Mediating Effect of Entrepreneurial Orientation between Intellectual Capital and Performance in Cultural Industry

ZHANG Xian-feng¹, ZHOU Xia¹, PI Sheng-lei²
¹ School of Business Administration, South China University of Technology, Guangzhou 510641, P.R. China
² Institute of Industrial Economics and Enterprise Management, Guangzhou Academy of Social Science, Guangzhou 510410, P.R. China

Abstract: There are plenty of empirical researches testifying association between intellectual capital, along with its components, and performance, but the conclusions were contradiction, and most researches are not focus on innovative industries, like cultural sector. This paper, with samples in Chinese cultural industry, attempted to reveal the mediating effects of entrepreneurial orientation (EO) between intellectual capital and performance, in order to introduce organizational culture as a transition or bridge between intellectual capital and performance. The purpose of this research is to direct Chinese cultural firms to successfully transfer strategic resources as intellectual capital into competitive advantages and performance, with the suitable entrepreneurial orientation.

Keywords: intellectual capital, entrepreneurial orientation, performance, cultural industry

1 Introduction

Cultural industry is first mentioned in “Dialectic of Enlightenment” by Max Horkheimer and Theodore Adorno[1]. United Nations Educational, Scientific and Cultural Organization defined that cultural industry as “a series activities including production, reproduction, storage, and distribution of cultural products and services”. The early studies of cultural industry focus on the social effects and meaning of turning cultural industrialization, while most scholars were criticized this economic phenomenon. Walter Benjamin (1927) argued the positive effects to cultural industry, regarding that Mechanical replication technology has opportunity to “liberate arts from monopoly and admire by the minority, into sharing among the majority, which bring art the new space”. Max Horkheimer and Theodore Adorno (1947) argued that cultural industry will cause art lose its essence, and efface humanity, which finally turn art into a tool for ideology control by the nation. After the debates, industrial economic began to participate and explore the cultural industry, and two major directions have been found, one following Max Horkheimer and Theodore Adorno which deepen the discussion of the ideological function of cultural industry, like distributing ideology, value and thoughts; the other focus on the economic nature of cultural industry and born the cultural economic theory and cultural capital theory[2].

After the finance crisis in 2008, cultural industry became the new economic engine, especially for some Asian country. Thus China and other countries valued cultural industry more and more heavily. Cultural firms, whose major market value is from the cultural innovations and products, concern the intellectual capital, such as knowledge and innovative ideas, as the major strategic resources and capabilities, which are totally different from traditional firms. However, the value can intellectual capital bring to firms into their performance are still in contradiction (Ahmed Riahi, 2003; Mavridis, 2004; Maria & Bontis, 2008; Chen, 2004)[3-6]. Few study specifically look into the intellectual capital and performance in cultural industry. Resources base view (RBV) believes that corporate strategy and decision are basically according to the various resources of firm (Panrose, 1955)[7]. While Cognition Base View (CBV) believes that without the correct consciousness and cognition, resources cannot be applied properly and gain performance. The application of intellectual capital is on the basis of by organizational cognition and culture. Cultural firms, seeking innovation as the core value, need to aggressive and innovation base upon intellectual capital, and have better performance. This paper, sampling Chinese cultural companies, testified the mediating effect of entrepreneurial orientation between intellectual capital and performance, to understand the transition of intellectual capital and its components into performance.

2 Methodology

2.1 Literature

Knowledge, as an unique strategic resources,
becomes more and more important in firm competition as a source which cause competitive advantage (Grant, 1996)[8]. There is three major reason why Knowledge is so important: firstly, knowledge is differ from other external resources which a firm can have from market, and for a specific firm, knowledge is unique and cannot be simulated (Prahalad&Hamel, 1990)[9]; secondly, the capabilities of gaining and learning some important and inner knowledge of firm determines the learning mechanism and characters of the organizational learning, which forms the path dependency of knowledge management (Barney, 1991)[10]; and thirdly, the current knowledge structure of a firm determines the capabilities of resources allocation and holding opportunities in future (Yu,2005)[11]. Thus knowledge and this difference is regarded as the fundamental reason of performance variety.

Senior (1836) has proposed the concept of intellectual capital to refer to knowledge and skills a person has, which he proposed this concept in a macro perspective of whole mankind. Galbraith (1969) enriched the concept according Senior, and defined intellectual capital not only the structural and formed knowledge, but also activity associated with intellects, enlarged the intellectual capital not only the static knowledge but also the process of using knowledge for some purpose. Stewart (1997), on basis of Edvinsson and other scholars, separated intellectual capital into three components: human capital, structural capital and customer-relation capital. The three components of intellectual capital have isolate and associating effects to the market value of firm is the relationship of the three components are closer, the value space of the firm will be larger[12].

