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THE NEED OF CHANGES IN TRADITIONAL ORGANIZATION'S ACCOUNTABILITY NECESSITATED BY THE NEW ECONOMY

Preface

While economists, business people and policy analysts continue to debate the question of what is "new" about the so-called "New Economy", one important feature of modern corporation in the early twenty-first century seems clear: intangible factors are playing an increasingly dominant role in business wealth creation. We have already moved into a completely new era, where the dependency on tangible production factors such as commodities, materials, machinery, and financial factors are decreasing in the process of determination of business value. Added value and competitiveness are increasingly being attributed to intangible factors such as knowledge, relationships, innovation, quality and customers. Because of the imperfection of traditional financial accountability and legal regulation intangibles remain outside the corporate reports, therefore businesses which manage intangibles well, have a much greater value than appears from their balance sheets. The assets hidden below the surface of financial statements drive stock prices. The measurement and reporting of intangibles is one of the most important challenges facing corporate managers and shareholders, investors and capital market regulators, accounting standard setters and policymakers. Why despite the importance of intangibles, they remain almost universally ignored in accounting statements and are poorly measured? In recent years, analysis of the reasons for these shortcomings and search for ruling are in solution topical issues, particularly in USA (A.Brooking 1996, P.H.Sullivan 2000, B.Lev 2001, J.L.Davis and S.S.Harrison 2001), Netherlands (D.Andriessen and R.Tissen 2000), Scandinavia (K.E.Sveiby 1997, L.Edvinsson and M.S.Malone 1997) et al. These accounting-related problems are also essential issue in the research concerning measurement of intangibles performed by authors of this article.

Research objectives

The objective of this research was to analyze accounting-related aspects and directions of increasingly important valuation of organization's intellectual capital and to answer the following questions:

What are the reasons for intangibles left outside the traditional accounting reports?

What are the main economical and legal problems concerning difficulties to reflect organization's intellectual capital in traditional accounting statements?

What are the tendencies of intellectual capital measurement and demand of changes in traditional accounting system?

What the role standardization plays in measurement process of intellectual capital?

Research methods

The problem has been solved in the context of New Economy, applying logical comparative and scientific analysis by means of generalizing and systematizing statistical information, the theoretical methods for valuation of intellectual capital and the rules of traditional financial accountability.

Intangibles in the accounting literature, *knowledge assets* by economists, and *intellectual capital* in the management literature essentially refer to the same thing – a nonphysical and nonfinancial claim to future benefits. When this claim is legally protected (in the case of patents or copyrights), the

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assets become *intellectual property*[1]. Among the supporters of Intellectual Capital conception (started by Thomas A. Stewart in 1990) there is a variety of perceptions of intellectual capital and there is no any single definition of this phenomenon. But for the clarity of this research let's define intellectual capital as a combination of human capital (knowledge, experience, creativity, competence and loyalty of employees)[2], structural capital (strategic processes, usage of information technology, administrative system, innovation and organizational culture) and relationship capital (relationships with customers, suppliers, networking, acquisitions, brands, trademarks, also company's reputation and image) of organization that create a potential for future benefits generation. Due to the main research problem of the New Economy influence on development of accounting system and the fact that intellectual capital in accounting literature is commonly named intangibles, latter in this article will dominate term *intangibles*.

Let's look at the problem by examining what determine the imperfection of reflecting intangibles in today's financial accountability.

The traditional model of "accounting", which so beautifully described operations of companies for a half millennium, is now failing to keep up with the revolution taking place in business. In the industrial and agricultural economies, this double-entry accounting system suited because most of the value of business enterprises was created by transactions – the legal transfer of property rights. But in the New Economy, value can be created or destroyed without any transactions with third parties, for example, the clinical approval of a new drug. The successful development of a drug creates considerable value, but actual transactions (sales) may take years to materialize. This is the major reason for the growing disconnect between market values and financial information. The second problem is that equity of most significant businesses is now traded continuously on major stock exchange. A company's value is determined daily as millions of shareholders buy and sell its stock. They generate a value for equity that can be much different from what is shown in the accountability.

Today in Lithuania, as almost worldwide, in traditional balance statement stands practically only one kind of intangibles – goodwill (extremely rarely R&D or software). Under generally accepted accounting principles (GAAP), the goodwill that a business enterprise develops is extremely rarely recorded on the financial statements of the business. Most commonly, purchased goodwill is recorded by a corporate acquiror after a business is acquired. In reality, after the acquisition, this intangible is often amortized in short period of time, when it's value often become double or more what it was. So, does this balance statement line represent all the intangibles that belong to enterprise. Definitely not.

