of competitive action (or repertoire) decision, and brought better understanding of the impacts of institutional context on firm competitive behavior.

Key words: Repertoire; Competitive complexity; Coordination; Market fragmentation

INTRODUCTION

Since China joining in WTO, Chinese domestic market has been weighted and interested by lots of multinational enterprises (MNEs). With more and more MNEs entering Chinese domestic market, Chinese firms are facing bigger and bigger threats and increasingly eager to enhance international competitiveness. Many scholars and successful entrepreneurs have figured out that, Chinese firms need build their own specific advantages on the basis of national advantage of China, like market scale, labor costs, et al. Thus firms want to enhance international competitiveness have to initially accomplish horizontal integration with merger or investment (Lan, 2007). However, during the process of horizontal integration, Chinese firms are interrupted by a special institutional context in transitional economy, called the market fragmentation (Yong, 2000). The market fragmentation refers to an institutional difference and barrier between each Chinese local (provincial) government. Market fragmentation is not only isolating resources in each local region and blocking cross-regional resources integration by firms, but also encouraging a big group of local firms which have little competitiveness by controlling regional market relying on the local policies. Most of these local firms don't have advantage in market competition but can build market barrier by regional policies and institution, so they mostly not expending their business beyond the authorities of local government and diversified in multiple business (Lan & Pi, 2011). When some other firms entering the regional market, they usually will implement market and non-market action against the competitor, but not easily be hurt or damaged in short term. So these local firms cause competitive threats to horizontal integrating firms in long term. Therefore, Chinese horizontal integrating firms (the focal firms) are mainly in a competition structure called "two-line battle", simultaneously competing against MNEs and bunch of local firms.

The "two-line battle" is determined by the market

fragmentation. Without market fragmentation, the local governments would have not such huge power to interrupt the market economic behavior, and the local firms, horizontal integrating firms, and MNEs could compete in one single market rule, their major difference would be market scale instead of strategic orientations. However, under the market fragmentation, local firms and MNEs are competing differently with two categories of resources and capabilities. Thus horizontal integrating firms have to adopt no less than two different competing strategies for the two different groups of competitors. Therefore, they should apply a repertoire with a set of different competing actions under the "two-line battle". Because this competitive repertoire contains different competing intention and strategies, the focal firms need to create a more flexible and powerful organization to support various and irrelevant resources. And also, the specific organization and competitive repertoire are under a special institutional context, the market fragmentation.

About organizational resources or mechanism affecting competitive actions, previous researches on dynamic competition are more likely to concern about the influence of top manager team on competition decisions (Ferrier & Lyon, 2004), but few discuss about the effects of organizational management and structure on competitive actions. Chen and Hambrick (1995) figured out that the size of a firm can affect the speed of action implementation. Lamberg, Tikkanen, Nokelainen and Suur-Inkeroinen (2009) built a theoretical framework, which indicated that organizational resources like managerial pattern and structure have influence on attacking and replying actions of firms. Nevertheless, Lamberg, et al didn't deeply explore the affection mechanism of organizational resources on competitive actions and repertoire. On the other hand, institutional environment has been regarded as exogenous variable in competition researches (Porter & Kramer, 2006; Deng, et al. 2010), few researches tried to testify and explore the direct and indirect influence of institutional environment on competitive actions.

This paper tried to explore the influence of organizational coordination on competitive repertoire of horizontal integrating firms, and discuss the moderating effects of market fragmentation between performance and coordination, repertoire, and both. This research is not only supplementing the analysis framework of competitive behavior and deepening understanding the effects of institutional context on firm's behavior, but also finding effective matching relationship between organizational coordination and competitive repertoire of Chinese horizontal integrating firms for the special "two-line battle".

1. LITERATURE BACKGROUND

1.1 Competitive Dynamics

1.1.1 Dynamic Competitive Behavior
The competitive behavior is defined as "any visible action which could be possible to gain market share from competitor or reduce expected performance (or revenue) of competitor." (Venkataraman, Chen & MacMillan, 1997). The analysis and calculation about whether and how will a firm start a competitive behavior is one of the most important issues in competitive dynamics. Chen (1996), on the basis of previous researchers, proposed market commodity and resources similarity as two major factors for analyzing competitive actions. Both of these two factors is external factor, because both of the two factors are comparative indexes, which revealing the comparison of strategic resources and market position between competitor and focal firm.

