

2014

# BioTechnology

*An Indian Journal*

FULL PAPER

BTAIJ, 10(8), 2014 [2494-2500]

## Horizontal managerial model of Chinese firm under transition time: Moderating of competitive deviance

Shenglei Pi<sup>1,2\*</sup>, Jian He<sup>1</sup><sup>1</sup>School of Business Administration, South China University of Technology, (CHINA)<sup>2</sup>Institute of Industrial Economy and Enterprise Management, Guangzhou Academy of Social Science, (CHINA)

E-mail : pishenglei@126.com

### ABSTRACT

As China economy enters into a stage of structural transition, many China firms choose domestic horizontal integration, in which applying managerial model of multinational enterprises (MNEs). This paper, with content analyzing on media news, explored the sufficiency of applying managerial model of MNEs into domestic integrating firm, and the association between the managerial model, the market fragmentation and the competitive actions. This paper found out a route for Chinese firm to set out a suitable managerial model for both adopting with the market fragmentation and engaging to take deviance competitive strategy.

### KEYWORDS

Managerial model; Market fragmentation; Competitive deviance.



## INTRODUCTION

As China enters into a stage of structural transition, dynamics of economy institution becomes significant. Since the previous economic growth needed to encourage devolution of powers to local governments, China market presents highly regional fragmentation<sup>[1]</sup>. Facing this situation, China firms undertaking domestic horizontal integration often suffer from the market fragmentation which is more complex than expansion into foreign market. Thus, in domestically horizontal integration many China firms model the managerial model by learning from MNEs, regarding integrating markets and production resources between domestic regions as integrating between nations. However, under market fragmentation, whether completely following MNE's managerial model can achieve good performance? This question has been discussed only conceptually, but with few empirical evidence.

Heterogeneous resources and capabilities consist of firm's sustained competitive advantages<sup>[2]</sup>. As technology holds leading position in business field, firm's behaviors to build competitive advantage focused on initiative and differentiated competitive actions launched from high technology. What managerial model, thus, should be designed to support deviance competitive behavior? Based on empirical proofs of China three industries, this paper explored moderating effects of competitive deviance on relations between horizontal integration managerial model and firm performance under different extent of market fragmentation.

## LITERATURE REVIEW

### Market fragmentation in China

The market fragmentation (MF) is sourced by over-powered of local government, then regional markets of different provinces is over interrupted and isolated<sup>[1]</sup>. Therefore for a firm, Chinese domestic market is more like a bound of regional markets. Nevertheless, the MF is dynamic. Also different provinces are various industrial structure, thus the industrial policies are also various. All these cause the development of market economy in each province are un-simultaneous, which leads to two results: 1) a single province have various content and extent of the local protection in different period, 2) the extent of variety of regional institutions around the whole nation are dynamic in each period.

### Horizontal integration and cross-institution managerial model

While a firm growing horizontally, it will inevitably facing a new emerging managerial question: how to allocate resources inside the new organizational boundary, and increase the operation effectiveness<sup>[3]</sup>. Researchers in horizontal integration crossing countries<sup>[4]</sup> introduced coordination and centralization as important factors of organizational management. The coordination refers to reasonable allocation of inner resources of a firm, and the information communication and sharing among branch offices and departments<sup>[5]</sup>. Centralization means the extent of low-level manager's participation in decision-making. In reality, as multinational firms enter into different nations' markets, they all have to face the resistance and competition from the local industries of host countries. To mitigate the resistance from the local culture and local market, multinational firms undertake the way of joint venture by which firms share the equity of foreign investment with the firms or government of host countries. Multinational firms obtain local suitability by lowering centralization. This idea can be modeled by China firms, and be applied into domestic horizontal integration. When China firms face regional institutional difference, firms also can look for joint venture or alliance with regional firms to obtain local suitability.

### Competitive deviance

Competitive deviance refers to firm competitive behavior's difference on combination and implement with competitors in the same period and industry<sup>[6]</sup>. It is the extension of competitive behavior complexity on dimension of industry. Researchers find that when firms compete in a way of

strategic combination, firms enhancing the behavior diversification in strategic combination is beneficial to obtain unique competitive advantages, making competitors unprepared and unable to response<sup>[7]</sup>. However, there is few present research involved with the issue that what kind of organizational model can help firms effectively launch diversified competitive behaviors.

