# Intellectual Capital In Learning Organizations

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***"An Educational Institution is the edifice - constructing inputs and outputs, which are of the same essence."***
***--- Unknown***

## INTRODUCTION

The composition of firms that was 25 years back is not today, and may not be the same in the years to come, because the business and trade world has a transience and fluid kind of streak. Things have changed their pattern from labour intensive and capital intensive to knowledge intensive[1]. When the concept of Intellectual Capital came into light, stress was mainly given to the industrial or the service sector.

Researchers and academicians both have been working on identification, measurement and the management aspect of Intellectual Capital. Not only the industrial sector, but also the non-industrial sector is based on intellectual capital. Universities or other educational institutions are a great example of this and are completely knowledge-intensive organizations. Their main task is generation, sharing and transfer of knowledge (Nazem, 2011).

Higher education system is one of the most important and complicated products of human achievement. In addition, universities are social systems, which have been known as the center of knowledge and information, as well as the thinking bases for leading societies. Academics and professionals alike are devoting attention to best practices and are trying to develop theories to explain how intangibles are affected by actions and are transmitted to performance. The amount of literature on intangibles and intellectual capital has multiplied by five over the last decade (Sánchez and Basilio, 2008). As stated by Cañibanom and Sanchez (2008), the interest in the Intellectual Capital issue is now being transferred to public institutions, such as Universities and Research Centres. Initiatives to encourage these organizations to manage and report on their intangibles are growing and the differing experiences are being studied to see what the advantages and shortcomings are of the exercise. Attention to this type of institution in the intellectual capital or knowledge management literature was an exception ten years ago, but is now a much more common issue. Universities and research organizations are producing knowledge; their funds are mainly invested in research, innovation and human resources. Therefore, both their most valuable assets are most often intangible by nature, as are their outputs (Cañibanom and Sanchez, 2008).

The fundamental competencies of a generic university are: teaching, learning and research. All of these are knowledge dynamics processes. Moreover, a university may have activities of technology transfer and consulting for the external business environment, which also means knowledge processes.

As said by Constantin (2009), *"as the competition among universities grows tougher and tougher, focusing both on luring valuable students and professoriate is required. They should, as well, manage their communications sector as transparently as they can, for the public to know what they should be praised for."*

In addition to this, as said by Lietner (2002), a university's most valuable resources are the researchers and students with their relations and organizational routines. These resources can be interpreted as intangible assets, even though the term has so far not been used within the context of universities (Guthrie, 2003) . Universities, as creators of knowledge, have a key role in the new *'knowledge era'*. In another study (OECD, 2000) in context of intellectual

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[1]Knowledge intensive means whose main task is based on the intellectual capital (human, structural and relational capital).

capital, the pro-active management of IP is becoming an increasingly important consideration for nations and their agencies, including universities, in maintaining the capabilities of the nation state to achieve an effective transformation into a networked, collaborative, knowledge-based society.

Leif Edvinsson, formally of Skandia and now with Knexa Enterprises, presented a challenging view of the future of university education at the 4th World Congress on Intellectual Capital, 2001 (Hamilton, Ontario, and Bontis, 2001). He envisaged the business of higher education as wealth creation via the generation of knowledge, and that the management of such institutions is a business. Edvinsson lamented the inability of University Deans in managing their business to keep pace with the innovation and flexibility evident in industry and technology. While the time, expense and effort afforded to acquire almost any product has brought benefits to the consumer over the past 40 years, similar savings,efficiencies, and flexibility is not evident in the acquisition of university degrees.

## INTELLECTUAL CAPITAL - CONCEPT

Intellectual capital basically in simple terms is defined as the difference between book value and market value of a firm. It mainly comprises of Human capital, Structural capital and Relational capital. Human Capital means all the skill, knowledge, experience and satisfaction of the employees. Structural Capital means intellectual property rights, softwares, processes, and work culture. Relational Capital means the relationship with the customer, suppliers, alliances, etc. In Fortune, Steward (1991) defines intellectual capital as *"knowledge that transfers raw materials and makes them more valuable."*

## HUMAN CAPITAL

Human capital represents the individual knowledge stock of an organization as represented by its employees (Bontis, Keow and Richardson, 2000). It comprises of the competence, skills and intellectual agility of the individual employees (Roos, Bainbridge and Jacobsen, 2001), and it cannot be owned by the company (Bontis, 2001). It is considered to be the most important intellectual asset, as it is the source of innovation and renewal (Stewart, 1997).

