

## **AN EMPIRICAL STUDY OF THE INFLUENCE OF INTELLECTUAL CAPITAL ON KNOWLEDGE-SHARING CAPABILITY AND EXPORT PERFORMANCE IN THAILAND INDUSTRIALS**

*Chonticha Mathuramaytha\**

**Abstract:** *This study examined the influence of intellectual capital on knowledge-sharing and export performance in Thailand industrials. The model was tested using data collected from survey of 80 export industrials in Thailand, and statistic based on regression analysis. The results supported the hypotheses of the conceptual model including firm with higher degree of intellectual capital has the great impact knowledge-sharing and export performance. Furthermore, if firms have intellectual capital higher degree, thus firms have the great impact export performance. Finally, contribution and suggestions are provided for future research.*

**Keywords:** *Intellectual capital, knowledge-sharing capabilities, export performance*

### **INTRODUCTION**

The business environment has grown increasingly complex, and the industrial organization approach has been criticized for creation competitive advantage. Based on, the growing awareness that knowledge can add value to the competitiveness of company. Within this context of emphasizing knowledge, Intellectual capital is resources element to value creation in organization. According to this, firms have been forced to treat intellectual capital as efficient strategies to enhance firm a competitiveness (Chen and Chen, 2007).

The creation of economic value in current is intangible resources and capability, i.e., intellectual capital (IC) (Grant, 1996). Intellectual capital is the valuable knowledge of companies (Bassi, 1997). The studied in Finland, Widen-Wuff and Suomi (2003) found that intellectual capital used a process for create knowledge sharing which impact on business performance. Ruta and Macchitella (2008) suggest that three dimensions of IC (human capital, structural capital, and relational capital) affect the motivations of employees in organization for share their knowledge. Boadreau and Ramstad (1997) indicated that IC is human resource management which the organization to provide for the development and growth.

---

\* Faculty of Science and Social Science, Burapha University, Thailand, E-mail: [chonticha\\_m@buu.a.th](mailto:chonticha_m@buu.a.th)

Liu (2005) suggested that IC is importance force that drives business growth. Also, intellectual capital (IC) is value tools which foremost sources of company success (Drucker, 1993).

In addition, there is great interest in intellectual capital department. Exporting industrials in Thailand are being the best choice because of:

- The emphasized enterprise development is approached by the exporting industry.
- Thailand is a promoted export-dependent economy, with exports accounting for more than two thirds of Thailand's gross domestic product (GDP).
- Thailand is becoming a centre of manufacturing for Association of Southeast Asian Nation.

Therefore, this study was aimed to fill this gap and to propose a novel construction to explore the three types of intellectual capital – i.e. human capital, structural capital, and relational capital – and knowledge-sharing capability upon export performance. This study is hence expected to benefit stakeholders as we will understand how intellectual components influence export performance and bring better resources management in organization. Therefore, this research represents a focused study on exporting industrials in Thailand and to develop intellectual capital for shifting industrial competition.

The topic to be investigated in this article is how to create intellectual capital of firms in knowledge-sharing capability into export performance.

This research is divided into six sections. The first section is the brief overview of the research. It is followed by literature review and hypotheses in the second section to discuss the theoretical background of the research and previous studies and framework. The third section is to research methodology. The fourth section concentrates on data analysis and result. The fifth section is the interpretation of the findings and discussion. Finally, the six section is the recommendation of managerial implication and practice.

## **LITERATURE REVIEW**

### **Definition of Intellectual Capital**

Intellectual capital is respected as an intangible asset in the last decade. Many researchers have played attention on intellectual capital as firm's resources of creating competitive advantage. To date researchers have a wide scope of definitions of intellectual capital. For example, Edvinson and Malone (1997) defined IC as 'The sum of knowledge and capabilities of employees in a company'. Hsu and Fang (2009) explained IC as 'The total capabilities, knowledge, culture, strategy, process, intellectual property, and relational networks of a company that create

value or competitive advantages and help a company achieve its goals'. In addition, Stewart (1997) defines intellectual capital as 'Intellectual material-knowledge, information, intellectual property, and experiences-that can be put to use to created wealth'.

