A Study on the Influence of Intellectual Capital and Intellectual Capital Complementarity on Global Initiatives

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Abstract: A main purpose of this study is to investigate the impact of intellectual capital and intellectual capital complementarity on a firm's global initiatives. Sample was selected with a type of purposive sampling. The selection criteria were that companies had to locate in Taiwan, but competing globally. Altogether 324 firms took part in the study. Structural Equation Modelling technique was used in the data analysis. Based on the analyses results, some implications are provided. Firstly, the importance of intellectual capital is again highlighted. It is confirmed that intellectual capital does enhance a firm's global initiatives. Secondly, some moderating effects of business environment are found between intellectual capital and global initiatives. Thirdly, the important role of intellectual capital complementarity is identified. It is found that intellectual capital complementarity has positive effect on global initiatives in both high dynamic and low dynamic contexts. As a result, the value of intellectual capital components can mostly be actualized only in terms of their dynamic interrelationships and conjoint interaction.

Keywords: intellectual capital, global initiatives, environment, complementarity, SEM

1. Introduction

1.1 Research background

The intellectual capital-based view of the firm (ICV hereafter) represents one specific aspect of the more general resource-based view, in that it more narrowly consider three resources (human capital, relational capital and structural capital) that have theoretically linked to a firm's competitive advantage (Reed, Lubatkin, and Srinivasan, 2006). Specially, ICV deals solely with knowledge that is created by and stored in a firm's three capital components: (1) in individuals (human capital), (2) in organizational structures, processes, and systems (structural capital), and (3) in relationships and networks (relational capital) (Edvinsson and Malon, 1999; Seleim, Ashour, and Bontis, 2004; Subramaniam and Youndt, 2005; Reed, Lubatkin, and Srinivasan, 2006).

With the rapid growth of global competition, there is a need for firms to control and nurture their intellectual capital (IC hereafter) (Bose and Oh, 2004; Perrott, 2007). While the relationship between IC and organizational performance have been confirmed (Mavridis, 2005; Subramaniam and Youndt, 2005; O'Connor, Roos, and Vickers-Willis, 2007; Wu, Lin, and Hsu, 2007), the results are not consistent concerning how different IC components interact with each other. Treating human, relational, and structural capital as discrete, individual parts of intellectual capital tends to simplify reality and thus loses sight of the whole intellectual capital (Youndt, Subramaniam, and Snell, 2004).Specifically, even though there are some discussions on the influence of IC on bottom-line profit (Roos, Roos, Edvinsson, and Dragonetti, 1998; Grossman, 2000; Bozbura, 2004), innovation performance (Mavridis, 2005; Subramaniam and Youndt, 2005; O'Connor, Roos, and Vickers-Willis, 2007; Wu, Lin, and Hsu, 2007), exporting tendency (Seleim, Ashour, and Bontis, 2004; Mavridis, 2005), or even global initiatives (Ling, 2011; Ling, 2012), little have been done concerning the relationship between IC complementarity (the interactions between and among the three forms of IC, human capital, relational capital, and structural capital) and global initiatives.

In addition, while some scholars have devoted considerable attention to the relationship between IC and firm performance, most of them do not consider the moderating effect of environment (Juma, 2005; Ling, 2011). For instance, Subramaniam and Youndt (2005) study the impact of IC on a firm's innovative capabilities, but they do not consider the moderating effect of environment. Ling (2011) studies the influence of IC and knowledge management on global performance, but she does not consider the moderating effect of environment. Some scholars such as Ling (2012) does focuses on studying the moderating effect of environment on the IC-global initiatives relationship, but she does not consider the influence of IC complementarity. Given that environments have long been considered among the most critical contingencies in organization theory and strategic management (Child, 1972; Dess and Beard, 1984; Zahra, 1996; Gillely, McGee, and Rasheed, 2004; Juma, 2005), the inclusion

Reference this paper as: Ling. Y. H "A Study on the Influence of Intellectual Capital and Intellectual Capital Complementarity on Global Initiatives "*The Electronic Journal of Knowledge Management* Volume 10 Issue 2 (pp154-162), available online at www.ejkm.com

of a moderating variable of environment might enrich the existing literature on the IC complementairy-global initiatives relationship. Specifically, our study aims to empirically test whether the impact of IC and IC complementarity on global initiatives are greater in high as compared to low dynamic environments.

Accordingly, a main purpose of this study is to explore whether different forms of IC complement each other to enhance a firm's global performance. Specifically, the influence of IC and IC complementarity on a firm's global initiatives will be investigated. The complementary effect will be estimated with three two-way interaction effects (human capital*relational capital, human capital*structural capital, and relational capital*structural capital). The moderating effect of environment will also be examined. In the following sections, efforts will be made to pull together the limited body of research that exists to provide the detailed relationship among IC, business environment, and global initiatives.

