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THE CORPORATE SOCIAL RESPONSIBILITY AND THE VALORISATION OF INTANGIBLE ASSETS*

A RESPONSABILIDADE SOCIAL CORPORATIVA E A AVALIAÇÃO DOS ATIVOS INTANGÍVEIS

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ABSTRACT

On the basis of the principles of a global society, a New Economy is emerging. The Corporate Social Responsibility (CSR) is an increasingly important topic in the New Economy in general, and in the European Union in particular. Thus, an important role is played by companies' social responsibility to achieve Lisbon Summit goal “the most competitive and dynamic knowledge-based economy in the world”. The CSR reporting has a triple-bottom line approach in the assessment of a company's performance: the economic, the environment and the social factors. *Mutatis mutandis*, more and more the assessment of company's competitiveness takes into account the principles of sustainability. The link between the intangible assets and CSR is intimate and multifaceted. In order to develop company's abilities to create future economic value, one step should consist in the expansion of the financial reporting process in order to incorporate the valuation of a company's intangible and intellectual assets. These mentioned factors have become most important to business success and economic growth in the 21st century.

Keywords: Corporate social responsibility. Valorisation. Intangible assets

RESUMO

Com base nos princípios de uma sociedade global, uma Nova Economia está surgindo. Responsabilidade Social Empresarial (RSE) é um tema cada vez mais importante na Nova Economia, em geral, e, especialmente, na União Europeia. Assim, um papel é desempenhado pela responsabilidade social das empresas em suas tentativas de atingir o objetivo da Lisbon Summit “uma economia baseada em conhecimento, a mais competitiva e mais dinâmica no mundo”. A RSE usa uma *triple bottom line* na avaliação do desempenho da empresa: econômica, ambiental e social. *Mutatis mutandis*, mais e mais, a avaliação da competitividade de uma empresa leva em conta os princípios da sustentabilidade. A ligação entre ativos intangíveis e RSE é íntimo e

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multifacetado. A fim de desenvolver uma capacidade da empresa de criar valor econômico futuro, um passo deve consistir na expansão do processo de informação financeira para incorporar a avaliação de uma empresa dos ativos intangíveis e do conhecimento. Os fatores mencionados tornaram-se mais importantes para o sucesso empresarial e crescimento econômico no século 21.

Palavras-chave: Responsabilidade social corporativa. Avaliação. Ativos intangíveis.

1 INTRODUCTION

This paper points to some aspects of the *intangible economy* which will stretch beyond the confines of the traditional business reporting. In the New Economy, it is the intangible assets known also as *Intellectual Capital (IC)* such as human capital (knowledge assets, leadership), organizational capital (communications, strategy), market capital (reputation, brand development, alliances and networks, adaptability), and innovation capital (R&D capability, technology) that are taking center stage. The ability of a company to mobilize and exploit its intangible assets has become far more decisive than investing and managing physical, tangible assets.

In the most developed countries, the production model shifts from an emphasis on tangible assets to an increasingly important focus on intangible assets. This study tries to explain why enterprises shifted investment emphasis in value creation away from tangibles assets to intangible assets, and the value of intangible investment to the enterprise.

In addition, in the New Economy a new concept of *Corporate Social Responsibility (CSR)* or *sustainable development* is being emerging, like an extrapolation of the intangibles interference within the ethical content of companies' activities. One could conclude that the principles of the CSR should be implemented effectively in all companies' strategic objectives. In this context, it is worth to be pointed out the importance of *socially responsible investment*. This involves taking into account of social, environmental and ethical considerations and the extent to which corporate strategies and risk management include such factors in the selection, retention and realization of investments and responsible use of rights attached to investments.

While in the past several decades there has been a dramatic shift in what economists call the production functions of companies - intangibles becoming substitutes for physical assets, there has been complete stagnation in our measurement and reporting systems. This paper tackles also a very sensitive and challenging aspect in company's reporting, namely the recognition of the intangible assets in the New Economy's reporting models. Traditional criteria for recognition of assets within financial statements, criteria that are based on reliability of measurement, preclude the recognition of the intangible relationship and knowledge assets on which modern business depends. These financial measures has proved to be inadequate for guiding and evaluating the journey that information age companies must make to create future value through investment in customs, employees, technology and innovation.

The whole paper aims to debate the relation CRS - intangibles as a compromise between two important aspects: on the one hand, the difficulty to assess the intangible assets and on the other hand, the importance of intangibles for creating future values in a sustainable way. The conclusions stemming from the research will bring more clarity on the problem.