The SCP theory thinks that any conduction of a firm is implemented under a specific organizational structure. Thus the organizational structure and mechanism have definitely effects on competitive behavior. Chen and Hambrick (1995) found out that the smaller the size of the firm, the faster the action implemented. But they did not discuss the influence of the information sharing and resources synergy on competitive action. Lamberg et al. (2009) proposed a theoretical framework, in which the organizational resources are considered as a factor of attacking or replying actions, though the framework is not empirically testified. Although Mathew (2000) mentioned that competitive action are all on the basis of appropriate resources and capabilities, so that organizational mechanism, like effectiveness and systematicness of organization, is a factor to competitive behavior, but few empirical research explore the affection mechanism.

1.1.2 Competitive Repertoire
While discussing competing strategies for multiple competitors, people usually study with a repertoire. Competitive repertoire refers to "set of actions pursued by an organization to attract, serve, and keep customers" (Miller & Chen, 1996a, 1996b). In the studies of competitive repertoire, the complexity of repertoire, also called competitive complexity, is one of the character which mostly interested (Ferrier, Smith, & Grimm, 1999; Sambamurthy, Bharadwaj, & Grover, 2003; Gnyawali, He, & Madhavan, 2006). The competitive complexity refers to the scope of variety (Ferrier et al., 1999; Nayyar & Bantel, 1994) and fields (Gnyawali et al., 2006) of actions implemented by a firm. Nayyar and Bantel (1994) mentioned that if a firm adopt competitive actions from different dimensions (such as R&D, marketing, production, and logistics), then its repertoire could be complex.

Previous researches emphasized the importance of competitive complexity to performance (Ferrier et al., 1999). However, few researches discuss the organizational mechanism behind the complex repertoires. Competitive actions are on the basis of specific resources, thus complex repertoire means spreading resources and capabilities along the value chain, instead of gathering and integrating. Thus what organizational mechanism

could support a firm to implement a repertoire with high complexity, is still a un-know question.

1.2 Coordination in Horizontal Integration

While a firm growing horizontally, with its organizational boundary expending, it will inevitably facing a new emerging managerial question: how to allocate resources inside the new organizational boundary, and increase the operation effectiveness (Ensign, 1998; Podobnik & Dolinšek, 2008). A few researchers introduced coordination, or say activities coordination, as an important factor of organizational management (Julian & Goddard, 2009; Ricardo, Dessein, & Matouschek, 2006). The coordination refers to reasonable allocation of inner resources of a firm, and the information communication and sharing among branch offices and departments (Paterson & Brock, 2002). The coordination presents the operation of a firm, centralizing materials purchasing, marketing dealing, and qualities of products and services cause higher coordination, while decentralized the operation cause a lower coordination. Therefore, higher coordination means optimizing the operation system (Adler, 1995), and enhance the capabilities of organizational learning and communicating (Yanchun Li et al., 2013). Meanwhile, coordination is also built on the basis of a centralized and scientific network of supple chain and marketing channel (Benito, 2003).

1.3 Market Fragmentation

The transition economy of China is pushed under an important institutional setting, decentralization enliven. It means central government spreads and delivers part of their authority downside to local governments, so that local governments can make their own regional (provincial) policies and rules for industries and markets basing on specific situation of each province or city. The central government, while encouraging the local governments to lead the regional economy grow toward the market economy and globalization, set economic grow as the major KPI (key performance indicators) of the local governmental performance evaluation, which naturally cause regional competition and local protection (Bai, Du, Tao & Tong, 2004). Scholars summarize such market economy a fragmented market economy, or say "small market economy"(Young, 2000). In specific, market fragmentation (or say segmentation) refers to the local government is over-authorized to interrupt the business behavior in their authorizing area, and the market rules and policies between regions (provinces) are distinct. Most local governments, in purpose of self-performance, propose tendentious regional policies to encourage any firm investing in their own authority area to set the headquarter in there, to gain the contribution of GDP grow the tax (Pi, 2008). Some even request firm entering the region to choose local supplier, sales dealer and other services in priority (Song & Zeng, 2011).

