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Dynamic Competitive Behavior of Enterprises in Multi-Network: Evidence from Chinese Animation Industry

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ABSTRACT
In this study, we try to reveal the mechanism of the enterprise competitive strategies embedded in multi-network as the intermediary role between the three kinds network relationships and performance, in order to answer such question: what kind of network relationships can enterprise relies on and choose a speculate competitive strategies for sustainable development? This research chose the Chinese animation enterprises as samples. We collect data from questionnaires to Guangzhou Animation Association and such an opportunity of the 2014 Guangzhou International Cartoon Festival (2014CICF) and testified the mediation effects of three competitive strategies between different dimensions of networks and firm performance. Results of this study indicated the mediating role of the three kinds of competitive strategies between the multiple network connection and performance. 1) Confrontation strategy has a mediating impact between inner-industry network and performance, so as between cross-industry network and performance. 2) Barrier strategy has played a mediating role between inner-industry network and performance, so as between government-relation network and performance. But barrier strategy fails to play roles between the cross-industry network and performance. 3) Symbiosis strategy has played an incomplete mediating role on the relationship between inner-industry network and performance, so as between government-relation network and performance. This study introduced the context of the dynamic competitors to promote the development of dynamic competition theory. Adopting the perspective of multi-network to the study of the dynamic competitive strategy in this paper is put forward to fill the gap between the dynamic competitive behavior and the corporate strategy.

Keywords: multi-network, competitor dynamism, dynamic competitive behavior, competitive strategies

INTRODUCTION

Enterprises competition is inevitable during enterprises' operation and growth. However, the strategies and the methods of the dynamic competition are associated with technology, society and many other factors. In recent

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State of the literature

- Current dynamic competition theory system is difficult to guide the enterprises to make decisions in competitive strategic under the condition of the competitors' dynamism.
- Recent research on dynamic competition neglected the association between the competitive strategies and the competitive actions, which can hardly explain a certain type of competitive repertoire can achieve either competitive advantage.
- Previous studies fail to explain the associations between networking structural context and competitive action decisions.

Contribution of this paper to the literature

- Sampling Chinese animation enterprises by questionnaires, this study indicated the mediating role of the three kinds of competitive strategies between the multiple network connection and performance.
- To understand how enterprises compete basing on the interrelationship with network environment, this study introduced the context of the dynamic competitors to promote the development of dynamic competition theory.
- This paper also contributes into cross-industrial competition by analysis and modeling competitive strategies according to cross-industrial network relationship, and has indication on sustainable development of firms embedding on multi-networking environment.

years, due to the development of Internet and other information technology, the status of enterprise competition has evolved into a completely new situation: on one hand, the inter-industry competition is gradually increasing and becoming the highlights, accelerating the integration of the incumbent oligarch enterprises dominated in multiple industries; on the other hand, the Internet has spawned a number of small and medium-sized enterprises (SMEs), which have a significant competitive advantages. Possessed of technological advantages, these SMEs often subvert the incumbent traditional business models and become obvious competitive threats to lots of traditional oligarch enterprises. These signs indicate that the current enterprise's competition has a feature called competitor dynamism, referring being difficult to determine who will be the competitors in advance. Either enterprises of many other industries (Albers and Heuermann, 2013), or SMSEs which are difficult to capture its actions (or even start-ups) are likely to become the accurate competitors in specific circumstances, and become the competitive threats to the focal firms.

The dynamic competition theory is to reveal the inner mechanism and regularities of the enterprise's competitive strategies and behavior changes (Chen, 2009; Xie et al, 2003). The competitors dynamism, as new characteristic, are great challenges to the existing enterprise competition theory in the following aspects: 1) current dynamic competition theory system (Chen, 1996; Chen & Miller, 1994) is difficult to guide the enterprises to make decisions in competitive strategic under the condition of the competitors dynamism. It is also lack of adequate consideration on the competition from SMEs and the micro enterprises which have weaker tangible assets, so do the enterprises with alliance relationship; 2) Recent research on dynamic competition has been focused on the objective analysis of the enterprise competitive behaviors, such as the competitive repertoire. But these studies have neglected the association between the competitive strategies and the competitive actions. Previous researches can hardly explain a certain type of competitive repertoire can achieve either competitive advantages of the high difference and the low cost, also cannot tell us what competitive advantages could an enterprise build under competitor dynamism; 3) Although, scholars have noticed that enterprises were embedded in some certain institutional contexts (Furrer & Thomas, 2000; Tian, Z. and S. Fan, 2008) or networks (Gnyawali & Madhavan, 2001), but they tend to view the enterprise networks as an external factors of the competitive behaviors rather than view the actions or repertoire as parts of the network association.

Enterprise network is not an entire network, but comprised of a number of dimensions. An enterprise revolves around different key value activities is embedded in different types or dimensions of networks at the same

time, including: a) enterprise supply-chain business network, b) enterprise cross-industry business network, and c) Social resources or relationship network. Under the multi-network structure, what competition strategies can enterprises choose to achieve, and what the relevance between different dimensions of network and the dynamic competition strategies, is important to explain and guide the dynamic competitive behaviors of the enterprise, especially under the competitor dynamism. In this study, we try to reveal the mechanism of the enterprise competitive strategies embedded in multi-network as the intermediary role between the three kinds network relationships and performance, in order to answer such practical question: what kind of network relationships can enterprise relies on and choose a speculate competitive strategies for better performance.

