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Conference paper

THE ROLE OF INTELLECTUAL CAPITAL AND ITS ACCOUNTING RECOGNITION AND MEASUREMENT

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Abstract

In the last two decades, the economy has moved from industrial to knowledge-based, with the result that basic economic resources no longer consist of natural resources, capital and labor, but knowledge. In a knowledge based economy, what creates a competitive advantage and value is the resources of knowledge such as human capital, processes, external brands, and networks. The source of companies' economic value no longer depends only on the production of material goods, but on the creation and management of intellectual capital. As a result, the concept of intellectual capital, which quantifies knowledge, skills, relationships, processes, innovations and other components of intangible assets, has become the most important business factor. The main objective is to examine the need for modifying the accounting theory to provide a standardized and comparable approach when using accounting and intellectual capital reports. Measurement and recognition of intellectual capital in financial statements are not limited by the requirements for legal explanations, while discretionary and contextual considerations are advisable. Despite the transition from the industrial to the knowledge economy, financial reporting is not sufficiently tailored to keep pace with the change in value-creation processes and the most significant changes that will yet take a turn in the financial context and reporting on the intellectual capital of an organization.

Keywords: *Corporate annual reports, intellectual capital, management, measurement, recognition*

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Introduction

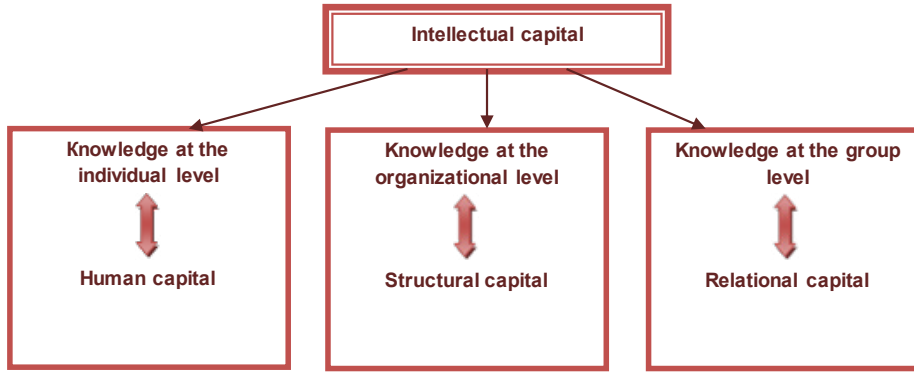
Companies that are interested in building and maintaining a continuous competitive advantage should focus on their intellectual capital, as well as their knowledge activities. Structural changes in the economy have made companies correctly evaluate their strengths and abilities. Qualified human resources, research and development initiatives, innovation and productivity are the main areas for obtaining the necessary competitiveness in major industries. The concept of intellectual capital is useful for business partners and other stakeholders who believe that there is a connection between intellectual capital management initiatives and value-creation results.

The subject of this research will be the role of intellectual capital in the operations of companies, the strategic aspect of intellectual capital management, the need for reporting on companies' intellectual capital, and the accounting treatment of intellectual capital in connection with its recognition and measurement.

The role of intellectual capital in companies' operation

In the last two decades, the business environment has seen a dramatic increase in the number of companies that own intangible assets. The economy has moved from an industrial to knowledge-based economy, with the result that basic economic resources no longer consist of natural resources, capital and labor, but knowledge. In a knowledge based economy, what creates a competitive advantage and value is the resources of knowledge such as human capital, processes, external brands, etc. Accordingly, traditional factors of production have lost their significance in creating value, so the organization's success depends more on the ability of these organizations to exploit and manage their intangible assets than material assets (Seetharaman, Sooria & Saravanan, 2002). Despite the transition from the industrial to the knowledge economy, financial reporting is not sufficiently tailored to keep pace with the change in value-creation processes, and the most significant changes that will yet take a turn in the financial context are in the reporting on the intellectual capital of an organization (Holland J, 2006).