The market fragmentation is determined by the basic institution of Chinese transition economy, so it exists stably all over the country in long term. But in short term and partial of the nation, market fragmentation and its influence to firms are dynamic. This is because the market institution and policies in all local governments are developing and changing. A specific province, with its own geographic character and social economic development stage, has a special problem in economy transition. Therefore they need different and flexible policies for the dynamic developmental issues. Also different provinces are various industrial structure, thus the industrial policies are also various. All these differences cause the development of market economy in each province are different, which eventually leads to two results: one is a single province have different content and extent of the local protection in different period, the other is the extent of variety of regional institutions around the whole nation are various in each period.

2. HYPOTHESIS

2.1 Competitive Complexity and Coordination

High complexity of competitive repertoire require the focal firm implement each action and switch to another rapidly, so that it can dispense the following and expectation by its competitors (Chen, Smith, & Grimm, 1992). This will draw some scholars to believe that competitive complexity have positive impact to performance (Ferrier & Lyon, 2004). Increasing the extent of competitive complexity is beneficial for focal firm to have the initiative in competitive interaction, and to avoid the replying by competitor (Chen, Venkataraman, Black & MacMillan, 2002; Quasney, 2003). Moreover, competitive complexity indicates that focal firm has powerful resources and capabilities in multi-point of its value chain, which could become a kind of multi-point advantage to its competitors (Edward, 1955).

In Chinese transition economy, horizontal integrating firms are in "two-line battle", facing two types of competitors. For the strategic resources and capabilities of the two types of competitors various, horizontal integrating firms have to simultaneously allocate and apply different strategic resources to make forbearance with resources similarity with these two type of competitors (Chen, 1996). And also, integrating horizontal firms have to adopt rapid and diversified actions to build advantages to both types of competitor, to avoid re-actions by MNEs and local firms with speed and innovation. Both the resources base and the action character lead the horizontal integrating firm to increase competitive complexity when interacting with MNEs and local firms.

H1a: Competitive complexity has positive effects on performance.

Theoretically, emphasizing coordination of

organization means boosting the effectiveness of resources allocation (Ensign, 1998; Podobnik & Dolinsek, 2008), reducing the managerial and learning costs, and enhancing capabilities of innovation (Li et al., 2013). However, coordination also means centralizing resources in operation system, which could damage the possibilities and qualities of repertoire which has various types of competitive actions. Instead, increasing organizational coordination will drive focal firm to compete rely on one singe competitive action which is high innovative, such as the iphone series products by Apple.

If facing one single (type of) competitor (s), single type of action or multiple types of action might have similar effects in competition interaction. But when a focal firm is facing two types of competitors, especially when it were in the "two-line battle" caused by institutional context, centralizing its resources is less possible to create advantages in both lines.

H1b: Coordination has negative effect between competitive complexity and performance.

2.2 Effects of Market Fragmentation

Market fragmentation not only interrupts normal business behavior, but also separates the domestic market scope. Under market fragmentation, Chinese domestic market contains two levels: 1) single regional markets which under supervise of local governments in issues of quality and so on, and 2) national market which is directly supervised by the central government in issue of market accessing. Products in regional market of every region are relying on the regional market channel (advertiser, dealer, and even logistics), and products in national market would rely on the national (mostly state owned) market channel and suppliers. Generally, regional firms most exists in regional markets and MNEs are strongly threatening in national market.

Therefore, any competitive action is implemented in a specific market scope, some in national level, some in a single regional market, and some in another one or several regional market (s). This will cause focal firm harder to implement multiple types of actions in any market scope. On the other hand, the market fragmentation narrows the competing rivalry. Horizontal integrating firms can allocate different resources and capabilities in different market scope for specific competitor. For instance, a horizontal integrating firm can adopt actions in national market to eliminate the market scale of each regional market, or adopt regional actions to reduce the market commodity with MNEs, so as to build forbearance with MNEs. Focal firms with any of these competitive strategies will not have urge to implement repertoire with high complexity. Thus market fragmentation weakens the motivation and effectiveness of focal firm to increase competitive complexity.