THEORETIC REVIEW

Enterprise Network and its Levels

The concept of network is firstly raised in studies of social network structure in the field of sociology (Miles and Snow, 1986; Boyd and Ellison, 2007). One definition of enterprise networks is a collection of business relationships between enterprises and sellers, suppliers, contractors and other business partners (Veronique, 2003). It reflects the topological relationship between the enterprises with special industrial structure in a certain market and other related parties (Barrat et al, 2004; Liu, 2017). In the enterprise network, each organization shown as a node, the relationship between organizations is represented by a link between nodes. As the enterprise is a collection of multiple resources (Penrose, 1959), and the internal resources of the enterprise in the process of configuration and efficiency production are inevitably have a variety of interactive relations with the external environment and the relevant parties (Hoskisson et al, 1999). So, the links between the node of focal firm and others in a specific network, to some extent, can reflect the dynamic process of interaction, communication and influences between the various resources and the related parties (Hendrix, 1976; Kandampully, 2002).

Regarding this, the enterprise network can be divided into different sub-networks according to different perspectives and criteria. Each sub-network may represent a dynamic relationship between a certain or a category of resources and the external related parties surrounding with. Scholars seperated enterprise network into different types in accordance with different standards, such as buyer-supplier network (Nishiguchi, 1994 ; Ozer & Zhang, 2015), strategic network (Jarillo, 1988), social network (Chellappa and Saraf, 2010), technological innovation and knowledge network (Mohannak, 2007) and so on. Links of each network refer to different relationships, thus in different dimension of network, nodes around the focal enterprise may also varies. According to the different types of enterprise resources, the enterprise network can be divided into three dimensions: the inner industrial business network, cross-industry business network and social resources or relationship network.

The inner industrial business network mainly refers to the horizontal and vertical enterprise network of the focal firm in a particular industry. The horizontal enterprise network includes the links with other similar enterprises in similar supply-chain sector, such as industrial cluster or co-production network (Ozer & Zhang, 2015), or business groups (Manikandan and Ramachandran, 2015). Their activities in value stream have the tendency of convergence, so that the competition is more than cooperation. Vertical enterprise network refers to the network of the upstream and downstream enterprises of the supply chain, including suppliers, vendors, etc. (Nishiguchi, 1994). Located in the different parts in a supply chain, the relationships are often in the form of business contacts, so cooperation is more than competition.

Cross-industry business network mainly refers to the network of business enterprises across the industries, including diversified business development in investment, production, sales and other segments of the business association (Basile, 2011), as well as the networks of businesses outside its main industries on the purpose of establishing competitive advantages in its main industry by R&D, designation, advertising, information consulting and other value sections of the business of other industries (Lee and Kim, 2010; Elodie Gardet and Caroline Mothe, 2011).

Social resources or institutional related network mainly refers to a network contains a variety of non-profitable social organizations, institutions and government departments, during the process of the operation of

focal firm (Chellappa and Saraf, 2010; Acquaah, 2012). This network includes media, industry associations, government departments, universities or research institutions, etc. All nodes are enterprises in the former two dimensions of networks, but in social resources or relationship network, except the focal firm, all other nodes comprised of non-profit organizations. The macroeconomic institution directly determines the form and structure of the social resources or relationship network. In high marketization, the government policies are only a part of links in social resources or relationship network, while in developing countries and low marketization, the government is likely to be a center in the network, which have dominant relationships with other non-profit organizations. There is a different correlation and interaction between the enterprises and the government departments. The social network with this relationship is more significantly important in developing countries (Acquaah, 2012; Zeng & Song, 2012). In developing countries, such as China, the government and the institution are not simply playing the role of environmental factor; the enterprise is more likely to influence the institutional transition (Manikandan and Ramachandran, 2015) through various ways. At the same time, in the game among different regional governments, firms can be affected with it while also can take advantage of the gaming between government departments (Jiancai Pi, 2008).

Unlike the previous researches, this study considers that these three dimensions of enterprise networks are not mutually exclusive; they could exist around any focal firm at the same time. Because of different sizes and the degree of links in three dimensions of networks, there will be different resources endowment and competitive advantages of enterprises. Therefore, in a sense, these three kinds of enterprise networks are essentially of different levels or dimensions1.

Dynamic Competition

Initial research on business competition is mainly static, the Cournot model (1838) is regarded as the representative of enterprise competition. Cournot model assumes that the competitor is "one-on-one", two competitors are in the same market, and their optional competition strategies are mainly on the price and the yield. Under the premises of the above assumptions, Cournot model established equilibrium conclusion about the enterprise competition. Following researches are almost based on the gradual liberalization of each hypothesis of the Cournot model.

(1) The perspective of "one-to-one" competitive relationship

According to the constraints of the competitor market space in Cournot model, Edwards (1955) first proposed the concept of multi-market contact, and proposes the hypothesis that the enterprise in the multi-market contact generated "mutual forbearance", also known as multi-point competition. Similar to static competition theory, the main research object of the theory of multi-point competition is still focused on one-to-one competitive advantage. At the same time, the description of competitive behavior of the multi-point competition theory is not limited to the price, but also to the market scope, the regional market entry and exit, the detailed strategies of the entry of the new entrants into the attack and confrontation (Heggestad & Rhoades, 1978; Evans & Kessides, 1994; Baum & Kron, 1996).

After the theory of multi-point competition, an important branch is the competitive interaction theory. Competitive interaction theory unfolded the constraints of competitive action time of Cournot model, which is considered to be the first in the one-to-one relationship game, party didn't respond to the other party, or a side take further action not wait to respond the other side. At the beginning, scholars use the mathematical tool of the game theory to study the enterprise competitive interaction and confrontation "equilibrium" (Chen and MacMillan, 1992). Later Chen (1996) proposed the famous market commodity and the resource similarity theory, and laid the theoretical framework of dynamic competition AMC (Chen, 1997; Miller & Chen, 1994). Competitive interaction studies mainly discuss the implementation of several times of competition of the two competitors in the same

[1] If considered the enterprise resource as one dimension, then the whole network is a multi-dimensional space structure. But the topological network structure of two bits is not able to show the characteristics of multi-dimensional space. So this paper can only consider different resources or related (dimensional) enterprise networks as a different network levels.

market, and the specific competition has been expanded to a variety of strategic behaviors (Karagozoglu and Fuller, 2011).

