



## How to Measure the Intellectual Capital (IC) of an Organization or Financial Institutions?

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### ABSTRACT

*In Knowledge-based economy, intellectual capital is used to create and increase the organizational value, and the success of an organization depends on its ability to manage this scarce source.*

*In addition, one of the most important organizational capabilities that helps organizations to create and share knowledge and to help them much to make "sustainable organizational advantage" in comparison with other organizations, is social capital. Therefore, the purpose of this article is how to measure the intellectual capital in an organization and the role of social capital in the creation of intellectual capital in organizations.*

*The research method was descriptive and analytical and the results of this study showed that there is a significant positive relationship between the organizations intellectual capital and social capital. In other words, by increasing social capital, intellectual capital in organizations increases in human, structural and relationship dimensions.*

**Key words:** Intellectual Capital (IC), Financial Institutions

### INTRODUCTION

Twenty-first century is described by developing the importance of knowledge and its effect on all aspects of an organization [1]. Today, knowledge is the key source of economy and the only source of competitive advantage. [2].

Knowledge as an asset compared with other types of assets, enjoys the unique nature that more it is used more valuable it becomes.

Implementing an effective knowledge management strategy [2] and becoming a knowledge-based organization as a prerequisite for the success of organizations happens under the conditions that they enter the historical period of knowledge-based economy. Knowledge management systems should be able to show their value and importance.

Historically, in the science of accounting, intangible assets were usually considered as "Goodwill", and the intellectual capital was a part of this classifications. Such as doctors fees or authors copyright. Today we can see Intellectual capital in new classifications, such as: external capital, internal capital and human capital.

However, traditional accounting has not developed a separate method to identify and measure these intangible assets in organizations; it is trying to mix the financial and non financial benefits of an organization to report.

**Definitions of Intellectual Capital**

Provide a precise definition of intangible assets and intellectual capital is difficult. So, the definition presented in the accounting literature, is wide and varied and each of these definitions emphasizes on different features of the intellectual capital..

Consists of two parts of the economic value of intangible assets of an organization, human capital and organizational capital. Intellectual capital includes human capital, social capital and organizational capital [3].

In fact intellectual capital Institutionalizes in both individuals and systems. Human capital (including skills, knowledge and abilities of individuals), social capital (including valuable connections between individuals) and organizational capital (including processes and organization), make up intellectual capital. To promote human capital it is necessary to consider its supplements.

If the organization is seeking competitive advantage, collecting human, social, and organizational capital is essential.

#### Organizational Capital

Organizational capital's main role is to connect resources with processes that will create value for customers and maintain competitive advantage of the companies. Organizational capital includes:

- Organizational structure and reporting
- Operating systems, processes, procedures and job classification schemes
- Communicational infrastructure and information
- Gaining, developing, and resource allocation systems
- Decision making processes and information flow,
- Incentive, controlling, and performance evaluation systems , and
- Organizational culture, organizational values and leadership.

Interaction between these dimensions is more important than organizational capital.

In the form of organizational structure, the degree of skill and motivation of staff directly affects the type of work to be done and how to finish it. Organizational structures and processes that support organizational goals should be diverse and without making restrictions between individuals and groups.

#### Social Capital

The concept of social capital points to the existence of good relations between the members of a network (organization) as a valuable source that creates norms and mutual trust, and helps members to achieve their goals. Social capital increases efficiency of actions and improves collaboration between members.

The social capital of organization and friendly social relations between the staff, makes the human and intellectual capital develop. At the individual level, people who have better social relationships and establish stronger relationships with the networks, earn a higher rate of revenue of human capital.

#### Components of Intellectual Capital

In the most accepted classification scheme, intellectual capital is divided to three components of human capital, structural capital, and customer capital. Human capital is the base of intellectual capital and basic element in the implementation of its tasks.

#### Human Capital

This capital can be considered as innovation generator, whether the innovation is related to product or service or to improving business processes. Human capital includes knowledge, ability and human capability to solve organizations problems.

Human capital is an inevitable integral component of employees and can not be owned by the organization. Thus, it disappears when employees leave the organization [5].

#### Structural Capital

It is about the Mechanism and structure of the business unit and can improve employee performance and thus the organization will be able to function better.

The structural capital is referred to anything that exists in the organization and supports employees (human capital) on their jobs. This type of capital as the supporting infrastructure enables human capital to do its tasks.