2. Literature review

2.1 Intellectual capital and global initiatives

The accumulation of IC enables a firm to achieve better global initiatives such as innovation (Wu, Lin, and Hsu, 2007; Ling, 2011). For instance, it is generally agreed that human capital, such as top management teams' (TMTs) visionary leadership, represents an important resource for a firm to achieve global initiatives (Birkinshaw, 1997; Hitt, Keats, and DeMarie, 1998; Wu, Chiang, and Jiang, 2002; Ling and Jaw, 2006; Banutu-Gomez and Banutu-Gomez, 2007). TMTs (human capital) determine the acquisition and conversion of employees' knowledge or abilities into desirable behaviors to deliver value to customers (global marketing) (Ling and Jaw, 2006). It is also found that top management teams' visionary leadership (human capital) is positively associated with a firm's innovation performance (global innovation) (Ling and Jaw, 2006). As a result, human capital plays a significant role in triggering innovation and performance (global innovation) (Kim and Kumar, 2009).

Moreover, relational capital has been shown to promote global initiatives (Ling, 2011). Prior research has proven that establishing relations with all the sections from the customer to the supplier (relational capital) has an effect on the increase of the market share (global marketing) (Narver and Slater, 1990; Bozbura, 2004). The social networks among a firm and its international customers (relational capital) help a firm to understand quickly the requirement of customer and provide it rapidly (global marketing) (Goldman, Nagel, and Preiss, 1995). Input from international customers or suppliers (relational capital) facilitates knowledge generating and sharing and thus become sources of companywide innovation breakthroughs (global innovation) (Spencer, 2003; Ojeda-Gomez, Simpson, Koh, and Padmore, 2007).

Furthermore, global initiatives may be achieved through the accumulation of structure capital (Ling, 2011). Customer satisfaction and competitiveness (global marketing) may be achieved by utilizing new organizational structure(s) or systems (structural capital) to master change and uncertainty (Goldman, Nagel, and Preiss, 1995; Ling and Jaw, 2006). Structural capital is perceived to be a primary determinant of enterprise performance in small innovative enterprises (Tovstiga and Tulugurova, 2007). The greater a firm's structure(s) or systems (structural capital) are, the more likely innovations will occur by improving upon existing knowledge (Subramaniam and Youndt, 2005). Based on the above discussion, the following hypothesis is proposed.

Hypothesis 1 IC (human capital, relational capital, and structural capital) has positive impact on a firm's global initiatives.

2.2 Intellectual capital complementarity and global initiatives

Most previous studies conclude that there might be interaction effects between or among each specific intellectual capital component. For instance, human capital and structural capital might enhance each other to create value. Structural capital enhances human capital's productive potential by providing employees with a supportive, yet socially complex infrastructure (Edvinsson and Malone, 1999; Reed, Lubatkin, and Srinivasan, 2006). Generally speaking, the accumulation of structural capital will be associated with a firm's stock of core personnel (human capital) (Juma, 2005).

Human capital and relational capital might enhance each other as well. Human capital (education, training, skills, etc) will only bring in critical new resources when it is coupled with relational capital

(social networks) (Blyler and Coff, 2003; Reed, Lubatkin, and Srinivasan, 2006). Relational capital's productive potential lies primarily in its ability to leverage the productivity of human capital (Chung and Gibbons, 1997; Hargadon and Sutton, 1997; Kraatz, 1998; Tsai and Ghoshal, 1998; Florin, Lubatkin, and Schulze, 2002). That is, the more a firm's human capital is enhanced by social linkages, the more employees become attractive to additional informationally enriched and high-status social ties, and so on (Reed, Lubatkin, and Srinivasan, 2006). Highly experienced and educated top management teams (TMTs hereafter) (human capital) enhances a firm's ability to form favorable collaborations (relational capital) (Juma, 2005; Banutu-Gomez and Banutu-Gomez, 2007).

In the international context, it is also likely that human capital is associated positively with relational capital. For instance, international managers' managerial competency and cross-cultural adjustment ability, a major part of a firm's human capital, tends to facilitate the development of inter-organizational or cross-border networks (relational capital). Highly experienced and educated TMT (human capital) tends to facilitate the development of inter-organizational or cross-border networks (relational capital), which in turn enhances the firm's relationship-building with its main customers or suppliers (Banutu-Gomez and Banutu-Gomez, 2007). Accordingly, the following hypothesis is proposed.

Hypothesis 2 IC complementarity has positive impact on global initiatives.

2.3 The moderating effect of environmental dynamism

The environmental context in which a firm operates can enhance or impede the performance effects associated with IC. IC investments and performance outcomes may systematically differ across industries (Youndt, Subramaniam, and Snell, 2004). Some studies also suggest that the effect of IC on firm performance is dependent on its environmental context (Juma, 2005; Reed, Lubatkin, and Srinivasan, 2006), and what creates value for one company does not necessarily create value for another (Stahle and Hong, 2002).

As a result, the impact of IC on global initiatives might be contingent upon the environment conditions in which a business operates. For instance, linking the organization with its external environment (relational capital) may be used as a means to mange external interdependency (by reducing environmental uncertainty and transaction costs associated) (Pfeffer and Salancik, 1978; Juma, 2005; Ojeda-Gomez et al., 2007). Volatility in the task environment can hinder an organization's ability to anticipate the potential benefits of IC investment (Juma, 2005). It is generally expected that new firms will invest in collaborative relationships (relational capital) with outside firms so as to quickly gain access to new ideas, patents, or other resources (Hitt, Hoskisson, and Harrison, 1991; Juma, 2005). Dynamic environments also increase a firm's need to have more qualified senior executives and researchers (human capital) in order to remain competitive in the rapidly changing global market (Juma, 2005). A highly quailed TMT (human capital) not only enhances the reputation of the firm but also assists in obtaining additional resources and collaborations from outside associates (global marketing) (Juma, 2005; Banutu-Gomez and Banutu-Gomez, 2007; Ojeda-Gomez et al., 2007). Based on the above discussion, the following hypothesis is proposed.

