INTELLECTUAL CAPITAL PERFORMANCE REPORTING MODELS

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Abstract: *For a knowledge-based economy, the basic drivers of economic growth and development are the knowledge, innovation and specific skills of individuals whose „incorporation" into a product/ service makes them attractive to customers in the market according to the needs of the 21st century. Thus, in the era of the knowledge economy, individuals with their knowledge, specific abilities and skills represent the basis for creating and maintaining a competitive advantage in the market. However, the traditional financial reporting model cannot fully meet the information requirements of users of 21st century financial statements due to the limited absorption of data concerning the company's ownership of intangible resources such as knowledge, specific skills of employees and other intellectual resources. In order to fully, reliable and truthful business reporting Many companies choose to voluntarily report on non-financial performance through various reports such as the Business Report and the Notes to the Financial Statements. The aim of this paper is to present modern models of reporting on intellectual capital and to point out possible directions of their further development in the future. Also, in this paper, special emphasis is placed on segments of business assets whose balance sheet (non) coverage leads to significant differences between the book and market values of companies.*

Keywords: *Reporting, Intellectual capital, Intangible asset.*

1. INTRODUCTION

In the early 1990's the XX century began to leading debates in scientific circles about intellectual capital and other intangible resources in terms of their measurement and recognition. The modern era of the „knowledge economy" has influenced the growth of importance and innovation as the basic drivers of economic development and business success of the company. Thus, they exist as basic and crucial resources of companies for gaining and maintaining competitive advantages in the market of the same knowledge of workers, who have special skills and abilities as well as innovations that arise from all this. As the whole concept of the business system changes, with the transition from capital-intensive to the organization of intensive existence, it is necessary to take appropriate steps to change the classic way of financial reporting. The structure of active balance sheets used an increased share of intangible (intellectual) resources at the expense of reduced tangible assets needed. The information provided by the traditional way of financial reporting was not able to give a complete and real picture of the data, and the successful company took advantage of the lack of appropriate methods for measuring and reporting intangible resources was the share in the total assets of the latter. Due to the immaterial nature of intellectual resources and the impossibility of monetary expression of certain elements of the same, due to which they were unimportant invisible, there was a separation between the market and book values of many companies in the world. For this reason, we would say that both internal and external users of financial statement information are needed to create new company reports on a voluntary basis. However, in order to adapt the traditional reporting

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system, it was necessary to develop new ones approaches and methodology for measuring the intangible assets of an enterprise. Through the work of the academic community and solving specific problems in business practice, different approaches and methodologies for measuring the balance sheet invisible intellectual capital of companies have been developed. The basic division of all methods is into methods that are based on the financial and those that are based on the non-financial approach. Depending on the information needs of information users as well as the nature of the activity, organizational structure, size of the company and the structure of intellectual resources, the choice of method for determining intellectual capital will depend, and later the model of its reporting.

2. METHODS OF MEASUREMENT OF INTELLECTUAL CAPITAL

The results of the European research conducted within the project Meritum Project (2002), showed that there is no reliable system for measuring intellectual resources in the company. Intellectual capital research has concluded that the potential of intellectual capital will not be realized if management continues to force an opinion on intellectual capital within existing frameworks (Chaharbaghi & Cripps 2006) based on accounting, management control, and intangibility management (Guthrie et al. 2003). Hidden i.e. balance sheet invisible intangible resources to external users limit the assessment of the potential strengths of companies and, accordingly, obscure the insight into the true state of business assets and the success of the company itself. According to Bontis (1999), the basic problem of reporting on intellectual capital lies in its measurement, due to its intangibility and the impossibility of monetary expression of all its elements.

Given the nature of intellectual capital from the 1990s to the present, a number of methods and approaches have been developed for the assessment, measurement and evaluation of intellectual resources, which are divided into four groups (Sveiby, 2010):

- Direct Intellectual Capital methods (DIC methods). The essence of these methods is reflected in the identification of all elements of intangible resources and their individual monetary expression, if possible. If the nature of some elements is such that they cannot be expressed individually in monetary terms, then an aggregate coefficient is derived for such elements of intangible resources. The better-known methods from this group are: The Technological Broker method according to Brooking's (1996) and Sullivan's (2000) method - Valuation of intellectual assets.
- Market Capitalization methods (MC methods). These methods calculate the difference between the market capitalization of a company and its book value of equity and if the difference is a positive value it represents the value of intellectual capital. The best known and most widely used method in practice is Market to Book Value. This method attributes the positive difference between the market value of the company and the book value of the company's own assets to the balance sheet invisible part of intellectual capital.
- Return On Assets methods (ROA methods). Return on assets is based on the ratio of profit before tax for a certain period of time to the average price of the total capital of the company. After that, the obtained ROA is compared with the average of the industry to which it belongs, and if it is higher, it is considered a contribution of intellectual capital due to their existence in the company. Finally, the value of intellectual capital is estimated by comparing the amount of profit gained thanks to intellectual capital with the average price of the total capital of the company.

