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INTELLECTUAL CAPITAL PERFORMANCE AS A TOOL FOR ORGANISATIONAL PRODUCTIVITY: A MEASUREMENT FRAMEWORK

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Abstract

Human Capital Measurement has been a daunting and a challenging task in the era of globalization. The importance of Human Capital in organizations, having lost its credence in the past, has been brought to limelight in the present knowledge explosion scenario. There is a hard felt need for this strategic resource to increase value and productivity of organizations in order to maintain the competitive advantage in the global business arena. This paper focuses on the tools and techniques adopted for measuring human capital and suggests the key parameters to be implemented in organizations to measure the human capital so as to enhance competence in business.

Keywords: *Intellectual Capital, Human Capital, Knowledge Assets, and Structural Capital.*

Introduction

The dawn of the Knowledge Era lays more emphasis on an intangible asset referred to as Intellectual Capital, as against the traditional financial capital. The globalization has compelled business to be more complex and competitive, requiring a multitude of different and complicated transactions at different stages of their cycles. In this scenario, companies are trying to identify the Intellectual Capital, as the resource is scarce and vital. The constraining resources are the information, knowledge and expertise, culminating in the human capital replacing the financial capital as the key strategic resource.

Intellectual Capital refers to the knowledge, experiences and talents of an organization's employees. Intellectual Capital encompasses three components: human capital (the knowledge and skills of people), structural capital (The knowledge inherent in an organization's processes and systems), and customer capital (customer relationships).

The Human Capital is the essence of Intellectual Capital. It is the expertise and knowledge of the employees contributing towards the increase in profits of the company. The human capital is the most important component in value creation. It is embedded in the talents of employees devoted to activities that result in innovation. The customer capital is the ongoing relationships with customers to build the image of the company towards enhancing the value of the enterprise. The indicators of customer capital include market share, customer retention and profit per customer deducting the defection rates. The structural capital is the knowledge retained within the organization, which includes the technologies, inventions, software, trademarks, patents and business processes.

Managing Intellectual Capital

Creating value is about generating ideas and innovation, capturing and leveraging the scarce knowledge, expertise and best practices that reside inside the organization. Unlike Financial Capital, which has techniques and methods to

measure and control, the knowledge and expertise of human resources needs to be measured and managed with an effective system of accounting for human capital. Our people are our most important asset is a statement has become a cliché. People are often spoken of as assets which but generally treated as costs (in terms of salaries and wages) due to lack of a credible system of valuing them in terms of the expertise and talents they possess. The valuation of companies has progressively changed over the period of past one decade, putting much higher value on intangible assets like competence, brands, technical know-how and systems.

Knowledge Assets – An Interdisciplinary Understanding

Intellectual Capital

Stewart (1997) defines Intellectual Capital (IC) as “the intellectual material – knowledge, information, intellectual property, experience – that has been formalized, captured and leveraged to create wealth by producing a higher valued asset”. Often the term ‘Intellectual Capital’ is treated as being synonymous with ‘knowledge assets’.

Countries which are rich in knowledge assets and intellectual capital fare better in terms of higher levels of growth and development. Accordingly knowledge assets are defined as (Boisot, 1998) “stocks of knowledge from which services are expected to flow for a period of time that may be hard to specify in advance”. Knowledge assets in contrast to physical assets last forever. The true measure of knowledge is in observing outputs, apprehended indirectly.

The surest way to determine an organization’s worth is to sell it. The price reflects whether the company’s worth is greater than its reported financial assets. That happens during mergers, acquisitions, buyouts and whenever company stock is traded. The value

of a company’s knowledge can be explained as the difference between its reported financial assets and its actual market value, which is the share price multiplied by the number of shares. Unfortunately, it is impractical to calculate the value of a company’s knowledge the way its financial stocks are measured. Stock prices fluctuate for reasons unrelated to anything employees may know. Hostile acquisition offers do not necessarily reflect the acquirer’s esteem for the knowledge of the company’s managers. Therefore, one must seek out valuation in ways that reflect the economic values the employees create.

I. Human Capital

Human Capital includes human resources within the organization and also customers and suppliers of the organization. It is the constraining resource, which increases the ROI (Returns on Intellectual Capital), value creation through inventions and novel ideas.

II. Social Capital

Socialization is a significant catalyst to knowledge flow and exchange of information. The knowledge flow culture is improved through this socialization process towards knowledge transfer and exchange of ideas, enabled by the informal chances to come together to disseminate and absorb new knowledge.