Hypothesis 3 There is moderating effect of environment dynamism on the IC-global initiatives relationship and the IC complementarity-global initiatives relationship. Methodology

2.4 Measurement

2.4.1 Intellectual capital

Three dimensions are identified to measure the IC variable: human capital, structural capital, and relational capital. Human capital refers to the human capital which enables a firm to compete in the global markets (Huang, Roy, Ahmed, Heng, and Lim, 2002; Chen and Lin, 2003; Ling and Jaw, 2006). Structural capital refers the knowledge embedded in organizational structures and processes, and it is the sum of all assets that make the creative ability of the organization possible (Edvinsson and Malone, 1999; Guthrie and Petty, 2000; Bozbura, 2004; Seleim, Ashour, and Bontis, 2004; Cuganesan, 2005). Relational capital refers to the relationships with external stakeholders that enable a firm to compete in the global markets (Cuganesan, 2005; Bruton, Dess, and Janney, 2007). Sample questions of intellectual capital include "in my organization, the top management teams are able to integrate and lead cross-cultural work teams", "in my organization spreads product information to

potential international customers through its business partners", "in my organization, databases are available to employees all over the world to provide instant solutions or reference information to work-related problems", etc.

2.4.2 Global initiatives

Global initiatives refer to the proactive and deliberate entrepreneurial pursuit of a firm which enables it to compete globally (Birkinshaw and Fry, 1998; Birkinshaw, Hood, and Jonsson, 1998; Ling and Jaw, 2006). Two constructs are identified to measure a firm's global initiatives: (1)global marketing, and (2)global innovation (Pucik, 1992; Birkinshaw, Hood, and Jonsson, 1998; Ling and Jaw, 2006; Ojeda-Gomez et al., 2007; Ling, 2011). Global marketing measures a firm's ability to tap into new opportunities in markets around the world, and deliver superior value to customers (Pucik, 1992; Lado and Wilson, 1994; Birkinshaw, Hood, and Jonsson, 1998; Hitt, Keats, and DeMarie, 1998). Global innovation measures the innovation output and work products, but not on the innovation process (Kuratko and Hodgetts, 1992; Ling, 2011). Sample questions of global initiatives include "my organization enjoys higher percentage of long-term customers than international competitors", "my organization has more new technology or new products than international competitors", etc.

2.4.3 Environmental dynamism

Environmental dynamism measures environmental instability or volatility, which is characterized by rapid rates of change and innovation in the industry as well as the uncertainty or unpredictability of the action of competitors and customers (Miller and Friesen, 1983; Dess and Beard, 1984; Juma, 2005). Sample questions include "a larger number of competitors in this industry", "high speed of new product/service launching", "short product life cycle", etc (Ling, 2012).

2.5 Sampling procedure and sample profile

Sample was selected from the Taiwanese top 1,000 companies list published. Following prior studies (Kerlinger, 1986; Gergory, Emory and Cooper, 1991; Lumpkin, and Covin, 1995, 1997; Ling, 2011), a type of purposive sampling was adopted in which the researcher selects a sample to meet specific criteria. The selection criteria were companies located in Taiwan, but competing globally. As a result, only those with foreign subsidiaries were included in our questionnaire-mailing list. A broad group of organizations and industries were included in our study to increase the generalizability of the findings. Altogether 324 firms took part in the study.

3. Analyses and results

3.1 Confirmative factor analyses

Confirmative factor analyses were first conducted to determine the proper dimensions for the IC and global initiatives instrument. A confirmatory factor model of IC was first obtained using the software of AMOS. Results from this approach revealed that the overall model provided a good fit to the data ($\chi 2/df = 1.267$, RMSEA = 0.040, NFI = 0.925, CFI = 0.983; RFI = 0.899; IFI = 0.983; TLI = 0.977). It is confirmed that IC can be separated into three dimensions, namely, human capital ($\alpha = 0.8933$), relational capital ($\alpha = 0.8097$), and structural capital ($\alpha = 0.8806$). After that, another confirmatory factor model of global initiatives was obtained, and the results also indicate a good fit to the data ($\chi 2 = 116.652$, df = 55, $\chi 2/df = 2.121$, RMSEA = 0.082, NFI = 0.913, CFI = 0.951; RFI = 0.876; IFI = 0.952; TLI = 0.931). It is confirmed that global initiatives can be separated into two dimensions, i.e. global marketing ($\alpha = 0.8334$) and global innovation ($\alpha = 0.8775$). The reliability of environmental dynamism ($\alpha = 0.7860$) are also acceptable.