(2) The perspective of "one-to-indefinite" competitive relationship

Since Chen (1996), scholars have focused on the observation and study of the specific competitive behavior of enterprises. It is found that the competition of enterprises is often not an independent competitive behavior or a single strategy, but a repertoire of competitive behaviors (Ferrier et al. 1999). In fact, the enterprise competitive behavior or the competitive repertoire is often not pointed to a specific target, when some of the competition action is implemented, the enterprise it actual impact or beat is also not countable. Therefore, as a matter of fact, the research focus is to discuss the competitive relationship between the focal firm and the competitors with numerical and target uncertainties. Because of this reason, few scholars with this research perspective are able to completely and systematically verify on the market commonality and resource similarity proposition of Chen (1996).

In the view of the fact that there are higher and higher competitive dynamics, some scholars have criticized the short-term competitive advantage, and tried to find a theory which could guide enterprises to establish a sustainable competitive advantage. Relevant to the researches exploring the dynamic competitive interaction of short-term strategic interaction, the hyper-competition theory (D'Aveni, 1994, 1998) explores the long-term multi-round confrontation. Although this theory has broken through the limitations of previous theories on dynamic competition, it still does not clear the relationship between the focal enterprise and its competitors, D'Aveni even think that the major competitor of an enterprise is the enterprise itself (1994).

(3) Supplement on "one-to-indefinite" competitive relationship: competitive network

From the Cournot model to multi-point competition and competitive interaction, dynamic competition theory is still under the premise of clear competitors to discuss the enterprise competition strategy and action. But the part of the research under the perspective of Co-competition relationship, as well as the theory of the competitive repertoire strategy regarded Ferrier as the representative, began to weaken the competitors. Perhaps recognized of this weak point, the concept of competition network has been put forward by the Eastern and Western scholars. Western scholars Gnyawali et al. (2001) proposed the concept of competitive network from the perspective of network embedding theory, and discussed the relationship between the enterprise competitive network and the enterprise dynamic competition. They imitated the market commonality and resource similarity theory of Chen (1996), put forward several propositions of enterprise competitive interaction (attack and counterattack) under the competition network structure. After that, the scholars defined the network, which the enterprises embedded in under different perspectives, and further studied the enterprise network structure and its relationship with the competition behavior under selected and specific enterprise network environment. Chi et al(2007)discussed the correlation relationship between social network structure and dynamic competitive behavior in the context of cross-organizational system. Busbin and Johnson (2008) focused on the characteristics and rules of the competitive behaviors in the external production network of the enterprise. Chinese scholar Hongming Xie(2005a, b) named the enterprise network with strategic network, he explored the affection of structure characteristic of the strategic network to the enterprise competitive behaviors.

The former study of the competitive networking had supplemented the dynamic competitive theory under the assumption of "one-to-indefinite" competitive relationship. Scholars defined the content and the types of the enterprise network under different perspectives, they were able to define the position of focal firm and competitors, or even the structural character of each position (Yu, 2011; McEvily & Zaheer, 1999). But no matter how to describe the enterprise network, it could not reflect the multiple characteristics of the enterprise network, and reveal the characteristics and rules of the dynamic competition of enterprises under the multiple networks. In addition, the competitors of the former researches are always explicitly or implicitly fixed, without taking into account the scarcity of the resources, which is nature of the competition. So, any one node organization in the enterprise network, are likely to become a competitor under particular circumstances, and carry out the dynamic competition in the network. Chen & Miller (2015) tried to re-concept the dynamic competition, and reconstruct the AMC paradigm of enterprise dynamic competition in relational approach. However, Chen's argument stayed in an abstract relation approach, failed to further explore types and structures of relation between focal firm and stakeholders. Third, previous studies only focused on the detailed competitive behaviors, such as actions on how to develop new products or adjust prices, etc., and ignored to answer what kind of the competitive advantages

should a firm build. In fact, researches in dynamic competition are already beyond the theme of Porter (1980), who defined there is either the differentiation or low cost advantage can a firm achieve. However, scholars in dynamic competitive behavior and repertoire paid few attention to question as what competitive strategy the enterprise should take and what kind of competitive advantage should the enterprise build.

HYPOTHESIS

Enterprise Strategy Under Multi-Network

There are significant two aspects of the dynamic competitive environment of the enterprise under the multi-network.

Firstly, enterprises cannot clearly define their own (potential) competitors in advance. Under the multi-network, competitors can be not just from five-power model, including inner-industry, upper- and down-stream of supply chain, alternatives production or constitution. Moreover, there is larger possibility that focal firm's competitors are cooperator and alliance in R&D, start-up companies or cross-industry entrants based on innovation (both technology and business model), and even the government departments, third party institute and other non-profit organizations. In all, any relevant partner or stakeholder, who constraint or threaten the survival and advantage focal firm in one dimension in multi-networks, could become competitor.

Secondly, the competition scope of enterprises may not appear only in the category of market share. Under the multi-network, the category of enterprise's competitive threat is not only derived from the product market, but it is also possible to be aspects of the capital market (or investor confidence) and the social public relations and so on. In this way, the enterprise's competitive response is not only within a certain industry, but also to mobilize in multiple types of resources embedded in multi-networks.