III. Structural Capital

Structural Capital is the process of using technology and structures to enhance the knowledge flow, such as databases, files, manuals and management systems. Intranet is one form of structural capital considered as an effective tool for knowledge flow. A CDR (Central Documentary Repository) is another structural capital investment, where multiple people work simultaneously, which reduces duplication of work and search costs, increasing the functionality.

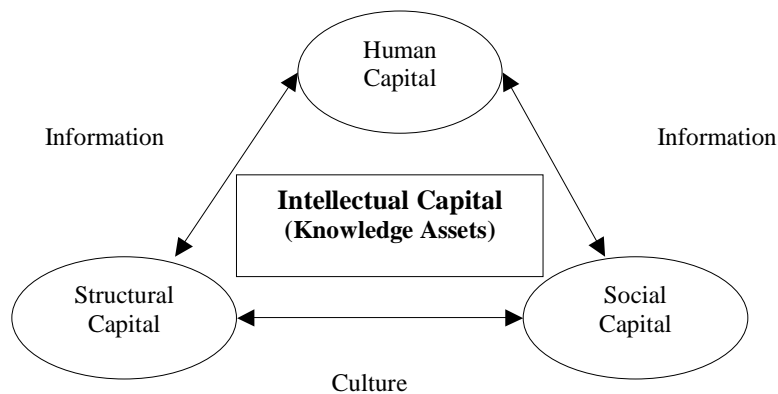


Figure-1. Interdisciplinary Understanding of Knowledge Assets

Evaluating Knowledge Capital

Knowledge Capital is created when employees think and innovate ideas about how they are delivering goods and services. This usually occurs when workers are engaged in overhead tasks and not when they are actually delivering the goods or services.

If learning, training, talking, writing and communicating make for improved productivity, it will reveal itself as improved economic performance and will become measurable in value. Real money is the returns on the newly created Knowledge Capital. It discloses the value of the knowledge that has been unleashed by informed actions. It is referred to as the “information value-added” and it is equivalent to what the economists call net surplus economic value. It is what is left after you pay suppliers, the government, employees, creditors and shareholders and after you replace obsolete assets. Knowledge Capital is that intangible source that makes it possible to generate annual profits. To state it another way, if Knowledge Capital is the principal, then information value-added is its annual yield.

Take, for example, the valuation of the Knowledge Capital for Microsoft. At the end of 1996, its financial capital was \$7 billion.

After subtracting from its 1996 profits of \$2.2 billion, the interest payments for the capital, which was \$210 million, we are left with Microsoft’s information value-added intangible amount of \$2 billion. To generate such an amount implies using Microsoft’s low cost of equity capital, the presence of an intangible principal of \$67 billion (\$2 billion divided by .03, the fraction of financial capital used to pay interest), which is then Microsoft’s Knowledge Capital.

It just happens that the stock market valuation of Microsoft at the end of 1996 was \$98.6 billion. In other words, exuberant investors attributed to Microsoft a Knowledge Capital valuation of \$91.6 billion (\$98.6 billion minus \$7 billion in financial assets). Any way you look at it, Microsoft’s Knowledge Capital lies somewhere between \$67 billion and \$91.6 billion. Clearly, knowledge is more important than what the accountants record as tangible assets. Hence there is an imperative need for developing an understanding of Knowledge Capital.

Models Developed for Measuring Knowledge capital

There are a number of key models developed for measuring the value of intellectual capital.

- **The Balanced Scorecard Approach**

An increasingly popular approach to measure an organization's performance, and one that is being widely adopted in knowledge management, is the balanced scorecard. The advantage of this approach in knowledge management terms is that it directly links learning to process performance, which in turn is linked with overall organizational performance. Developed by Kaplan and Norton¹, the balanced scorecard focuses on linking an organization's strategy and objectives to measurement from four key perspectives: financial, customers, internal processes, and learning and growth. In contrast to traditional accounting measures, the balanced scorecard shifts the focus from purely financial measures to include three key measures of intangible success factors. These roughly equate to the three components of intellectual capital, namely, human capital (learning), structural capital (processes), and customer capital. The four perspectives can be framed as follows:

- **Financial** : The growth of profits and business to increase the 'shareholder value'.
- **Customer** : The organization's ability to meet the needs and expectations of their customers.
- **Internal processes** : The critical processes that have the greatest impact on the customers and the strategic objectives, to gain competence.
- **Learning and growth** : The organization's ability to learn and grow in order to meet the objectives in the above three areas.