3.2 SEM analyses

Several SEM models were then depicted to investigate the influence of IC and its complementary effect on global performance (model 1) and the moderating effect of business environment (model 2 and model 3). Given that looking independently at any one of the subcategories most certainly results in an incomplete account of an organization's IC, in the following analyses, IC was depicted as a latent variable comprised of human capital, relational capital, and structural capital. The complementary effect was estimated with three two-way interaction effects (human capital*relational capital, human capital*structural capital, and relational capital*structural capital). Table 1 shows the

model fit and standardized path coefficients of the three SEM models, and some interesting findings are revealed as follows.

Table 1: The influence of IC and its complementarity on global initiatives (standardized path coefficients)

	Model 1: all samples N=324	Model 2: firms operating in low dynamic context N=177	Model 3: firms operating in high dynamic context N=146
IC → Global innovation	3.36***	0.81	0.17**
IC→ Global marketing	3.55***	0.14**	0.10
IC complementarity → Global innovation	-2.73***	0.30**	0.52***
IC complementarity → Global marketing	-2.93***	0.39***	0.50***

* p<0.05; ** p<0.01, *** p<0.001

Model 1 tests the influence of IC and IC complementarity on a firm's global initiatives. The overall model provided a good fit to the data ($\chi 2$ = 331.74, df = 116, p = 0.00, $\chi 2$/df = 2.86, RMSEA = 0.08, NFI = 0.96, CFI = 0.97; RFI = 0.93; IFI = 0.970; TLI = 0.96). The results show that IC has positive impact on a firm's global innovation (b = 3.36, p < 0.001) and global marketing (b = 3.55, p < 0.01), but IC complementarity has negative impact on a firm's global innovation (b = -2.73, p < 0.001) and global marketing (b = -2.93, p < 0.001). Figure 1 shows the SEM model of the influence of IC and its complementary effect on global performance. Based on Model 1, Hypothesis 1 is supported that global IC is positively associated with a firm's global initiatives.

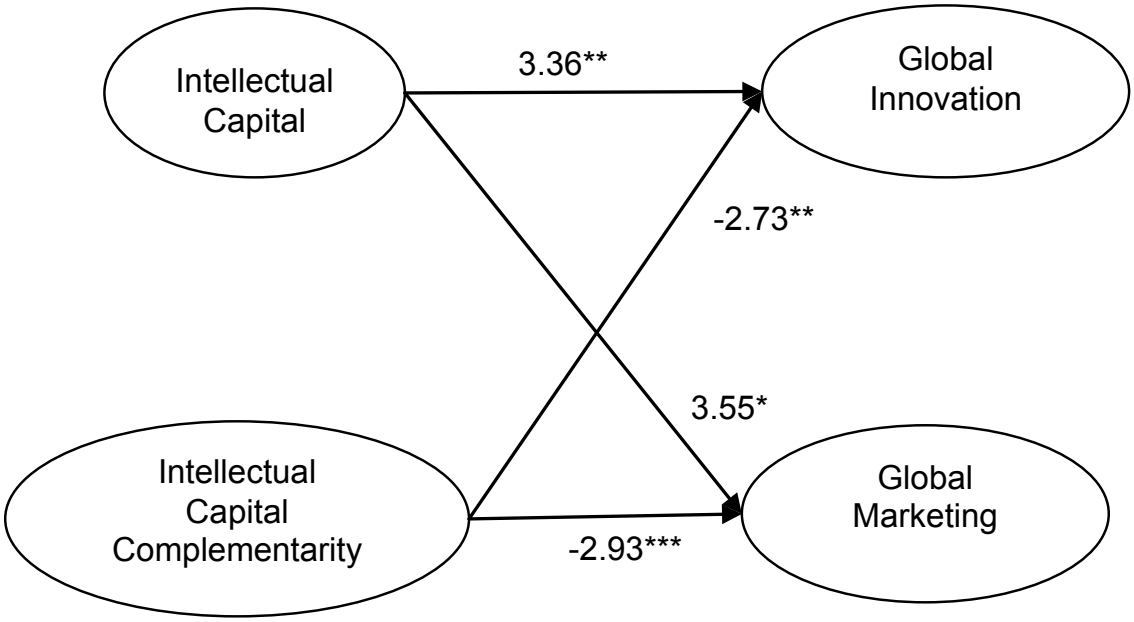

Figure 1: The influence of intellectual capital and its complementarity on global initiatives (model 1)

After that, we divided the data into two groups - high (n = 146) vs. low environmental dynamism (n = 177), and investigated the possible moderating effect of environmental dynamism using model 1 as the hypothesized model. Figure 2 (Model 2) shows the results in the low environmental dynamism context (Model 2), and Figure 3 (Model 3) shows the results in the low environmental dynamism

context (model 3). The results indicated that both model 2 ($\chi 2$ = 212.26, df = 121, p = 0.000, $\chi 2$/df = 1.75, RMSEA = 0.07, NFI = 0.94, CFI = 0.97; RFI = 0.92; IFI = 0.98; TLI = 0.96) and model 3 ($\chi 2$ = 214.48, df = 113, p = 0.000, $\chi 2$/df = 1.90, RMSEA = 0.08, NFI = 0.94, CFI = 0.97; RFI = 0.91; IFI = 0.971 TLI = 0.96) provided good fits to the data.

