



RESEARCH ARTICLE

INTELLECTUAL CAPITAL AND ITS MAJOR COMPONENTS

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ARTICLE INFO

**Article History:**

Received 15<sup>th</sup> April, 2011  
Received in revised form  
13<sup>th</sup> May, 2011  
Accepted 5<sup>th</sup> June, 2011  
Published online 26<sup>th</sup> June 2011

**Key words:**

Intellectual capital, Human capital,  
Customer capital, Structural capital,  
Social capital, Technological capital,  
Spiritual capital.

ABSTRACT

The purpose of the present paper is to re-examine a number of major theoretical and empirical contributions in the field of intellectual capital with an attempt to identify the major components of intellectual capital. Today the concept of intellectual capital is increasingly recognized as one of the most important strategic assets of organizations in knowledge-based economy. In knowledge-based economy, modern and high tech enterprises not only focus on innovation of new products, services, marketing, research and development activities but also pay particular attention to the development and management of organization intellectual capital.

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INTRODUCTION

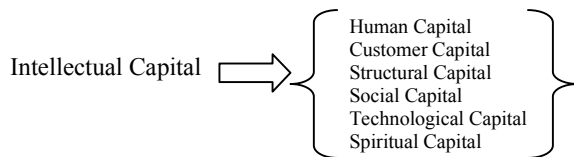
In the last two decades, the concept of intellectual capital was eyes catching. A significant number of researchers, practitioners and academicians discussed the concept and its importance in knowledge-based economy. Akhavan *et al.* (2009) stated that knowledge is considered as one of the most important properties of organizations in the contemporary management theory and practice. Knowledge is accepted as a sustainable strategic asset to achieve and maintain competitive advantages (Drucker, 1985; Grant, 1991). According to Kozak (2011) the traditional factors such as land, labor and capital do not disappeared but they become secondary. Foray (2004) pointed out that in the knowledge-based economy; the contribution of intangible assets is greater than tangible assets. In knowledge based economy intellectual capital is the most critical asset of the organization (Amiri *et al.*, 2010, Shaari *et al.*, 2010; Ramezan, 2011). Intellectual capital is the lubricant of knowledge-based economy. According to Ramezan (2011) intellectual capital is based on knowledge, therefore intellectual capital is a heart of organizational capabilities. Intellectual capital is used to create and enhance the organizational value and performance (Hosnavi and Ramezan, 2010). There is no doubt in knowledge-based economy organizations face fierce global competition. Therefore, to fight the business threats at local or global level the concept and practice of knowledge and intellectual capital should be researched and applied (Bagherzadeh *et al.*, 2010).

In these days organizations need to utilize their all resources both tangible as well as intangible assets to gain competitive advantage. Today the importance of intellectual capital is highly recognized as a successful factor not only in knowledge-intensive organizations but also for most other types of organizations (Lonnqvist and Mettanen, 2002). Therefore, it is indispensable for organizations to understand the concept of intellectual capital in real sense then they will be able to utilize their intellectual capital more effectively and efficiently

The term intellectual capital was first introduced by Jon Kenneth Galbraith in 1969 (Chang and Hsieh, 2011). Generally there is no uniformly accepted definition of intellectual capital (Chang and Hsieh, 2011). Kozak (2011) pointed out that the concept of intellectual capital is still underdeveloped, and there is no uniform definition accepted for identifying its subcomponents. However, many researchers defined the same concept of intellectual capital but in different ways. One of the most short and snappy definition of intellectual capital is given by Stewart (1997, p. 67) as "packaged useful knowledge." Stewart (1997) stated that intellectual capital is a total stock of the collective knowledge, information, technologies, skills, expertise, intellectual property, customer loyalty and team management that can be used to create value of the products and services in organizations. Edvinsson, (1997) defined that intellectual capital is the sum of human capital and structural capital. Stewart (1997) extended intellectual capital into three part human capital, customer capital and structural capital.