On the other hand in perspective of competitor, dynamics of market fragmentation determines the extent of threats of MNEs and local firms to horizontal integrating firms. When the influence of market fragmentation grows, institutional gaps among regions of China becomes obvious, thus regional firms have bigger threats. Because the local firms are numerous, the multiple types of action by focal firm might not have advantages for all of its competitors, no talking these local firms are good at competing with non-market actions. When, in the opposite, the influence of market fragmentation reduces, institutional gaps among regions of China are restrained, then MNEs are easier to enter domestic market and becomes the bigger competing threats for horizontal integrating firms. While focal firm may have difficulty in build advantage against MNEs from one singe dimension of value chain, repertoire of complexity will be suitable for leading MNEs tired to replying in different types of action from various regions.

H2a: Influence of market fragmentation has negative effect between competitive complexity and performance.

As discussed above, market fragmentation has negative effects on performance growth. On the other hand, however, market fragmentation may have indirect support through coordination. Because of local protection and competition between local governments, market fragmentation barriers firm's cross-region integration. This barrier damages the effectiveness of operating resources after horizontal integration. Thus, horizontal firms occasionally satisfy the region-governmental demands under pre-assumption of not crash the enter beneficial operation system, including setting more than one headquarters in different provinces, choosing local sales dealers for marketing, and adopting regional suppliers and even producers if quality under controlled. These "compromise" actions cause horizontal firm decreases, in a certain extent, the organizational coordination. As H1b, for Chinese horizontal integrating firms, reducing coordination, though less innovative, could help to maintain high complexity of their competitive repertoire.

When the influence of market fragmentation increases and local firms are more threatening, focal firm needs to highlight the coordination and to start nationwide and innovative competitive actions against all its local competitors. While the influence of market fragmentation decreases and MNEs are more threatening, focal firm needs to comparatively reduce the coordination for multiple types of action against MNEs.

H2b: Influence of market fragmentation has moderating effects on the interacting impact of competitive complexity and coordination on performance.

3. RESEARCH DESIGN

3.1 Research Method and Sample

Chen and MacMillan (1992) started to apply content

analysis into the study of competitive dynamics for coding information about competitive behavior from media reports. Information of gathered with this method can only represent the "visible" competitive behavior (Venkataraman et al., 1997). Thus content analysis (also called structure content analysis) becomes the major method for coding competitive action data **(**Chen & MacMillan, 1992**)**. This paper also applied content analysis for gathering and coding data about competitive actions and repertoire.

This paper chose firms listed in Shanghai or (and) Shenzhen stock market as sample. For specifically study the horizontal integrating firms, 26 firms from air-conditioner, real-estate, and automobile industries are chosen, with their annual reports and media reports since 2001 to 2012 gathered, coded, and analyzed.

3.2 Competitive Action

Competitive actions are usually categorized by scholar basing the industrial features. Xie (2003) categorized competitive actions into 12 types during analyzing the competing networks of Chinese TV manufactories, such as proposing new products, enlarging production, entering new market, entering new business, cooperation and allies, cooperating with banks, merger and acquisition, decreasing prices, increasing prices, important promotion, investing abroad, and other. Diao (2009) categorized competitive actions into 10 types when studying Chinese beer industry, such as proposing now product, important promotion, investing abroad, enlarging production, entering new market, cooperation and allies, merger and acquisition, decreasing prices, increasing prices, and other. Concerning the character of the three sample industries, this paper categorized competitive actions into 8 types: investment or merger, cooperation and allies, proposing new products, proposing new technology, opening new store or entering new market, changing organizational structure or marketing system, changing prices, and taking public relationship activities.

3.3 Variables Measurement

3.3.1 Dependent Variable

Following Chen (2009), this paper chose ROA as the index of dependent variable, the performance. To take over the industrial difference, this paper standardized the value of ROA.

Independent Variable

Competitive complexity. This paper follows Ferrier's (1999) measure for complexity, as function (1):

$$Com = 1 / \sum_a \left(N_a / NT_L \right)^2 \qquad (1)$$

Whereas N_a refers to the frequency of competitive action a in a certain year, and NT_L refers to the sum of frequencies of all competitive actions in the year.