## **HYPOTHESIS**

### **Managerial model and performance**

Firm performance growth and advantage needs not only internal integration of advantageous resources, but also external integration of social resources which can lower transaction cost. This requires firms to build certain mechanism to pay attention to each external interests and demands, and to limberly set up favorable cooperative relationship with different types of organizations and government departments. In China, integrating external resources has more effective influence than improving internal management. Especially, dynamic institutional situation forces firms to make efforts to build favorable relationship with all kinds of social roles that are regarded as resources from which firms try to get direct interest. Under such environment, abandoning efficiency of internal resources integration and lowering coordination of horizontal integration appear to make better improvement on firm performance.

H1-a: As market fragmentation becomes higher, firm coordination has negative effect on performance. When researchers discussed multinational firms, they all stress the importance of social network in host countries, partnership in host countries and so on. The special institutional situation of market fragmentation in China makes entrepreneurs and researchers believe that to expand China market almost equals to expand markets in several independent nations. Centralization extent of horizontal integration management determines the intensity of decision authority and the decision levels for all firm strategic behaviors. Decision makers in different levels give rise to different factors including position specialness, managerial hierarchy and intellectual background, causing differences in making decisions, so it directly influences the implement and effect of firm integration strategy. When decision authority is centralized in headquarter or top management, decision makers' managerial cognition is concentrated on the whole firm and the overall situation of domestic market. Thus, all the organizational resources can be centralized to invest into the items or projects of overall strategic significant, and firm also can cultivate more swift response to external environment.

H1-b: As market fragmentation becomes higher, firm centralization has positive effect on performance.

### **Moderating effect of competitive deviance in market fragmentation**

Firm in competitive behavior aggregation is destined to be directly intervened by market fragmentation. Thus, equably utilizing different competitive behavior aggregations in the institutional environment is easy to appear, which relatively weakens firm's capability to centralize advantageous resources to launch deviant competition. When the market fragmentation is low, firm can take advantage of relaxed market and implement deviant and unique competitive strategies by optimizing internal resources. Meanwhile, highly coordinated integration management model can quickly transfer the information of departments or basic levels into knowledge, and give feedbacks in form of management or competition. On the other hand, if a firm is to launch some deviant competitive behaviors, it will make a high cost, which needs a highly centralized organizational model to support. Therefore, as market fragmentation becomes lower, firm should improve the coordination and centralization to give room for competitive deviance.

H2-a: As market fragmentation becomes lower, competitive deviance has negatively moderating effect between firm coordination and performance.

H2-b: As market fragmentation becomes lower, competitive deviance has positively moderating effect between firm centralization and performance.

But when market fragmentation becomes higher, regional resources integration faces great difficulty. Meanwhile, firm should not obtain the resources and capabilities for competitive deviance from resources centralization and integration, but should launch regional deviant competition in consideration of characteristics in every region. Thus, in order to make the most of the advantage of regional deviant competition, firm should further reduce the coordination. At the mean time, reduction of coordination does not mean that headquarter has lost control of regional subsidiaries, and improvement of centralization helps firm to control the whole efficiency of strategic combination of deviant competition in general. Therefore, as market fragmentation becomes higher, firm should lower the coordination but enhance the centralization to make advantage of deviant competition.

H2-c: As market fragmentation becomes higher, competitive deviance has positively moderating effect between firm coordination and performance.

H2-d: As market fragmentation becomes higher, competitive deviance has positively moderating effect between firm centralization and performance.

## RESEARCH DESIGN AND MEASUREMENT

### Data gathering

Since content analysis is the major method for coding competitive action data. 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 (265 samples of each firm in each year) gathered, coded, and analyzed. 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.

### Variables measurement

**Dependent Variable.** To take over the industrial difference, this paper standardized the value of ROA.

**Independent Variable.** 1) Coordination: the proportion materials purchased from top-5 suppliers, and the proportion of sales revenue to top-5 dealers (customers)<sup>[8]</sup>. This paper calculated the entropy weighted value of these three measures.