Because of these two characteristics, any competitive action could weaken the competition advantage, because no matter competitors obvious or not, enterprise's action need to take into account of other organizations in the multi-network. On the other hand, the competitive strategy of a firm will not be as simple as to construct the industry competitive advantage, but instead to seek a "safe" and "invincible" status in the supply chain network, cross-industry knowledge and innovation network and social network. The target of enterprise competition is multiple, including keeping the balance between the current obvious competitors (Edwards,1955), inhibiting the emergence of new competitors, as well as building the network competitive advantage, and fighting (potential) competitors by making good use of the various organizations or resources in multi-networks. Therefore, all competitive strategic decisions and actions of focal firm are to limit, restrict and even guide other institutions in the multi-network, so as to reduce the possibilities of the exchanging of competitors, and to form a strategic alliance with other organizations in the network to confront and counter competitors when competitors emerging.

Therefore, in the multi-network, competition strategy can be categorized into three types: 1) the confrontation strategy; 2) Barrier strategy; and, 3) Symbiotic strategy. Confrontation strategy is intention to form a set of balanced strategies with obvious competitors in multi-networks, including the multi-point contact (Gimeno, 1999) or the market commodity (Chen,1996), as well as the resource similarity (Chen,1996). Barrier strategy mainly refers to a variety of acts of the enterprises to limit or curb the new competitors (Santos & Eisenhardt, 2009), including building restrictions on large enterprises of other industries to cross industry, as well as to curb SMSs or alternative technology/product providers from posing threats. The main methods of barrier strategy are to establish and continuously improve the technology or product standards of the industry, control the professional media or marketing channels, control key and core technology innovation, construction of the whole industry of ecological circle, etc. Symbiotic strategy mainly refers to the enterprises in the three types of networks to establish common progress and cooperation strategy of development, including to establish venture capital fund of the industry, to build strong ties of cooperation with the government and universities, and to achieve technological cooperation and coproduction (Skaggs and Huffman 2003) with well-known enterprises of the related industries, etc. It is important to note that the main distinguishing criteria of the three kinds of competitive strategies are the competitive intentions of decision making, and under the different competitive intention, there may launch same

or similar competitive action. With different intentions, the implementation of similar competitive behaviors will have the differences in details (Marcel et al, 2010), and will bring to build different advantages. This research considers that the three types of competitive strategies of enterprises under multiple networks have positive effect on the performance.

H1a: Confrontation strategy has positive effect on performance.

H1b: Barrier strategy has positive effect on performance.

H1c: Symbiosis strategy has positive effect on performance.

The Affection of Multiple Networks on Enterprise Competitive Strategies

Embedded in multi-networks, the degree of network connection can influence or even determine the choice of three kinds of competitive strategies. Firstly, focal firm, with a high degree of business network association within the industry, has an adequate understanding and interaction of the incumbent competitors (Heggestad & Rhoades, 1978), and thus it can more easily launch the competitive action intended of forbearance (Chen &Miller, 1994), and this behavior is more likely to spread in multi-networks. Cross-industry network mainly form associations in two ways: capital and knowledge (Basile, 2011; Lee and Kim, 2010; Elodie Gardet and Caroline Mothe, 2011). In any way, forbearance during value chain multi-point contact would be inevitably accomplished in at least cross-industry network. The social resources and the institutional network of the enterprises is a very complex concept (Veronique, 2003), among which the connection with government and responding institution has a decisive influence on firms' competitive advantage and competitive strategy selection (Scott,2001; Pi & Lan, 2014). However, the communication with the government can easily make the enterprise deviate from the market behavior (Zeng & Song, 2011), and ignore the competition in the market as well as the balance and confrontation with the competitors and the competition within the industry.

H2a: The three types of network association have different effect on confrontation strategy: the business network association within the industry has the strongest affection, followed with cross-industry networks and the relationship network with the government.

Secondly, a firm with frequent connection ininner-industry business networks can be more clever and effective to build industry barriers (Ed Vosselman, 2012), especially against cross-border entry, not only with the industrial market method but also with institution, technology innovation and public media channels, etc. (Caves & Ghemawat, 1992). But in the cross-industry network, the liquidity of capital and knowledge can promote the enterprise to have more open attitude towards the multiple network, so the cross-industry network association can restrain the enterprise to launch the competition behavior intended at building barriers. Prior researches had indicated that the interaction between the enterprise and the government is often more conducive to the construction of market barriers (Alshamali et al,2008; Chang and Wu, 2014).

H2b: The three types of network association have different effect on barrier strategy: the business network association within the industry has the strongest affection, followed with cross-industry networks and the relationship network with the government.

Thirdly, the connection in inner-industry business network is difficult to promote the enterprise to launch the competition behavior for the purpose of "common progress", so the association of the enterprises in the network means enterprises' knowledge spillover (Kandampully, 2002; Tortoriello, 2015),so that a lot of the self hidden competitive intentions are regarded as a fall follower strategy (D'Aveni, 1994), and in many industries today, Differentiation is still the main competitive strategy (Ndofer et al, 2011). In particular, the integration of cross-border knowledge plays a more and more important role in building the enterprise's technological innovation ability and innovation advantage. Therefore, the formation of capital and knowledge flow and interaction of the cross-industry network connection must be an important driving factor to promote the industry upgrading and technological progress (Kaplan and Vakili, 2015). Currently nations are eagerly establishing policies for economic recovery and industrial upgrading, which make firms are more likely to form competitive strategies to strengthen communication with government departments (Li and Atuahene-Gima,2001).

H2c: The three types of network association have different effect on symbiosis strategy: the business network association of cross-industry networks has the strongest affection, followed with the relationship network with the government and the networks within the industry.

Multiple Network Association, Competitive Strategy and Performance

In resent competitive situation, enterprises need to integrate the internal and external resources effectively in order to survive and develop in the competition context of dynamic competitors. Embedded in the context of multi-network, the important issue of the enterprise' dynamic competitive strategic decision is how to select the appropriate competition strategy according to the relevance of its own in multiple networks, so as to achieve the growth of performance in the environment of dynamic competitors.