- Scorecard Methods (SC methods). These are methods of measuring and reporting on intellectual performance, which identify different groups of intellectual resources and suggest indicators for their measurement. They are similar to direct methods of intellectual capital, with the difference that they do not perform financial valuation, and in addition do not give some aggregate, composite index of intellectual capital, but a set of different (partial) indicators by categories (elements) of intellectual capital according to its categorization (Krstić, 2014). Scorecard measurement methods also represent methods of reporting on intellectual capital performance, the most famous of which are Balanced Scorecard by Professor Robert Kaplan and consultant David Norton, Intellectual Capital Monitor of the world-famous Sveiby and Skandia Navigator created by Edvinsson and Mallone.

3. INTELLECTUAL CAPITAL PERFORMANCE REPORTING MODELS

Intellectual capital reporting is becoming a promising tool for resource-intensive organizations, managing, communicating and providing information relevant to investment decision-making and helping to productively use increasingly important intangible resources, such as human capital, research and development, software and relationships. with consumers (Hassaneen, 2010). The formation of the Intellectual Capital Report is important for both internal and external users. From the aspect of managers as internal users of information, an opportunity is created for more efficient management of intellectual resources of the company and greater productivity, profitability and their more economical use is achieved. External users such as investors and lenders, with the help of information from various Intellectual Capital Reports, gain a clear insight into the „hidden" strengths of companies and their degree of flexibility and innovation as a significant factor in survival and development in the knowledge economy era. In the conditions of the „new economy", the traditional system of economy is changing due to the fact that the primacy in relation to traditional factors of production (land, labor, capital, means of labor) take knowledge and innovation as the basic drivers of economic and social development. In line with the change in the structure of the company's business assets, it is clear that there must have been some changes in the traditional system of financial reporting. Traditional financial statements are turned to the past, i.e. monetarily express the state and success of the company on the basis of realized business events without informing users of information about the capacities that the company can use in the future. With this in mind, there is a real need for a new paradigm of external reporting, which will expand this traditional „look into the past" and report on the creation of company value (Krstić, 2004). This would certainly provide a better assessment of investors and creditors in terms of strengths and business opportunities of the company and facilitate the analysis of tangible and intangible performance by financial experts and managers. "This new reporting paradigm will complement, or perhaps replace, the existing financial reporting system." (Upton, 2003). Namely, we are talking about the so-called business reporting in the US and integrated reporting in the EU. By the way, the basic principles of such reporting are „improving disclosure, presentation of expected information, presentation of internally generated intangible assets, increasing the possibility of monitored changes and improving audit" (Bonić, 2004).

The growing gap between the market and book value of companies is explained by the incomplete coverage of intellectual resources that companies possess. More specifically, traditional financial accounting does not recognize internally generated intellectual resources but only those that are externally obtained and that have their own monetary expression. In order to close

the gap between the aforementioned values, it is necessary that modern business and financial reports include the following items of intellectual capital, which according to Dumay (2011) are called reporting attributes:

Table 1. Reporting attributes

Internal capital	External capital	Human capital
Patents	Brands	Know-how
Copyright	Consumers	Education
Trademarks	Consumer loyalty	Professional qualifications
Infrastructure assets	Company name	Work-related knowledge
Management philosophy	Distribution channels	Job-related competencies
Corporate culture	Business cooperation	Entrepreneurial spirit
Process management	Licensing and franchising arrangements	
Information systems	Favorable contract	

Source: Dumay J., 2011.

The very need to report on the intellectual resources of enterprises through financial and non-financial performance developed with the conception of the first models for measuring the performance of the use of intellectual resources. These measurement models also represent models of reporting on intellectual resources, of which the most famous to date are the Balanced Scorecard, the Monitor of Intellectual Capital, and the Scandia Navigator.

4. BALANCED SCORECARD AND INTELLECTUAL CAPITAL REPORTING

In the era of knowledge economy where knowledge and other intellectual resources are constitutive elements of business processes, there is a need to measure and report on the performance of intellectual resources and the amount of intellectual capital of the company. Some significant elements of intellectual resources, due to their nature, cannot be expressed financially, so their descriptive expression through various modern methods of measuring and reporting on them is advocated. One such concept is the Balanced Scorecard (BS). BS according to Norton and Kaplan (2001) financial performance measures are not sufficient to provide complete information on the state of intellectual resources, so it is necessary to expand the financial reporting system with additional measures of intellectual performance which include financial and non-financial performance. The adoption of this reporting system supports the implementation of the adopted company strategy, as the operational strategy translates into a set of specific measures. According to BS, it is possible to measure the efficiency of a company through four perspectives (Kaplan, Norton, 2001):

- financial: measures for the financial situation of the organization,
- internal business processes: measures for the efficiency of processes executed in the organization,
- customer: measures for the level of satisfaction of the customers' needs and increasing the market share,
- learning and growth (or development): measures for the capacity to develop new products and acquire new skills in the future.