2) Centralization: holding ratio as the core parameter to calculate the centralization<sup>[8]</sup>. The formula is:

$$\text{Centralization} = \frac{\sum_i (C_i \eta_i)}{\sum_i C_i} \quad (1)$$

Where  $C_i$  represents total registered capital amount by parent company of horizontal integration firm on its all subsidiaries (including holding company and affiliate company) of which the amount is represented as  $i$ , while  $\eta_i$  represents parent company's holding ratio in each subsidiaries.

**Moderating Variables.** 1) competitive deviance: According to the calculation method by former researchers[6], this paper adopts the formula as follows:

$$\text{deviance} = \sum_i (p_i - \bar{p}_i)^2 \quad (2)$$

Where  $P_i$  represents the proportion of  $i$  types of competitive actions adopted by focused firms, while  $\bar{p}_i$  represents the average proportion of these types of competitive actions adopted by all competitors in the whole industry.

2) Market Fragmentation (MF): This paper adopted the NERI indexes of all provinces in China since 2001 to 2012 [9], to indicate that the essential of MF is the differences of regional institutional differences among provinces. The variable about influence of  $MF_t$  is measured as (3). Whereas refers to the market index in t year of the province where headquarter located, and  $m_{it}$  refers to the market index in t year of other provinces in China.

$$MF_t = \frac{\sum_{i=1}^{31} (m_{it} - m_i)^2}{31} \quad (3)$$

All measurement of competitive complexity, coordination and MF are categorized according to the means (1 for lower than means, and 2 for higher) of the sample in each industry.

Control Variables. Because competitive behavior has strong association with resources and previous growth of the firm<sup>[10]</sup>, this paper chose the time of firm built, and resources slack as control variables, while resources slack majorly measured by size of firm and the current ratio of (proportion of current assets to current debts). Also the three control variables are standardized to avoid the industrial differences.

## STUDY RESULTS

As TABLE 1, the F test of all regression analysis shows significance. Besides, the R2 adjusted value ( $\Delta R^2$  adj.) of the regression models with interactions is merely higher than that of independent regression models. This demonstrates that the Fit degree of moderating regression models is fit in basic test requirement.

TABLE 1: Regression Analysis Results: when MF becomes lower

	MF Low				MF High			
	Model1-a	Model1-b	Model2-a	Model2-b	Model1-a	Model1-b	Model2-c	Model2-d
(Constant)	(-1.394)	(1.997)*	(0.463)	(-1.585)	(2.536)*	(-2.976)**	(-0.862)	(2.154)*
<i>Control</i>	-	-	-	-	-	-	-	-
<i>Independent</i>								
ZX		0.106† (0.517)		0.106 (0.517)		0.715*** (3.565)		-0.758* (-2.457)
XT	-0.272† (-1.738)		0.011 (0.065)		-0.545** (-2.772)		0.444 (1.416)	
<i>Moderating</i>								
CY			-0.183 (-0.742)	-0.739** (-2.925)			0.109 (0.407)	0.033 (0.161)
<i>Interaction</i>								
ZX*CY				0.023 (0.079)				0.703* (2.052)
XT*CY			0.696* (2.379)				-0.069† (-0.177)	
R <sup>2</sup>	0.090	0.063	0.076	0.148	0.078	0.113	0.105	0.140
R <sup>2</sup> adj.	0.076	0.048	0.059	0.113	0.057	0.093	0.062	0.089
$\Delta R^2$ adj.			0.015	0.065			0.003	0.081
F value	6.397***	4.335**	2.046*	4.305***	3.638**	5.498***	1.990†	2.768*

\*\*\*. Regression is significant at the 0.001 level (2-tailed); \*\*. Regression is significant at the 0.01 level (2-tailed); \*. Regression is significant at the 0.05 level (2-tailed); †. Regression is significant at the 0.1 level (2-tailed)

According to Model 1-a, when market fragmentation becomes lower, the coordination of firm integration (XT) has little significant ( $p < 0.1$ ) negative effect on performance; when market fragmentation becomes higher, XT has higher negative effect on performance, as well as a stronger significance ( $p < 0.01$ ), which means the coordination of firm integration in China has negative effect on performance and this effect becomes stronger with market fragmentation being higher. Thus, H1-a is supported. According to Model 1-b, when market fragmentation becomes lower, the centralization of firm integration (ZX) has little significant ( $p < 0.1$ ) positive effect on performance; when market fragmentation becomes higher, ZX has higher positive effect on performance, as well as a stronger significance ( $p < 0.01$ ). It means the centralization has positive effect on performance, and this effect becomes stronger with market fragmentation being higher, so H1-b is supported.