This knowledge management, which is about learning and growth, is measured as an integral and yet distinct part of overall organizational performance. The balanced scorecard approach (1992) can be applied to individual initiatives as well as to a whole organization. A company's performance is measured by four major indicators: (1) financial perspective; (2) customer perspective; (3) internal process perspective; and (4) learning perspective. The indicators are based on the strategic objectives of the firm.¹

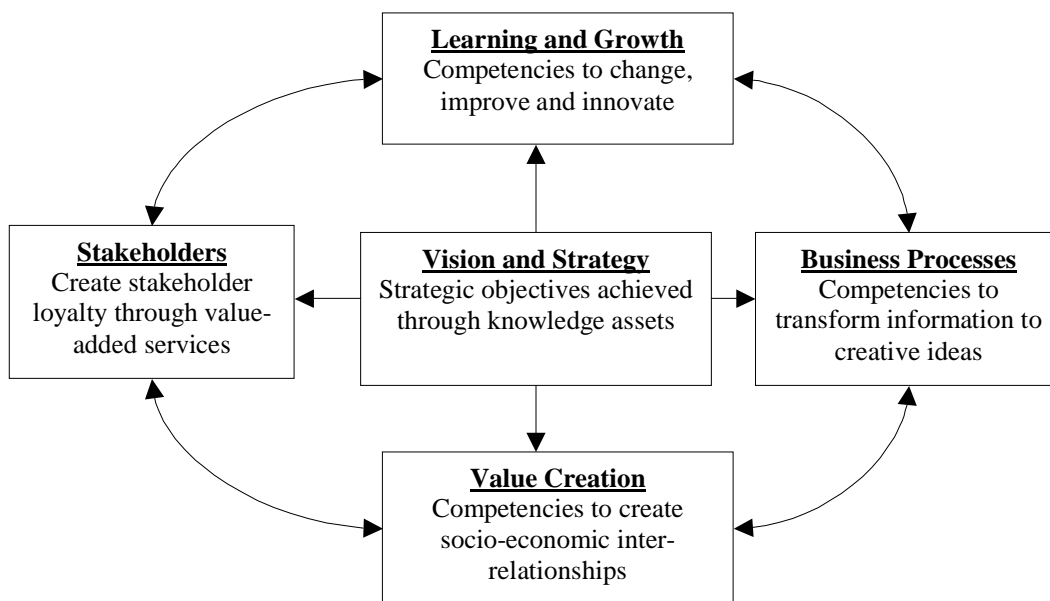


Figure-2. - The Skandia Navigator and Its Associated Value Creation Model

Edvinsson & Malone of Skandia, a Swedish insurance company, was the first to come out with an Intellectual Capital Statement with its Annual Report. The Navigator has four areas of focus -

- a) Customer focus
- b) Process focus
- c) The Renewal & Development focus

d) (most importantly and this is indeed shown at the center) Human focus.

The model also takes into account the financial focus that is denoted by the financial health and capital of the company, thereby including both tangible as well as intangible elements of capital together. Skandia Navigator is based on the same framework as that of the Balanced Scorecard.

