Intellectual Capital and Knowledge Management:
Two Sides of the Same Coin

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This article begins its discussion by what is knowledge and knowledge management. It then finds common ground between knowledge management and intellectual capital. The discussion then extends to what is capital and intellectual capital. In that background the article describe intellectual assets and intellectual liabilities. The author wrap the discussion asking the question, "is knowledge management and intellectual capital- two sides of the same coin?

Definition of knowledge

There are several definitions to knowledge. The follcwing are two definitions:

- "There are many sorts of knowledge, but only one, the knowledge is something is true, will be our concern",
- "We have defined 'know' in terms of 'evident'. And we have defined 'evident' in terms of 'more reasonable' ".

Philosophers have come up with many examples to support and refute definitions of knowledge. However, it has not resulted in a completely correct definition. In deriving a definition of knowledge, they have brought out a number of important qualities of beliefs. We want beliefs to have all of the following qualities. These qualities can be classified as internal and external qualities. Internal qualities are; truth, reliability, fact-tracking, usability by others. External qualities are; justification, coherence, reasonability, not undermined by others' beliefs.

Definition of Knowledge Management

The recent literature in knowledge management defines knowledge in a more operational fashion. Following are few of them:

- "Truths, perspectives, judgements, and methodologies that are available to handle specific situations. Knowledge is used to interpret information about a particular circumstance or case to handle the situation. Knowledge is about what the facts and information means in the context of situation" "Knowledge is a capacity to act",
- "Knowledge is information combined with experience, context, interpretation and reflection",
- "Knowledge is information laden with experience, truth, judgement, intuition, and values; a unique combination that allows individuals and organizations to assess new situations and manage change",
- "From the perspective of information theory, knowledge is something that can be captured, packaged, and exploited".

The definitions seem to fall into two broad categories. One as knowledge arising due to the process of knowing (the Polyanists) and derive a definition from philosophy, psychology or sociology. The other as knowledge arising due to superior level of information in a value chain (the Davenportists) deriving a definition from the information theory. However, because of the nature of knowledge, it is unlikely a formal definition will be reached.

Interface between Knowledge Management and Intellectual Capital

Knowledge management (KM) is more detailed and focus on facilitating and managing knowledge relate to activities such as creation, capture, transformation and its use. Its function is to plan, implement, operate and monitor those activities for effective intellectual capital management. On the other hand, intellectual capital management (ICM) is to maximize and renew intellectual assets value to the organization. A more recent view is that knowledge management is about managing intellectual capital controlled by a company. Knowledge management manages the object called intellectual capital.

For a balanced and competitive organization, KM and ICM should be combined with other management considerations since they cannot be managed in isolation. It is also important to integrate KM and ICM to monitor progress, prioritize, and motivate employees to implement and use new capabilities at work. The managers should evaluate which KM activities are important to obtain desired intellectual capital outcomes.

There is limited literature that addresses the issue of interface between knowledge and intellectual capital. One explanation of intellectual capital is that intellectual material (knowledge) is acted upon to transform into something that has value to be used in the organization. The knowledge is the basis for potential conversion into intellectual capital.

The greatest benefit of managing intellectual capital is to manage the value of the firm more accurately. In 1997, Roos and Roos carried out a large study of medium and small firms in Scandinavia land identified three requirements to develop an intellectual capital system.

(i) the firm must be mature enough to go beyond evaluating performance in financial terms. Loss making firms were far more involved in short term financial performance had a difficulty in focusing on intellectual capital issues
(ii) firm has a clearly defined idea or direction to identify and measure intellectual capital that has long-term earning capability to the organisation. That measure is aligned with the vision, mission and objectives of the firm
(iii) an operational commitment supported by top management . Intellectual capital performance system should become part of the culture (language) and

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should align with existing managerial processes of the organisation so that the system itself becomes a valuable part of intellectual capital of the firm

In 1996, Brooking and Motta suggested a four-step process for intellectual capital management.

(i) intellectual capital (IC) audit is the first step to understand nature and content of intellectual capital in the firm. It identifies the categories of assets, domain, goals and threats
(ii) building an IC repository, which is a special type of database
(iii) design an automatic valuation scheme to value IC items based on what IC is important to the firm
(iv) design a policy to grow and maintain IC so that IC resources are in place to achieve organisational goals when needed.

An organization can manage knowledge and ignore managing intellectual capital but the vice versa is unlikely. The management of intellectual capital allows many organizations to do 2 things; (i) to exploit and leverage valuable knowledge, and (ii) to measure and report on its output. Therefore, intellectual capital management (ICM) can be used as a tool for continuous improvement and innovation and to instill such values in the organization.

The difference between knowledge management and intellectual capital seems to be unclear at times. Establishing some boundaries are important since the term has been used in an all-encompassing fashion.

Definition of Capital

An early definition of capital is "the future income discounted or capitalized". Most of the previous research related to intellectual capital focused on human capital as additional factor of economic resource. Economists accept that labor is a factor of production different from others although democracies expressly prohibit marketing in humans as slaves. It is part of productive capital like raw material and implements for production. The recognition of skill and ability of human beings as a component of capital is very common in all countries. There are attempts to distinguish between cultural capital and economic capital.