2 CORPORATE SOCIAL RESPONSIBILITY AS A BASED PRINCIPLE OF THE NEW ECONOMY

Today, a *New Economy* is clearly emerging: it is a knowledge and idea-based economy where the keys to wealth and job creation are the extent to which ideas, innovation, and technology are embedded in all sectors of the economy. According to Wikipedia, the New Economy is a “term that was coined in late 1990s to describe the evolution of the United States and other rich countries from an industrial/manufacturing-based economy into a high technology-based economy, arising largely from new developments in the technology sector”.

The New Economy has its roots in the period between mid-1970s and late 1990s when the foundations of the previous economic order that lasted from approximately 1938 to 1974, built on a manufacturing base, has been undergone profound changes as industries restructured to evolve beyond traditional manufacturing to include high tech manufacturing, traded services, and increasingly globally oriented e-businesses. Thus, among the defining characteristics of the New Economy are a fundamentally altered industrial and occupational order, unprecedented levels of entrepreneurial dynamism and competition, and a dramatic trend toward globalization.

This emerging new economy represents a tectonic upheaval in our national economies, a social shift that reorders our values by imposing new rules and a new thinking. The advent of the new economy was first noticed as far back as 1969, when Peter Drucker perceived the arrival of knowledge workers. The post-industrial era - variously called the Information Age, Knowledge Economy, or Post-Capitalist Society, is largely a service economy in which both the “products” of organizations and the means of production are increasingly non-physical. In the New Economy, *the intangible assets* rather than material resources or capital are the driving forces of value creation.

In 1987 the Brundtland Report, also known as *Our Common Future*, alerted the world to the urgency of making progress toward economic development that could be sustained without depleting natural resources or harming the environment. Published by an international group of politicians, civil servants and experts on the environment and development, the report provided a key statement on *sustainable development*, defining it as: “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.

Nowadays, the companies’ performance is a result of taking into account three intertwined elements: environmental, social and economic performance. The *environmental performance* is directly related to natural capital (natural resources and processes used by an organization in delivering products and services), the *social performance* reflects the organization’s impact on human and social capital (like health, skills, knowledge and motivation of individuals, human relationships, partnerships and co-operation) and the *economic performance* includes financial performance and reflects the organization’s impact on the wider economy as well as its own manufacture and financial capital. The reporting on this triple bottom line is often called *sustainable reporting*. Companies often refer to *Corporate Social Responsibility (CSR)* in order to assess their performance on a triple-bottom, using economic, environmental and social criteria.

3 INTANGIBLES – A KEY FORCE FOR DRIVING COMPANIES’ PERFORMANCE AND COMPETITIVENESS

In manufacturing or industrial economy, it is considered that only by focusing on tangibles flows are shareholders guaranteed that management will create “share holder value”.

Apart of that belief, in the New Economy it is possible to create superior share holder value by not focusing on the tangibles, but on the intangibles capital.

Non-physical resources and assets are commonly known as *intangibles*, and their value, in relation to the physical assets of enterprises, has been growing for the last quarter century. From an economic point of view, an asset is a resource controlled by the enterprise as a result of past events and from which future economic benefits are expected to flow to the enterprise. An asset is intangible when the item in question is an identifiable non-monetary asset without physical substance (IAS 38.7).

Generally speaking, a corporation has ownership and control of its assets, and the rights, authority and power which goes with ownership. *Intellectual property* is an example of intangible asset with legal or contractual rights including patents, trademarks, designs, licenses, copyrights. Nevertheless, most intangibles are not assets in the traditional accounting sense, and should not be thought of as such. An organization's the most important intangible assets are not owned at all.

The first is *human capital*. The knowledge (intellectual capital) and experience which resides with employees and contractual staff is owned by the people themselves; a corporation cannot own the inner workings of a person's mind. A business can purchase use of knowledge, or, to put it another way, rent the intellectual activity of an individual (salaries may be thought of in this way), but the fundamental intellectual source of cerebral work cannot be owned. Secondly, it is the *market capital*, like a business's image in the market place, and its reputation with customers and potential customers. These are the perceptions of outsiders, impressions and feelings residing with external parties. Moreover, relationships with customers and suppliers can't be the property of only one party or they would cease to be relationships. Finally, the capacity to organize activities and knowledge flows in order to reduce production costs and raise productivity, known as *organizational capital*, is another example of intangible without legal or contractual property rights.