## STRUCTURAL CAPITAL

Firms, in order to share and transport the knowledge, need structural assets, such as information systems, laboratories, competitive and market intelligence and management focus (Stewart, 1997). Structural capital is *"everything that gets left behind at the office when employees go home"* (Bontis, 2001). In contrast to human capital, structural capital belongs to the organization as a whole, and it can be reproduced and shared (Stewart, 1997).

Structural capital is a critical link that allows intellectual capital to be measured at the organizational level of analysis

**Table 1 : Intellectual Capital In Universities Or Educational Institutions – A Bifurcation**

| HUMAN CAPITAL | STRUCTURAL CAPITAL | RELATIONAL CAPITAL |
|---|---|---|
| Teaching Skill | Intellectual Property Rights (Copyrights, Patents) | Faculty Members |
| Years of Experience | E-Resources | Students |
| Knowledge | Softwares (SPSS, Prowess, Capitaline etc) | Alliances |
| Satisfaction Level | Work Culture | Government |
| Competencies | Methodology/Process | Regulatory Body/ies |
| No. of visiting Fellows from other Universities | Value system | Non-Teaching Staff |
| Research Skill | Database | Parents |
| Teaching Potential | Information System | Management Bodies |
| Publication | Organizational autonomy | Industries |
| Qualification | | Placement agency |
| | | Suppliers |
| | | Image/Brand |

Source : Authors'

(Bontis, Keow, Richardson, 2000).

## RELATIONAL CAPITAL

Relational capital of the firm is *"the value of its franchise, its ongoing relationships with people or organizations to which it sells"* (Stewart, 1997). The main content of relational capital is the knowledge of marketing channels and customer relationships (Bontis, 1998). Relational capital is more often measured and counted than human and structural capital. The ultimate form of relational capital is shared knowledge (Stewart, 1997).

In the above, bifurcation of the intellectual capital of an academic institution deciphers that intellectual capital of an academic institution differs from any other kind of organization because here, all tasks are kindred with imparting education or learning process. Here, input and output - both are same.

## RATIONALE OF INTELLECTUAL CAPITAL FOR A LEARNING ORGANIZATION

*"Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the mind of the knower. In organizations, it often becomes embedded not only in documents or repositories, but also in organizational routines, processes, practices, and norms."* (Davenport & Prusak, 2000: p. 5).

According to Martínez-Torres (2006), *"It is important for a learning organization to identify its Intellectual Capital, as it is a key factor to generate future value for the organization."* Similarly, Leitner (2004) stated that, *"Obviously, the most valuable resources of universities are their researchers and students, with their relationship networks as well as their organizational routines. These resources can be interpreted as intangible assets or intellectual capital, even though the term has so far not been used within the context of universities."* [2]

The development of academic research capacities carries within itself, the seeds of future economic and social development in the form of human capital, tacit knowledge and intellectual property. Channelling knowledge flows into new sources of technological innovation has become an academic task, changing the structure and function of the university. Realization of the benefits of this potential resource occurs through organizational innovations such as technology transfer offices, incubator facilities, and research centres with industrial participation. The change in emphasis, from sole concentration on the production and dissemination of knowledge to technology transfer and the formation of firms, places the university in a new alignment with the productive sector (Etzkowitz and Leydesdorff, 1997 : p. 1). Barrett (2001) rightly indicates the unpalatable fact that: *"many public sectors do not know what they own in the form of intangible assets, such as intellectual property"*, and also the IC and the University sector can also be included in this statement (Cañibanom and Sanchez, 2008). The competition between universities and research organizations will increase in the future, and they will have to position themselves strategically, raise new financial resources, and find new ways of accounting for their investments and expenditures. In fact, the different stakeholders of these diverse organizations, not only funding agencies but also the industry and society, are already demanding greater transparency for the efficient use, both of funds and of the generated outputs.