According to Model 2-a, when market fragmentation becomes lower, the interaction of competitive deviance (CY) and XT has significant ( $p < 0.05$ ) positive effect on performance, which means the moderating effect of CY reverses XT's original negative effect on performance, so H2-a is supported. According to Model 2-b, when market fragmentation becomes lower, the interaction of competitive deviance (CY) and ZX has insignificant effect on performance, so H2-b is not supported. According to Model 2-c, when market fragmentation becomes higher, the interaction of competitive deviance (CY) and XT has little significantly ( $p < 0.1$ ) negative effect on performance, so H2-c is supported. According to Model 2-d, when market fragmentation becomes higher, the interaction of competitive deviance (CY) and ZX has significant ( $p < 0.05$ ) positive effect on performance, so H2-d is supported.

## CONCLUSION

Under market fragmentation, China firms often need to learn from the patterns of MNEs and design the appropriate managerial models in domestic integration. However, China firms always copy the organizational models of MNEs. This paper found out that it is unwise for China firms to copy under market fragmentation. MNE's organizational model helps to reduce central control on every subsidiary, so that they can acquire local suitability in host countries. To enhance MNE's fixed advantage, they focus on organizational coordination, by building global unified management criterion and process on sections of quality, production, logistics and so on. When facing market fragmentation, China firms need to reduce the organizational coordination rather centralization. As market fragmentation increases, China firms need to enhance equity control on every regional subsidiaries, but reduce the coordination on production, sale etc., because regional institution separated firms' internal operation system while local governments don't need to share equity of firms of inter-regional investment. This paper gives a further explanation that competitive deviance with low coordination and high centralization can play a better role, and help firms to improve competitive advantages.

## ACKNOWLEDGEMENT

This paper is supported by National Natural Science Foundation of China (No. 70832003), Youth Project of Guangzhou Academy of Social Science, and "Guangzhou Focus Research Base of Humanities and Social Science: The World Famous Cultural City and Cultural Industry Research"

## REFERENCES

- [1] A.Young; The Razorps Edge: Distortions and Incremental Reform in the People's Republic of China, Quarterly Journal of Economics, **115**(4), 1091-11351 (2000).
- [2] E.T.Penrose; The Theory of the Growth of the Firm, Oxford: Basil Blackwell, (1959).
- [3] L.Capron, W.Mitchell; Bilateral resource redeployment and capabilities improvement following horizontal acquisitions, Industrial Corporate Change, **7**, 453-484 (1998).

- [4] J.A.Lamberg, Tikkanen; Changing sources of competitive advantage: cognition and path dependence in the Finnish retail industry 1945-1995, *Industrial and Corporate Change*, **15(5)**, 811-846 (2006).
- [5] S.A.Rhoades, A.A.Heggstad; Multi-market interdependence and performance in banking: Two tests, *Antitrust Bulletin*, **30**, 975-995 (1985).
- [6] H.A.Ndofor, D.G.Sirmon, X.He; Firm resources, competitive actions and performance- investigating a mediated model with evidence from the in-vitro diagnostics industry, *Strategic Management Journal*, **31(6)**, 640-657 (2011).
- [7] Clemmons, Simon; Control and coordination in global ERP configuration, *Business Process Management Journal*, **7(3)**, 205-215 (2001).
- [8] Ali Haj Shirmohammadi, William C.Wedley; Maintenance management –an AHP application for centralization/decentralization, *Journal of Quality in Maintenance Engineering*, **10(1)**, 16-25 (2004).
- [9] Fan, Wang, Zhu; NERI Index of Marketization of China's Provinces 2011 Report, Beijing: Economic Science Press, (2011).
- [10] Mj.Chen, D.C.Hambrick; Speed, stealth, and selective attack: how small firms differ from large firms in competitive behavior, *Academy of Management Journal*, **38**, 453-482 (1995).