Investment in intellectual capital, seen on the one hand as an *individual capital* (competence, skills, relevant knowledge possessed by employees) and on the other hand as a *structural capital* (value of procedures, technologies, routines, systems infrastructure stored in manuals, method guides, information systems, goodwill), is a key to *innovation capital*. The new products, services, and processes that are generated by the innovation process are the outcomes of investment in R&D, acquired technology, employee training, customer acquisition costs, etc. When such investments are commercially successful, they are transformed into intangible assets creating corporate value and growth.

Another key feature of intangibles is that these items can fulfill not only the requirements of assets but also that of liabilities. A liability is a present obligation of an enterprise arising from past events, the settlement of which is expected to result in an outflow from the enterprise of economic benefits. Nevertheless, an intangible cannot fall under the traditional accounting definition of a liability. An intangible liability is something which prevents the organization being as successful as it should be - it is something which "deducts value" from the enterprise. The weak productivity of staff or the deteriorated relationships with a key customer are only a few examples of intangible liabilities.

In general, those intangibles that can not be clearly separated can be found under the heading of *goodwill*. The goodwill grounds on the going concern principle and could be measured as the difference between the market value and the booking value of an enterprise.

Depending on the predominant category of intangibles – assets or liabilities – there can be identified a positive goodwill or a negative one.

Intangible capital is characterized by volatility. In this regard, it behaves very differently from capital representing traditional asset. Because of their volatility, intangibles pose a considerable degree of business risk. Therefore risk management is becoming more important. The capability of an organization for sound risk management will become itself an important intangible asset.

If intangibles pose risk, they also provide huge opportunity. First, intangible capital can be increased without the addition of physical capital. In other words, it is possible to create value without the infusion of money. Second, investment in intangible assets provides a means of reducing an enterprise's exposure to uncertainty. Uncertainty occurs when one is unable to derive a reliability contingency frequency table of outcomes. Apart of tangible capital investment that is easy for competing enterprises to imitate intangible investment is often enterprise specific, making it very difficult for other enterprises to imitate. Intangible investment, therefore, can be a means of achieving a *competitive advantage*.

Lev (2001) argues that *scalability* and *network effects* are the essential two characteristics that make intangible investment more beneficial than tangible investment. Thus, the intangible assets are scalability or non-rivalry; a good example in this respect is the use of software by multiple users in the same time. The knowledge required to develop an intangible asset can often be levered to produce other intangible assets. Furthermore, the investment in intangible assets lies at the core of network effects. The presence of network effects often results in the use of an asset "snowballing" (known as the "positive-feedback" effect). Pertaining to this, Lev describes the economies of networks as "one's benefit from being part of a network increases with the number of users connected to it". The downside of scalability and network effects are the lack of control and incomplete contracting problems (HART, 1995).

In the New Economy, a significant role in the process of building corporate competencies and competitive advantage is played by innovation. Innovation can be achieved through different channels – through own R&D activities leading to new products or processes, but also through a diffusion associated with imported technology and inputs or through spillover effects that magnify the benefits of own R&D efforts. Knowledge is the foundation of innovation, while technological changes result in knowledge, intermediate assets and final goods and services. In other words, the impact of intangible investment, and innovation output, on the economy is due to spillover effects. In order to get a competitive advantage, the enterprises should internalize as much as possible these spillover effects.

4 ACCOUNTING REPORTING ON INTANGIBLE ASSETS - NATIONAL AND INTERNATIONAL EXPERIENCES ON RECOGNITION AND VALORISATION OF INTANGIBLE ASSETS

The purpose of financial reporting is to provide stakeholders with information concerning the financial performance of the firm, and a "true and fair view" of its assets and liabilities. A true and fair view is considered to be achieved when financial statements are prepared and presented in accordance with the accounting principles and provisions of the regulation in force. Moreover, the accounting policies should be applied in a fair manner so that financial statements can reflect the economic reality not only the judicial aspects, taking into account in the same time of the ethical criteria. Departure from the provisions of the accounting regulations is allowed only if the application of accounting provisions would result in misleading financial statements. In this

respect, in order to enable users to understand the impact of particular transactions or events on the enterprise's financial position and financial performance, supplementary disclosures are required in the notes.

Because nowadays financial reporting is still grounded on a financial and managerial accounting model which had been developed for the industrial economy, it is not able to deal with global knowledge economy, where most of corporate value creation is based on knowledge and information assets rather than on physical assets and financial capital. In other words, financial reporting does no longer reflect economic realities accurately. Giving these facts, the achieving of a true and fair view becomes doubtful. This is rooted in the belief that current accounting systems have failed to keep pace with radical shifts in the sources of value creation and that there is a need to correct this by recognizing intangible assets in financial reporting.