### **Classification of Intellectual Capital**

Previous researchers represented that intellectual capital has positive effect on competitive advantages of organizations (Edvinson and Malone, 1997; Johnson, 1999; Stewart, 1994). This research referred to the classification of intellectual capital as adopted by Remezan (2011) that classified intellectual capital into human capital, structural capital, and relational capital in order to explore whether the three types of intellectual capital have positive effects on knowledge-sharing capability and lead to export performance of firms. Ramezan (2011) definitions are given as follows:

- (1) Human capital is defined as values and attitudes, aptitudes and know-how
- (2) Structural capital contains both organizational and technology elements that integration and coordination within the firm
- (3) Relational capital is defined as value of relationships that the firm maintains with external agents

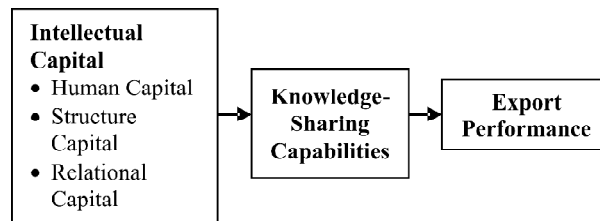
### **Knowledge-sharing Capabilities**

Knowledge is difficult to imitate. Likewise, knowledge sharing (KS) is important for companies to be able to develop skills and competences, to increase value, and to sustain competitive advantages (Kogut and Zander, 1992). Knowledge sharing is a vital process of managing knowledge because it is an initial for innovation (Verona *et al.*, 2006). KS is an action which employees can contribute to knowledge application, innovation, and competitive advantage of the organization (Jackson *et al.* 2006). In addition, Armbrecht *et al.* (2001) proposed that knowledge sharing leads to the diffuse of innovative ideas, critical creativity and ultimately innovation in organization. In this research, the definition of KS capabilities from Kim and Lee (2006) was adopted which stated that KS capabilities refer to employees' ability to acquire knowledge that is held by other divisions within the organization.

### **RESEARCH CONCEPTUAL MODEL AND HYPOTHESES**

The concept model is shown in Figure 1. In this model the relationship between (1) intellectual capital and knowledge-sharing capabilities and (2) knowledge-sharing capabilities and export performance and (3) intellectual capital and export performance are shown.

Figure I. The Conceptual Model



### Intellectual Capital and Knowledge-sharing Capabilities

Human capital is importance source of company that can realize and create value in the knowledge-based economy. The competence of employees is the importance part of IC which includes tacit knowledge, skill, attitude and experience of the employees. The highly competent of employees are knowledge sharing which can rapidly transfer skills and tacit knowledge in the company. Employees' knowledge can make innovation continuously. Therefore, the individual competency as utilize to their tasks (Ulrich, 1998) are organized as a 'knowledge community'.

Structural capital is one part of IC which deals with system and structure of the firms. Bontis *et al.* (2000) suggested that structural capital is the skills of human capital for its existence, such as the ability to communicate and the willingness to share information.

Relational capital is more directly affect firm value and becoming the critical factor of IC. Organizations with strong outside relationships lead to high relational capital. Meanwhile, Welbourne (2008) showed that relational capital is an intangible asset based on developing high-quality relationships of the firm that influences business performance.

**H1a:** Degree of Human capital has a positive impact on knowledge-sharing capabilities.

**H1b:** Degree of Structural capital has a positive impact on knowledge-sharing capabilities.

**H1c:** Degree of Relational capital has a positive impact on knowledge-sharing capabilities.

### Knowledge-sharing Capabilities and Export Performance

Firm's competitive advantages depend on knowledge creation and more importantly on knowledge diffusion and application (Droge al. 2003). Departments that generally know where knowledge is distributed for members have been argued to have greater performance (Becker, 2001; Borgatti and Cross, 2003). The sufficiency of knowledge resources to achieve the department's objectives is important for

departmental performance (Argote *et al.* 2000). The ability of transferring knowledge from one person to another significantly contributes to the organizational performance of firms (Argote *et al.*, 2000).