Traditional financial statements unwittingly pit human values against economic value. Expenditures on intangibles (employee training, information technology, brand creation) are generally aggregated with other expenses in financial reports. Here we clash with the contraposition expensing versus capitalization. Exist some exceptions with R&D and software in several counties, but in reality this requirement to capitalize for example software development costs is ignored by many software companies, including the industry leaders, Microsoft and Oracle[3]. These and other firms routinely expense all software development costs instead of capitalization (considered an assets)

[1] See Baruch Lev (2001).

[2] Human capital cannot be owned by the company, or anyone, or anything except the person who possess it. It is not included in the balance sheet as intangible assets or recorded as liabilities.

[3] Baruch Lev (2001). For a comprehensive annual survey of the accounting practices of software companies, see Deloitte & Touche 1998.

and amortization according to the expected useful life of intangibles.

Why despite the importance of intangibles in today's reporting, they remain almost universally ignored in accounting statements. The analysis of difficulties to reflect intangibles in traditional accounting statements disclosed that the process of such reflection is complicated by nature and characteristics of intangibles. Let's analyze them in turn.

➢***Absence of demarcation lines***. Transparent demarcation lines between various kinds of intangible assets, and between intangibles and other forms of capital are often blurry. Intangibles are frequently embedded in physical assets (for example the technology and knowledge) and in labor (the tacit knowledge of employees), leading to considerable interaction between tangible and intangible assets in the creation of value. When such interactions are intense, the valuation and reporting of intangibles on a stand-alone basis becomes impossible.

➢***Nonscarcity*** of intangibles. Physical, human and financial assets are scare assets in the sense that alternative uses compete for the services of these assets. Such scarcity leads to positive opportunity costs for rival assets. In contrast, intangible assets are, in generally, nonscare; they can be deployed at the same time in multiple uses. Accordingly, many intangible inputs have zero or negligible opportunity costs beyond the original investment (for example, airplanes can be used during a given time period on one rout only, but reservation system can serve at the same time potentially unlimited number of customers). Intangibles are generally characterized by large fixed (sunk) cost and negligible marginal (incremental) cost (for example, the development of a drug or a software program generally requires heavy initial investment, while the cost of producing the pills or software diskettes is negligible). The scalability of these assets is limited only by the size of the market. Identifying unused physical capacity (half-empty airplanes) and managing it (changing price policy) are straightforward tasks, whereas measuring usefulness of intangibles and managing it (optimizing network effects) is a great challenge[4].

➢***Partial excludability*** of intangibles. The benefits of tangible and financial assets can be effectively secured by their owners. In the case of intangible investments, nonowners rarely are precluded from enjoying some of the benefits of the investments. For example, when a company invests in training its employees other companies will benefit from such investments when the trained employees switch employers. The investing company cannot effectively exclude others from the benefits of such training. Even in the case of patented inventions, for which property rights are legally well defined, there are substantial benefits to illegal nonowners. Since a business enterprise does not exercise strict legal control over most intangibles accounting regulators are reluctant to qualify such intangibles as assets.

➢***Riskiness*** of intangibles. Assuredly, all investments and assets are risky in an uncertain business environment. But it is widely recognized that innovation is highly risky relative to other corporate activities, such as production, marketing or finance. The earnings volatility (a measure of risk) associated with R&D is, on average, three times larger than the earning volatility associated with physical investment[5]. During the innovation process, which starts with discovery and ends with the commercialization of physical products or services, the level of risk concerning future profits is continuously decreasing. This clarifies the reason for the inherently high risk of intangible investments. The widely held belief that the prospects of most intangible investments are highly uncertain underlies the decision of accounting

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[4] More about nonrivalry see Baruch Lev (2001).

[5] For the study, see Kothari, Laguesse and Leone (1998).

authorities to immediately expense such investment.[6]

➢*Nontradability* of intangibles. This characteristic of intangibles is often invoked to disqualify intangibles from being recognized as assets in corporate financial reports. The measurement and valuation of intangibles is restricted by the scarcity of comparables, namely prices of assets in similar transactions. Illiquidity and restricted risk-sharing opportunities (like the securitization of the firm's R&D operations) increases the risk of intangible investments and restricts their growth. The absence of organized markets in intangibles is a consequence of the inability to undersign contracts, because there are difficulties in specifying in advance the actions of the parties to the contract and how these outcomes will be shared. Markets cannot function without clearly defined property rights of parties to a trade. So, contracting difficulties, negligible marginal costs, and fuzzy property rights – do not preclude the existence of markets in intangibles. According to Baruch Lev, Internet-based markets in intangibles may provide the missing transparency, along with liquidity and risk sharing.[7] Not surprisingly the assets traded in these exchanges are mostly patents – again, the intangibles with the most clearly defined property rights. Such exchanges, however, are in their infancy, and the volume of trade is still very low. To qualify as an assets for financial reporting it has to be shown, that the company exercises a considerable degree of control over the assets, the risk concerning commercial success has been considerably reduced and market mechanisms are available to trade the assets or its consequent cash flows.