The European Commission states very clearly (2003; p.13) that *"universities have a duty to their stakeholders (students, public authorities funding universities, labour market, society as a whole) to maximize the social return of the investment."*

The two traditional *"duties"* of Universities (teaching and research) are now reinforced with a third one: to serve society as a whole and to be in step with the surrounding area. The *"Third mission"* of the universities *"includes the relationships between the university and its non-academic partners: industry, public authorities and the general public. Some of these relationships have clear economic consequences and are referred to as "knowledge transfer."* Someothers, however, are of a more social nature, and show their territorial embedding. Thus, university researchers may be involved in social activities that increase the public understanding of science, which may have a strong long-term impact in research efforts, and they may also be involved in policy formulation. Although, in the last decade, knowledge management and intellectual capital mainly appeared in the context of private companies, there is an

[2] Kok, A. (2007). "Intellectual Capital Management as Part of Knowledge Management Initiatives at Institutions of Higher Learning". *The Electronic Journal of Knowledge Management*, Volume 5, Issue 2, pp. 181 - 192 , available online at www.ejkm.com

increased interest for public organizations, such as universities and research centers. This is mainly due to the fact that universities have as main goals, the production and the dissemination of knowledge (Sanchez et al., 2006).

## WHY INTELLECTUAL CAPITAL NEEDS TO BE MEASURED?

**1.** The transparency of public institutions should be increased. In a knowledge-based society, citizens demand constant and comprehensive access to the information when public funds are allocated.

**2.** The press ranking lists of universities need to be compared with other benchmarking methodologies, which aim at *'measuring'* rather than *'ranking'* educational institutions, leaving the final decision on which university is *'better'* to the reader. Universities should acquire and apply new methods of learning. The transfer of good practices could be increased if universities obtained access to the information on their IC. As Karl-Erik Sveiby (2000) put it: *"so entrenched are the traditional measuring paradigms, that executives have not even started to explore the most interesting reason for measuring intangibles; the learning motive [...]. The learning motive promises the highest long-term benefits."*

**3.** The strengthening of the links between universities and industry cannot be possible without introducing a common language. This *'common ground'* would enable academics and business practitioners to develop mutually beneficial relationships. Words enable deeds.

**4.** The measurement of IC in universities will bring the *'ivory-tower philosophy'* of the present researchers closer to the requirements of the public and industry. With a clearly defined set of indicators and reporting methodologies in place, it will be more difficult to conceal the low performance of researchers behind the verbosity of general, content-poor, unstructured statements. The introduction of a common language derived from IC measurement methodologies can also be conducive to the creation of the European Research Area (ERA). The process of building international research consortia may be speeded up if potential partners obtain the full insight into their IC statements.

## MANAGEMENT OF INTELLECTUAL CAPITAL

A learning organization premise is made up of intellectual capital. And every learning organization performance, directly or indirectly, depends upon on the proper channelization of that intellectual capital. So, it is necessary to have a proper management to channelize that premise. Management of intellectual capital depends upon the value system, organizational structure, and culture. One important aspect which we cannot neglect while managing intellectual capital of any learning organization is that there is no separate department (Human Resource Management) like in other kinds of organizations. This task becomes more difficult when it comes to the public sector, where it is difficult to determine drivers of intellectual capital. Such situation is not with all private sectors owned learning organizations. In learning organizations, the following expenditures are made on intellectual capital:

- Expenditure in compensating staff;
- Expenditure on developing skills of staff e.g. refresher courses, faculty development programmes, training, workshops etc.;
- Expenditure on research activities;
- Expenditure in buying softwares and other e-resources;
- Expenditure in making relationship capital by conducting conferences, seminars, workshops etc.;
- Expenditure on research projects.

Learning organizations spend huge amount on these for building their intellectual capital so as to reach at the apex in the industry. Output of expenditure depends upon performance of students, efficiency of teaching and non-teaching staff, researchers , no. of Ph. D's and M. Phil's awarded, no. of patents and copyrights, no. of new admissions, no. of new courses, no. of publications, no. of alliances, cordiality of working environment, organization culture, no. of grants, no. of staff turnover, and last but not the least , the grades of assessment bodies.