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Many well known researchers in the early stage of the development of intellectual capital included Stewart, (1997), Sveiby (1997), Brooking (1996), Edvinsson (1997), Roos *et al.* (1997) and Bontis (1998) agreed that intellectual capital is mainly based on three components namely human capital, customer capital and structural capital. They stated that intellectual capital based on various intangible resources, such as employees competence, knowledge, education, skill, intellectual agility, brand name, customer relationship and organization structure (Kujansivu, 2009; Bontis *et al.*, 2000). Bueno *et al.*, (2004) and Wu and Tsai (2005) extend the concept of intellectual capital in their research and introduced two more components namely social capital and technological capital. In the same way, Ismail (2005) extends the concept of intellectual capital and indentified spiritual capital as another important component. He found that spiritual capital has positive impact on the performance of organizations. However, Ramezan (2011) identified the component of intellectual capital includes human capital, organizational capital or structural capital, technological capital, social capital and business process capital or customer capital. A synthesis from existing literature provides six important components of intellectual capital which are given in Fig.1.



**Figure: 1 Integrated Intellectual Capital Model**

In most cases intellectual capital includes intangible assets, e.g., knowledge, skills of employees, customer satisfaction, loyalty, policies, procedures, social value, intellectual property, industrial property, faith, ethics etc., (Edvinsson and Malone 1997; Sveiby 1997; Brooking 1996; Bontis, 1998; Ismail, 2005; Bueno *et al.*, 2004). Therefore, on the basis of the above discussion we can conclude that intellectual capital is mainly based on human capital, customer capital, structural capital, social capital, technological capital and spiritual capital.

### Main components of intellectual capital

Several contributions in literature review have provided different frameworks for identifying and classifying the concept of intellectual capital. Bontis (1998) stated that intellectual capital dimensions are sources of firm competitive advantage. However, one or several dimensions of intellectual capital can affect on the performance of organizations in varying magnitudes (Bontis, 2002; Wang and Chang, 2005; Pablos, 2004). Therefore it is indispensable for organizations to understand the concept of intellectual capital in depth and explore the components of their intellectual capital in organizations. Six important components of intellectual capital are highlighted.

#### Human Capital

Human capital is the heart of intellectual capital. It relates to employee's knowledge, competence, skill, capability and innovation (Edvinsson and Malone, 1997; Bontis, 1998; Shaari *et al.*, 2010; Isaac *et al.*, 2010). Roos *et al.* (1997) and

Bontis *et al.* (2000) pointed out that employees generate intellectual capital through their competence, attitude and intellectual agility. Competence includes skills and education; attitude covers the behavioral dimensions of the employee's work while intellectual agility based on innovativeness and solution of business problems. Fitz –enz (2000) stated that human capital consist of knowledge, talent and experience of employees. Human capital is a major source of value addition in organizations and it is based on skills, knowledge and expertise, competence, attitude, and intellectual agility of employees.

#### Customer capital

Customer capital is also one of the most important components of intellectual capital. Customer capital is mainly based on the relationship between the organization and its customers (Edvinsson and Malone, 1997, Shaari *et al.*, 2010; Tai- Ning *et al.*, 2011). Bontis *et al.*, (2000) pointed out that it is based on the knowledge embedded in the marketing channels and customer relationships that an organization develops through the course of conducting business. Roos *et al.*, (2001) and Hill and Jones (2001) stated that the relationship with customers is very important for organizations because customers buy products or services from the enterprises. Therefore, customers are the main source for revenue generation of organization. It is very important for organizations to satisfy their customers needs (Tai- Ning *et al.*, 2011). In the same way, Bontis *et al.*, (1998) and Ngah and Ibrahim, (2009) also stated that customer capital or relational capital is based on the relationship that the organization has established with its customers, suppliers stakeholders. Therefore, customer capital is an important component of intellectual capital and it is based on customer satisfaction, loyalty and network.