3.3.2 Moderating Variables

Coordination

Following some scholars, this paper measures

coordination with the proportion of related party transactions (Westney & Zaheer, 2003; Moon & Kim, 2008), the proportion materials purchased from top-5 suppliers, and the proportion of sales revenue to top-5 dealers (customers) (Birkinshaw & Goddard, 2009). This paper calculated the entropy weighted value of these three measures.

Influence of Market fragmentation

Presently, scholars measure market fragmentation of China in many methods. Fan, Wang and Zhu (2011) represented market fragmentation with the NERI indexes of all provinces. This paper adopted the NERI indexes of all provinces in China since 2001 to 2012[1], to indicate that the essential of market fragmentation is the differences of regional institutional differences among provinces. However, just applying NERI indexes cannot represent the specific impacts of market fragmentation on firms. Moreover, firms are impact variously by the regional institutional differences because of the location of headquarter (Song & Zeng, 2011). Therefore the variable about market fragmentation MF_t is measured as:

$$MF_t = \frac{\sum_i^{31}(m_{tH} - m_{ti})^2}{31} \qquad (2)$$

Whereas refers to the NERI index in t year of the province where headquarter located, and m_{ti} refers to the ENRI index in t year of other provinces in China.

To acknowledge, all measurement of competitive complexity, coordination and market fragmentation are categorized according to the means (valued 1 if lower than means, and value 2 if higher than means) of the sample in each industry.

3.3.3 Control Variables

Because competitive behavior has strong association with resources and previous growth of the firm (Miller & Chen, 1994), this paper chose the time of firm built, and resources slack as control variables, while resources slack majorly measured by size of firm Chen and Hambrick (1995) and the current ratio of (proportion of current assets to current debts) **(**Miller & Chen, 1994**)**. Also the three control variables are standardized to avoid the industrial differences.

4. ANALYSIS RESULTS

Following similar research by Lin and Germain (2003), this paper applied multiple linear regression model with SPSS 16.0. The results of analysis are as Table 1and 2. To ensure the validity and reliability of the variables transformed from continuous variable into 0-1 variables, an ANOVA is done to the variables of competitive complexity, coordination, and market fragmentation, as shown in Table 1. In Table 1, the mean square between

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[1] We calculated the five-year average trend values for the market indexes in year of 2011 and 2012, because Fan didn't public the market indexes in those two years.

groups of all variables is higher than the mean square inside group, with the F test are highly significant ($p<0.001$). Thus, all 0-1 variables in this paper are valid.

The regression results are shown in Table 2. Model1-a, 1-b, 2-a, and 2-b are all significantly F tested, which means the regression models have good fitting degree. Moreover, Model 1-b and 2-a have higher R square adjusted values than Model 1-a, while Model 2-b have higher R square adjusted value than Model 1-b, which refers all moderation effects are testified by the empirical analysis.

As Model 1-a, competitive complexity (FZ) have significantly ($p<0.001$) positive effect on performance, thus H1a is accepted. As Model 1-b, coordination (XT) and FZ have significantly ($p<0.05$) negative interacting effects on performance, thus H1b is accepted. As Model 2-a, market fragmentation (MF) and FZ has comparatively significantly ($p<0.1$) negative effect on performance, thus

H2a is partially accepted. As Model 2-b, MF, XT, and FZ together have comparatively significantly ($p<0.1$) negative effect on performance, thus H2b is partially accepted.

Table 1
ANOVA

FZ	Sum	S.D	Mean square	F value	Significant
Between groups	3.139	1	3.139	206.229	0.000
Inside group	4.004	263	0.015		
XT					
Between groups	31.808	1	31.808	6.893	0.009
Inside group	1213.675	263	4.615		
MF					
Between groups	5840.564	1	5840.564	338.335	0.000
Inside group	4540.083	263	17.263		