To recognize and valorize *the intangible assets* is a real challenge because first of all of their nature, these assets behaving completely different from an economic point of view than physical or financial assets. The measurement of intangible assets implies a high volatility and it should be founded on a sound risk management as the risk involved with intangible assets is usually much higher than the one related to physical assets.

4.1 The European Community Directives' position on intangible assets

In the EU, the accounting directives are the Fourth Directive on individual company (EEC 78/660) and the Seventh Directive on group accounts (EEC 83/349). According to both EC Directives, no specific definition is given to intangible assets. Nevertheless, in accordance with the Fourth Directive, art. 9 and 10, intangible assets are capitalized as follows:

- a) *The costs of research and development (R&D)*, in so far as national law permits their being shown as assets (e.g. Belgium, Finland, France, Greece, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden, and Denmark, Ireland, U.K. but only for development expenses).
- b) *Concessions, patents, licences, trade marks and similar rights and assets*, if they were: (a) acquired for valuable consideration and need not be shown (*allowed* in Denmark, Finland, The Netherlands, Sweden, U.K.; *required* in Austria, Belgium, France, Germany, Ireland, Italy, Spain, Greece, Luxembourg, Portugal); or (b) created by the undertaking itself, in so far as national law permits their being shown as assets (*allowed* in Finland, Ireland, Sweden, U.K.; *required* in Belgium, Greece, Italy, Luxembourg, Portugal, Spain).
- c) *Goodwill* - to the extent that it was acquired for valuable consideration. The goodwill can be seen as: *goodwill purchased for valuable consideration from third parties in situations where the only object is purchased goodwill* (*allowed* in Denmark, Ireland, Italy, The Netherlands, U.K.; *required* in Belgium, Finland, France, Luxembourg, Spain), *goodwill purchased on the take-over of the assets and liabilities* (*allowed* in Austria, Denmark, Germany, Ireland, Italy, The Netherlands, Portugal, Sweden, U.K.; *required* in Belgium, Finland, France, Spain), *goodwill purchased on the acquisition of the shares of another company* (*allowed* in Denmark, Ireland, Italy, The Netherlands, Portugal; *required* in Greece, Spain), *internally developed goodwill* (*allowed* in Luxembourg).

A special attention is reserved to *formation expenses* that are capitalized within the intangible assets in so far as national laws permit that (e.g. Finland, France, Italy, The Netherlands, Portugal).

Once the intangible assets have been capitalized, they may be treated in the following ways: a) written off through the profit and loss account within a shorter rather than longer period of time (in general 5 years); b) written off through the profit and loss account over its useful economic life.

The goodwill arising from business combinations can be written off immediately to reserves (the Seventh Directive) while R&D expenditure may be written off immediately against goodwill.

The basic rule for intangible assets is historical cost. The use of replacement cost criterion and revaluation procedures are not allowed for intangible assets. An exception is permitted to member states if they issue special accounting rules to take account of inflation.

4.2 Recognition and measurement rules for intangible assets according to IASB

The IASB position on intangible assets is set out in IAS 22 *Business Combinations* and IAS 38 *Intangible Assets*. As a consequence of the EC Regulation no.1606/2002 related to the requirement to use IASs/IFRSs for consolidated accounts, the IASB point of view appears of particular interest.

According to IAS 38, there are four criteria that should be fulfilled in order to capitalize the expenditure with an intangible asset (IAS 38.7-18):

- a) to be identifiable, that means to be controlled and to generate economic benefits separately from other assets;
- b) to be controlled by an entity, in other words that entity has the power to obtain the future economic benefits that flow from the asset;
- c) to be possible that future economic benefits that are attributable to the asset will flow to the enterprise (like increased revenues, reduced costs or other benefits ; and
- d) the cost of the asset can be measured reliable.

In case of business combination, expenditure on an intangible item that does not meet the above mentioned criteria should form part of the amount attributed to goodwill. Goodwill is recognized by the acquirer as an asset from the acquisition date and is initially measured as the excess of the cost of the business combination over the acquirer's share of the net fair values of the acquiree's identifiable assets, liabilities and contingent liabilities (IFRS 3.51).