#### Structural capital

Structural capital of organizations represents all the non-human storehouses of knowledge including databases, organizational charts, process manuals, strategies, routines and policies (Bontis *et al.*, 2000; Wu and Tsai, 2005). Roos *et al.* (1998) pointed out that structural capital as "what remains in the company when employees go home for the night". According to Cohen and Kaimenakis (2007), organizations do not have their own human capital while structural capital belongs to the organization as a whole and it can be replicated and shared. In the same way Joshi *et al.*, (2010) stated that structural capital is a knowledge created by an organization and it cannot be separated from the entity. According to Stewart (2000) and Shih *et al.* (2010) structural capital provides the environment that support individuals to invest their human capital to create and leverage its knowledge. However, Ramezan, (2011) argued that structural capital mainly deals with the system and structure of an organization. Structural capital is very important for the organizations to create value added products and to take competitive advantage. Bontis (1998) stated that if an organization has poor structural capital then it will be difficult to reach the full utilization of overall intellectual capital. Ramezan (2011) argued that strong structural capital of an organization lead full utilization of intellectual capital. According to the literature it can concluded that structural capital of organizations is consisting of infrastructure, system policies and procedures.

### Social capital

Another important component of intellectual capital is Social capital. Organizations having high social capital can take more competitive advantage (Naphat and Goshal, 1998). Bourdieu and Wacquant (1992) defined social capital as a “sum of resources accumulated in the organization by a stable network of intraorganizational relationships”. According to Nahapiet Ghoshal, (1996), social capital is a “sum of current and potential resources incorporated in, available in, and derived from the network of relations possessed by an individual or social unity”. Paldam (2000) stated that social capital is “the glue that holds societies together”. Cohen and Prusak (2001) emphasized that social capital represents the value of human connections based on confidence and on personal networks. They stressed that without social capital innovation, sharing of knowledge and productivity can be dramatically reduced in organizations. Social capital includes relationships, attitudes and values that manage interactions among people and contribute to economic and social development in a society (Yazdani and Yagoubi, 2011). Nahapiet & Ghoshal (1998) introduced three dimensions of social capital which is widely accepted such as structural, cognitive and relational. These dimensions of social capital create the value of the intellectual capital of an organization. Bueno, (2002) and Bueno *et al.*, (2004) stressed that it must be noted that it should not be erroneously identified social capital with business capital or customer capital that derived from the relationships with agents such as customers, suppliers and competitors. Social Capital includes the set of relationship with the remaining social agents. Social capital is playing highly significant role in the development of intellectual capital in an organization (Cohen and Prusak, 2001; Bueno *et al.*, 2004; Hamzah and Matt Isa, 2010).

### Technological Capital

In a knowledge-based economy the role of technological capital is highly acknowledged. Fernandez et al (2000) argued that technological capital which includes knowledge related to access, use of innovation of production techniques and product technology. Bueno *et al.*, (2006) stated that technological capital is the set of intangible assets which is based on innovation and technical process. According to Ramírez, (2010), technological capital is an intangible asset and it derives from technical knowledge. In the same way, Ramezan (2011) stated that technological capital is a part of intellectual capital and is a combination of knowledge related to the development and technical system of an organization. It is based on the activities and functions both internal and external scope which are related to the development of products and services of the organization. Technological capabilities of organizations, particularly knowledge intensive organizations, are seemed as one of the basic foundations of their competitiveness (Afuah, 2002; Nicholls-Nixon and Woo, 2003; Zott, 2003; Wang *et al.*, 2004). Bueno *et al.*, (2006) stated that technological capital is based on the research & development and information technological knowledge. Garcí-a-Muiña and Pelechano-Barahona (2008) argued that the higher the technological knowledge of an organization, the greater the protection of intellectual capital against imitation. Therefore, on the basis of above mentioned literature, it can be concluded that technological capital is one the most important

component of intellectual capital, and it is based on information technology (IT), knowledge research development (R&D) and protection rights.