Definition of Intellectual Capital

A review of literature shows that there is some diversity in the definition on intellectual capital from a strategic view.

- It is the "knowledge that can be converted into value"
- It is "human capital + structural capital"
- It is "possession of knowledge, applied experience, organizational technology, customer relationships and professional skills that provide the organization with a competitive edge in the market" (as defined at AFS Skandia)
- It is the "intellectual material-knowledge, information, intellectual property, experience-that can be used to create wealth"
- "The difference between the book value of the company and the amount of money someone is prepared to pay for it"
- "Intellectual capital is made up of human capital and knowledge capital". "Human capital is individual talents and knowledge acquired through education, training, experience, and cognition. Knowledge capital is the documented knowledge stored outside the human minds of their authors"
- It is "equal to "competence X commitment"
- "Their knowledge, experience, expertise, and associated soft assets, rather than physical and financial capital-that increasingly determines their competitive position"
- It is "the sum of company's intangible assets"
- "intellectual material that has been formalized, captured and leveraged to produce a higher valued asset"
- Intellectual capital is synonymous with knowledge capital, or non-financial assets or immaterial assets or hidden assets.

The diversity of definitions reveals that intellectual capital is difficult to define although it existed in companies ever since companies used knowledge and innovation for corporate growth.

Intellectual capital cannot be measured easily since knowledge is a component in the collection of human and structural assets and also because it is about relationships among people, ideas and knowledge. Intellectual capital is about maximizing value relationships and neither a thing nor an objective. It is a renewing and renewable source and should be developed in a context. At the end it is about turning knowledge into products and services so that third party will pay for what they get. Although intellectual capital focuses on future value creation, firms should not neglect the focus on the present because it is the present activities that enable the firm to get to the future.

Several theories, models and methods have been presented to understand and measure intellectual capital suggesting that there is no generally accepted theory of intellectual. However, the definitions tend to agree that intellectual capital is a bundle of organized and focused knowledge that can be used for some productive purpose. It can be described as a stock resulting from the outcome of processes at a given point in time. Therefore, to better manage and measure intellectual capital, it is important to measure the flow. This implies a thorough understanding of the processes that leads to the stock of intellectual capital as an output. The management of flow reveals the interactions between intellectual items and financial capital, and transformation of one intellectual category to another.

What are Intellectual Assets?

There is ambiguity as to what constitutes intellectual assets. Some authors refer to intellectual capital as all intangible assets in the organization. Some others note that intellectual capital is intangible assets not recognized in the financial statements. This research study adopts the view that intellectual capital refers to those assets and liabilities not recognised by the financial statements under the current accounting system.

Intellectual items were first identified as intellectual assets. The use of the term intellectual assets was abandoned when in 1996 Skandia used the term intellectual capital.

A definition offered for intellectual assets is 'they are codified, tangible, physical descriptions of specific knowledge to which the company can assert ownership rights and that they can readily trade in disembodied form'. It seems that this definition points to the knowledge that is codified.

Another definition is "knowledge or legal instruments (patents, trademarks, copyrights, and trade secrets) that have value or potential for value".

Intellectual Assets receiving legal protection are called intellectual property and in USA they are patents, copyrights, trade secrets, trademarks and semiconductor masks. Regardless of whether they are legally protected or not, intellectual assets can be classified into three classes. They are commercializable assets (products, processes, services), customer-related assets (relationships, agreements, history), and structure related assets (plans, procedures and processes).

An accounting based definition provided by the Society of Management Accountants (SMAC) of Canada on intellectual assets is "In balance sheet terms, intellectual assets are those knowledge-based items, which the company owns which will produce a future stream of benefits for the company".

The SMAC definition however conflicts with the assets definition of the International Accounting Standards Committee (IASC) framework and the Australian conceptual framework because the latter two require 'control' and not 'ownership' in meeting with the definition of an asset.

There are also intellectual liabilities that impact a firm. The intangible liabilities can be classified into four issues. These internal intellectual liabilities were found to decrease the stock value of the firm.

(i) The process issues; comprise weak strategic planning processes, inadequate R&D, antiquated manufacturing processes, and poor new product development processes.
(ii) The human issues; comprise high employee turnover, discrimination among employees, inadequate training and development, and inexperienced top management team.
(iii) The information issues; comprise lack of adequate information infrastructure and lack of analysis to turn data into information.
(iv) Configuration issues; comprise lack of flexibility in organizational structure, lack of intellectual property, inadequate geographic location of plants and warehouses.

What are Intellectual Liabilities?

There can be elements that exist outside and has an influence on the organization such as poor government policies, foreign markets and media. Similar liabilities are reported in corporate social reporting in relation to environment. For example, firms pollution performance was negatively related to the market valuation suggesting the existence of environmental liabilities not accounted in the financial statements.

The measurement of intellectual capital is important since most of the senior executives in organizations manage what is been measured and the organization becomes what it measures over time.

Conclusion

Managing knowledge is a process. This process leads to objects called Intellectual Capital. If they are managed well they lead to intellectual assets and if managed badly can lead to intellectual liabilities. Therefore, from one perspective they are not because one is process and the other is an object that results due to the process. From another perspective, they are two sides of the same coin because they exist together, interactive and interdependent.