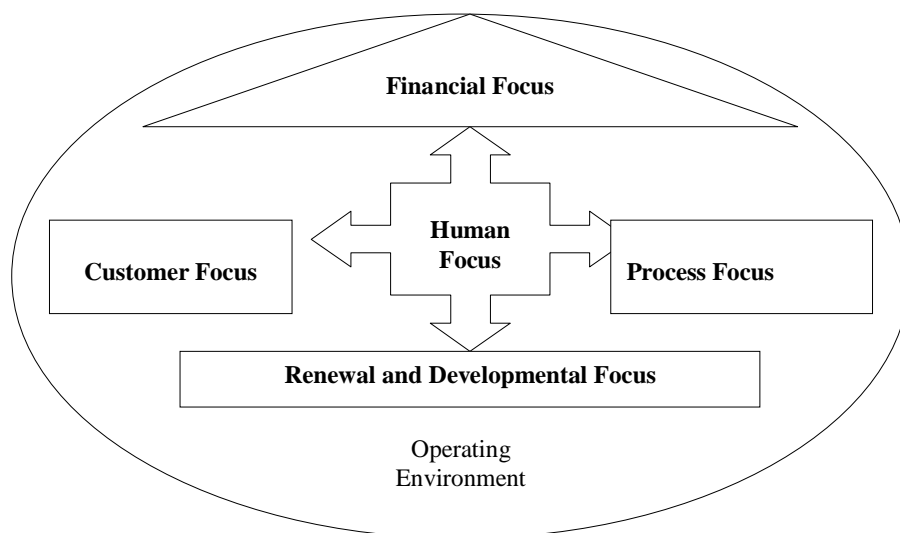


Figure – 3. - Skandia Navigator : Source: Intellectual Capital Report, 1998

- The “Sveiby’s Intangible Assets Monitor” was developed by knowledge management pioneer, Karl Erik Sveiby. The monitor categorizes intangible assets into human competence, internal structure and external structure, with further subdivisions into indicators of efficiency and utilization, stability, and growth and renewal.
- The “Intellectual Capital Services Index” was originally developed in Scandinavia and Australia by Johan and Göran Roos. The index identifies four categories of intellectual capital: relationship, human, infrastructure and innovation and it then looks at the relative importance of each, and also at the impact of changes in intellectual capital.
- Philip M’Pherson’s Inclusive Value Methodology (IVM) is a model in which users create hierarchies of intangibles to which they assign value ratings according to priorities and then a computer model determines the overall value rating and tests for areas of risk.

These empirically tested models provide insight into the need for a measurement, based on the key parameters employed in the organizations to develop competencies.

Key Parameters – A Roadmap to Develop Competencies

Ø **Turnover benchmarking** – In the context of booming attrition rates, experienced by many organizations in the globalised economy, it is essential to determine the

pulse of the internal turnover rates as well as compare with that of the competing firms in the industry. The turnover benchmarking can be done by an effective system of Exit Interviews to yield a wealth of information from the employees leaving the firm. It is essential to limit the risk of losing the value of that asset. A startling revelation found from exit interviews was that the prominent reason why knowledge force left their organization was because they felt that their talent was never fully leveraged, that they were using only about 2% of what they could actually offer. The reduction, if not elimination, in employee turnover has a great impact on productivity, particularly in India.

- Ø **Training and development** – It is akin to R&D investment. The performance and efficiency is to be measured by dividing the entire R&D investment by the number of full time equivalent employees. The R&D should be rooted in the inherent belief that trainee is a part of the image building of the company.
- Ø **Reward for innovation and creativity** - Tracking the innovative processes and comparing them with other organizations is an important benchmarking for creative capability. The recognition creates more inclination towards the organizational goals by imbibing a sense of ‘my organization rather this organisation’.
- Ø **Monitor Employee Satisfaction** - Using feedback surveys, monitoring the degree to which the employees are satisfied with the organization, division, department and region has become essential. Firms with excellent satisfaction ratings often attract potential employees, which help to tackle the critical retention issue. Moreover, the communication flow of sales people with customers or the purchasing department

communicating with suppliers is the knowledge embedded in the value chain, which will speed up the processes and reduce the waiting time, in turn enhances the productivity.

- Ø **Organizational Commitment Measure** - OC measures go beyond employee satisfaction and correlate productivity with other performance – improvement measures. This could be assessed by achievement of the targets before the deadlines fixed, the additional responsibility assumed without delegation, with a sense of involvement.
- Ø **Retention** - Turnover is one of the greatest threats to intellectual capital drain. It is the unwanted departure of employees with high level of expertise and knowledge. Retention strategies to combat attrition rate are essential to face the challenges of competition. The strategy to maintain an organizational culture of ‘We’ rather than ‘You’ cause a synergetic effect and promotes the image building process of the company.
- Ø **Employee longevity** - Long tenure is required in areas where expertise is critical to the success of organization. In recent years, where employee loyalty has eroded, the employee longevity has become crucial to assess human capital. The monetary and non-monetary benefits would fit with the longevity of an employee.
- Ø **Experience and Learning** - Both experience and learning are mutually gained in the increase of tenure of service. Measuring learning takes on new dimensions as organization attempts to harness, share and distribute knowledge. The learning process as an input due to experience is witnessed as a resourceful output of innovative corporate performance.

Conclusion

The field of human capital measurement is a daunting and challenging one. By recognizing that Knowledge Capital is a measurable quantity, the executives in charge of information management should be able to shift from their preoccupation with short-run expense efficiency to a new perspective - how to create valuable knowledge assets. The right set of measures will help in explaining how to accomplish that objective. Everything that contributes to an accumulation of knowledge can become a capital investment with sound information management practices. Managers must recognize the different ways in which knowledge is created and used in their companies if they are to manage it successfully and create value for stakeholders.

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