Based on Model 2 & Model 3, Hypothesis 2 is supported that IC complementarity has positive impact on global initiatives, because IC complementarity have positive impact on a firm's global initiatives in both low dynamic (Figure 2) and high dynamic context (Figure 3). IC complementarity has positive impact on a firm's global innovation (b = 0.30, p < 0.01) and global marketing (b = 0.39, p < 0.001). In high dynamic context (Figure 3), IC complementarity still has positive impact on a firm's global innovation (b = 0.30, p < 0.01) and global marketing (b = 0.39, p < 0.001).

Based on Model 2 & Model 3, Hypothesis 3 is also supported that there is moderating effect of environment dynamism on the relationship between IC and global performance. The impact of IC on global initiatives in the low dynamic context (Figure 2) is different from that in the high dynamic context (Figure 3). In low dynamic context (Figure 2), IC has no significant impact on a firm's global innovation (b = 0.81, p > 0.05), but has positive impact on global marketing (b = 0.14, p < 0.05). In high dynamic context, however, the influence of IC on global marketing becomes non-significant (b = 0.10, p >0.05), and the influence of IC on global innovation becomes significant (b = 0.17, p <0.01).

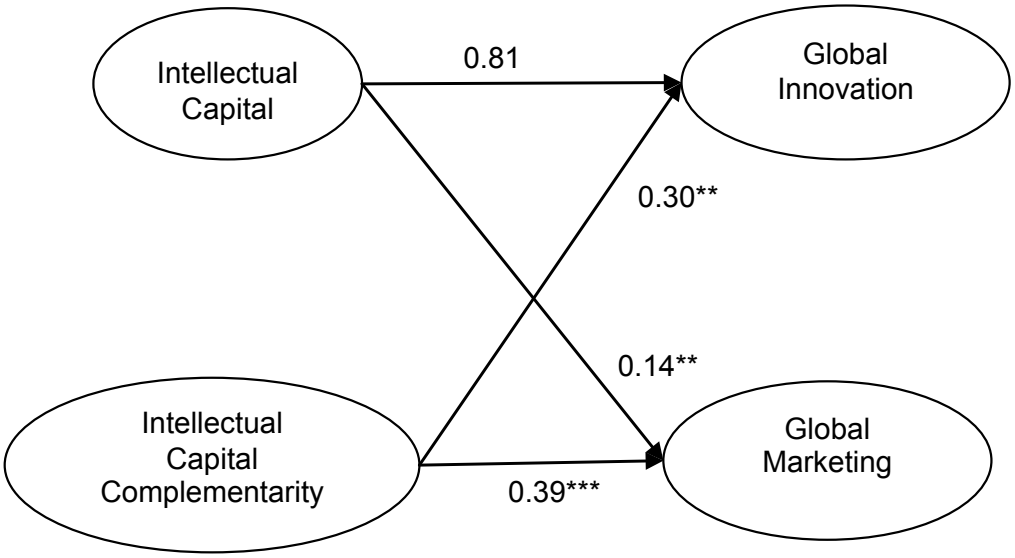

Figure 2: The influence of intellectual capital and its complementarity on global initiatives in low dynamic context (model 2)

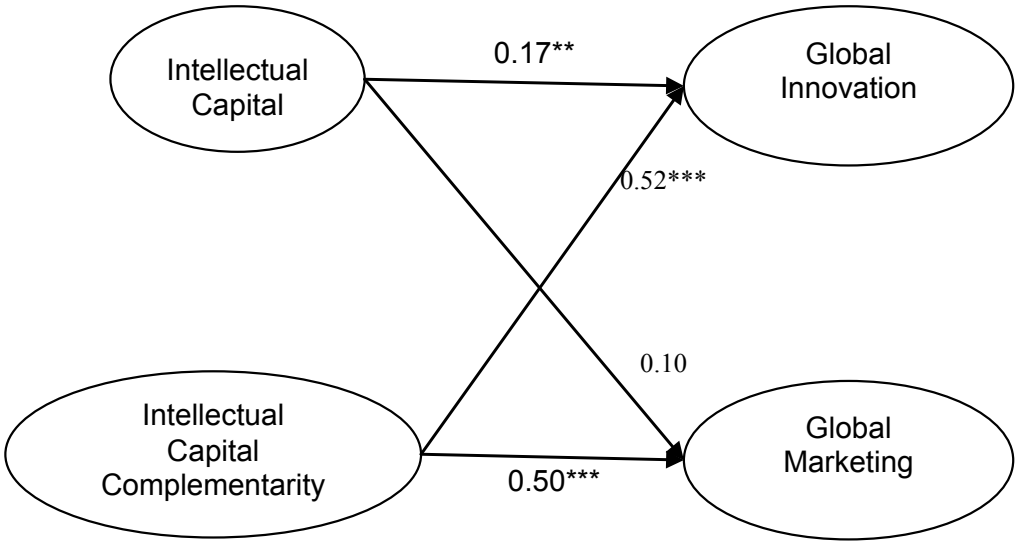

Figure 3: The influence of intellectual capital and its complementarity on global initiatives in high dynamic context (model 3)

4. Discussion and conclusions

Based on the analysis results, some managerial implications are provided. Firstly, it is confirmed that IC does enhance a firm's global initiatives. IC has positive impact on a firm's global innovation and global marketing. IC not only contribute to new product and services development, but also contribute to a firm's learning and transferring knowledge and expertise developed in each part of its global network to all other parts worldwide. The importance of IC is highlighted.