### Spiritual capital

Spiritual capital is a critical component of intellectual capital. Spiritual capital is a combination of power, influence, spirit and knowledge that can be gained through religion (Berger and Hefner, 2003). Fry (2003) stated that due to spiritual capital a leader can deploy spiritual resources in social context and they follow God’s will by following divine laws or values in their daily lives. Ismail (2005) introduced spiritual capital as an additional component of intellectual capital. In his study Ismail found that spiritual capital is playing very a important role to enhance the organizational performance of Telecom sector in Malaysia. According to Ismail (2005) spiritual capital is defined as “the intangible knowledge, faith and emotion embedded in the minds of individuals and in the heart of the organization which includes vision, direction, guidance, principles, values and culture”. In the same way, Liu (2008) argued that spiritual capital as the power and influence that are created by a person or organization with the help of spiritual and religious beliefs and knowledge. Spiritual capital has consistence and definite purpose for people such as looking for meanings of life (Howard, 2002). Spiritual capital consists of happiness, forgiveness, kindness, faith, integrity, empathy and honesty (Mitroff and Denton, 1999; Kriger and Seng, 2005). Consequently, on the basis of literature reviewed it can be concluded that spiritual capital is also an important component of intellectual capital, and it is playing significant contribution to the performance of organizations. It is mainly based on two dimensions such as religious and ethical values.

### Conclusion and Future Research Avenue

Intellectual capital is recognized as one of the most important assets for organization to gain competitive advantage. The concept of intellectual capita was firstly introduced in the West. A significant number of studies from West found that intellectual capital is the most important ingredient that it playing critical role to increase the organizational performance. However, the term intellectual capital of organization is still quite new for the Eastern countries, particularly the Asian Sub Continents. This paper hopes to be able to assistant the understanding the concept of intellectual capital in depth. Future research can apply this proposed integrated intellectual capital model in organization to examine the impact of intellectual capital on organizations.

### REFERENCE

- Afuah, A. 2002. Mapping Technological Capabilities into Product Markets and Competitive Advantage: The Case of Cholesterol Drugs. *Strategic Management Journal*, Vol. 23.
- Akhavan, P., R. Hosnavi and M.E. Sanjaghi, 2009. Identification of knowledge management critical success factors in Iranian academic research centers. *Educ. Bus. Soc. Contemporary Middle Eastern Issues*, 2: 276-288.
- Amiri, N.A., R. Majid and A. Omrani, 2010. Studying the Impacts of Organizational Organic Structure on Knowledge Productivity Effective Factors Case Study:

- Manufacturing Units in a Domestic Large Industrial Group. *Eur. J. Sci. Res.*, 40.
- Bagherzadeh, M., H. Rezazade and R. Hosnavi, 2010. Let's Learn Unlearning: How Top Managers Conceive and Implement Knowledge Active Forgetting. GRACO Research Center, Barcelona, Spain.
- Berger, P. L., and Hefner, R. W. 2003. *Spiritual capital in comparative perspective*. Paper presented at the Spiritual Capital Planning Meeting, 10–11 October, Cambridge, Massachusetts.
- Bontis, N. 1998. Intellectual Capital: An Exploratory Study that Develops Measures and Models. *Journal of Intellectual Capital*, Vol. 36 (2).
- Bontis, N., Chua Chong, K. and Richardson, S. 2000. Intellectual Capital and Business Performance in Malaysian Industries. *Journal of Intellectual Capital*, Vol. 1 (1).
- Bourdieu, Pierre, and Wacquant, Loic J. D. 1992. *An Invitation to Reflexive Sociology*,
- Brooking, A. (1996). *Intellectual capital. Core Asset for the Third Millennium Enterprise*. London: International Thomson Business Press.
- Bueno, E. 2002. Dirección estratégica basada en conocimiento: Teoría y práctica de la nueva perspectiva en Morcillo, P. (Coord.) Nuevas claves para la Dirección Estratégica de la Empresa. Ariel, Barcelona.
- Bueno, E., Salmador, M.P., Rodriguez, O., De Castro, G.M. 2006. Internal Logic of Intellectual Capital: A Biological Approach, *Journal of Intellectual Capital*, Vol. 7 (3).
- Bueno, Eduardo, Salmador, Mari' Paz and Rodri' guez, O' scar .2004. The Role of Social Capital in Today's Economy Empirical Evidence and Proposal of a New Model of Intellectual Capital. *Journal of Intellectual Capital*, 5(4).
- Chang, William and Hsieh Jasper 2011. Intellectual Capital and Value Creation-Is Innovation Capital a Missing Link?. *International Journal of Business and Management*, Vol. 6 (2).
- Cohen, D. and Prusak, L. 2001. *In Good Company: How Social Capital Makes Organizations Work*. Boston: Harvard Business School Press, MA.
- Cohen, S. and N. Kaimenakis 2007. Intellectual Capital and Corporate Performance in
- Drucker, P. F., 1985. *Innovation and Entrepreneurship*. New York: Harper and Row.
- Edvinsson, L. and Malone, M. 1997. *Intellectual Capital: Realizing Your Company's True Value by Finding Its Hidden Brain-power*. New York: Harper Collins, NY.
- Fernandez E., Montes J.M., Vazquez C.J. 2000. Typology and strategic analysis of intangible resources: A Resource-Based Approach, *Technovation* 20.
- Fitz-enz, J. 2000. *ROI of Human Capital: Measuring the Economic Value of Employees Performance*. New York: American Management Association.
- Foray, D. 2004. *Economics of Knowledge*, The MIT Press, Cambridge.
- Fry, L. W. 2003. Toward a theory of spiritual leadership. *The Leadership Quarterly*, 14, 693–727.
- Garcí-a-Muñ~a, Fernando E. and Pelechano-Barahona, Eva. 2008. The complexity of technological capital and legal protection mechanisms. *Journal of Intellectual Capital*, Vol. 9(1).
- Grant, R.M., 1991. A Resource Based Theory of Competitive Advantage: Implications for Strategy Formulation. *California Manage, J.*, 33.
- Hamzah, Noradiva and Mat Isa, Rosmah (2011). Intellectual and Social Capitals Development A Case in Malaysian's ICT Companies. *International Journal of business and Management*, Vol. 5(1).
- Hosnavi, R and Ramezan, M. 2011. Intellectual Capital and Organizational Organic Structure How are the Concept are Related?. *Trends in Applied Sciences Research* 6(3).
- Howard, S. 2002. A Spiritual Perspective on Learning in the Workplace. *Journal of Managerial Psychology*, 17,230–242.
- Isaac, Robert G., Herremans, Irene M., and Kline, Theresa J. 2010. Intellectual Capital Management Enablers: A Structural Equation Modeling Analysis. *Journal of Business Ethics*, 93.
- Ismail, Mazlan Bin 2005. *The Influence of Intellectual Capital on the Performance of Telekom Malaysia*. PhD Thesis, Universiti Teknologi Malaysia.
- Knowledge-Intensive SMES. *The Learning Organization*, 14(3), 241-262.
- Kozak, Mercin 2011. Strategic Approach to Intellectual Capital Development in Regions. *Int. J. Learning and Intellectual Capital*, Vol. 8 (1).
- Kruger, M. P., and Seng, Y. 2005. Leadership with Inner Meaning: A Contingency Theory of Leadership Based on the Worldviews of Five Religions. *The Leadership Quarterly*, 16, 771–806.
- Liu, A. 2008. Measuring Spiritual Capital as a Latent Variable. [Online] Available: <http://www.researchmethods.org/MeasuringSpCapital.pdf>
- Lönnqvist A. and Mettänen P. 2002. Criteria of Sound Intellectual Capital Measures. *Proceedings of the 2<sup>nd</sup> International Workshop on Performance Measurement, Hanover, June 6-7*.
- Mitroff, I. I., and Denton, E. A. 1999. *A spiritual audit of corporate America: A hard look at spirituality, religion, & values in the workplace*. San Francisco, CA: Jossey-Bass.
- Nahapiet, J., and Ghoshal, S. 1998. Social Capital, Intellectual Capital and the Organizational Advantage. *Academy of Management Review*, Vol. 23 (2).
- Ngah, Rohana and Ibrahim, Abdul Razak 2009. The Relationship of Intellectual Capital, Innovation and Organizational Performance: A Preliminary Study in Malaysian SMEs. *International Journal of Management Innovation Systems*, Vol. 1(1).
- Nicholls-Nixon, C.L. and Woo, C.Y. 2003. Technology Sourcing and Output of Established Firms in A Regime of Encompassing Technological Change", *Strategic Management Journal*, Vol. 24, pp. 651-66.
- Pablos, P. 2004. The Nature of Knowledge-Based Resources through the Design of Architecture of Human Resource Management Systems: Implications for Strategic Management. *International Journal of Technology Management*, Vol. 27 (6/7).
- Paldam, M., and Svendsen, G. T. 2000. An essay on social capital: looking for the fire behind the smoke. *European Journal of Political Economy*, Vol.16.
- Putnam, D. 1993. *Making Democracy Work. Civic Traditions in Modern Italy*. Princeton: Princeton University Press.