Figure 1. Classification of intellectual capital



Source: Concept of intellectual capital. (Ordóñez de Pablos, 2004: 636)

There is no common definition of intellectual capital and the term is often used extensively and has the meaning just as the term “intangible assets”. At the same time, there is a widespread tendency to use the terms “intellectual capital” and “intangible assets” alternately. The term intangible assets refers to those assets that according to the International Financial Reporting Standards (IFRS) are allowed to be recognized in the company’s balance sheet. In a broader sense, intellectual capital can be the ultimate result of the process of transformation of knowledge or knowledge transformed into intellectual capital. In addition, intellectual capital can be referred to as one of the most important and valuable strategic resources in the modern business environment (Coakes & Bradburn, 2005). Any monetary investment made by the company in anticipation of future profits that are not immediately embodied in a material form is intangible assets, and in most cases intellectual capital. The existence of intellectual capital is more suggestive than demonstrative and plausible. Speaking in broader terms, intellectual capital is any factor that contributes to the process of generating company’s value which is more or less directly under the control of the company itself. Hunter’s view (Hunter, Webster & Wyatt, 2005) is that intellectual capital consists of a sub-group of intangible assets where “intangible assets” and “intellectual capital” will be used interchangeably, with the intellectual capital being part of the intangible assets of the company. Mouritsen (Mouritsen, Larsen & Bukh, 2001) suggests that intellectual capital is a set of intangible assets that comprise human and structural capital. These various descriptions of intellectual capital are consolidated in the definition of intellectual capital (Roslender, 2000). Abeysekera (Abeysekera, 2003) defines intellectual capital as “possession of knowledge, applied experience, organizational technologies, customer relationships and professional capabilities that provide competitive advantage to the market.” Abeysekera identifies three classes of intellectual capital, namely human capital, structural capital, and relational capital. He further suggests that the definition of intellectual capital refers to intangible assets that are not recognized in the financial statements. However, part of the structural capital accounting for intellectual property is recognized in the financial statements because it meets the IASB identification criteria. Based on IFRS 3 (Brannstrom & Giuliani, 2009), intellectual capital is described as intangible assets identified plus goodwill purchased. Studies show that intellectual capital is found at all levels of the company and the three intellectual capital classes are supporting each other. Thomas (Thomas, 1997) argues that human capital refers to the capacities of individuals to provide solutions to their clients, while structural capital transforms the know-how owned by the group. Relational capital allows customer relationships to be enhanced. This view is supported by other researchers (Swart, 2006). Figure 1 below illustrates various subcomponents or classes of intellectual capital.

Figure 1 illustrates the types and indicators of knowledge across the three classes of intellectual capital. In addition to financial performance information, investors and managers can consider other factors and indicators when collecting information and exploring about their investment options. Concepts such as elasticity, quality of management and potential risk are material in the decision-making process of a group of stakeholders, as well as users of financial information (OECD, 2006). Accordingly, the list under each sub-component of intellectual capital presented below is not sufficient.

Figure 2. Sub-components of intellectual capital

Human capital:	**Relational capital**
• Know-how • Education • Professional training • Knowledge about work • Professional assessments • Psychometric assessments • Job competencies • Entrepreneurial enthusiasm and innovation • Proactive and reactive abilities • Variability	• Brands • Customers • Customer loyalty • Company name • Delayed orders • Distribution channels • Business cooperation • Licensing agreements • Favorable contracts • Franchise agreements
STRUCTURAL CAPITAL	
Intellectual property	**Infrastructure facilities**
• Patents • Copyrights • Design rights • Trade secrets • Trademarks • Service marks	• Philosophy of management • Corporate culture • Process management • Information systems • Financial relations