If the acquirer's interest in the net fair value of the acquired identifiable net assets exceeds the cost of the business combination, that excess (sometimes referred to as *negative goodwill*) must be recognized immediately in the income statement as a gain (IFRS 3.56)

Internally generated goodwill, research expenditure, brands, mastheads, publishing titles, customer lists and items similar in substance should not be recognized as assets. Apart of these, purchased goodwill should be recognized as an asset, while development expenditure should be capitalized only when feasibility and an active market can be illustrated (IAS 38.45).

On initial measurement an intangible asset is recognize at **cost**, no matter whether it is acquired externally or generated internally. The cost of intangible assets acquired through business combination is *fair value* of the assets acquired (IAS 38.27). The fair value is a valuation that is reasonable to all parties involved in a transaction in light of all pre-existing conditions and circumstances. The International Accounting Standards Board (IASB) defines fair value as "the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arms'-length transaction".

Subsequent expenditure on intangibles should be recognized as an expense if it restores the performance standard, otherwise, whether it is probable that economic benefits in excess of

original standard of performance will flow to the enterprise, the expenditure should be capitalized (IAS 38.60).

An intangible asset should be amortized over the best estimate of its useful life, with a rebuttable presumption that this does not exceed 20 years. If the 20 years presumption is rebuffed, the intangibles should be tested for impairment annually and the reason(s) for rebutting the presumption should be disclosure. To assess whether an intangible asset may be impaired, an enterprise should apply IAS 36, *Impairment of Assets*. Nevertheless, IFRS 3 prohibits the amortization of goodwill. Instead goodwill must be tested for impairment at least annually in accordance with IAS 36 Impairment of Assets (IFRS 3.54).

After initial recognition the benchmark treatment is that intangible assets should be carried at cost less any amortization and impairment losses. The allowed alternative treatment is that certain intangible assets may be carried at a revalued amount (based on fair value) less any subsequent amortization and impairment losses. Revaluation is permitted only if fair value can be determined to an active market (IAS 38.64). Such markets are expected to be rare for intangible assets so revaluations are therefore likely to be rare.

4.3 The FASB's position on intangible assets

FASB released in 2001 two Statements of Financial Accounting Standards, respectively SFAS no. 141 *Business Combination* and SFAS no. 142 *Goodwill and Other Intangible Assets*.

Thus, SFAS 141 requires that all intangible assets acquired in a business combination to be recognized as an asset apart from goodwill if it arises from contractual or other legal rights and/or if it is separable. The intangible assets required to be separately measured and recognized include such items as trade dress, customer lists, computer software, and employment contracts.

The intangible assets acquired in a business combination should initially be assigned an amount based on their *fair value*. Fair value is defined as the amount at which the asset could be bought or sold in a current transaction between willing parties. Judgment is required in estimating the period and amount of expected cash flows while it should be consistent with the objective of measuring fair value.

SFAS 142 covers three topics:

- a) the post-acquisition accounting treatment for all intangibles, including those acquired through business combination;
- b) accounting for the acquisition of intangible assets in circumstances outside of business combination;
- c) accounting for internally generated intangible assets.

If the intangible asset has a definite useful life, amortization is required over the life of the asset, but not exceeding 40 years. If the intangible asset has an indefinite useful life (e.g. goodwill), it is not subject to amortization and is instead tested annually for impairment. Identifiable assets should be subject to impairment review whether events or changes in circumstances indicate that the carrying amount is greater than the recoverable amount. Intangible assets acquired outside of business combinations should also be recorded at fair value. No revaluation of identifiable intangible assets is permitted.

External costs that are directly attributable to the development of intangible assets may be capitalized. This includes incidental costs incurred in obtaining patents and copyright protection. Also, direct expenses associated with the development of internally used software may be capitalized. However, the costs of internally developing, maintaining, or restoring intangible assets that are not specifically identifiable, that have indeterminate lives, or that are inherent in a

continuing business and related to an entity as a whole, shall be recognized as an expense when incurred.

5 MEASURING MODELS OF INTANGIBLE ASSETS

The objective of this section is to provide information on the most known measuring models of intangible assets. After a short review of these models, the analysis will focus on the relationship between social and environmental reports and Intellectual Capital (IC) statements in the perspective of the new concept of CSR.

Historical cost has proved to be inadequate for coping with the emerging tasks of the Knowledge Economy, in several different ways. First, the economic value of intangible assets may does not necessarily correspond to its historical cost; second, any appreciation or amortization may be subjective and have no relationship to any increase or decrease in the productivity of intangible assets; because the costs associated with intangible assets may sometimes be subjective, the historical cost does not always result in comparable intangible assets values. Starting from the shortcomings of the traditional accounting systems and measurement tools, there have been adopted new tools for classification and identification of drivers for value creation.