Table 2
Multiple Linear Regression

	Model1-a			Model1-b	Model2-a		Model2-b
(Constant)	(-1.394)	(1.258)	(1.107)	(-2.976)**	(-3.117)**	(-1.261)	(-2.039)*
Control							
RS	-0.024	-0.018	0.045	-0.003	-0.063	-0.057	-0.081
	(-.388)	(-0.223)	(0.701)	(-0.043)	(-1.017)	(-0.882)	(-1.259)
NF	0.175**	0.166**	0.128**	0.172**	0.188**	0.188**	0.203**
	(2.857)	(2.647)	(2.941)	(2.837)	(3.142)	(3.062)	(3.343)
LD	0.069	0.094	0.073	0.059	0.051	0.083	0.062
	(1.122)	(1.482)	(1.173)	(0.950)	(0.845)	(1.331)	(1.011)
Independent variable							
FZ	0.229***			0.715***	0.435**		1.329**
	(3.859)			(3.565)	(3.515)		(3.206)
Moderating variable							
MF			0.173**		0.439**	0.307***	0.437**
			(2.824)		(2.872)	(3.852)	(2.719)
XT		-0.072		0.431**		0.094	0.329*
		(-1.160)		(2.626)		(1.335)	(1.206)
One-level interaction							
XT*FZ				-0.559*			0.314*
				(-2.481)			(2.154)
MF*XT						-0.222*	-0.212*
						(-2.595)	(-2.520)
MF*FZ					-0.327†		0.208
					(-1.784)		(0.985)
Two-level interaction							
MF*XT*FZ							-0.388†
							(-1.891)
R 2	0.090	0.042	0.066	0.113	0.134	0.090	0.141
R 2 adjusted	0.076	0.028	0.052	0.093	0.114	0.069	0.107
△R 2 adjusted				0.017	0.038	0.041	0.014
F value	6.397***	2.87*	4.601**	6.498***	6.653***	4.171***	4.246***

Note. *** $p< 0.001$ (two-tail), ** $p< 0.01$ (two-tail), * $p<of 0.05$ (two-tail).

5. DISCUSSION AND CONCLUSION

5.1 Coordination and Competitive Complexity

Western scholars found that, competitive complexity has

positive effect on performance, Miller and Chen (1996a) argued that a focal firm would not have forbearance with competitors if it had not enough variety in the competitive actions. Ndofor et al. (2011) revealed that the limit of

types of actions of a firm is not only hard to reply the attack by competitors, but also hard to satisfy its customers (Ndofor, Sirmon & He, 2011). The empirical result of Model 1-a, while supporting Miller & Chen (1996a) and Ndofor et al. (2011), expending their conclusion into a more complex competing situation: focal firm is facing multi-types (in strategic orientations, resources, or other) of firms. This paper found that if a focal firm needs to (at least) gain forbearance with different types of competitors, they need to have more that one strategic resource and implement actions from different categories of resources and capabilities. Therefore, facing multiple types of competitors, complexity of competitive repertoire should be an effective way for focal firm.

Literature shows that inner information sharing and optimal allocation of resources can help a firm implement various competitive actions (Tian & Fan, 2008). Ndofor et al. (2011) also found that, competitive complexity have meditative effect between technological resources and performance. Although few researchers directly discussed, there should be an interacting association between coordination and competitive complexity, that coordination would enlarge the impact of competitive complexity on performance. However, this paper did not support Ndofor's idea. Unlike Ndofor et al. (2011), this paper study the competitive complexity under special situation of focal firm facing multiple types of competitors because of Chinese market fragmentation. In "two-line battle", Chinese horizontal integrating firm has to adopt different competitive actions basing on different resources and capabilities. Therefore, less coordination, instead of more coordination, is supporting firm implementing different types (or say opposite ways) of actions in one repertoire.

The major mission of competitive dynamics research is to reveal the characters and rules of dynamics competitive behavior. Under the dynamic competition, decision of competitive action has to figure out the question "which action can be effectively, rapidly, and intensively implemented", excepting for "whether and when to start an action". Scholars proposed four dimensional factors for answering the question: market commodity which indicates the market structure between focal firm and competitor, resources similarity which indicates the resources comparison between focal firm and competitor, top management team which represents the cognition and decision mode of focal firm (Chen, 1996; Ferrier & Lyon, 2004; Hambrick, Cho, & Chen, 1996), and organizational resources (Lamberg et al., 2009) which indicates the basis of action implementation of focal firm. And about the organizational resources, scholars only reveal that size of firm, organizational structure and so on have effects on character of singe competitive action (speed, intension, visibility, et al). This paper, on the basis of previous researches, forwardly revealed the interrelationship between coordination and competitive repertoire. Focal

firm needs to choose suitable repertoire to fit for its operation system and organizational coordination. If the competitors are with similar resources and capabilities, higher coordination should be help more complexity of repertoire; but if the competitors are in multiple types of resources, then less complexity of repertoire would be more effective under certain coordination.