Source: CIMA (2005: 6) adapted

Strategic aspect of intellectual capital management

Intellectual capital management connects scientific and technological research and development, innovation and intellectual property rights to a comprehensive management concept. However, not only technology-oriented companies will benefit from the management of intellectual capital. The capitalized value of many global companies such as Coca Cola show value many times over their fixed assets and the only way to explain the difference are intangible assets such as the brand and business processes owned by the company. China is beginning to understand that it has lost many of its historic brands and encourages the development of self-branded

brand names. There are also many Asian cases, such as Hong Kong's "Esprit" and "Red Bull" in Thailand, which have made an exceptionally clever use of intellectual capital management to take a major step from being local brands to becoming globally recognized brands. The management of intellectual capital, in particular the creation of intellectual property (including registered trademarks of which brands are built), is the foundation upon which the world's knowledge economies are built and a basic business management tool that enterprises need to exploit as they move along the path of innovation and creativity.

The process of managing intellectual capital mainly includes:

- Analysis of the existing knowledge of the enterprise in order to better meet its business plans (enterprise's structural capital),
- Creating a climate in which intellectuals have the best working conditions,
- Identifying possible sources of income that can be drawn from the existing structural capital and developing marketing plans for them,
- Optimizing the creation of value through new and existing initiatives,
- Assessing the risks involved in protecting the enterprise's intellectual property and use an effective intellectual property strategy to minimize the business risk.

Many companies have realized that market multipliers related to their intangibles (patents, trademarks, trade secrets, branding, etc.) are often much larger than the multipliers associated with cash inflows generated by their tangible assets. The challenge these companies face is to implement business practices and systems to manage and utilize these intellectual assets, since traditional accounting approaches, physical assets monitoring, and inventory are designed to manage tangible assets. Most companies have unequally developed processes, organizations or systems for effectively managing and supporting intellectual assets and have missed opportunities to realize the greatest possible value from them.

The need for reporting on the intellectual capital of companies

The increasing importance of intellectual capital and the growing number of companies that rely on these assets in order to create value require the information of the market, investors and other stakeholders on the existence of intellectual capital (OECD, 2006). As intangible assets such as knowledge and innovation become an increasingly important part of the corporate value, the problem escalates as to how to report and disclose the value of these assets in any report of the organization and also how to explain the profits arising from these funds. Companies that use knowledge-based and value-creation tools to generate value generally show a high return on assets. The story of this phenomenon is that some of these assets do not qualify for disclosure in the balance sheet, while they still contribute to gaining profits shown in the income statement. Compared to the industry average, a high-return company is assuming that there is a surplus of intellectual capital higher than the average in the industry. Accordingly, with the change in the factors of production or assets that create value from less physical to more intangible, there is a need for a change in the accounting framework and the disclosure of information in annual reports.

The emphasis in the annual financial statements is still on the accounting values of the entity's assets, and less on the market value of the entire organization. The organization's market value is based on the full value of the company, not on the individual assets that the company owns. In most cases, the carrying amount of assets differs from their market value as a result of the fact that market value includes assets not included in the book value and other market related factors. However, the difference between the two values should not be seen as equal to the value of any intellectual capital, although it explains the existence and importance of intellectual capital in the organization. In view of the fact that the difference between these two values remains unhealthy, the current financial reporting framework fails to address this situation. This difference is recognized and disclosed only as goodwill when a company is taken over by another company in a business combination. The standards also define the goodwill acquired in business combinations as "a tool that represents the future economic benefits derived from other assets obtained in a business combination that are not identified individually and are not recognized separately".

In addition, the difference between the entity's market value and the present value of its identified net assets may record a number of factors that affect the entity's value. A company that has generated goodwill in the form of internally generated intangible assets is not allowed to recognize this fact in its financial statements, as these assets do not meet the criteria for recognition of an asset. Hence, it becomes necessary to find a way to report this value both to the users of information and investors.