The confrontation strategy is attempt to form forbearance with the existing competitors in both advantage resources and the capability within the inner-industry, and therefore to consolidate the competitive advantages (Baum & Kron, 1996). Under the multi-network structure, the implementation of the confrontation strategy is not limited to the scope of the product market, but more involves in the cross-industry business network and communication between government departments. The more enterprise strengthens the integration in both capital and knowledge, and in social networking with government, the market and resource status of focal firm in multi-networks (Gnyawali et al, 2001) will be more stable, thus the focal firm would be easier to achieve the market commonality and resource similarity with its competitors (Chen,1996). While the competition and forbearance will promote the "collusion" between the enterprise within the industry (Edward, 1955), including the price strategy, the market entry barriers and the innovation direction, so as to obtain high profits.

When internal market growth rate and the market profit rate are comparatively high, establishment of industry barriers is a way to restrict the development of the late enters and to increase income (Boddewyn and Brewer, 1994). But the relevance of the enterprise in multi-networks is the basis of the enterprise to build barriers, effective barriers are often integrated in the whole supply chain (Nishiguchi, 1994), market and non-market resources (Boddewyn and Brewer, 1994). Barrier strategy is not only capable to intercept the new entrants, but also misleading the followers (D'Aveni, 1998; Ndofer et al, 2011), including the strengthening of technical or commercial information confidential, deliberately releasing the misleading information etc. So the best way to misleading is to form a variety of network connection, so that the competitors do not know the real strategic direction of the enterprise. Regardless of any consideration, for the enterprise embedded in multiple networks to form a strong enough association is more easily to obtain revenue through the implementation of barrier competitive strategy.

Innovation of enterprises has been testified as a process of integrating external resources (Arora et al, 2014; Chen, 2011). In process of technology and model innovation, integration of external resources has various patterns, including outsourcing, cooperation, and M&A. While turning innovation into market performance, enterprises need to acquire the supports and legitimacy form all stakeholders and relational partners (Kandampully,2002; Helmersa and Rogers,2011). The symbiotic strategy engages enhance technology and production innovation and upgrading, integrating all kinds of resources from partners in multi-networks. Therefore, connection in multi-networks can enhance and improve the capability to accomplish symbiotic strategy, and accomplish market and finance performance rapidly (Steven Muegge, 2013; Kumar et al, 2015).

H3a: The barrier strategy of enterprise plays an intermediate role in the relationship between multiple network association and the performance.

H3b: The confrontation strategy of enterprise plays an intermediate role in the relationship between multiple network association and the performance.

H3c: The symbiosis strategy of enterprise plays an intermediate role in the relationship between multiple network association and the performance.

METHODOLOGY

Data Collection

This research chose the Chinese animation industry enterprises as a sample. Animation industry has developed into a complex global industrial chain network, the upstream of the chain are the content and creative production processes, including the animation element development and the animation core production (stage play, comic, animation, games, etc.); the middle part of the chain is the authorization of the copyright in different countries; the downstream links mainly include the issue of the product and the animation derivatives (toys, clothing, stationery, food, theme parks, etc.). Over the past 10 years, the animation industry has become one of the world's recognized strategic emerging industries. In Year 2010, the output value of games, animation and related derivative products had been reaching as high as USD8000 billion, while due to an uncompleted statistic, the total output value of the global animation industry in 2011 was about USD95000 billion. In the United States, the animation industry has become one of the largest industries in the United States. China's animation industry also has a rapid development in recent years, its total output value of animation industry reached RMB 870.54 billion in 20132.

The animation industry is an industry which cultural creation and technology are closely related. The element creation, the core production, the product issuance, the derivative production and other aspects of the production can be integrated with different disciplines and innovation resources. It is also due to this reason, in addition to the competition between local animation companies and multinational companies, some animation production companies, companies originated in areas of production and support technology are also cross-border into the industry in Chinese animation market this year, such as one of Chinese real estate industrial leaders Hengda Group entered the animation game industry. Meanwhile, some furniture, toy production companies also successfully entered the animation industry through various ways, they established the advantages of the market and brand, such as Comagic, Alpha, etc. Animation industry is currently in the competitive era of dynamic competitors: SMEs which relied on the internet or mobile Internet can gain rapid rise through the release of some of the small animation works; while many companies outside the industry can cross-into the animation industry by make good use of the advantages such as capital and the original customer resources. And at this time, the successful animation companies, such as Comicfans etc., established some certain correlation and interaction mechanism with newly animation creative talents and the in-charged governmental departments through a variety of ways, effectively explored its the market value of the anime or copyright and the combined advantages of the market, brand, channel and other multiple aspects.

This study relies on Guangzhou Animation Association and such an opportunity of the 2014 Guangzhou International Cartoon Festival (2014CICF) to issue a questionnaire on Chinese animation companies. A total of 500 questionnaires were distributed and 225 copies were effectively recalled. Among the well-known animation companies, such as Comicfans, Comagicare effective recovered in this column. Of the recalled questionnaires, the animation companies which output value below 1000 million RMB are accounted for about 50.22%, about 39.11% are companies which output value is between 1000 million RMB and 1 billion, the output value more than 1 billion enterprises are accounted for about 11.67%.

Variables

1. Dependent variables

In this paper, we chose the corporate performance as the dependent variable. Due to measurement of the corporate performance of enterprise competitive strategy study and dynamic competition study of Wanto & Suryasaputra (2014) and Fahri Karakaya & Peter Yannopoulos (2012), this study chooses 3 items: the market share,

[2]The data are due to the public industrial analysis report *Animation Blue Book: China Animation Industrial Development Report (2014)* etc.