The three components, human capital, structural capital and customer-relation capital, are not just isolated from each other. The more the supports each other, that higher value intellectual capital can have. Human capital is the source of organizational innovation [13], while structure capital is the results of organizational innovation and revolution which making human capital as the factors of structural capital[14]. Structuring intellectual capital can transfer the personal tacit knowledge into organizational knowledge [15]. Thus the essence of structural capital is the knowledge embedded into the organizational customs[16,17]. Organization always transfers human capital into structural capital, which makes a real organization. Organization also have maintain a good co-relationship with other business partners, which need fine human capital. Surrounding the environment, the more frequency and closer the organization communicating with its customers and partners, the higher demands will it have for its human capital. According to Bontis (2001)[18], the employees higher ability can transfer more knowledge from and to customer and business partners, which attracts more customers and business cooperators.

Entrepreneurial orientation, which revealing the commitment, capability and vision of a firm engaging entrepreneurial behavior, has been regarded as one of the pre-assuming conditions of a firm seeking success under currently dynamic and active business environment (Wiklund and Shepherd,2003)[19]. The structure of entrepreneurial orientation comes from the early study of Miller and Friesen (1978)[20] while they verified the eleven dimension of strategic decision process. Afterward, Miller (1983)[21] has defined the structural model of EO, which indentify EO into three dimensions, the innovation, risk-undertaken, and first-move. This theoretical model has been regarded as the basis of many follower researches (Zahra and Covin, 1995)[22]. The theory of EO becomes the fundament the theoretical understanding of entrepreneurial behavior of a firm, and helps the direct the TMT (Top Management Team) to gain the strategic objective by maintaining the core competence of a firm by continuously innovation. EO also help the reveal the rules and characters in the process of enhancing dynamic capability, by explaining it as adjusting the repertoire of capabilities, and re-allocating resources and exploit them. Resent researches on EO focus on the multi-perspectives, including seeking personal interests, risk undertaking and avoiding and the response to uncertainty.

2.2 Hypothesis
2.2.1 Intellectual Capital and Entrepreneurial Orientation

Human capital refers to the knowledge and skills an individual worker has in an organization, which is inside the work and integrating and reflecting the experience, attitude of life and work and even the gene. EO is regarded to reflect the commitment, power and vision of firm on entrepreneurial behavior. For EO has path dependency, the former and formal knowledge fundaments determines its understanding to the external environment, and further have impact on the process of acquiring knowledge. Kought & Zander (1992) believe that knowledge acquiring and application are depending on exchanging and integrating the existence information, knowledge, and various other ideas, whereas the better quality the workers be, the more knowledge can the firm acquire and transfer better into performance.

Human capital is the key element for a firm to succeed, whereas workers can have rapidly increase the knowledge storage through continuously learning, by breaking through the knowledge and information limit of the firm Hurwitz et al (2002) found that high-tech firms gain their profits major from the human capital, because firm with higher educated and more experienced workers and managers can enhance the choice and application of EO, an to have better performance from technology innovation. Managers with strategic viewing can lead the firm to response the market appropriately and rapidly, which leading the firm to have more market share. Also, EO of firm is not born to have, but built in learning. Cohen & Levinthal (1990) emphasized the investment on human capital can promote the EO of a firm.

H1a: Human capital has positive effects on entrepreneurial orientation.
Structural capital refers to the organization environment or mechanism to help or make its members to devote their knowledge and skills. Apparently, structural capital saved as handbook, database and patent, is able to summarize and synthesize the knowledge of corporate staff. After constant optimization and utilization of these databases, the knowledge fundamentals of firm would be extended. The path dependency of acquiring capability determines that only profound knowledge fundamentals may benefit more the recognition and acquirement of new knowledge, and benefit the potential acquiring capability. At present, relevant researches considered in accordance that structural capital has effects on EO to some degree. Main differences lie in how the structural capital influences the performance. Maria, Bontis(2008) argued that structural capital is the fundamental structure of firm, because of the internal structural knowledge including corporate structure, corporate culture, R&D, are the corporate resources to meet the market needs, reflects directly the competitive ability of firm to integrate and develop system efficiency, and reveals the corporate system and process to create value and solve problems.