**H2:** Degree of Knowledge-sharing capabilities has a positive impact on export performance.

## **RESEARCH METHODOLOGY**

### **Sampling and Data Collection**

In this research, questionnaire mail survey was used for data collection. Mail survey was sent to 330 of Thai industrials. The sample was taken from the database of Department of Export Promotion Ministry of Commerce. A cover letter, stamped reply envelope and copy of the questionnaire were sent to chief executive officers (CEO)'s, directing managers or general manager in a sample. About 2-3 weeks later, follow-up calls were made to those who have not responded to persuade them to respond. Beside, mail survey sent the questionnaire again to those who had not responded. With regard to the questionnaire mailing, 31 surveys were undeliverable because some firms were no longer in business or had moved to unknown locations. Deducting the undeliverable from original 330 mailed, the valid mailing was 299 surveys, from which 88 responses were received. Of the surveys completed and returned, only 80 were usable. The effective response rate was approximately 27.49 per cent. According to reference (Aaker, Kumar, and Say, 2001), the response rate for a mail survey, without an appropriate follow-up procedure, is less than 20 per cent. Then, the response rate of this study was considered acceptable.

## **DATA ANALYSIS AND RESULT**

### **Respondent Profiles**

The responding firms included a wild range of industries, as shown in Table 1. Among the 62 responding firms, they were electronic (34), computer software developer (19), engineer (11), textiles (4) firms, furniture (11), and garment (1) firms.

Table 2 summarizes the types of firm ownership that had the most of respondents. They were from privately-owned (93.75 per cent). The remaining respondents were from foreign-owned (5.0 per cent) and state-owned (1.25 per cent). As regards with the age of firms, 68.75 per cent of respondents were above 15 years, while 16.25 per cent, 11.25 per cent, 3.75 per cent were 11-15 years, 5-10 years, and 1-5 years, respectively. Around 62.25 per cent of the responding firms had fewer than 100 employees, while 38.35 per cent had more than 101 employees. Results in Table 2 presents that 56.25 per cent of respondents reported their firms' annual revenue was above 15 million bath; 43.75 per cent had revenue less than 15 million bath.

**Table 1**  
**Industrial Profile (N=80)**

<i>Industrial type</i>	<i>Frequency</i>	<i>Percentage</i>
Electronic	34	42.50
Computer Software Developer	19	23.75
Engineer	11	13.75
Textiles	4	5.00
Furniture	11	13.75
Garment	1	1.25

**Table 2**  
**Respondents' Profile**

<i>Characteristics of firms</i>	<i>Number of respondents</i>	<i>Per cent of respondents</i>
<b>Job title</b>		
Managing director	35	43.75
Chief executive officer	11	13.75
Managing partner	9	11.25
Other	25	31.25
<b>Working experience</b>		
1-5	4	5.00
5-10	9	11.25
11-15	7	8.75
Above 15	60	75.00
<b>Type of firm ownership</b>		
State-owned	1	1.25
Privately-owned	75	93.75
Foreign-owned	4	5.00
<b>Age of firm (year)</b>		
1-5	3	3.75
5-10	9	11.25
11-15	13	16.25
Above 15	55	68.75
<b>Number of employees</b>		
Less than 50	33	41.25
51-100	16	20.00
101-200	11	13.75
Above 200	20	25.00
<b>Annual revenue (Million Bath)</b>		
Less than 5	6	7.50
5-10	15	18.75
11-15	14	17.50
Above 15	45	56.25

## **MEASUREMENTS**

The measurements used in this study were five-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The variables of interest in research were measured with multiple-item scales. Although some items were developed specifically for this study, other measurement items were adapted from prior research.