In order to manage the intellectual capital, a university or institution should keep a proper check on the deviations of assumed and actual results, set prior standard in relation to the expected performance from the part of the teachers, researchers, and students. With the help of these, organizations could manage their intellectual capital and could attain

their dream of attaining heights and maintaining that too.

In a study, Bontis (1998) presented the Model from the University of Western Ontario, in which organizational culture is a fundamental element in forming the structural asset. He believed that organizations should have the culture which is strong enough for the individuals to be able to gain new experience, failure, and learn again something new; the culture that punishes the staff for their malfunctions will have the least success. Flamholtz (2002) considered culture as the major factor in the development of an organization and the cornerstone of the long-run goals of a successful company. According to Leal (1991) , the identification and management of the intellectual capital leads to a sense of cohesion in the organizational culture, thus responding to the collegiality paradigm. On the other hand, the benchmarking and scorecarding opportunities that the intellectual capital measurement offers (Martins Rodriquez and Viedma Martí, 2006; Kaplan and Norton, 1996, 2001) contribute to rendering the university more accountable.

## CONCLUDING REMARKS

The Education industry is the industry which runs on the virtue of intellectual capital. Intellectual capital is the main driver behind the performance of any university and institution. The stakeholders in the education industry are very much interested in having intellectual capital reporting, because here, the main value enhancer is the intellectual capital. It is argued that in light of the theoretical and empirical evidence, there is an intellectual capital information gap in universities. There is a critical lack of information on the use of intellectual capital in entire universities and departments. Universities need intellectual capital information to assist them in their strategic planning and evaluation to ensure that they are competitive. University-industry-government relationships become more dynamic and interdependent, contributing to the creation of hybrid organizations, alliances between universities and firms, trilateral networks, etc. Universities now interact with a variety of other knowledge producers (Gibbons, 1998, p. 1). However, learning organizations still don't know which variables work as value enhancers in their organization. Learning organizations need to work on the identification and management of intellectual capital.

*"The paradox may be formulated as follows: although a university is an organization based on learning processes, it is not necessary a learning organization. It can become a learning organization if and only if there is at least a strong integrator to assure the transition from individual learning to team and organizational learning."* (Bratianu, 2007a: p. 375). Universities should develop their intellectual capital and transform it into a competitive advantage. Intellectual capital has three main components: human capital, structural capital and relationship capital (Stewart, 1997; Sveiby, 2001). Still, according to Hanna (1989), universities have to maintain both - an internal and an external image. At last, it is not wrong to say that learning organizations (universities and institutions) have to work on the identification, measurement and management of intellectual capital to enhance the market value of their respective organizations. Management of intellectual capital cannot be possible without proper measurement of the same, so due consideration must be given to the measurement of intellectual capital by applying the appropriate method, i.e., market to book value methods, intellectual capital indicator method, etc.

## REFERENCES


1) Barrett, P. (2001). *"Managing and Accounting for Intellectual Property in the Public Sector"*. Auditor-General for Australia, address to Australian Government Solicitor Seminar, Identify, Protect and Defend your Intellectual Property Assets, 24 July 2001, Canberra.

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

3) Bontis, N. (2001). "Thought Leadership on Intellectual Capital" . *Journal of Intellectual Capital*, Vol. 2, No. 3, pp. 183-191.

4) Cañibanom L, M. and Sanchez, P. (2008). "Intellectual Capital Management and Reporting in Universities and Research Institutions". *Estudios de Economía Aplicada*, Vol. 26, No. 2, pp. 7-26.

5) Constantin, B. (2009). "The Intellectual Capital of Universities", Retrieved on April 25, 2011 from http://steconomice.uoradea.ro/anale/volume/2009/v1-international-relations-and-european-integration/07.pdf

6) Etzkowitz, H. and Leydesdorff, L. (1997). "Introduction: Universities in the global knowledge economy". In: H. Etzkowitz, and L. Leydesdorff. (Eds), *'Universities And The Global Knowledge Economy: A Triple Helix Of University-industry- Government Relations'*, London: Pinter, pp. 1-8.