Edvinsson & Malone(1997) considered that structural capital includes flow capital and innovation capital. Flow capital provides work support for staff, increases productivity, and ensures quality of products and service. Learning organization has good structural capital to increase knowledge management efficiency, and construct culture of share and communication, to raise the performance of tech-innovation. Pena(2002) argued that structural capital has promoting effects on the maintenance and growth of business, especially the R&D input would improve the long-term competitiveness. Cohen & Levintal (1990) demonstrated directly that the research development of technology is beneficial to the construction of tech-innovation capability. Aboody & Lev's (2000) research on 89 chemistry firms showed that 1 dollar investment on R&D could generate 2 dollar income after ten years.

H1b: Structural capital has positive effects on entrepreneurial orientation.

Customer-relation capital refers to the value generated from the relation between the firm and its customers, suppliers and other relevant organizations. Rich customer-relation capital is contributed to build up well trust with outside organizations (including customers, suppliers, research institutions, competitors, etc.), in order to obtain new information, resources and knowledge, even the key of human resource, which are helpful of improving the potential acquiring capability of the organization. Similarly, relation capital inside the organization (organization trust) cannot be ignored. Recently, researches on the effects of organization trust on knowledge management are paid more and more attention. Because there exists walls of structure, recognition, behavior and politics in the organization, which may restrain the knowledge share and integration and so the potential and true acquiring capability may be influenced. Well organization trust contributes to enhance the flow speed and range of the knowledge in the organization unit, promote the group work quality and the information exchange level among staff.

The effects of customer-relation capital on EO lie in three aspects. Firstly, good relation capital is the source of corporate innovation. Under the background of the more complex of technology and the speeding up of product updating, cooperation innovation would be the general pattern of innovation applied by most firms. It is the key supply of innovation that the firm forms a network or ally with customers, suppliers, competitors and other non-market subjects. Secondly, good relation capital is able to reduce the risks of EO. EO are always activities with high-risk, and the startup cooperation and ally among firms could raise the innovation speed and share the risks. Thirdly, good relation capital provides elements and resources for EO. Hill &Jones (2001) pointed out that stakeholders always bring important resources to the firm. For instance, customers provide income for the firm, suppliers provide raw material, distributors provide marketing channel. More importantly, strategic cooperators provide supports on tech-innovation. Abundant theoretical and empirical studies showed that cooperation with customers are playing an important role on corporate innovation and success. For example, the product ideas from customers may raise the development efficiency, even cut down the time length from development to sale. Researches also proved that the early involvement of customers in the new product development could raise the success rate of development. The other two important sources of outside information are suppliers and strategic alliances. The involvement of suppliers could promote valid product development. Alliance could promote the output value of development. Hsu & Fang (2009) even pointed out that, on the influence of intellectual capital to the development performance of new products, relation capital works the most, structure capital the second, and human capital the least. The good interaction between firm and college may improve the efficiency of innovation search.

H1c: Customer-relation capital has positive effects on entrepreneurial orientation.

2.2.2 Entrepreneurial Orientation and Firm Performance

Xue and Zhang (2006) argued that, at least two reasons can testify the relationship between EO and firm performance, firstly innovation can help to build a strong market reputation, which in order to enlarge the distance between focal firm and competitors; and secondly, firm entrepreneurial behavior emphasize the rapid response to market opportunities and build first-move advantages. Wu (2003) found that investment into new business, innovation and leading action has positive relation with performance, and self-evolution and leading action have positive effects on performance. Zhang (2008) and Liu (2008) both found that under the transitional context, EO of a firm have positive impacts on performance, while entrepreneurial environment have moderating effect between them. Specifically, innovation has been testified
to have positive influence on performance. Meanwhile, the innovative orientation of leader, the explorative perception, and risk-undertaken perception can help to encourage organizational innovation, and exploration facing uncertainty, and undertake failure and risks. Under such atmosphere, workers are encouraged to innovation, to communicate and learning, and to challenge the new theories and factors, and willing to ego trip, which all make the technology innovation and innovative knowledge more possible to have performance.

**H2**: Entrepreneurial orientation has positive effects on firm performance.

### 2.2.3 Mediating Effect of Entrepreneurial Orientation

Based on the discussion of H1 and H2, there is mediating effects of EO between the three components of intellectual capital and performance. Human capital, structural capital and customer-relation capital realize performance through EO. As a kind of recognition and culture, and a direction for organization behavior, EO well defines the application of intellectual capital, and make it well guided in playing specific role. Meanwhile, EO could be treated as the allocation mechanism that under certain EO intellectual capital could be integrated more effective with other tangible capital, and realize performance finally.