The difference between the accounting treatment of tangible and intangible assets has dire consequences for managers, investors and policy-makers relying on corporate financial reports and prospectuses. Are there really serious social and private harms caused by the scarcity of information on intangible investments?

First of all, exist abnormal gain to inform investors. Informed persons (such as managers having information about the success of a drug under development in human clinical tests) gainfully trade to exploit their private information. Also active information search by investors (financial analysts, for example) do not eliminate the edge of insiders. Ways often are found to motivate insiders to disclose in a timely manner at least some of their private information. According David Aboody gains to insiders in companies with R&D activities are, on average, three to four times large than insider gains in companies without R&D[8]. Insider gains erode investors' confidence in the integrity of capital markets, leading to thin trades and a decreas in the social benefits from large, transparent capital markets. The prospects of gains from inside information may also distort the incentives of some managers, leading to decisions and actions that are not in the best interest of shareholders and society.

Secondly, increasing cost of capital. Yakov Amihud and Haim Mendelson established the important linkages between information asymmetry and firm's cost of capital[9]. Serious information deficiencies lead to excessive cost of capital, low employee compensation and in extreme case takeover of the entire enterprise, triggered by low market values. This is very important for intangible-intensive enterprises, given the deficient public information about these assets, and are mostly serious for small, early-stage enterprises.

Undervaluation of intangibles is another problem necessitated by tangiles-intangibles

[6] More about riskiness of intangibles, see Baruch Lev (2001).

[7] Recent web-based exchanges in intellectual property provide valuation and insurance services that are not common in financial or physical-assets markets.

[8] David Aboody examined all trades by corporate officers in the stocks of their companies over the 1958-1998.

[9] Amihud and Mendelson (1986).

asymmetry of information. Undervaluation of securities, particularly of early-stages intangible-intensive enterprises, implies an excessively high cost of capital. Baruch Lev in his research found that companies with a high growth rate of R&D expenditures – but relatively low growth rate of earnings, typically to young, intangibles-intensive enterprises – are systematically undervalued by investors[10].

Asymmetry of tangibles-intangibles information also leads to manipulation through intangibles. Since intangible investments are immediately expensed in financial reports, changes in these expenditures affect the bottom line – earnings. In the year of initial public offering, firms tend to have decreased R&D levels and, consequently, higher reported earnings, apparently in an attempt to improve investors' perceptions about the company's prospects.

And finally, reported earnings in the traditional accounting statements are playing the decreasing role in the total information affecting investors' decisions. Figure 1 portrays the pattern of the association between corporate earnings and stock price changes (returns), researched by Lev and Zarowin. We think that this reduction is quite sharp because of the increasingly large number of knowledge-intensive businesses in U.S.A. According the researcher D.Ulys of Kaunas University of Technology, the relationship between financial variables and stock prices in Lithuania is still intense[11]. But this is determined by the fact, that there is no many real intangibles-intensive companies in Lithuania and the stock exchange functions quite passively in comparison with other stock exchanges.

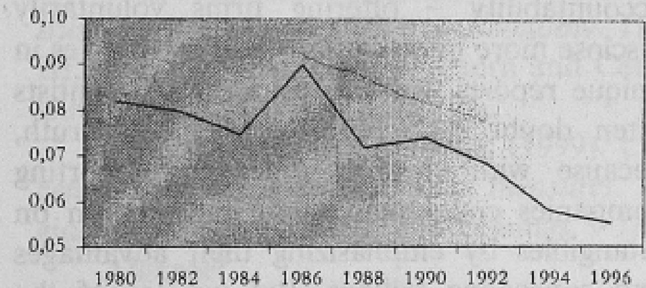
Who should take care and worry about the reporting on intangibles and disclose all necessary information? There are several groups having primary interest in intangibles:

Corporate managers and their shareholders. As we mentioned early, lack of information about intangibles leads to excessive cost of capital. The excessive cost of capital, in turn, hinders investments and growth.

Investors and capital markets regulators. Large and persistent asymmetry of information between corporate insiders and outsiders leads to undesirable consequences, such as systematic losses to the less informed parties and thin volume of trade.

Accounting standard setters, corporate boards. Empirical evidence indicates that the deficient accounting for intangibles facilitates the release of biased and even fraudulent financial reports. This should obviously be of concern to regulators of financial information and to corporate board members who rely heavily on accounting-based information to monitor managerial activities.

Figure 1. Association between Annual Earnings and Stock Returns in 5 000 U.S. Firms,1980-1996



Policymakers. The information from corporate financial statements is a major input into the national accounts and policy deliberations. The various intangibles-related deficiencies in financial information adversely affect public policymaking in key areas, such as the assessment of fiscal policy supporting innovation, optimal protection of intellectual property etcetera.