5.1 Measures of human assets

One of the most important intangible which leads to value creation is the *human asset*. The pioneering work in this area has been done by the Institute of Social Research of the University of Michigan. The *human-resource accounting* (HRA) is about measuring the value of human resources in enterprises, which can include figure and non-figure reporting on such issues as costs and benefits of training, staff turnover, absenteeism, the value of the knowledge in employees, etc. (FREDERIKSEN; WESTPHALEN, 1998).

In order to measure human assets it can be used both monetary measures and nonmonetary measurement models. Apart of historical cost, the monetary measures are replacement cost, opportunity cost, compensation model and adjusted discounted future wages. The nonmonetary models of measurement are Flamholtz's model and Likert Bowers' model.

The *replacement cost method* consists of estimating the costs of replacing a firm's existing human resources. The principal advantage of this measurement method is that it reflects the economic value of the assets by taking in to account the market considerations. In the same time, the method is limited in several ways: first, the value of a particular employee may be perceived by the firm to be greater than the relevant replacement cost; second, there may be no equivalent replacement for a given human asset; third, because of the implicit subjectivity, different managers may arrive at quite different estimates.

In order to overcome the limitations of *replacement cost method*, Hekimian and Jones (1967) proposed the opportunity cost method. They suggest that human-resource values be established through a competitive bidding process within the firm, based on the concept of "opportunity" cost. The limitations of the method are: first, it includes only *scarce* employees; second, less profitable divisions may be penalized by their inability to outbid more profitable divisions to acquire better employees; third, the method may be perceived as artificial and even immoral.

The first valuation model has been developed by Lev and Schwartz when the concept of economic value of human resources was introduced. The *compensation model* relates an

employee's expected economic value to the firm to his future earnings for his remaining active service life. Accordingly, the "value of human capital embodied in a person of age T is the present value of his or her remaining future earnings from employment" (LEV; SCHWARTZ, 1971). The valuation model is expressed like this:

$$E(V_T^*) = \sum_{t=\tau}^T P\tau(t+1) \sum_{t=\tau}^T \frac{I_1^*}{(1+r)^{t-\tau}} \quad \text{where, } E(V_T^*) = \text{the expected value of an}$$

individual's human capital, $P\tau(t)$ = the probability of an individual dying at age t, I_1^* = future annual earnings, T = retirement age, τ = a discount rate specific to the individual.

The principal limitation of this model is the subjectivity associated with the determination of the level of future salary, the length of expected employment within the firm and the discount rate.

Hermanson (1964) proposes using an *adjusted compensation value* to approximate the value of an individual to a firm. Discounted future wages are adjusted by an efficiency factor (ratio of the return on investment) intended to measure the relative effectiveness of the human capital of a given firm. This efficiency factor is computed like this:

$$\text{Efficiency factor} = \frac{\frac{5RF_0}{RE_0} + \frac{4RF_1}{RE_1} + \frac{3RF_2}{RE_2} + \frac{2RF_3}{RE_3} + \frac{RF_4}{RE_4}}{15} \quad \text{where, } RF_i = \text{the rate of}$$

accounting income on owned assets for the firm for the year i, RE_i = the rate of accounting income on owned assets for all firms in the economy for the year i, i = years (0 to 4).

The justification of this ratio rests on the presumption that the differences in profitability are primarily due to differences in human-asset performance.

The second model has been developed by Flamholtz (1971) and it is focused upon the measurement of an employee's value to a firm. *Flamholtz's model* suggests that a measure of an individual value results from the interaction of two variables: (1) the individual's expected conditional value, and (2) the probability that the individual will maintain membership in the organization. Thus, the expected value of an employee is determined by multiplying the expected quantities of services of the employee with the corresponding probabilities of an individual occupying these services in the forthcoming period of time. The value of the human resources of the firm is ascertained by aggregating the expected values of the employees for n periods of time.

While the Flamholtz's model examines the determinants of an individual's value to an organization, the *Likert Bowers model* examines the determinants of group value (Likert, Bowers, 1969). This model states that certain *causal variables* (managerial behavior, organizational structure and subordinate peer behavior) induce certain levels of *intervening variables* (such as organizational processes as perception, communication, motivation, decision-making, control and coordination), which yield certain levels of *end-result variables* (health, satisfaction, productivity and financial performance).

5.2 Other intangible assets measuring models

Apart of the measurement models presented within the above section 4.1., and that relate to the human resource measurement, there can be identified the following measuring models.