Human capital reflects the integration of skilled and important employees by the firm, which should be oriented under the strategic orientation of the firm. Therefore, entrepreneurial orientation should be at the mediating role between the firm integrating and operating its human capital, and the performance which as the result of the operation of human capital. A firm’s all structural capital, from regulation to patents, should be applied properly in chasing on a simple strategic objectives. Thus firm will clear and well-known EO will help the integration of all kind of structural capital into firm’s strategic innovative purposes. Social networks and supply-chain partners could have positive and negative influence to a firm. While a firm has a very sharp and clear organizational orientation on innovation and re-entrepreneurship, then all the relationship capital of a firm could be allocated in the helpful position for better performance.

**H3a**: Entrepreneurial orientation has mediating effects between human capital and performance.

**H3b**: Entrepreneurial orientation has mediating effects between structure capital and performance.

**H3c**: Entrepreneurial orientation has mediating effects between customer-relation capital and performance.

### 2.3 Research design

The paper applies questionnaire method. Questionnaire is handed out to enterprise senior managers of Guangzhou province. 500 pieces in total, and 315 are collected, there into 225 pieces valid, with valid recovery rate of 45%, in which 17.4% are from design firms, 22.8% from cultural products distribution firms, 55.4% from animation firms, and 4.4% the rest.

**Fig.1 Mode of hypothesis**

**Dependent variable**: Financial performance and innovation performance are applied as dependent variables in the paper. Financial performance includes market share, sale income, interest and net asset, while innovation performance includes the speed and quantity of the cultural product innovation, and the market share of new products.

**Independent variable**: intellectual capital

To measure and analyze the specific circumstances of the three components of intellectual capital, the paper uses the measurement method of organizational behavior to intellectual capital as reference, and applies scale establishment and measuring methods mainly. As the deeper recognition of the particularity and uncertainty of intellectual capital, the traditional financial measuring methods are no longer satisfied for the measurement needs of intellectual capital. More and more researchers begin to adopt the research method of organizational behavior, trying to start with the operational definition of intellectual capital, combine with the previous study achievements of intellectual capital structure, and measure the intellectual capital through scale or questionnaire establishment. This method is widely applied and well developed in recent years, and getting more and more recognition (Pena, 2002).

**Mediating Variable**: entrepreneurial orientation

The paper applies the three dimension system of Miller, namely **Innovativeness**, **Risk-taking** and **proactiveness** to measure entrepreneurial orientation.

Schumpeter considered the innovational destruction as a very important factor, which let the market see the value of the firm, and gain the power to progress. Only that innovation needs to be systematic, namely management innovation, to become an activity with objective and organization. Drucker put forward the seven new opportunity sources of innovation systematic (Zhang,2006): accident – any external accidental failure or success; inconsistent circumstances – the change of market structure or industry structure; the difference between reality and prediction; innovation based on procedure needs; change of population statistics; change of recognition or emotion; new knowledge. The former
four opportunities exist inside the firm, and three latter happen outside the firm. Scholars moved forward to see that only invention of new products or new idea would not be treated as corporate innovation. New product or new idea must be sold and generate profit, to be considered as innovativeness (Juan C.R., 2014) [24].

The meaning of proactiveness is that the firm gains new opportunity and takes first-mover actions through market investigation when doing intrapreneuring, and brings out new products or service before other competitor, being a first mover. Thus the first mover would become the leader of the market or industry. Simply on the research of benefit obtain, Miller & Camp (1985) found that the first incomer and the second were equal matched sometimes, and the second or third would gain more than the first sometimes, so the meaning of proactiveness shall be the positive attitude the firm shows on the product or service.

There has been a dispute on whether risk-taking shall be a dimension of EO. Cantillon (1934) argued that risk-taking should be the biggest characteristic of entrepreneur. Things that cannot be control in business, such as the control of control power, data and time, shall be treated as the risks in business. Baird & Thomas (1985) divided risks into three kinds: unknown risk; risk of large resource investment; loan risk. Miller (1983) pointed out that the measuring method of risk-taking, widely accepted by the public, namely to know the intensity level of risk-taking of the firm by asking the manager the tendency of the firm to do risky projects, and the ways of the manager to conquer a corporate target is bold or not.

Control Variable: The paper chooses the number of staff, time of establishment and current ratio as control variable (Kaveh A., Ruzita J., 2015) [25].