Structural capital is owned by the organization and it remains in the organization even when employees leave the organization. Due to having various structural components of structural capital, it usually is divided to organizational capital, and innovative processes [5].

#### Organizational Capital

Includes systems for refreshment and to leverage the capabilities of the organization. Organizational capital is a process containing techniques, procedures and programs for doing and improving carrying goods and services. Also innovative capital contains intellectual properties and intangible properties.

Intellectual properties are protected rights, such as copyright and trademarks. Intangible assets are other talents that thereby the organization makes up [5].

Clients investment operates as a bridge and organizes intellectual capital. ii seems as a decisive factor in turning intellectual capital into the market value. The capital includes the strength and loyalty of trades and customer relations.

Customer satisfaction, financial health and costs sensitivity may be used as the indicators of this type of capital. The separation of structural and human capital from the client capital shows its major importance in the organizations value[5].

How to Manage the Intellectual Capital of an Organization?

Management Accounting Guidelines (MAG), published by American Institute of Certified Public Accountants (AICPA), provides simple practical tools and techniques that help the managers and accountants to gain the necessary management and accounting skills for successful management of intellectual capital of their organizations [6].

The growth profitability and other sustainable competitive advantages, is not the result of the investment in physical assets such as factories, offices or facilities, but it is the result of investment and management of intellectual capital. The success of leading companies such as Amazon, Google, Micro Soft, eBay and Wal-Mart is based on their intellectual capital.

Physical assets such as distribution of warehouses, office buildings and shops are important, but not as much important as knowledge about computers and the technology.

For example, large organizations like Wal-Mart with a huge infrastructure store, can not work well enough if it does not have the knowledge and science to build stores in the correct location, awareness of consumers for convenient storage of products and expertise and to replace goods.

Intellectual capital allows the organizations to improve their tangible resources. Identifying and improving management of intellectual capital is the main distinction between a successful, average and falling enterprise, and will be.

However, before we can identify, measure, manage and report the intellectual capital, we need to understand the meaning of this phrase. Intellectual capital includes all types of non-tangible resources that belong to the organization and help the organization to fulfill value creation.

For a positive influence on the future value of the organization we need a better understanding of intellectual capital and the latest tools available to identify, measure and manage this important factor - intellectual capital – in value creation. Guidance

the five basic steps for managing intellectual capital that will determine success:

1. Identifying the Intellectual capital of the organization,
2. Tracing the key factors of value,
3. Measuring Intellectual Capital,
4. Managing the Intellectual capital, and
5. Reporting intellectual capital.

The first step is to identify the organization intellectually. this point includes its value measurement. All intellectual capitals are not worthwhile for an organization automatically. These assets are valuable When they help advance the goals of the organization.

Intellectual capital can be identified through interviews, workshops or through online polls.

When intellectual capital is identified, we can measure its value. When rating intellectual capital must consider it that the value of intellectual capital depends on the strategy of the organization and is dynamically interacted with other resources and is dependent on them.

The next step, mapping the value creation that has two primary functions:

- Making shore that strategies are coherent and in close contact with all elements of the intellectual capital
- Enabling easy communication for strategies and the role and importance of intellectual capital in advancing the strategies.

After identifying and tracing the elements of the value of intellectual capital, organizations can begin to measure them. Many tools and techniques are available to measure intellectual capital. A model using the key questions of performance and key performance indicators.

When intellectual capital is measured, we can manage it. We can get to know current levels of performance by relevant evaluations, we can understand whether intellectual capital has been declining or improving, and explore what activities or programs have influenced the performance.

This information can be used in decision-making, reviewing and testing strategies and managing risks associated with intellectual capital.

Final step, is reporting the intellectual capital. The objective of reporting intellectual capital, is to provide information about an organization's intellectual capital for its stakeholders. Traditional financial reporting can not describe the value of intellectual capital.

Many attempts have been made to disclose the Traditional financial reporting limitations on intellectual capital reporting, but still no standard has been agreed. As a result, various organizations have offered voluntary reporting and realized the obvious benefits such as improved stakeholders understanding of the strategies, and improving the image and reputation of the organization, have come.

Measuring the Intellectual Capital

Measuring intellectual capital is regarded as a hard and ambiguous issue.