5.2.1 Market to book value and Tobin's Q

Both the market to book value method and Tobin's Q method are grounded on the external information issued by the company through its financial statements. The basic assumption behind these methods is that the intangible asset value is essentially equal to the difference between the company's market value and its accounting value. However, these methods measure in a monetary way the whole intangible capital available to an organization.

Market to book value ratio = Market value (stock market capitalization) / Book value (net accounting value). The basic criticism to the ratio is that it does not take numerous exogenous factors into account.

James Tobin modified this basic ratio and developed another method known as Tobin's Q. Thus, Q ratio = Market value / replacement cost of intangible assets.

When the both ratios increase, it seems reasonable to assume that the company's intangible assets value is also expanding.

5.2.2 Konrad theory and Sveiby's Intangible Assets Monitor

In Sweden, the so called Konrad group issued a report in 1989 presenting a method on intangible measurement "The Invisible Balance sheet". This theory has had a major impact on Swedish companies starting the end of 1980's, and not only.

The *invisible* part of the balance sheet can be classified as three families: internal structure or structural capital (patents, concepts, models and computer and administrative systems), external structure or customer capital (relationships with customers and suppliers, brand names, trademarks and reputation, or "image") and individual competence or human capital (people's ability to act in various situations, like skill, education, experience, values and social skills).

Karl-Erik Sveiby was involved in Konrad Group and he elaborated a diagram model called *The Intangible Assets Monitor*. Related to intangible assets analysis, this diagram presents key indicators for accounting control and valuation of know-how companies, taking into account mainly three criteria: growth and innovation, efficiency and stability.

Both the Konrad theory and the Sveiby's Intangible Assets Monitor are very similar and they intend to express in a nonmonetary way the value of the intangible assets.

5.2.3 Skandia Business Navigator

In 1991, the large Swedish bank-assurance company Skandia started an intellectual capital project based on the work of the Konrad group. This project was led by Leif Edvinsson and it has resulted in the IC-Navigator. Since 1994 Skandia uses non-financial ratios and publish them in its annual reports.

The aim of the Skandia Navigator is not only to measure Intellectual Capital, but also to allow analysts to "navigate" among its components, consisting of five areas of interest, defined as focus: financial focus, customer focus, processes focus, innovation focus and development focus. The company can generate earnings only by focusing on innovation and development. This is achieved through the focus on processes and customers. The end result is that the company gains competitive advantages.

On the basis of a series of indicators from the Skandia Navigator, this method measures each of the five focus area. In detail, the authors propose the following formula:

Organisational Intellectual Capital = $I * C$, where C is the optimal value of Intellectual Capital expressed in monetary terms, and I represents the organisation's efficiency coefficient in the use of intellectual capital.

5.2.4 The Balanced Scorecard (BSC)

The Balanced Scorecard is one of the most influential management ideas of the past 15 years. This measurement system was proposed for the first time in 1992 in the article *The Balance Scorecard – Measures that Drive Performance* written by Robert S. Kaplan and David P. Norton and published in the Harvard Business Review.

The basic idea behind The Balanced Scorecard is that existing performance-measurement approaches, primarily relying on financial accounting measures, are becoming obsolete. In consequence, the accounting model should expand to incorporate the valuation of the company's intangible and intellectual assets, such as high-quality products and services, motivated and skilled employees, responsive and predictable internal processes, and satisfied and loyal customers. These are the very assets and capabilities that are critical for success in today's and tomorrow's competitive environment.

The traditional financial measures provide information on the company's past performance while they are inadequate for guiding and evaluating the journey that information age companies must make to create future value through investment in customers, suppliers, employees, processes, technology, and innovation. Also, Kaplan and Norton associate financial measures with short term, when even if profitability can be enhanced, the lack of customer loyalty and satisfaction will leave the company highly vulnerable to competitive inroads.

The authors' principal criticism of financial measures – apart from their historical nature and their association with short-run – is their failure to capture intangibles. That's why the Balanced Scorecard is a diagram for measuring a company's performance from four different perspectives: customer, internal business process, learning and growth, and financial. Within each of these perspectives, a given company will define predetermined objectives and set a limited number of specific and consistent measures, both financial and especially non-financial. The measures on the scorecard should be a mixture of *outcome measures* and *performance drivers*.