### **Non-Response Bias**

To determine non-response bias, Thai industrials specific t-test between early and late respondents (Armstrong and Overton, 1977) were used. No significant differences between the two groups for firm size were found, indicating that non response bias was not a major problem in data.

### **Common Method bias**

Common method bias exists when the measurement technique introduce systematic variance into the measures (Doty and Glick, 1998). In addition, the Corrected item-total Correlation (CITC) used reliability test (Kerlinger, 1986). The Corrected Item-total Correlation (CITC) of each measure was well above the suggested cut off of 0.30. Results in Table 3 shows that all CITC values were larger than 0.40, which was sufficient for confirming level of reliability in research (Nunnally, 1978; Churchill and Iacobucci, 2002).

### **Reliability**

The Kaiser-Meyer-Olkin (KMO) statistic measured is 0.760, which greater than the recommended cut off of 0.60. To assess the internal consistency of the multi-item scales used in this study, Cronbach coefficient and reliability estimated were computed (Churchill and Gilbert, 1979). As presented in Table 3, all the scales were reliable, with the composite reliabilities ranging from 0.69 to 0.92, all 0.60-1.00 are considered to be sufficient (Nunnally, 1978).

This study, using factor analysis for firstly utilized, demonstrated that the general purpose of factor analytic techniques is to condense (summarize) the information contained in a number of original variables into a smaller set of new, composite dimensions or variants (factors) with minimum information loss. This analysis identified gave values larger than one and factor loading of each item with a cut-off value of 0.40, was adopted (Nunnally and Bernstien, 1994).

Table 4 displays the means, standard deviations and correlation matrix for all variables. The correlations among the variables are absence of multi-collinearity. VIF of 1.0 indicates the absence of multi-collinearity and maximum VIF in excess of 10.0 indicated multi-collinearity. Table 5 shows the collinearity indicated very low variance inflation factors (VIF), in this study is 1.001.

**Table 3**  
**Construct Measure, Validity and Reliability Analysis**

<i>Industry type</i>	<i>Item</i>	<i>Standardized Item loading</i>	<i>CITC range of the underlying items</i>
Human Capital (Cronbach's alpha = 0.8311)	HC1	0.868	0.7463
	HC2	0.877	0.7621
	HC3	0.775	0.6123
	HC4	0.764	0.5901
Structure Capital (Cronbach's alpha = 0.8047)	SC1	0.868	0.7405
	SC2	0.860	0.7314
	SC3	0.782	0.6202
	SC4	0.719	0.6158
Relational Capital (Cronbach's alpha = 0.6925)	RC1	0.785	0.5368
	RC2	0.837	0.6086
	RC3	0.833	0.6076
Knowledge-sharing Capability (Cronbach's alpha = 0.8967)	KSC1	0.627	0.5191
	KSC2	0.833	0.7596
	KSC3	0.765	0.6751
	KSC4	0.868	0.8016
	KSC5	0.760	0.6719
	KSC6	0.837	0.7561
	KSC7	0.810	0.7350
Export Performance (Cronbach's alpha = 0.9250)	EP1	0.922	0.8508
	EP2	0.907	0.8307
	EP3	0.910	0.8389
	EP4	0.878	0.7885

**Table 4**  
**Correlation Matrix, Means and Standard Deviations**

<i>Measure</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
Mean	4.28	4.02	4.29	4.16	3.89
Standard Deviation	0.55	0.56	0.53	0.53	0.79
Human Capital					
Structure Capital	.705**				
Relational Capital	.579**	.522**			
Knowledge-Sharing Capability	.785**	.811**	.695**		
Export Performance	.547**	.447**	.562**	.443**	