- Rami´rez, Yolanda 2010. Intellectual Capital Models in Spanish Public Sector. *Journal of Intellectual Capital*, Vol. 11(2).
- Roos, J., Roos, G., Dragonetti, N. and Edvinsson, L. 1997. *Intellectual Capital: Navigating in the New Business Landscape*. New York: New York University Press, NY.
- Shaari, Jamal Abdul Nassir, Khalique Muhammad and Isa Abu Hassan bin Md., 2010. Ranking of Public and Domestic Private Sector Commercial Banks in Pakistan on the Basis of the Intellectual Capital Performance. *Proceedings of International Borneo Business Conference (BBC2010)*, Vol.1.
- Shih, Kuang-Hsun , Chang Chia-Jung , Lin Binshan 2010. Assessing Knowledge Creation and Intellectual Capital in Banking Industry, *Journal of Intellectual Capital*, Vol. 11(1).
- Stewart, T.A. 1997. *Intellectual Capital: The New Wealth of Organizations*. New York: Bantam Doubleday Dell Publishing Group, NY.
- Sveiby, K.E. 1997. *The New Organizational Wealth: Managing and Measuring Knowledge-Based Assets*. San Francisco: Berrett-Koehler Publishers, CA.
- Wang, W. and Chang, C. 2005. Intellectual Capital and Performance in Causal Models: Evidence from the Information Technology Industry in Taiwan. *Journal of Intellectual Capital*, Vol. 6 (2).
- Wang, Y., Lo, H.-P. and Yang, Y. 2004. The Constituents of Core Competencies and Firm Performance: Evidence from High-Technology Firms in China. *Journal of Engineering and Technology Management*, Vol. 21.
- Wu, Wann-Yin and Tsai, Hsin-Ju 2005. Impact of Social Capital and Business Operation Mode on Intellectual Capital and Knowledge Management. *Int. J. Technology Management*, Vol. 30(1/2).
- Yazdani, Bar-al-Din Oure'I and Yaghoubi, Nour-Mohammad 2011. The Relationship between Social Capital and Organizational Justice. *European Journal of Economics, Finance and Administrative Sciences*, Issue 30.
- Zott, C. 2003. Dynamic Capabilities and the Emergence of Intra-Industry Differential Firm Performance: Insights from a Simulation Study. *Strategic Management Journal*, Vol. 24.

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