3 Results

The paper analyzed the data of questionnaire with SPSS 16.0, and the results are as Table 1. From Table 1, all models are significantly F tested, which means the test of mediating effects is successful. Result of Step 1 shows human capital has significant positive effects on performance ($\beta=1.469$, $p<0.01$), thus H1a is accepted; structure capital has no significant positive effects on EO (Entrepreneurial orientation), thus H1b is rejected; customer-relation capital has significant negative effects on EO, thus H1c is rejected; and customer-relation capital has negative effects on EO. The result of Step 2 indicates that, EO has significant positive effects on performance ($\beta=0.285$, $p<0.05$), thus H2 is accepted. Step 3 shows that the mediating effects of EO is significant, combined with Step0 and 2, EO has incomplete mediating effects on human capital and performance, and EO also has incomplete mediating effects on customer-relation capital and performance, thus H3a and H3c are accepted, and H3b is rejected.

| Tab.1 Results of regression analysis |
|-----------------------------|-----------------------------|-----------------------------|
| **Dependents**              | **Step0**                  | **Step1**                  | **Step2**                  | **Step3**                  |
| (Constant)                  | (2.476)***                 | (1.188)***                 | (1.011)***                 | (1.591)**                  |
| Scale                       | 0.054 (0.631)              | -0.217* (2.429)            | 0.667 (2.112)              | 0.027 (0.414)              |
| Years of firm found         | 0.127** (1.340)            | -0.091 (1.073)             | 0.048* (0.880)             | 0.149* (2.280)             |
| Current ratio               | -0.322 (0.786)             | 0.055 (0.647)              | 0.065 (0.207)              | 0.018 (0.280)              |
| HC (Human capital)          | -1.846* (3.474)            | 0.423** (1.101)            | 1.469** (3.231)            | 1.469** (3.231)            |
| SC (Structural capital)     | 0.004 (0.029)              | 0.063 (0.475)              | 0.563 (1.872)              | 0.563 (1.872)              |
| RC (Customer-relation capital) | 0.115** (1.123)        | -0.163† (0.873)            | -0.194 (0.967)             | -0.194 (0.967)             |
| EO (Entrepreneurial orientation) | 0.285* (1.005)          | 1.164** (2.835)            | 1.164** (2.835)            | 1.164** (2.835)            |
| R*2 adjustment              | 0.619                      | 0.475                      | 0.578                      | 0.52                       |
| F value                     | 6.021***                   | 2.657*                    | 6.007***                   | 5.639***                   |

***. 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)

4 Conclusion

Chinese cultural enterprises have their own industrial ecology. In the special circumstances of present transformation period, cultural enterprises receive encourages and support from the government, and face the restrain from traditional industrial structure at the same time. This environment leads to too much innovation and creation productivities which is not able to be done by the cooperation with upstream, downstream and other relevant enterprises, but has to depend on the staff of its own. Meanwhile, the relevance of the firm and the outside environment is not only reflected by the business operation, but more on the policy and legitimacy steps. Thus, the results of the paper show that, in the intellectual capital of cultural enterprises, human capital and entrepreneurial orientation have mediating effects. According to the results, the more the human capital and entrepreneurial orientation are, the higher the performance are. On the other hand, the paper also proves that entrepreneurial orientation has incomplete mediating effects on customer-relation capital and performance. However, different from the previous researches, the paper discovers that customer-relation capital could have
negative effect on entrepreneurial orientation, thus to increase performance, either increase the customer-relation capital of its own and restrain the organizational entrepreneurial orientation, or reduce customer-relation capital and increase entrepreneurial orientation. The result illustrates that, the present customer-relation capital of cultural enterprises does not encourage innovative development, but ask more for competition barriers based merely on policy legitimacy to gain better performance, like other traditional industries. The paper is not able to testify EO’s mediating effects on structure capital and performance, the reasons of which may be the imperfection of the supporting industries to the cultural industry.

Based on the previous researches, the paper found out that in order to use intellectual capital, the firm needs to choose and build organization mechanism, structure and culture correspondingly; and because of the restriction of industry characters and institutional environment, the firm has structural tendency to the operation of intellectual capital in certain period of time. Take Chinese cultural enterprises for an example, in the period of new normal, because of the particular industrial development stage and characteristics, and the restrictions of industrial policies, human capital becomes the main intellectual capital to innovate. Cultural enterprises may also abandon innovation orientation strategy temporarily, and use relation capital to build up advantages.

References