Note: \*\*  $p < 0.01$



**Table 5**  
**Regression Analysis Results-Standardized Coefficients**

Variables	Knowledge-sharing Capability			Export Performance
	Model 1	Model 2	Model 3	Model 4
Human Capital	0.799 <sup>a</sup> (11.187)			
Structural Capital		0.810 <sup>a</sup> (12.198)		
Relational Capital			0.706 <sup>a</sup> (8.741)	
Knowledge-sharing Capability				0.437 <sup>a</sup> (4.278)
Firm Age	-0.004 (-1.059)	0.003 (0.822)	0.007 (1.661)	0.004 (0.756)
R <sup>2</sup>	0.621	0.661	0.501	0.202
Adjusted R <sup>2</sup>	0.611	0.652	0.488	0.181
Maximum VIF	1.037	1.001	1.007	1.006

<sup>a</sup> indicates significance at 0.001 level (one-tailed)

<sup>b</sup> indicates significance at 0.0 level (one-tailed)

### Statistic Technique

This study used Ordinary Least Squares (OLS) regression analysis to test and examine the hypothesized relationships and estimated factors affecting of intellectual capital. The ordinary least square is an appropriate method for examining the hypothesized relationships. In this study, the equations are represented by:

$$\text{Knowledge-Sharing Capability} = \beta_{01} + \beta_1 \text{Human Capital} + \beta_2 \text{Firm Age} + \varepsilon \quad (1)$$

$$\text{Knowledge-Sharing Capability} = \beta_{02} + \beta_3 \text{Structure Capital} + \beta_4 \text{Firm Age} + \varepsilon \quad (2)$$

$$\text{Knowledge-Sharing Capability} = \beta_{03} + \beta_5 \text{Relational Capital} + \beta_6 \text{Firm Age} + \varepsilon \quad (3)$$

$$\text{Export Performance} = \beta_{04} + \beta_7 \text{Knowledge-Sharing Capability} + \beta_8 \text{Firm Age} + \varepsilon \quad (4)$$

Table 5 represents the regression results and testing of hypotheses 1, 2 and 3. The results in table 5 show evidence that human capital has a significant and positive effect on knowledge-sharing capability in Model 1 ( $b_1 = 0.799$ ,  $\rho < 0.001$ ) Therefore, hypotheses 1 is supported. Furthermore, in Model 2 analysis hypotheses 2, results indicated that structural capital has significant and positive effect on knowledge-sharing capability ( $b_3 = 0.810$ ,  $\rho < 0.001$ ). Therefore, hypothesis 2 is supported. The results in Model 3 show that relational capital has significant and

positive effect on knowledge-sharing capability ( $b_5 = 0.706$ ,  $\rho < 0.01$ ). Therefore, hypothesis 3 is supported. The result of Model 4 show that knowledge-sharing capability impact on export performance ( $b_7 = 0.437$ ,  $\rho < 0.001$ ). Therefore, hypothesis 4 is supported. In summary, the results explained that the higher degree of the three dimensions of intellectual capital the greater impact on knowledge-sharing capability. In addition, knowledge-sharing capability has impact on export performance. In the model, size was expected to be a significant variable and therefore was included as a control variable. Analysis results show that size has no impacts on the relationship, p value is greater than 0.10.

**Table 6**  
**Results of Hypothesis Tests**

<i>Hypothesized Link</i>	<i>Supported?</i>
H1a : Human Capital → Knowledge-Sharing Capability	Supported
H1b : Structure Capital → Knowledge-Sharing Capability	Supported
H1c : Relational Capital → Knowledge-Sharing Capability	Supported
H2 : Knowledge-Sharing → Export Performance Capability	Supported

Likewise, the exploratory powers (Adjusted R-square) are very satisfied: 0.611, 0.652, and 0.488. This result indicated that knowledge-sharing capability is mainly explained by intellectual capital. Besides, Adjusted R-square of 0.181 indicated export performance as explained by knowledge-sharing capability. In summary, four hypotheses are supported (Table 6).

## DISCUSSION AND CONCLUSION

Recently, Intellectual capital has been received much attention from scholars, enterprise for development. This research therefore focused on intellectual capital and filled the research gap. This research explored the influence of three dimensions of intellectual capitals, i.e. human capital, structural capital, and relational capital, on knowledge-sharing capability and export performance.