So, all representatives of these mentioned groups should be interesting in reduction of tangibles-intangibles asymmetry and actively participate in solving this dilemma. But what must be done for resolution of this problem?

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[10] Baruch Lev (2001).

[11] More about the relationship between financial variables and stock prices in Lithuania see D.Ulys, V.Boguslauskas (2000).

Three major resolution directions of this problem can be observed.

First of them – to revise the principles of traditional accounting system. Such revision would force enterprises not to expense intangibles immediately, but to capitalize them as assets. But without long and trusty experimentation it would be too dangerous to start such practice ignoring all the characteristics and nature of intangibles mentioned in the first part of this article.

Secondly, theoretically it could be possible to organize special unique accounting system for intangibles, which should be distributed along with traditional accounting statements or separately. Such new balance sheet on the one side could reflect various intangibles and on the other the added market value of a company. Such problem's solving way demands creative and innovative thinking, which should pass a long way full of skepticism and criticism before the legitimation.

And the third way, which is not very related with traditional financial accountability – offering firms voluntarily disclose more information about intangibles in unique reports without restrictions. Scientists often doubt such report's usefulness truth, because without strict rules for reporting companies could manipulate information on intangibles by emphasizing their advantages and concealing failings. But we are of the opinion that this way must be necessarily exploited nowadays, to help accountants eventually implement the first or the second problem's solving way. Only in long years practice arrive universally acceptable decisions. Several knowledge-intensive companies, like Scandia (1994), Celemi (1995) or WM-data (1995) proposed their unique annual reports on intangibles, which received recognition not only from investors or competitors, but also from financial analysts and experts. This proves that such evolution of reporting on intangibles is on the right course. Accountants are often skeptical about the creating system for reporting intangibles. On the one hand, this is an apparent threat to everything they spent years learning and perfecting, but at the same time, it represents an extraordinary new business opportunity that will restore the lost relevancy the entire profession is experiencing. With the rise of intangibles accounting firms, big and small, have a unique opportunity to help their clients establish, run, and validate computer-based intangibles reporting systems. Moreover, the biggest accounting firms will be able to develop proprietary intangible reporting software that simplifies data gathering task still further.

In this analysis there is one more important aspect – what will motivate managers to publicly disclose the information in a systematic and consistent manner? First of all, it is hard to feel much sympathy for management that sees such problems and is not immediately making efforts to fix them. Secondly in the age of hundreds of vertical trade magazines, newsletters, and the Internet, any company that believes it can keep these secrets for long is kidding itself. According Leif Edvinsson, the modern, virtual corporation demands openness and the sharing of once proprietary information. In the leading companies, that information is already being shared with frontline employees, suppliers, distributors, retailers and strategic partners. It will also soon be shared with customers to enlist their participation and creativity. And the last definitive reason why companies will adopt reporting on intangibles and share this inside information with the world - because they recognize that such reporting gives them a competitive advantage when it comes to valuation and advantage in the investment market to their less open competitors.

The final step of this problem's solving is standardization. Will such organizations, as Accounting Council of the EU in Europe, or Financial Accounting Standards Board in US, accept intangibles reporting as an additional, and more immediate measure of value? Both

of these organizations recognize the growing importance of intangibles and show that by organizing intangibles-related conferences in Europe and US. The speed of the standardization of reporting on intangibles will be largely paced by how fast the methods for valuation of intangibles are established and worldwide accepted by industry. Establishing the reporting system and putting into place the right technology to process it will not be simple, even with the new applications programs. Accounting standards must be developed in order to define, what kind of information has to be disclosed in these statements, and what valuation principles should be used. As a result if such unified standards will not be established, reports on intangibles of companies would not be comparable, prepared financial information would not be unambiguous and clearly understandable. After the standards will be set, a methodology for conducting, validating and certifying corporate intangibles audit must be established. This would be a huge opportunity for the accounting industry. It may happen that accounting profession will be stymied in its attempt to take on the work of intangibles reporting, no doubt some other profession (probably the big consulting firms) will step in to take on the job. But that will be a loss to almost everyone else: intangibles reporting will lose precious standardization time because it will lack the imprimatur of certifies measurement, companies will continue to be misvalued, and most of all, the accounting profession will have missed the first big opportunity for professional renewal and development into the new century. Only interest, aspiration and efforts to standardize intangibles of various interested accounting-related groups will determine which of them is the best.

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Abstract

Despite the growing awareness of the importance of intangible assets, they remain almost universally ignored in traditional accounting and reporting procedures. The scarcity of information on intangible investments cause serious social and private harms in the New Economy. The authors in this article analyze the main problems concerning economical and legal difficulties to reflect intangibles in traditional accounting statements, suggest this problem's solving ways and project the tendencies of reporting intangibles-related information in future accountability.