7) Fazlagic, A. (2010). *"Measuring the Intellectual Capital of a University"*, at a conference on Trends in Management of Human Resource in Higher Education, retrieved on April 21, 2011 from www.oecd.org/dataoecd/56/16/35322785.pdf

8) Flamholtz, E. (2002). "La Cultura Empresarial Y La Cuenta De Resultados". *Harvard Deusto Business Review*, August, pp. 62-69.

9) Jones, N., Meadow, C., and Sicilia, M. (2009). "Measuring Intellectual Capital in Higher Education". In Proceedings of *Journal of Information Knowledge Management*, pp. 113-136. www.mbs.maine.edu/.../63_Jones_Meadow_Sicilia_IC_Measurement_Final accessed on April 25, 2011.

10) Kaplan, R. and Norton, D. (1996). "Using the balanced scorecard as a strategic management system". *Harvard Business Review* on Measuring Corporate Performance, pp. 183-211, HBS Press, Boston.

11) Kaplan, R. and Norton, D. (2001). *"The Strategy Focused Organization"*. HBS Press, Boston.

12) Hanna, D.E. (1989). "Planning programs to enhance institutional image", in Simerly, R.E. (ed.) *'Handbook of Marketing Continuing Education'*, Hossey Bass, San Francisco, pp. 89-102.

13) Leal, A. (1991). *"Cultura organizativa y orientación al Mercado: un análisis multisectorial en pymes"*. paper presented at XIV Congreso Acede, Murcia.

14) Leitner, K-H. (2002). *"Intellectual Capital Reporting for Universities: Conceptual Background and Application withinthe organisation of Austrian Universities"*, Conference Proceedings "The Transparent Enterprise : The Value of Intangibles," Autonomous University of Madrid, Ministry of Economy, Madrid, Spain.

15) Leitner, K-H. (2004). 'Valuation Of Intangibles: Intellectual Capital Reporting For Universities: Conceptual Background And Application For Austrian Universities'. *Research Evaluation*, Vol. 13, No. 2, pp. 129-140.

16) Martins Rodriquez, B. and Viedma Martí, J.M. (2006). "The Region's Intellectual Capital Benchmarking System: Enabling Economic Growth Through Evaluation". *Journal of Knowledge Management*, pp. 41-54.

17) Martínez-Torres, M.R. (2006). "A Procedure To Design A Structural And Measurement Model Of Intellectual Capital: An Exploratory Study". *Information & Management*, Vol. 43, pp. 617-626.

18) Nazen, F. (2011) . *"The Structural Model of Intellectual Capital in Higher Education Institutions"*. Proceedings of the 3rd European Conference on Intellectual Capital (ECIC 2011).

19) OECD (2000). *"Research Management at the Institutional Level"*. Report of Expert Meeting of the IMHE, Paris, June 8-9, 2000.

20) Sánchez, M. P. and Basilio, O. (2008). *"Intellectual Capital and Innovation. A literature review for policy purposes"*. Paper presented to the International Forum on Knowledge Asset Dynamics, Matera, Italy, pp. 26-27, June.

21) Sanchez M.P., Elena S., Castrillo R., (2006) . 'Intellectual Capital Management and Reporting for Universities: Usefulness, Comparability and Diffusion', (extended abstract). Retrieved on April 12, 2010, from www.ticinoricerca.ch/conference/abstracts/sanchez_abstract.pdf.

22) Stewart, T.A. (1997). *"Intellectual Capital: The New Wealth of Organizations"*. Doubleday/Currency, New York, NY.

23) Sveiby, K.E. (1997). *"The New Organizational Wealth: Managing and Measuring Knowledge-Based Assets"*. Berrett-Koehler, San Francisco, CA.

24) Sveiby, K-E. (2001). "Intellectual capital and knowledge management", [online], http://www.sveiby.com/articles/IntellectualCapital.html accessed on April 21, 2011.

25) Wilkinson, B. L. (2009). *"Clinical Faculty's Activities and outputs: An Intellectual Capital Concept Map"*. A Thesis for Master of Information Studies, Graduate Faculty of Information, University of Toronto.