### Intellectual Capital and Knowledge-sharing Capability

Human capital positively affects knowledge-sharing capability ( $b_1 = 0.799$ ,  $\rho < 0.001$ ). This model explains 61.1 per cent of knowledge-sharing capability. This results is consistent with Argote *et al.* (2003) and Hsu and Sabherwal (2011) demonstrating that individual abilities provide for new knowledge capability, such as absorb or transfer knowledge (Gick and Holyoak, 1983). Rastogi (2003) indicated that human capital is an important input for organizations for employees' knowledge, skills and abilities.

Structural capital positively affects knowledge-sharing capability ( $b_3 = 0.810$ ,  $\rho < 0.001$ ). This model explains 65.2 per cent of knowledge-sharing capability.

Structural capital can be supported or infrastructure that an organization provides for its human capital (Sullivan, 2000). Structural capital is important that the organization provided the channels of communication and the willingness of human capital to share information that will the output and creativity.

Relational capital positively affects knowledge-sharing capability ( $b_5 = 0.706$ ,  $\rho < 0.01$ ). This model explains 48.8 per cent of knowledge-sharing capability. Kale *et al.* (2000) argued that strong relational capital between partners lead to greater network learning. Relational capital influences knowledge acquisition that partners are reliable in transferring knowledge and learning (Madhole, 1995; Liu *et al.* 2010). Thus, for the relational capital, the organization must have relationship with partners to create the knowledge that are useful to the organization.

### **Knowledge-sharing Capability and Export Performance**

Knowledge sharing capability positively affects export performance ( $b_7 = 0.437$ ,  $\rho < 0.001$ ). This model explains 18.1 per cent of knowledge-sharing capability. Kearns and Lederer (2003) considered knowledge as a resource contribution to high performance. Knowledge sharing is explained to lead a better performance due to improved decision making and better coordination (Zarraga and Bonache, 2003). Organizations having the knowledge resource sufficiently will achieve the department's objectives for departmental performance (Argote *et al.* 2000).

## **MANAGERIAL IMPLICATION AND PRACTICE**

### **Implications for Theory**

This study addressed the relationship between intellectual capital, knowledge sharing capabilities and export performance improvement in organization in the export industrial of Thailand. Specifically, the investigation contribute the theoretical development of a conceptual model for following intellectual capital dimensions: human capital, structure capital, relational capital. Results showed that the above dimensions are good indices for measuring the contribution of intellectual to knowledge sharing capital for export performance. Huss (2004) explained that the IC components such as human capital, structure capital, and relational capital represent the input for the knowledge creation process in the SECI model. This is consistent with Barney (1991)'s concept which indicating that the RBV of the firm knowledge which as intangible came to be the key resource to competitive advantage.

### **Implications for Practice**

This research offers the following implications for practice. Knowledge sharing play an importance role in how IC affects export performance. Top managers should

recognize those structures and systems. Human capital, structure capital, and relational capital are developed and they contribute to knowledge sharing capability as empirically found in this study. Therefore, organizations with superior resource and capability are able to provide more value to customers and stakeholders than their competitors.

### *Acknowledgement*

The author would like to thank the Faculty of Science and Social Science, Burapha University, Thailand, for financial support.