In trying to resolve the difference between the book value and the market value of a business, it is important to identify those mechanisms with which value is created and transformed. Therefore, it is very important to identify what creates the value, how this value is created, and how to bring this information to investors and other users of information. In modern economy, the value creation process is presented as an effect of the links between physical assets and intellectual capital, as well as the way in which these two resources are compiled and intertwined. As a result of the fact that companies now tend to have more intellectual capital compared to physical assets, the value-creation process contributes more to the market value of the business. Mouritsen (Mouritsen, Larsen & Bukh. 2001) describes this approach in assessing business as an approach to intellectual capital. The value in terms of financial accounting is determined by transactions between two parties or the fact that the element can be identified. Accordingly, the process of value creation and the existence of intellectual capital in the company is not disclosed in its financial statements. This lack of confidence in these funds has led to an accounting debate and studies by researchers on the subject.

The strict recognition terms and criteria set out in the current financial accounting framework and the IAS (IASB 2010, IAS 38) make most of these issues unresponsive. It is understandable that the criteria for recognition of assets want to fulfill some goals to protect the public interest and to ensure that due attention, objectivity, consistency, verifiability and comparability are retained. In addition, the objectives of the Financial Accounting Framework are aimed at reducing the subjectivity and manipulation of financial information by the management, as well as promotion an

objective presentation of all financial transactions (IASB 2010). However, there is a growing need to report on those assets that do not meet the accounting standards and criteria for recognizing investors or capital providers and other stakeholders for their existence and value in the business concerned.

Accounting treatment of intellectual capital in connection with its recognition and measurement

The purpose of financial reporting is to provide information to users to make economic decisions about the financial position and performance of the firm as specified by the Board of Standards for Financial Accounting and the International Accounting Standards Board in the framework for the preparation and presentation of financial statements. While it is generally accepted that investments in intangible assets are important sources of future performance, the restrictive accounting rules for the recognition of assets mean that most intangible assets cannot be included in the balance sheet, especially if they are internally developed. Instead, all costs incurred in developing intangible assets must normally be directly included as costs in the profit and loss account. With companies that invest in intangible assets, this direct payment of costs means that the current profit and financial position of the company is reduced, while future profits are often overstated.

Therefore, it is essential that the company identifies and develops its own strategic resources as an intellectual capital in order to be able to develop a strategy that will coincide with the competitive advantage of the company. Apart from the growing importance of reporting on intellectual capital, the current financial accounting framework has remained focused on tangible assets and certain intangible assets, but excludes the most important material assets. In addition, a greater emphasis on growth and competitiveness is a challenge in terms of both financial reporting requirements and corporate reporting (OECD, 2006). The only intangible assets that are recognized in financial statements are those permitted in respect of the International Accounting Standards Board (IASB). The International Accounting Standards Board (IASB) (IASB 2010) requires that an intangible asset to be recognized in the company's annual financial statements should be recognizable and measurable. The reason for not recognizing some of intellectual property capital as human capital, competitive advantage and internally generated goodwill is because these assets do not meet the criteria for recognition and measurement in terms of classifying them as an intangible asset (IASB 2010). The International Accounting Standards Board (IASB) sets out very stringent requirements if an item needs to be recognized as an asset in the financial statements. These requirements are necessary in order to ensure that it is possible to compare the financial information of different companies and to prevent manipulation of this information by the management.

The criteria for recognizing and measuring an asset in the company's annual financial statements are determined either by a specific transaction or by a series of identifiable and verifiable transactions (OECD, 2006). An example of such transactions involves the purchase, exchange, production process or contractual arrangement. Holmen

(Holmen J, 2005) considers that the occurrence of any particular transaction or series of transactions allows the recognition of the asset to be verifiable. Part of the verifiability of the asset means that the asset is measurable. However, most items of intellectual capital are difficult to measure with certainty and it is not always easy to check. These limitations on the nature of intellectual capital pose a challenge to financial reporting. To be confident in information, one must faithfully represent transactions or other events, or endeavor to represent them, or could reasonably be expected to represent them. This situation makes it difficult to recognize the internally generated brands, list of clients, publishing titles and other similar items that are not easily measurable and reliable. However, the costs incurred in generating these assets are recognized immediately because it is not possible to distinguish between these costs from the cost of business development as a whole.