Approaches proposed for measuring intellectual capital is divided into at least three categories of indirect, direct and balanced evaluation method and the indirect method itself is divided into two groups:

- 1 –Efficiency rate of assets and

## 2 – Creation of investments [5].

### 1) Indirect Method

#### 1-1) Efficiency Rate of Asset Method

Method of asset efficiency rate is based on the balance sheet and traditional profit / loss.

This method calculates the extra efficiencies of tangible assets and attributes this efficiency to the intangible assets [5]. In order to implement this method, the company's asset rate of efficiency is calculated through the average income before taxes of some years on average Tangible assets in those years.

This rate is compared with the industry average, and if there are surplus to the industry average, we multiply the difference in the average of tangible assets of the company and in this way the average annual income derived from intangible assets is calculated. By dividing this excessive income to the average cost of companies capital with interest rate of the company, it can estimate the value of intellectual capital.

#### 1-2) The Formation of Market Capital

This method attributes the difference between the market value of the company (based on stock market prices) and the rights of the companies shareholders adjusted for inflation or cost of the replacement to the intellectual capital. One of the methods known in the accounting literature is "Q Tobin" [3] that measures the intellectual capital by calculating the difference between market value and the value of replacing the physical assets of the company.

This approach appears simple but has several problems in practice.

First, methods of capital market formation, considers the market as the only mechanism to calculate the extra value of a company than the cost of adjusted replacing balance sheet, while in the inefficient invest markets, the value attributed to intellectual capital may be bias and with prejudice.

Second, preparing financial statements adjusted for inflation, is not mandatory and disclosure of figures adjusted for inflation is considered optional.

### 2) Direct Method

There are numerous and different Methods that directly measure the value of intellectual capital components. In general, these variables are divided into several classes and in each category includes a number of variables or components of intellectual capital.

The components are separately identified and measured for each class, and ultimately are combined to measure the intellectual capital. Quantifying components of intellectual capital requires a variety of measures such as counting, monetary value and the ratios.

The diversity of scale has made it difficult to measure the combination [5]. This way is the most complex but most accurate tool to measure intellectual capital. The main defect of This technique is the necessity to identify a large number of components and measuring and Rating every part of them that makes it expensive and complex..

### 3) Balanced Assessment

Valuation balanced due to the use of multiple dimensions, is similar to Eskandya method [4], [5]. Four structures are used to measure in balanced assessment:

- Financial (How will it look to the company shareholders?)
- Customer (How will it look to the company customers?)
- Internal business processes (what internal business processes should be used in organizations?)
- Learning and development (How to improve the company's ability to change and be strengthened?)

Learning and development aspects, include the following Subsets:

- Staff qualifications and capabilities (human capital)
- Efficiency of information systems (informational capital)
- And incentives, authority and routing (institutional capital).

## CONCLUSION

Factors such as development of new economy, communities passage from the industrial age to the age of information and increasing differences between book value and market value of companies have increased the importance of intellectual capital.

studies indicate that measuring intellectual capital is not so easy, and is taking the initial steps of development.

Although measurement models are developing through experience and numerous studies, none of the models can meet all the desired objectives and each method depends on the existing target and position.

Despite the importance of intangible assets in the information-based economy, these assets are not identified in the traditional accounting model and it implicates the inadequacy of the conventional balance sheet in accounting components of this type of capital.

## Index

- 1) Intellectual Capital (IC)
- 2) Knowledge management
- 3) kiwi Tobin Methods, presented by James Tobin, winner of nobel in economy. It measures the ratio between market value of a company and the companies replacement value.
- 4) Scandia, Scandinavian insurance company, has been leading in measuring and reporting intellectual capital. In this method the total market value is formed of financial capital and intellectual capital.

## REFERENCES

1. Bose , R . (2004),"Knowledge management metrics" , Industrial Management & Data Systems, vol. 104 No .6,pp.457-468
2. Drucker, Peter F. (1995), Management in a Time Great Change, New York: Truman Talley Books/ Dutton
3. Setayesh, Mohammad Hossein. Kazem Nejad, Mustafa. External measurement and reporting intellectual capital. CPA. No. 207. Ordibehesht 1388. Pp. 58-63
4. Wright,P.M.,Dunford,B.B,& Snell,S.A. Human Resources and the Resources-Based View of the Firm, journal of management,27:701-721,2001
5. Bhartesh ,K.R ., A.K. Bandyopadhyay, Intellectual Capital : Concept and its Measurement, Finance India,vol.19,No 4,pp.1365- 1374,2005
6. American Institute of Certified Public Accountants