### *References*

- Aaker, David A., Kumar, V. & Say, George, S. (2001), *Marketing Research*, New York: John Wiley and Sons.
- Argote, L., Ingram, P., Levine, J. M., & Moreland, R. L. (2000), "Knowledge Transfer in Organizations." *Organizational Behavior and Human Decision Processes*, 8, No.2, pp. 1-8.
- Argote, L., McEvily, B., & Reagans, R. (2003), "Managing Knowledge in Organizations: An Interactive Framework and Review of Emerging Themes." *Management Science*, 49, No. 4, pp. 571-582.
- Armbrecht, F.M.R., Chapas, Jr., Chappelow and Ferris, G.F. (2001), "Knowledge Management in Research and Development." *Research Technology Management*, 44, No. 9, pp. 28-48.
- Armstrong, S. J. and, Overton, T. S. (1977), "Estimating Non-Response Bias in Mail Survey." *Journal of Marketing Research*, 14, pp. 396-420.
- Barney, J. B. (1991), "Firm Resources and Sustained Competitive Advantage." *Journal of Management*, 17, No. 1, pp. 99-120.
- Bassi, L. J. (1997), "Harnessing the Power of Intellectual Capital." *Training and Development*, 1, No. 12, pp. 25-30.
- Becker, M.C. (2001), "Managing Dispersed Knowledge : Organizational Problems, Managerial Strategies, and Their Effectiveness." *Journal of Management Studies*, 38, No. 7, pp. 1037-1045.
- Bontis, N., Keow, W. C. C. and Richardson, S. (2000), "Intellectual Capital and Business Performance in Malaysian Industries." *Journal Intellectual Capital*, 1, No. 1, pp. 85-100.
- Borgatti, S.P. and Anross, R. (2003), "A Relational View of Information Seeking and Learning in Social Network." *Management Science*, 49, No. 4, pp. 432-445.
- Boudreau, J.W. and Ramstad, P.M. (1997), "Measuring Intellectual Capital: Learning from Financial History." *Human Resource Management*, 36, No. 3, pp. 343-356.
- Chen, A. and Chen, R. (2007), "Design Patent Map: An Innovative Measure for Corporate Design Strategies." *Engineering Management Journal*, 19, No. 3, pp. 14-29.
- Churchill Jr., Gilbert A. (1979), "A Paradigm for Developing Better Measures of Marketing Constructs." *Journal of Marketing Research*, 16, No. 2, pp. 64-73.
- Churchill, G. A. & Iacobucci, D. (2002), *Marketing Research: Methodological Foundation*, Eighth Ed. South-Western, USA.

- Doty, D. & Glick, W. (1998), "Common Method Bias: Dose Common Methods Variance Really Bias Results?." *Organizational Research Methods*, 1, No. 4, pp. 374-406.
- Droge, C., Claycomb and Germain, R. (2003), "Dose Knowledge Mediate the Effect of Context on Performance? Some Initial Evidence." *Decision Science*, 34, No. 3, pp. 541-568.
- Drucker, P.F. (1993), "The Rise of the Knowledge Society." *Wilson Quarterly*, 17, No. 2, pp. 52-70.
- Edvinsson, L. & Malone, M. S. (1997), *Intellectual Capital: Realizing Your Company's True Value by Finding Its Hidden Brainpower*, New York: Harper Collins.
- Gick, M.L. and Holyoak, K. J. (1983), "Schema Induction and Analogical Transfer." *Cognitive Psychology*, 15, pp. 1-28.
- Grant, R. M. (1996), "Toward a Knowledge-Based Theory of the Firm." *Strategic Management Journal*, 17, pp. 109-122.
- Hsu, Ya H. and Fang, W. (2009), "Intellectual Capital and New Product Development Performance: The Mediating Role of Organizational Learning Capability." *Technological Forecasting & Social Change*, 76, pp. 664-677.
- Hsu, I-Chieh. Andsabherwal, R. (2011), "From Intellectual Capital to Firm Performance: The Mediating Role of Knowledge Management Capabilities." *IEEE Transactions on Engineering Management*, 58, No. 4, pp. 626-642.
- Huss, T. (2004), "Reconfiguring Knowledge Management-Combining Intellectual Capital, Intangible Assets and Knowledge Creation." *Journal of Knowledge Management*, 8, pp. 36-52.
- Johnson, W . H. A.(1999), "An Integrative Taxonomy of Intellectual Capital: Measuring the Stock and Flow of Intellectual Capital Components in the Firm." *International Journal of Technology Management*, 18, No. 5-8, pp. 562-575.
- Jackson, S.E., Chuang, C.H., Haeden, E.E., Jiang, Y. and Joseph, J.M. (2006), "Toward Developing Human Resource Management Systems for Knowledge-Intensive Teamwork." *Research in Personal and Human Resources Management*, 25, pp. 27-70.
- Kale, P., Singh, H. and Perlmutter, H. (2000), "Learning and Protection of Proprietary Assets in Strategic Alliance: Building Relational Capital." *Strategic Management Journal*, 21, pp. 217-237.
- Kerlinger, F. (1986), *Foundations of Behavioral Research*. New York: Holt, Rinehart, and Winston.
- Kearns, G.S., Lederer, A.L. (2003), "A Resourced-Based View of Strategic IT Alignment: How Knowledge Sharing Creates Competitive Advantage." *Decision Sciences*, 34, No. 1, pp. 1-29.
- Kim, S. and Lee, H. (2006), "The Impact of Organizational Context and Information Tech on Employee Knowledge-Sharing Capabilities." *Public Administration Review*, 66, No. 3, pp. 370-385.
- Kogut, B. and Zander, U. (1992), "Knowledge of the Firm, Combinative Capabilities and the Replication of Technology." *Organization Science*, 3, No. 3, pp. 383-398.
- Lui, C.L.E., Ghauri, P.N. and Sinkovics, R.R. (2010), "Understanding the Impact of Relational Capital and Organizational Learning on Alliance Outcomes." *Journal of World Business*, 45, No. 3, pp. 237-249.