The Board (IASB 2010) further argues that the reason for not recognizing these assets is the fact that there is a degree of risk that the information about these funds will be a less faithful representation of what the information really represents. This is due to inherent difficulties either in identifying transactions or other events that need to be measured, or in planning and applying the presentation techniques and techniques capable of communicating a message that is consistent with those transactions or events. However, the framework permits using reasonable estimates to determine the amount to be disclosed. In this case, measurement and presentation can be made using reasonable estimates without undermining the value of the information.

Failure to recognize assets such as intellectual capital in financial statements may result in a large difference between the value of the company as perceived by investors and the accounting value of the company as shown in its financial statements. Unfortunately, this disparity can create the impression that financial reporting does not provide an adequate picture of company operating assets. Additionally, investors are not able to rely solely on financial statements in order to make investment decisions. Market value is the one that encourages the investor to make a decision as to whether to invest or not in a proprietary company.

The rising tendency to link the management valuation with the stock price means that the accounting profession is under pressure to report on the true value of the business in financial statements (Roslender R & Fincham R. 2004). Despite the fact that the value of intellectual capital of a company does not have to be equal to the difference between the market value and book value of the company, the value of these intangible assets is included in the market value of the business and, therefore, their value contributes to the gap between the market value of the business and its book value (Steward TA 2001). With the rise of a knowledge-based economy, intellectual capital has the potential to explain the differences that exist between these two values (Sujan & Abeysekera, 2007). Several researchers have developed models that can be used to measure the value of intellectual capital. One of the models was developed on the basis of the System of Parallel Observation of Progress (Liang C & Yao M. 2005). This model divides the market value of financial capital and intellectual capital in order to enable the identification and measurement of intellectual capital components.

A key argument against the recognition of intangible assets in the balance sheet is the inconsistency of future economic inflows from such assets. As a consequence, current accounting systems are more likely to overburden the costs of investing in intangible assets and postpone the recognition of their benefits (Lev and Zarowin, 1999). In the late 1980s, academics and practitioners began to express their concerns about this practice and to argue that if accounting rules did not adapt to the growing need to provide relevant information on investment in intellectual capital, accounting would lose its relevance (Johnson and Kaplan, 1987). Both attitudes of professional organizations and academic research have emphasized the need to adjust existing accounting practices in order to maintain the provision of users with genuine and objective information on the financial position of a firm and its performance.

Conclusion

Existing knowledge in an organization crucial to its success is the so-called intellectual capital, which plays a key role in creating innovative products or services in the coming financial years which can be sold as a net profit. The targeted promotion of individuals with excellent skills, solid relations with consumers and market-oriented development for getting as good products as possible are among the most important factors of success in today's economy, which is largely based on inventiveness and knowledge. In addition to some new managerial tools, many SMEs rely on employees' inventiveness and quality management as one continuous approach in order to identify, select and target the availability of internal and external knowledge and to integrate it as an additional value in success.

Intangible assets are sources of value and a competitive advantage, but it is clear that what is normally considered as intellectual capital and the impetus for the intangible asset will not actually pass the recognition test. Accounting regulatory bodies have not yet developed an adequate reporting system that will provide investors and other users with information to make their investment or credit decisions. This lack of information has harmful consequences for both firms and investors, since it can direct them to a higher cost of capital and interest rates, a higher degree of income uncertainty, greater errors in revenue forecasts, and greater information asymmetry between managers and shareholders, leaving a great degree of freedom for insider gains and management-earnings. However, firms seem to be starting to react, and driven by research at the international level, they are beginning to provide information on their intangible resources on a voluntary basis in order to comply with new needs and requirements for better information.

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