5.2 Effects of Market Fragmentation to Competitive Repertoire

Institution Based View (IBV) regards firms embedding in a certain institutional context, and the institution have influence on any business activities. Recent discusses about strategic behavior under market fragmentation focus on behavior of horizontal integration, including pattern of entering regional market (Wang, 2011), control mechanism of headquarter of horizontal organization (Wang, 2010), the managerial model (Li, 2011; Ye & Huang, 2013), and regional legitimacy (Song & Zeng, 2011) and political status (Zeng & Song, 2012). But other important behavior of Chinese firms, the competitive behavior and repertoire, are few discussed.

As many scholars' agreement on the impacts of market fragmentation on economic resources, this paper further revealed that, as Model 2-a, market fragmentation can have subversive interrupts to competitive complexity of Chinese integrating firms. As the empirical result, when the influence of market fragmentation become stronger, firm need to decrease the complexity of competitive repertoire, so as to fit for the institutional context. The main reason is that market fragmentation not only separates the scope of action by focal firms, but also impacts competitors. Market fragmentation separates the scope of domestic market from a centralized one into a bundle of regional market and a national market. The isolation and administrative hierarchy of Chinese domestic market bring more difficulties and higher costs for firm with high competitive complexity. Thus when the influence of market fragmentation grows, focal firms are less likely to apply complex repertoire. On the other hand, dynamics of market fragmentation also impact competitors of horizontal integrating firms. When the influence of market fragmentation grows, focal firms will have more benefit to implement innovative action than multiple-type repertoire, because innovative action is harder for local firms to copy and reply. But when the influence of market fragmentation decreases, focal firms will have bigger advantage with complex repertoire than one singe innovative action mainly facing MNEs.

The interrupts of market fragmentation is not only as above, as Model 2-b, market fragmentation also indirectly impacts competitive complexity through coordination. Figure 1 demonstrated the simulation of regression models by the mix and max value and regression coefficient of relative variables. As Model 1-b, without concerning market fragmentation, coordination

and competitive complexity have negative interacting effects on performance. So reasonable matching should be high coordination with low complexity, low coordination with high complexity. Thus, as shown in Figure 1, the simulation of coordination and competitive complexity present a curved surface which concaving down. But when concerning market fragmentation, the curved surface has larger curvature concaving down. This means that under the impact of market fragmentation, the negative effect of coordination and complexity has been weighted. The more influence of market fragmentation, the bigger damage will be to the effectiveness of coordination, and the less complexity of repertoire should be adopted under certain coordination.
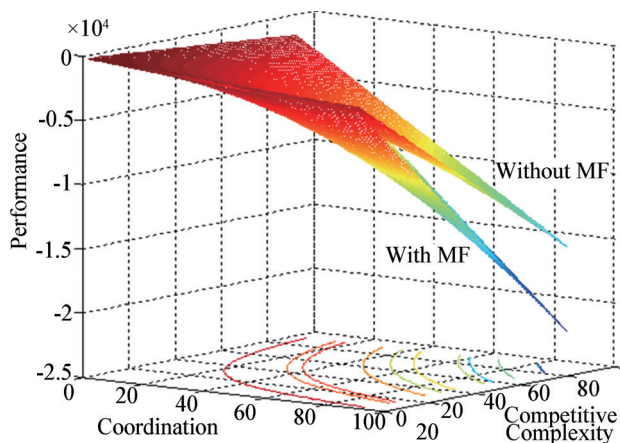

Figure 1
Moderating Effect of Market Fragmentation to the Interaction Between Coordination and Competitive Complexity

In one word, this paper discussed the impact of market fragmentation to competitive behavior and coordination deeply, and revealed that institutional context is not only impacting competitive behavior of focal firm directly, but also indirectly through impacting its competitor and its organizational coordination and relative behavior. The conclusion enriches our understanding of institutional context, especially market fragmentation, and also helps practical decision of Chinese horizontal integrating firms.

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