Table 1. Variance analysis of three kinds of associated networks

		Sum of Squares	df	Mean Square	F	Sig.
Inner-industry network	Between Groups	178.862	12	14.905	7.551	.000
	Within Groups	416.516	211	1.974		
	Total	595.378	223			
cross-industry Network	Between Groups	215.242	12	17.937	6.937	.000
	Within Groups	542.955	210	2.585		
	Total	758.197	222			
Government-relation network	Between Groups	91.241	12	7.603	3.930	.000
	Within Groups	406.310	210	1.935		
	Total	497.552	222			

the main business income and the profit of the enterprise, each item is measured relative to other firms in the industry during the last five years, on a five-point scale ranging from much better than average to far below average.

2. Independent variables

Taking into account of China's market segmentation(Yong, 2000) and the current situation of cultural industry (Xuefang Jie, 2007), as well as the animation industry's own characteristics, we divided the networks of animation companies into three categories: 1)Content production networks (inner-industry network), including the association between animation companies and upstream suppliers, the association with channel distribution agencies, and the association with the third party organizations which granted the copyright; 2) Cross-industry networks, including the relevance with the animation derivatives manufacturers, and the relevance of companies from different industries; 3)Government-relation network (social resource and relation network), including the relevance with the central ministries and their subordinate agencies, as well as the association with the relevant departments of the local government. In this study, we designed a 5-component design of one or two questions to measure the intensity of each specific relevance of the respondents in the past year. The total scores were calculated as three different dimensions of multi-network – inner-industry network, cross-industry network and government relation network. Through variance analysis (**Table 1**), the variance between groups of the three kinds of networks are significantly larger than the variance within the group, which shows that the three kinds of enterprise networks are independent of each other, indicated that there are different levels of independent association of network connection between enterprises in a certain extent.

3. Mediating variables

We chose the enterprise's competition strategy as the intermediary variable. Based on the previous studies, scholars often divided the types of competition behavior by combining the characteristics of the industry. This study based on the study of (Miller &Chen, 1992; Xie et al, 2003), and take the characteristics of animation industry into consideration as well, divide the enterprise competition into eight categories: investment or merger, alliance or cooperation, development or introduction of new production technology, launch and release new products, enter new channels, adjust the animation creation and production team, prices changing, activities of public relations, etc. In this paper, we measured the intent of each category of competition for the last year separately, including the formation of confrontation or balance with the existing competitors (confrontation), improvement of the industry or market entry barriers or induce potential competitors (barriers), as well as the creation of eco circle in the purpose of building strategic alliances and innovation promotion to (symbiosis), etc. Each of the competitive intention of competitive behavior are represented by a 5-pint scale ranging from entirely not consider to totally considering this intention.

4. Control variables

Based on previous researches (Miller and Chen, 1992), we selected the time of enterprise establishment, the number of employees, the total output value and the animation product scales of the previous year's (including the total length of the animation video and the total number of comics), etc.

Table 2. Alpha test of the main variables

	Cronbach's Alpha	N of Items
Inner-industry network	.779	10
Government-relation network	.702	2
Cross-industry network	.703	6
Confrontation strategy	.711	8
Barrier strategy	.718	8
Symbiosis strategy	.732	8
Enterprise performance	.745	3

The results of the Alpha test showed in **Table 2**, all Cronbach's values of the main variables were more than 0.7, which showed that the reliability of the variables could be accepted.

ANALYSIS RESULTS

Based on Baron et al. (1986), we established a multiple linear regression model to examine the mediating effect, and adopted SPSS16.0 to analyze the collected data. According to **Table 3**, all of the R-square values of the regression model and the values of the F-measure test show significant, representing that regression model could also be accepted.

M0 shows that the three kinds of competitive strategies (confrontation strategy, barrier strategy and symbiotic strategy) have a significant positive impact on the enterprise performance, so H1a, 1b and 1c are all accepted. M2 shows that the connection in inner-industry network and cross-industry network have a significant positive impact on the confrontation strategy, while the impact of connection in inner-industry network (0.451, $p<0.001$) is more significant than that in cross-industry network (0.185, $p<0.01$). However, there is no significant negative effect does the government-relation network have on the confrontation strategy ($p>0.05$, -0.087). So H2a is accepted. M3 shows that the connection in inner-industry network has a significant positive impact (0.307, $p<0.01$) on barrier strategy; while connection in cross-industry network dose not has significantly possible effects on the barriers strategy (0.047, $p>0.05$); government-relation network connection has a significant negative impact ($p<0.001$, -0.242), which is not consistent with the original hypothesis, so H2b is partially accepted the test. M4 shows that connection inner-industry network has a significant positive impact on barriers strategy (0.143, $p<0.05$); while the positive impact of cross-industry network on the barrier strategy is not significant (0.462, $p>0.001$); but the government related network association has a significant negative impact on the barrier strategy (0.251, $p<0.01$), so H2c is accepted.

Based on M1 to 7, according to the judgment criterion on mediating effect in the study of Baron et al. (1986), the results of this study indicated the intermediary role of the three kinds of competitive strategies between the multiple network connection and performance. 1) the confrontation strategy has a mediating impact between inner-industry network and performance, so as between cross-industry network and performance. But the confrontation strategy has no mediating effects between government-relation network and performance. 2) The barrier strategy has played a mediating role between inner-industry network and performance, so as between government-relation network and performance. But barrier strategy fails to play roles between the cross-industry network and performance. 3) symbiosis strategy has played a incomplete mediating role on the relationship between inner-industry network and performance, so as between government-relation network and performance. Though, it has a complete mediating effect between cross-industry network and performance. Therefore, H3a, b are partially accepted, H3c is accepted.