Based on the above perspectives, it is easy to see that the intellectual performance of the company is largely contained through reporting on the perspective of learning and development of employees. This dimension contains the performance of human capital (skills, practical knowledge, formal education, additional noise, etc.), then information capital (systems and databases), as well

as other structural - organizational capital (culture, leadership, teamwork, etc.) (Krstić, 2014). To a lesser extent, but also projected intellectual performance is projected both through the consumer dimension (as part of relational capital), and through the dimension of internal business processes as part of structural intellectual capital. Based on the information provided by the BS, it is a kind of Report on the intellectual performance of companies that is very often applied in practice.

5. MONITOR OF INTELLECTUAL CAPITAL REPORTING

The author of this model is Karl Erik Sveiby, who suggested that companies monitor intellectual resources through a report that includes three categories: growth/ renewal, efficiency/ effectiveness, stability. The most well-known example of monitoring intellectual resources according to this model is the implementation of this model of reporting through the Swedish consulting and software company „Celemi". The paper will present the key performances that are fully monitored in the company through this special report, which attracted the most attention from interested creditors, investors and managers when assessing the effectiveness of intellectual property management in the company.

Table 2. The Intangible Assets Monitor "Celemi"

Intellectual Capital		
External Structure	**Internal Structure**	**Competence**
Indicators of Growth/Renewal Growth of market share Revenue growth Consumer satisfaction index Product quality	***Indicators of Growth/Renewal*** Investments in information technology Time dedicated to internal activities Research and Development Attitudes of employees towards managers, culture, consumers	***Indicators of Growth/Renewal*** Fluctuation of competencies Growth of professional experience Average qualification (level of education) Overall competence of experts expressed by the number of years of experience
Indicators of Efficiency Profit per consumer Sales by expert	***Indicators of Efficiency*** Participation of support (administration) staff in total number Sales by administrator	***Indicators of Efficiency*** Changes in value added by professional Changes in the participation of experts in the total number employees
Indicators of Stability Frequency of repeated order placed Participation repeated orders in total Participation in the sale of the 5 largest customers	***Indicators of Stability*** Average age of the collective Age structure Number of employees with less than 2 years of experience in company Turnover of administrative staff Average number of years by administrative staff spent in a particular company	***Indicators of Stability*** Fluctuation of experts The average number of years that experts spend in a particular company

Source: Sveiby K.E., 2010.

6. SKANDIA NAVIGATOR MODEL OF INTELLECTUAL CAPITAL REPORTING

Intellectual Capital Director Leif Edvinsson at the world-renowned company Scandia developed a dynamic model of intellectual capital reporting in addition to the annual financial statement back in 1994. This reporting model is known worldwide as Scandia Navigator. It reflects four key dimensions of its business (Edvinsson, & Malone,1997):

- Employee focus,
- Customer focus,
- Process focus,
- Renewal and development focus.

The following table shows the most commonly used indicators categorized by focus:

Table 3. Model Skandia Navigator and performance of intellectual capital

Intellectual Capital			
Employee focus	**Customer focus**	**Process focus**	**Renewal and development focus**
Total number of employees, Participation of women in collective, Average age, Time of training expressed in days, Human index capital, Participation of highly educated, Participation of employees with 3 or more years of experience	Number of customers, Consumer satisfaction index, Number of individual insurance policies sold, Number of contracts, client abandonment rate	Share of information technology costs in administrative costs, The number of concluded insurance contracts per employee	Participation of new clients, Number of ideas

Source: Krstić, 2014

The Scandia Navigator reporting model has served as a good example from the practice of other companies that it has in this way "encouraged" in compiling intellectual capital reports on a voluntary basis. Many companies in the world that have impressive intellectual assets have managed to use this model to map the most important financial and non-financial measures of intellectual resources and complete the picture of their financial position and earning capacity of the company.

7. CONCLUSION

Economic growth and development based on knowledge and innovation in all spheres of society has caused changes in the way companies operate in terms of investing in knowledge and other intellectual resources. Changes in the structure of business assets of the company and a significant share of intangible assets in total assets of the balance sheet required certain changes in the traditional system of financial reporting. The emerging novelty is the need for an additional financial report that will pay special attention to the disclosure of unbalanced intellectual capital of companies, as a result of which gaps between the market and book values of listed companies are appearing more and more often. Due to the lack of legal obligation to report on intellectual resources and the existence of information needs of both external and internal users, certain models of measuring and reporting on intellectual resources have emerged that serve as an effective tool for assessing companies' strengths and flexibility to the new system, in the so-called new economy. Their essence is reflected in the presentation of on-balance sheet intangible resources and the reduction of oscillations between market and book values of companies.

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