5.2.5 Value Dynamics

Value Dynamics is a new reporting model for business. According to the authors of this model, companies need to measure all their value-creating assets, including the difficult to measure intangibles. While conventional accounting definitions of assets are based on concepts of control and exclusivity, Value Dynamics defines assets as all potential sources of future economic benefit that have the capacity to contribute to a company's overall value. This model takes into account five kinds of assets that are supposed to drive companies' performance: physical, customer, organizational, financial, and employee and supplier.

5.3 Global Reporting Initiative (GRI)

GRI advocates "triple bottom line" reporting that measures economic, environmental and social performance. This project is based on the concept of *long term sustainable development*, according to which a company can prosper over time only if it is able to direct its activity toward outcomes that are economically, socially and environmentally beneficial.

The social and environmental performances of a company are key determinants of the availability of a good IC. Mutatis mutandis, the quality of IC depends essentially on the presence of a good set of social and environmental relationships. Moreover, as it was mentioned at point 4.2., the basic ingredients of IC reports are human resources, customers and environmental impact.

GRI suggest the use of several indicators which are able to represent the three dimensions of the company performance: economic, social and environmental performance. One aspect that is strengthened by this project is the recommendation to complement the valuation of tangible assets with indicators intended to reflect the intangible resources. Examples of such indicators include: the investment in human capital, the ratio of training budget to annual operating costs, the market-to-book value, the performance of the organization in honoring contracts with suppliers, the customer satisfaction level, the quality of management.

6 CONCLUSIONS

Intangible assets, primarily comprised of intellectual property rights (patents, trademarks, know-how, software, etc.) are gradually becoming more important in corporate financial statements. Both corporate value and growth can be achieved by expanding intangible capital, while physical capital remains constant. It is now time for the full incorporation of intangible capital in the managerial processes as well as in investor's analysis of securities and portfolio performance.

The new economy - the intangible economy - will be volatile, fast changing, full of risk and loaded with opportunity. The leaders in the new economy will be those who adopt new patterns of thinking, either in reaction to the world around them or, better still, in anticipation of the world to come. Changing thinking patterns is difficult and uncomfortable, but essential for companies to survive in the knowledge economy.

Generally speaking, the current financial accounting practice has to be changed. The intangible economy will increasingly spawn new kinds of corporate Annual Reports. The broad denial of intangibles as assets detracts from the quality of information provided in the balance sheets. Even more serious is its adverse effect on the measurement of earnings. It is also recommended to complement the new accounting system with a measured based information system for use in both internal decision making and disclosure to investors that reports in a structured and standardized way about the innovation process. The innovation process is where economic value is created in today's knowledge based economy.

Intangible assets measuring models have increasingly become conceived of as a strategic management tool in tandem with the fact that intangible assets valuation is considered an essential part to companies' strategic development. During this study, the main valuation models of intangibles were analysed from two perspectives, one that focuses on management control and business processing (like BSC) and one more focused on human capital (HRA).

Accounting for intangible assets remains one of the biggest challenges facing accounting with significant economic consequences. In the knowledge based economy, a key dilemma is stemming: reporting of financial statements has to confine with the legal principle or it has to emphasis more on reflecting an economic reality? More and more, in order to achieve a true and fair view, a company should report on all intangible assets, but also it should measure and disclosure its social performance. The performance factors that can be tackled include environmental protection, treatment of employees, business relations with repressive regimes, product quality and innovation, and defense criteria considered investment criteria by most of the managers.

While the historical cost remains the cornerstone of the accounting system, there can not be achieved a significant move towards the right direction, namely the valuation at fair value. Positive outcomes in the field of intangible assets measuring are yield through the appliance of the provisions of IASs/IFRSs or FASB. However, there is a need for a systematic and

harmonized framework for reporting on intangible assets in order to disclosure comparable information and thus, to increase the stakeholders' confidence.

Reporting on intangible assets at fair value leads to better information of stakeholders and thus facilitates the overrunning of barriers to globalization of markets. On the other hand, because of the related risk and uncertainty about future intangible investment outcomes, the measurement procedures and methods specific to intangible assets encompass many difficulties. Related to this last aspect, one of the major breakthroughs achieved by the IAS-IFRS standards is that in order to conduct an *impairment test*, it is necessary to measure the value of intangibles over time in accordance with techniques that are more economic than accounting-based in nature (cash-flow techniques). Indeed, intangible asset portfolio valuation techniques attempt to measure the return on investments in intangible assets.

To sum up, sustainable performance that is the guarantee for new and better jobs in the New Economy, can be achieved only by rethinking the asset concept by taking into account all the intangibles and by complementing the "material" reporting that is traditional, with "invisible" one.

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