Table 3. The descriptive statistics

	Mean	Variance	1	2	3	4	5	6	7	8	9	10
1 Financial performance	3.1060	.52534	1.000									
2 Years of firm found	4.4821	1.58175	.102	1.000								
3 Total value	4.4018	2.06382	-.014	.470**	1.000							
4 Amount of employees	3.8750	2.22753	-.047	.607**	.675**	1.000						
5 Product scale	2.0625	1.53746	-.007	.149*	.217**	.184**	1.000					
6 Confrontation strategy	.5478	.13652	.278**	-.068	.001	.042	-.048	1.000				
7 Barrier strategy	.6585	.12379	.201**	.033	.159*	.218**	.076	.380**	1.000			
8 Symbiosis strategy	.5459	.15516	.402**	.055	-.049	-.055	.042	.255**	-.168*	1.000		
9 Inner-industry network	9.9393	1.63397	.382**	.089	.031	.097	.065	.402**	.064	.471**	1.000	
10 cross-industry network	9.0213	1.84805	.277**	-.007	.031	-.010	-.136*	.185**	-.100	.593**	.374**	1.000
11 Government-relation network	6.9552	1.49707	.169*	.278**	.153*	.183**	.124	.134*	-.086	.469**	.552**	.310**

**. Regression is significant at the 0.01 level (2-tailed).

*. Regression is significant at the 0.05 level (2-tailed).

Table 4. Summary of regression

	P (M0)	P (M1)	CS (M2)	BS (M3)	SS (M4)	P (M5)	P (M6)	P (M7)
Control variable								
Constant	(5.995) ***	(5.782) ***	(2.187) *	(8.138) ***	(-1.545)	(5.318) ***	(3.027) **	(6.490) **
Establishing year	.161*	.175*	-.116	.029	-.025	.207**	.167*	.183*
Output value	.013	.028	-.015	.024	-.003	.032	.021	.029
Amount of Employees	-.137	-.122	.137	.137	-.031	-.160	-.160	-.111
Product scale	-.017	.000	-.046	.067	-.017	.012	-.019	.006
Independent variables								
Inner-industry network (IN)		.407***	.451***	.307***	.134*	.282**	.322***	.361***
cross-industry Network (CN)		.257***	.185**	.047	.462***	.206**	.244***	.096
Government=relation network (GN)		-.145*	-.087	-.242 ***	.251***	-.120	-.077	-.233**
Mediating variables								
Confrontation Strategy (CS)	.175*					.279***		
Barrier Strategy (BS)	.271***						.278***	
Symbiosis Strategy (SS)	.369***							.350***
R square	.338	.236	.264	.136	.344	.290	.304	.401
F	17.296 ***	10.771 ***	12.100 ***	3.923 ***	6.228 ***	12.299 ***	13.049 ***	12.899 ***

***. 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).

DISCUSSION AND CONCLUSION

Discussion on Results

1. Dynamic competitive strategies under multiple networks

The enterprise network is a relation topological structure (Barrat et al, 2004), which is comprised of the relationships between various enterprises and non-profit institutions in the specific institutional environment, industrial structure and the technological conditions. Ever since Veronique (2003), scholars found that the structure of the network has a strong explanation to the strategic behaviors, innovation behaviors and competitive advantages of the enterprise (Gnyawali & Madhavan, 2001). Therefore, based on the resource-based view (Penrose, 1959), the study on enterprise network is gradually becoming rich, but most scholars regarded the network as a two-dimensional typological network, among which the connections of each node are of the same type, and the relatively independent characteristic among different types of connections are ignored. Through the empirical analysis, we find that the network the enterprises embedded in at least can be divided into three levels: the network within the industry, the network of cross-industry and the government related network, but the correlation of each layer is independent. So it can be said that the network is a multi-network structure. If the structure is expressed by a topological graph, it should be at least three dimensions or more. Although the different levels of network connection can affect each other, they are relatively independent, the nodes in different levels are different, some of the nodes which are associated with the focal point of the enterprise are even not firms, the resource distribution method of this type of network and the behavioral decision modes of each nodes may not rely on the mechanism of the market (Chellappa and Saraf, 2010).

In multiple networks, the enterprise's competitors are not for sure, the competitors may appear in different levels of the networks, and the role of competitors is also temporary. Therefore, the chief question of enterprise's dynamic competitive decision in multiple networks is to answer what kind of competitive advantages can or should the enterprise have, in order to guide enterprise dynamic competitive behavior decision. This study proposed and examined that at least three kinds of competitive strategies (confrontation strategy, barrier strategy and symbiosis network) for enterprises to choose in multi-network, which have significant positive effect on enterprises' performance. The results of this research are not only based on and but also further promote the understanding of the enterprise competitive advantage of Porter (1980). Focused on the product of the competition in one particular industry, the enterprise's competitive advantages are generally categorized as the cost advantage and the differentiation advantage (Porter,1980). In multiple networks, enterprises need to face the competition of products in a certain industry (Gimeno, 1999), the competition of equity share, technology and knowledge in different industries (Kapoor and Furr, 2015; Mi and Shen et al., 2015), as well as the competition of the various institutional resources around enterprise legitimacy in the specific institutional environment (Boyce, 2000; Gao and Farahani et al., 2017). The scarcity of any kind of strategic resources will cause the enterprise to evolve into a competitive relationship with one or more of the relevant parties in the network embedded in the network. In such a situation, it is difficult to form an appropriate competitive strategy for the enterprise only from the advantages of high difference and low cost. This study proposed that the aforementioned three kinds of competitive strategies have three kinds of competitive advantages under multi-network perspective: the existing advantages within the industry, the defense advantage of new entrants and the advantage of the enterprise innovation and upgrading ecological circle. In a certain extent, the competitive advantage of the enterprises in the multi-network and intention is also the cognition and intention (Livengood and Reger, 2010) of the dynamic competition in the network context.

