

INTELLECTUAL CAPITAL MEASURING - A COMPARATIVE APPROACH

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Abstract: Challenges which have to face companies in an economy increasingly changing requires deployment of intangible assets in order to achieve competitive position on the market. The growing importance of intellectual capital has been challenging the traditional financial reporting system, which is not capable to meet the information needs any more. The main aim of the paper is to supply a comparative analysis of used methods in measuring intellectual capital. By reviewing the most effective methods, in a comparative way, I try to provide useful insights and recommendations in order to raise awareness about the benefits of intellectual capital reporting practice.

JEL classification: L25, D24

Key words: Intellectual Capital, Intellectual Capital Statement, Knowledge Management, Measurement

1. Introduction

The literature on measuring and reporting intellectual capital is increasing rapidly. Research into the topic of intellectual capital start in the 1990s and was mostly oriented to increase awareness about the existence and value of intangible assets within organizations and about developing classification models for intellectual capital (Hall, 1989; Itami, 1991; Roos *et al.*, 1997; Stewart, 1997; Brooking, 1996). The number of measurement frameworks is continuously growing as researchers attempt to develop systems that improve disclosure, benchmark performance, and predict future business performance.

Anglo-American researcher predominately developed overall monetary assessments of intellectual capital, such as “Tobin’s Q” (Tobin 1969) or the “market to book ratio” as well as “Calculated Intangible Value” (Steward 1997) or the “Intangibles Scoreboard” (Gu, Lev 2001). A central role in the area of intellectual capital played Edvinsson and Sveiby. They developed two different models (“Skandia Navigator”, (Edvinsson, Malone 1997) and the “Intangible Asset Monitor” (Sveiby 2002)) to measure the components of intellectual capital by using qualitative and quantitative indicators.

Norton and Kaplan focused on this strategic feature and developed the “Balanced Scorecard” (Kaplan, Norton 1996) as a management instrument that aims to allow managers implementing the strategy of an enterprise by using financial and non-financial indicators.

The most important idea behind intellectual capital reporting is that financial statements emphasizes past performance of the company but not inform about its future potential. Putting together financial and intellectual capital statements companies aimed

to improve the transparency of the way in which they are seeking to create value. This paper therefore takes a closer view at various methods of intellectual capital measuring. There are five reasons why organizations are seeking to measure intellectual capital: to help organizations formulate their strategy, assess strategy execution, assist in diversification and expansion decisions, use these as a basis for compensation, and finally to communicate measures to external stakeholders.

2. Classification of intellectual capital

Authors have defined intellectual capital in several ways. What they all agree on is that it represents the intangible value of an organization, something that is difficult to assess. Comparing all classifications of intellectual capital, I found that they differ in defining structural capital, whereas they all agree that knowledge, as human capital, is a vital component.

When organizations decide to start measuring intellectual capital, the reasons behind the decision can vary, but can be classified into two groups: internally oriented and externally oriented. Often external reasons such as a better public image, an increase in market value, reducing the difference between market and book value, additional information for potential investors and the market are more important than the internal benefits when realizing its influence on decision making, overall business success, the connection between investments in intangibles and business goals as well as the necessity to manage them (Skyrme 2003). The International Accounting Standard Committee defines intangible assets as follows (IAS 38, September 1998): “An intangible asset is an identifiable non-monetary asset without physical substance held for use in the production or supply of goods or services, for rental to others, or for administrative purposes. (...) An asset is a resource, (a) controlled by an enterprise as a result of past events, and (b) from which future economic benefits are expected to flow to the enterprise”.

Table no. 1 General types of intangible assets in the intellectual capital framework

Type of Capital		General Asset Type
Human capital	Ideas capital	Knowledge-based workforce
		Assembled workforce
		R&D projects
	Leadership capital	Experts
		Managerial competence
Structural capital	Innovation capital	Intellectual property
		Firm Infrastructure
	Process capital	Corporate practices and procedures
Relational capital	Cultural capital	Trade secrets
		Internal relations
	Customer Relations	Competence-enhancing customers
		Profiling-Interaction
	Supplier Relations	Supplier Alliances- Formal/Informal
Community Stakeholders Relations	Regulatory Authority relations	

Source: Johnson, 1999

3. Methods used for intellectual capital measurement

The most relevant classification for intellectual capital measurement methods was developed by Sveiby (2004; see table 2). The methods are divided into four groups based on the level of measurement and the means of evaluation. These are:

- Market Capitalization,
- Return on Assets,
- Scorecard
- Direct Intellectual Capital Methods.