- Madhok, A. (1995), "Revisiting Multinational Firms' Tolerance for Joint Ventures : A Trust-Based Approach." *Journal of International Business Studies*, 26, No.1, pp. 117-137.
- Nunnally, J. C. (1978), *Psychometric Theory*, Second Ed. McGraw-Hill, New York.
- Nunnally, Jum C. and Bernstein, Ira H., (1994), *Psychometric Theory*, McGraw-Hill, New York.
- Ramezan, M. (2011), "Intellectual Capital and Organizational Organic Structure in Knowledge Society: How are these Concepts Related?." *International Journal of Information Management*, 31, pp. 88-95.
- Rastogi, P. (2003), "The Nature and Role of IC: Rethinking the Process of Value Creation and Sustained Enterprise Growth." *Journal of Intellectual Capital*, 4, No. 2, pp. 227-248.
- Ruta, C. D. and Macchitella, U. (2008), "Fostering Intellectual Capital Through Communication Technologies: An Analysis of Knowledge Sharing Determinants." *International Journal of Learning and Intellectual Capital*, 5, No. 2, pp. 123-152.
- Steward, T. A. (1994), "Your Company's Most Valuable Asset: Intellectual Capital." *Fortune*, 130, No. 7, pp. 68-74.
- Stewart, T. A. (1997), *Intellectual Capital: The New Wealth of Organizations*, New York: Doubleday Dell Publishing Group.
- Sullivan, P. H. (2000), *Value-Driven Intellectual Capital: How to Convert Intangible Corporate Assets into Market Value*, New York: Wiley.
- Ulrich, D. (1998), "Intellectual Capital = Competence \* Commitment." *Sloan Management Review*, 39, No. 2, pp. 15-26.
- Verona, G., Prandelli, E. and Sawhney, M. (2006), "Innovation and Virtual Environment: Toward Virtual Knowledge Brokers." *Organization Studies*, 27, No. 6, pp. 765-788.
- Welbourne, T.M. (2008), "Relational Capital: Strategic Advantage for Small and Medium-Sized Enterprises (SMEs) through Negotiation and Collaboration." *Journal of Business and Economics*, 18, No. 5, pp. 438-492.
- Widen-Wulff, G. and Suomi, R. (2003), "Building a Knowledge Sharing Company - Evidence from the Finnish Insurance Industry." *Proceedings of the 36<sup>th</sup> Hawaii International Conference on System Sciences*.
- Zarraga, C. and Bonache, J. (2003), "Assessing the Team Environment for Knowledge Sharing: an Empirical Analysis." *International Journal of Human Resource Management*, 14, No. 7, pp. 1227-1245.