2. The dynamic competitive strategic choices in multiple networks

In recent years, the researches of the competition network are mostly based on Chen's study (1996)and the promotion of the two theoretical concepts of market commonality and resource similarity, which generalized the factors like market position and resource position of a certain single network, so that the mechanism of the enterprise dynamic competitive characteristics and behaviors in the network can be depicted and analyzed (Gnyawali & Madhavan, 2001). However, Gnyawali & Madhavan (2001) and Yu (2011) regarded the network as a kind of external environment, they focused on the enterprises' competitive behaviors in the network under a certain (type) of competitor(s), including attack, counterattack and strategic repertoire. Embedded in the network, each

kind of the competitive action is also launched through the network and constitutes some of the network connection.

Chen and Miller Strategic published a paper in the Issue 6 of this year (2015) of Strategic Management Journal, proposed a new definition on the dynamic competition to construct a dynamic competitive theory framework from the "relational perspective", which aims to incorporated all the related parties of the focal enterprise into the analysis model of the dynamic competitive strategy, and to consider and formulate the dynamic competitive strategy in the perspective of optimization and win-win situation of the long-term relationship between the enterprise and the relevant parties.

Although because of the conceptual framework of "relational perspective" is a general view of the relevance between enterprises and related parties, it lacks the capability of guiding the practices, the theory of Chen and Miller (2015) opens a new research field and scope in dynamic competition, it is not only the consideration of the single dimensional market competition, but also a multiple consideration of the multiple levels and multiple time intervals. This study chose Chinese animation enterprise as the study sample, proposed the enterprise multiple network, further enriched Chen and Miller's (2015) point of view, the relationships of enterprises at different levels in the network had a different effect on the choices of competitive strategies: Association of the network within the industry can effectively support enterprise's selections on confrontation, barrier and symbiosis competitive strategy and increase the performance; but cross-industry network association can effectively support the enterprise to choose the confrontation and symbiosis competition strategy and increase enterprise's performance, but not to support the enterprise's selection of the barrier strategy; the government related network is capable of supporting the enterprise to choose the barrier and symbiosis strategy but not the confrontation strategy.

Theoretical Contribution

This study introduced the context of the dynamic competitors to promote the development of dynamic competition theory. The development of dynamic competition theory is based on the gradually releasing of the premise hypothesizes of the static competitive theory model, scholars has focused on the enterprise competition in the space (Edwards, 1955), time (Chen and Miller, 1994), the value chain of the competition (Ferrier et al, 1999), the competition environment (Porter & Kramer, 2006; Deng, et al, 2010) and other factors of the dynamic characteristics in the past few decades, to construct the current dynamic competition theory.

Based on the previous studies, we introduced a new dynamic feature of competition Competitor–dynamic competitors, which refer to the uncertain and dynamic competitors embedded in the multi-network structure composed of the related parties. Its competitors are not clear and fixed, the potential competitors are of more threat to the enterprise, and almost all the related parties may evolve into the competition as a competitor, due to various different scarce resources (including the market, technology, legitimacy, human resources and other strategic resources). In the context of the rapid transformation of the cooperation and competition relationship, the context of network embedded competitive actions, the study of dynamic competition need to adopt the relational perspective (Chen& Miller, 2015) to rebuild the competitive advantage, the cognition, intention and the launch of dynamic competitive behavior, and the implement mechanism.

Adopting the perspective of multi-network to the study of the dynamic competitive strategy in this paper is put forward to fill the gap between the dynamic competitive behavior and the corporate strategy. In recent years, the research on the competitive behavior and the competition strategic repertoire has developed the cognition of the influencing factors and mechanism of the enterprise competitive behavior, but neglected the relationship between the competitive action and the competitive strategy. Based on the previous studies, this paper integrated the theory of enterprise network (Miles and Snow, 1986; Boyd and Ellison, 2007), organizational ecological theory (Hannan & Freeman, 1977), etc., proposed three types of dynamic competitive strategies of enterprises under multiple networks: the confrontation strategy, the barrier strategy and the symbiosis strategy. These three kinds of competitive strategies correspond of the enterprise's competitive advantages in the view of network, and can be regarded as the dynamic competitive intention to guide the enterprise in the specific competitive behavioral decision-making.

Embedding into multi-network requests firm to be more sensitive on environment, which includes both natural and social environment. And institutional environment and frustration will support firm for deeper information and market dynamics according to the environment education. Therefore, dynamic competition embedding into such multi-network will help firms to be more flexible and effective during the interdependent with environment, and have more capability for sustainable development.

Limitation

There are still some limitations to this study, which need to be further studied and perfected.

First, this research chose a specific industry - the animation industry - to reveal the dynamic competitive strategy and its regularities of the enterprise under the multiple networks. The animation industry is a very special industry, whether the empirical results, which are focused in only one industry, could apply to the other industries needed further verification.

Secondly, this research focused on the problem of the dynamic competitors of the enterprise under the multi-network structure, but ignored the interaction among enterprises of different network levels and its influence on the dynamic competitive strategies and behaviors of enterprises under multi-network. Therefore, in the future research, the main exploring direction of theoretic study for dynamic competitive theory under multi-network perspective will be the focus on the interaction between different levels of networks.

Again, this research focused on filling the gap between current competitive behavior and the competitive strategy, and proposed three types of competitive strategies under multiple networks. However, this paper paid little attention to influence factors and mechanism of the three kind of strategies when dividing and discussing the types of the competitive strategies the, such as the effect mechanism of the enterprise's resources and ability on choosing competitive strategic types, the influence mechanism of enterprise cognition and the competitive strategic type choices, as well as the effect of enterprise operation and management model etc.

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