Table no. 2 Intellectual capital measurement methods

Market Capitalization Methods	Return on Assets Methods
The Invisible Balance Sheet	Economic Value Added (EVA)
Market-to-Book Value	Value Added Intellectual Coefficient (VAIC)
Investor assigned market value (IAMV)	Calculated Intangible Value (CIV)
Tobin's q	Knowledge Capital Earnings
Scorecard Methods	Direct Intellectual Capital Methods
Human Capital Intelligence	Technology Broker (IC Audit)
Balanced Scorecard	Citation-Weighted Patents
Skandia Navigator	Human Resource Costing & Accounting (HRCA)
IC Index	
Intangible Asset Monitor (IAM)	Inclusive Valuation Methodology (IVM)
Knowledge Audit Cycle	
Value Chain Scoreboard	Accounting for the Future (AFTF)
Meritum Guidelines	HR statement
Danish Guidelines	The Value Explorer
Topplinjen/Business IQ	Intellectual Asset Valuation
Holistic Value Approach (HVA)	Total Value Creation (TVC)

Source: Sveiby, 2004; Pike and Roos, 2000

Market capitalization methods measure intellectual capital as a whole, mostly through the difference between the market and book value. The second group, return on assets methods measures the intangibles with the help of standard financial measures, similarly as the first group, on an overall organizational level. The scorecard method estimates intangible assets in non-financial terms through separate components using different indicators. Indicators are then provided separately in tables or graphs. direct intellectual capital methods similarly evaluate different intellectual capital categories individually, in financial terms, obtaining the entire value through summing up (Sveiby 2004).

The key intellectual models of the methods are presented in table 3 that showing which is their weaknesses and strengths.

Table no. 3a Comparative analyses of key IC measuring methods

	Key dimensions	Strengths	Weaknesses
Skandia Navigator	Financial focus Customer focus Process focus Renewal and development focus	- offer five very specific indicators of customer capital - provides a broad	- assigns no value to intellectual capital - offers only a snapshot in time and cannot represent

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		coverage of organizational structural and process factor	dynamic flows of an organization
IC-Index	Human capital	- reflect changes in the underlying intellectual capital elements	- is limited in its universality among Companies
	Relationship capital		
	Infrastructure capital	- allows managers to understand the effects a particular strategy has on the IC	-depend on value judgments and assumption
	Innovation capital		
Technology Broker	Market assets	- offer an IC audit that itself represents an intellectual asset for organizations	- is a considerable leap that must be made from the qualitative results of the questionnaire to actual values for these assets
	Human-centered assets		
	Infrastructure assets	- can be converted into Likert-type based scales which may help organizations assign quantitative values to qualitative questions	- suffers from a lack of efficient market-based prices for many elements of IC
	Intellectual property assets		

Table no. 3b Comparative analyses of key IC measuring methods

	Key dimensions	Strengths	Weaknesses
Intangible Asset Monitor	Customers (external structure)	- provide a Value-Added Statement outlining key indicators that they measured	- the static intellectual capital flows are not incorporated
	People (competence)	- is based on the notion that people are an organization's only profit generators	- there is no link to financial capital performance
	Organization (internal structure)	- treats profits generated as signs of success and not as the originator of success	- inadequate treatment of the external environment
Balanced Score Card	Financial perspective		- it takes considerable thought to develop an appropriate scorecard
	Learning and Growth Perspective	- align all members of an organization around common goals and strategies	
	Internal Business Processes	- provide feedback to people on key issues	- while communication can commence within a short time, the complete implementation should be staged
	The Customer Perspective	- is an essential decision-making tool for everyone in the organization	

4. Conclusion

Intellectual capital is essential to both society and organizations. It can be a source of competitive advantage for businesses and encourage innovation that leads to wealth fare.

No matter what method it used, none of them resolve the problems of reporting intellectual capital value in the traditional accounting system. Actual reports do not recognize the greater part of intangible values. Many enterprises are still not measuring them, at least not in a standardized way. The International Accounting Standards Committee and its national counterparts face a challenge in setting standards for IC disclosure. Meanwhile I consider that intellectual capital can be highlighted in a series of documents that can be attached to the financial statements (in a supplement or appendix).

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