Secondly, some moderating effects of business environment are found between IC and global initiatives. Our results show moderate support for the idea that the effects of intellectual capital on global performance are not the same for all firms. In low dynamic context, IC has a positive impact on global marketing, but the impact of IC toward global innovation is non-significant. On the contrary, in high dynamic context, IC has a positive impact on global innovation, but the impact of IC on global marketing becomes non-significant. When business environment is stable or predictability, IC facilitates the development of global marketing. When there is rapid rate of change and innovation in the industry, and the actions of competitors and customers are unpredictable, IC enhances a firm's global innovation. As a result, IC is important both for those firms pursuing global marketing in a more stable and predictable environment, and for those firms pursuing global innovation in a more dynamic environment.

Thirdly, the important role of IC complementarity is identified. It is found that IC complementarity has positive effect on global initiatives in both high dynamic and low dynamic contexts. Consistent with Youndt, Subramaniam, and Snell's (2004) study that IC complement each other to contribute to a firm's financial performance, our results also indicated that the three forms of IC complement each other to enhance a firm's global initiatives (non-financial performance). Such results confirm the interconnectedness of human, relational, and structural capital, and imply that human, relational, and structural capital cannot be treated as completely independent, discrete constructs. As a result, the value of IC components can mostly be actualized only in terms of their dynamic interrelationships and conjoint interaction (Rastogi, 2003; Bozbura, 2004; Cuganesan, 2005). The dynamic nature of a firm's intellectual capital is such that if any of its components is weak, or inadequate, the firm would not be able to produce value in a sustained and competitively superior manner (Rastogi, 2003; Bozbura, 2004; Cuganesan, 2005). In order to compete in the global arena, in addition to investing in management processes (structural capital), firms should also invest in developing entrepreneurial leadership (human capital) and developing collaborative relationships with outside firms (relational capital).

There are several contributions which this study might be able to make: Firstly, the study might extend previous IC literature by investigating the influence of IC and IC complementarity on a firm's global initiatives. Specifically, the study might contribute to the literature by investigating the complementarity of the three forms of IC; that is, the possible internal relations in the intellectual capital system, and how the relations affect a firm's global initiatives.

Secondly, the study might contribute to the literature by studying the possible moderating effect of business environment in the IC complementarity-global initiatives relationship. Volatility in the task environment can hinder an organization's ability to anticipate the potential benefits of intellectual capital investment (Juma, 2005). The important role of IC complementarity (the interconnectedness of human, relational, and structural capital) is identified for global competiveness.

Finally, the study might contribute to the literature by focusing on Taiwan rather than a developed areas such as North America or West Europe as employed in related work (Roos et al., 1998; Edvinsson and Malone, 1999; LeBlanc, Rich, and Mulvey, 2000). With global prosperity increasingly dependent on developing economies, evidence from the present study may provide insights into the impact of IC management in developing economies.

It should be noted that a study of this kind does have its limitations. For instance, the results of the model should be considered as limited to the variables specified within the model. Specification search of the model has its potential for capitalizing on chance factors in the data. Consistency of the model with the data does not necessarily constitute a proof of causality; but it only lends support to it (Pang, 1996). Cautions should be exercised concerning the application of the structural equation model.

In addition, even though the study confirms the complementarity effect of intellectual capital, other possibility exists as well. For instance, Bozbura's study (2004) highlights the importance of structural capital, and concludes that structural capital has positive association with both human capital and relational capital. Wu *et al.*'s (2007) study, however, suggests that human capital may take the lead and play the role of regulator in the intellectual capital systems. Wu *et al.*'s (2007) study indicates that structural capital and relational capital fully mediate the effect of human capital on innovative performance. Further study might still be needed concerning the possible mediation effect in the intellectual capital system.

Acknowledgements

This research was supported by the National Science Council (NSC-99-2410-H-214 -005 -MY2). The author would like to thank the editor and two anonymous reviewers for their helpful and insightful comments.

References

Banutu-Gomez, M.B. and Banutu-Gomez, S.M.T. (2007) "Leadership and Organizational Change in a Competitive Environment", Business Renaissance Quarterly, Vol. 2, No. 2, pp 69–90.

Birkinshaw, J. (1997) "Entrepreneurship in Multinational Corporations: The Characteristics of Subsidiary Initiatives." Strategic Management Journal, Vol. 18, No.3, pp 207–229.

Birkinshaw, J. and Fry, N. (1998) Subsidiary Initiatives to Develop New Markets. Sloan Management Review, Spring, pp 51–61.

Birkinshaw, J., Hood, N. and Jonsson, S. (1998) "Building Firm-Specific Advantages in Multinational Corporations: The Role of Subsidiary Initiatives", Strategic Management Journal, Vol. 19, pp 221–241.

Blyler, M., and Coff, R.W. (2003) "Dynamic Capabilities, Social Capital, and Rent Appropriation: Ties that Split Pies", Strategic Management Journal, Vol. 24, No. 7, pp 677–686.

Bontis, N. (1998) "Intellectual Capital: An Exploratory Study that Develops Measures and Models", Management Decision, Vol. 36, No. 2, pp 63-76.

Bose, S. and Oh, K.B. (2004) "Measuring Strategic Value-Drivers for Managing Intellectual Capital", The Learning Organization, Vol 11, No. 4/5, pp 347–356.

Bozbura, F.T. (2004) "Measurement and Application of Intellectual Capital in Turkey", The Learning Organization, Vol. 11, No.4/5, pp 357–367.

Bruton, G.D., Dess, G.G., and Janney, J.J. (2007) "Knowledge Management in Technology-focused Firms in Emerging Economies: Caveats on Capabilities, Networks, and Real Options", Asia Pacific Journal of Management, Vol. 24, No.2, pp 115–130.

Child, J. (1972) "Organizational Structure, Environment, and Performance: The Role of Strategic Choice", Sociology, Vol. 6, No. 1, pp 1–22.

Chung, L.H. and Gibbons, P.T. (1997) "Corporate Entrepreneurship: The Roles of Ideology and Social Capital", Group and Organization Management, Vol. 22, No. 1, pp 10–30.

Cuganesan, S. (2005) "Intellectual Capital-In-Action and Value Creation: A Case Study of Knowledge Transformations in and Innovation Project", Journal of Intellectual Capital, Vol. 6, No. 3, pp 357–373.

Dess, G.G. and Beard, D. (1984) "Dimensions of Organizational Task Environments", Administrative Science Quarterly, Vol. 29, pp 52–73.

Edvinsson, L. and Malone, M.S. (1999) Intellectual Capital–How to Measure the Value of Invisible Assets in the Information Age (D.R. Lin Trans.), Wheatland publication, Taipei.

Emory, C.W. and Cooper, D.R. (1991) Business research methods, fourth ed. Irwin, Homewood IL..

Florin, J., Lubatkin, M. and Schulze, W. (2002) "A Social Capital Model of High Growth Ventures", *Academy of Management Journal*, Vol. 46, No.3, pp 374–384.

Gergory, G.D., Lumpkin, G.T. and Covin, J.G. (1995) "Entrepreneurial Strategy Making and Firm Performance, Tests of Contingency and Configurational Models", Strategic Management Journal, Vol. 18, No. 9, pp 667–695.

Gergory, G.D., Lumpkin, G.T. and Covin, J.G. (1997) "Simplicity as a Strategy-Making Process: The Effects of Stage of Organizational Development and Environment on Performance", Academy of Management Journal, Vol. 38, No. 5, pp 1386–1407.

Gillely, K.M., McGee, J.E. and Rasheed, A.A. (2004) "Perceived Environment Dynamism and Managerial Risk Aversion as Antecedents of Manufacturing Outsourcing: The Moderating Effect of Firm Maturity", Journal of Small Business Management, Vol. 42, No. 2, pp 117–133.

Goldman, S.L., Nagel, R.N. and Preiss, K. (1995) Agile Competitors and Virtual Organizations, Strategies for Enriching the Customer, Von Nostrand Reinhold, New York.

Grossman, R.J. (2000) "Measuring Up: Appropriate Metrics Help HR Prove Its Worth", HR Magazine, Vol. 45, No.1, pp 28–35.

Hargadon, A. and Sutton, R.I. (1997) "Technology Brokering and Innovation in a Product Development Firm", Administrative Science Quarterly, Vol. 42, No. 4, pp 716–749.

Hitt, M.A., Hoskisson, R.E. and Harrison, J.S. (1991) "Strategic Competitiveness in the 1990s: Challenges and Opportunities for U.S. Executives", Academy of Management Executive, Vol. 5, No. 2, pp 7–22.
Hitt, M.A., Keats, B.W. and DeMarie, S.M. (1998) "Navigating in the New Competitive Landscape: Building Strategic Flexibility and Competitive Advantage in the 21st Century", The Academy of Management Executive, Vol. 12, No.4, pp 22–42.
Huang, G.Z.D., Roy, M.H., Ahmed, Z.U., Heng, J.S.T. and Lim, J.H.M. (2002) "Benchmarking the Human Capital Strategies of MNCs in Singapore", Benchmarking, Vol. 9, No. 4, pp 357–373.
Juma, N.A. (2005) The Relationship between Intellectual Capital and New Venture Performance: An Empirical Investigation of the Moderating Role of the Environment, Unpublished Doctoral Dissertation, The University of Texas at Arlington.
Kerlinger, F.N. (1986) Foundations of Behavioral Research, third ed. Fort Worth, Holt Rinehart and Winston, Texas.
Kim, D.Y. and Kumar, V. (2009) "A Framework for Prioritization of Intellectual Capital Indicators in R&D", Journal of Intellectual Capital, Vol. 10, No. 2, pp 277–293.
Kraatz, M.S. (1998) "Learning by Association? Interorganizational Networks and Adaptation to Environmental Change", Academy of Management Journal, Vol. 41, No. 6, pp 621–643.
Kuratko, D.F. and Hodgetts, R.M. (1992) Entrepreneurship: A Contemporary Approach, third ed. Fort Forth, The Dryden Press, Texas.
LeBlanc, P. V., Rich, J. T., and Mulvey, P. W. (2000) "Improving the Return on Human Capital: New Metrics", Compensation and Benefits Review, Vol. 32, No. 1, pp. 13-20.
Ling, Y.H. (2011) 'The Influence of Intellectual Capital on Organizational Performance - Knowledge Management as Moderator,' Asia Pacific Journal of Management (DOI) 10.1007/s10490-011-9257-5.
Ling, Y.H. (2012) "The Influence of Intellectual Capital on Global Initiatives",The Special Issue of the VINE Journal of Information and Knowledge Management Systems: Managing Knowledge Processes for Value Creation, Vol. 42, No. 1: forthcoming.
Ling, Y.H. and Jaw, B.S. (2006) "The Influence of International Human Capital on Global Initiatives and Financial Performance", The International Journal of Human Resource Management, Vol. 17, No. 3, pp 379–398.
Mavridis, D.G. (2005) "Intellectual Capital Performance Determinants and Globalization Status of Greek Listed firms", Journal of Intellectual Capital, Vol. 6, No. 1, pp 127–140.
Miller, D. and Friesen, P.H. (1983) "Strategy-Making and Environment: The Third Link", Strategic Management Journal, Vol. 4, No. 3, pp 221–235.
Narver, J.C. and Slater, S.F. (1990) "The Effect of a Market Orientation on Business Profitability", Journal of Marketing, Vol. 54, No. 4, pp 20–35.
O'Connor, A., Roos, G. and Vickers-Willis, T. (2007) "Evaluating an Australian Public Policy Organization's Innovation Capacity", European Journal of Innovation Management, Vol. 10, No. 4, pp 532-558.
Ojeda-Gomez, J., Simpson, M., Koh, S.C.L. and Padmore, J. (2007) "Achieving Competitive Advantage in the Mexican Footwear Industry", Benchmarking, Vol. 14, No. 3, pp 289–305.
Pang, N.S.K. (1996) "School Values and Teachers' Feelings: A LISREL Model", Journal of Educational Administration, Vol. 34, No. 2, pp.64-83.
Perrott, B.E. (2007) "A Strategic Risk Approach to Knowledge Management", Business Horizons, Vol. 50, No. 6, pp 523–533.
Pfeffer, J. and Salancik, G.R (1978) The External Control of Organization: A Resource Dependence Perspective, Harper & Row, New York.
Pucik, V. (1992) Globalization and Human Resource Management, in Pucik, V., Tichy, N.M., Barnett, C.K. (Eds.), Globalizing Management: Creating and Leading the Competitive Organization, John Wiley and Sons, New York, pp.174-205.
Rastogi, P.N. (2003) "The Nature and Role of IC—Rethinking the Process of Value Creation and Sustained Enterprise Growth", Journal of Intellectual Capital, Vol. 4, No. 2, pp 227–248.
Reed, K.K., Lubatkin, M. and Srinivasan, N. (2006) "Proposing and Testing an Intellectual Capital-Based View of the Firm", Journal of Management Studies, Vol. 43, No. 4, pp 867–893.
Roos, J., Roos, G., Edvinsson, L. and Dragonetti, N.C. (1998) Intellectual Capital–Navigating in the New Business Landscape, New York University Press, New York.
Seleim, A., Ashour, A. and Bontis, N. (2004) "Intellectual Capital in Egyptian Software Firms", The Learning Organization, Vol. 11, No. 4/5, pp 332–346.
Spencer, J.W. (2003) "Firm's Knowledge-Sharing Strategies in the Global Innovation System: Empirical Evidence from the Flat Panel Industry", Strategic Management Journal, Vol. 24, No. 3, pp 217–233.
Stahle, P. and Hong, J. (2002) "Dynamic Intellectual Capital in Global Rapidly Changing Industries", Journal of Knowledge Management, Vol. 6, No. 2, pp 177–89.
Subramaniam, M. and Youndt, M.A. (2005) "The Influence of Intellectual Capital on the Types of Innovative Capabilities", Academy of Management Journal, Vol. 48, No. 3, pp 450–463.
Tovstiga, G. and Tulugurova, E. (2007) "Intellectual Capital Practices and Performance in Russian Enterprises", Journal of Intellectual Capital, Vol. 8, No. 4, pp 695–707.
Tsai, W. and Ghoshal, S. (1998) "Social Capital and Value Creation: the Role of Intrafirm Networks", Academy of Management Journal, Vol. 41, pp 464–478.
Wu, S.H., Lin, L.Y. and Hsu, M.Y. (2007) "Intellectual Capital, Dynamic Capabilities and Innovative Performance of Organizations", International Journal of Technology Management, Vol. 39, No. 3/4, pp 279–296.

Wu, W.Y., Chiang, C.Y. and Jiang, J.S. (2002) "Interrelationships between TMT Management Styles and Organizational Innovation", Industrial Management and Data Systems, Vol. 102, No. 3, pp 171–183.

Youndt, M.A., Subramaniam, M. and Snell, S.A. (2004) "Intellectual Capital Profiles: An Examination of Investment and Return", Journal of Management Studies, Vol. 41, No. 2, pp 335–361.

Zahra, S.A. (1996) "Governance, Ownership, and Corporate Entrepreneurship: The Moderating Impact of Industrial Technological Opportunities", Academy of Management Journal, Vol. 39, No. 6, pp 1713–1735.

