HUMAN RESOURCE COSTING AND ACCOUNTING VERSUS THE BALANCED SCORECARD: A LITERATURE SURVEY OF EXPERIENCE WITH THE CONCEPTS[1]

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[1] The present project is one of several subprojects in the MERITUM (Measuring Intangibles to Understand and Improve Innovation Management) project. The aim of the MERITUM project is to investigate possibilities to measure and report intangibles. At the present time, nine universities and research institutes in six European countries (Denmark, Finland, France, Norway, Spain and Sweden) are participating in the project. Apart from financial support from the European Commission, fundings of the Swedish studies are obtained from the OECD, the Swedish Council for Work Life Research, Nutek, the Swedish Ministry of Trade and Industry and the Swedish Public Relations Association. A former version of this paper was delivered to the OECD in 1998.

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ABSTRACT

In the present paper conclusions are drawn from literature whose goal was to put information on intangibles into financial and non-financial frameworks. The analysis primarily focuses on two concepts: The human resource management oriented concept called Human Resource Costing and Accounting (HRCA) and the strategic management oriented concept called Balanced Scorecard (BSC). Despite numerous articles and books on theoretic views and models to capture intangibles in a tangible way, little is known about the outcome of HRCA and BSC. Theoretical elaboration about possible effects is not rare, but investigations are scarce when it comes to financial attempts and almost non-existent with respect to non-financial models. HRCA and BSC have largely been developed and applied to internal managerial purposes, though they appear to be used occasionally for external marketing.

The future of HRCA may well be to link it to the BSC. To date, HRCA suffers from not being grounded in business strategy. Linking HRCA to BSC would solve this problem and, conversely, the BSC would have the option to utilise measures that have already been developed within the HRCA framework. This effort of combining HRCA and BSC appears to already exist when reviewing some of the recent literature. The question of standards is presently being pushed. However, is it possible to agree upon a standard? For what purpose and which standard?

Key words

Human Resource Costing and Accounting, Utility Analysis, Balanced Scorecard, Intangible Assets, Intellectual Capital, Corporate Social Reporting, Non-Financial Disclosure, Performance Measures.

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EXECUTIVE SUMMARY

The aim of the present literature survey has been formulated as (1) experience with attempts to measure and put information on intangibles into non-financial frameworks; (2) experience with attempts to put information on intangibles into financial accounting frameworks; and (3) impacts of disclosure on management of intangibles and other measures of firm performance. Financial frameworks refer to financial statements, whereas non-financial frameworks refer to things not included in such statements. 'Experience' may include empirical findings as well as theoretical elaboration.

The financial framework mainly deals with the human resource management oriented concept Human Resource Costing and Accounting (HRCA) whereas the non-financial framework mainly focus' the strategic performance oriented concept Balanced Scorecard (BSC).

The literature is derived from two sources: references cited in major articles and 15 different databases containing scientific literature. More than 100 keywords or combinations of keywords in English, Spanish, French, Italian, German, and Swedish have been used. Because of this search, more than 2,000 references were found. From these, about 400 were selected for further reading, resulting in 180 references referred to in the present article. The findings from this literature survey will be further utilised in the MERITUM project.

Conclusions on human resource costing and accounting

Three goals of HRCA can be distinguished in the literature: (1) An ambition to improve the management of human resources from an organisational perspective by increasing the transparency of human resource costs, investments and outcomes in the management accounting rituals, such as profit and loss accounts, balance sheets and investment calculations; (2) attempts to improve the bases for investors company-valuation; and (3) aspirations from human resource specialists, company doctors or unions to use monetary arguments when suggesting investments in human resources.

Even if Human Resource Accounting (HRA) models have generally been proposed by accountants and Utility Analysis (UA) models by psychologists, their composite Human Resource Costing and Accounting (HRCA) seems to have been adopted primarily by those managing human resources, i.e. human resource people and departmental managers.

Opinions differ widely whether HRCA is actually used by practitioners today. Human resource costing/income evaluations appear to be widely practised, whereas human resource balance sheets are hardly used with the exception of the football industry, which is probably because of difficulties to accomplish all accounting criteria regarding assets.

Decision-making and learning of investors and managers appear to be influenced by HRCA, where most managers generally hold a positive attitude towards HRCA. Nonetheless, whether HRCA as a part of the management control process is actually used is questionable. When trying to implement HRCA, efforts should focus on (1) knowledge of human resource costs, values and outcomes and how to calculate these; (2) top management demands, as well other ingredients in the reward system; (3) and HRCA target setting. It is necessary to implement HRCA from a strategic-management perspective.

Recognition criteria, such as identification and controllability, might cause problems in some cases. Even the separation of investments and the expectancy of future income are possible to overcome, but attaching future incomes to a specific investment is difficult to achieve.

One perspective that HRCA literature has neglected is the ethical issue. There is a risk that putting a price on people may make human beings substitutable to other forms of capital. For ethical reasons, many individuals argue against the use of HRCA; however, many others argue in favour of HRCA for the same reasons. The two approaches are not likely to ever be united. Admittedly, just as a bread-knife, HRCA can be applied in a flexible manner and serve a number of purposes.

In general, the HRA and UA literature are measurement-oriented. A true representation of a certain problem is regarded as most important. This may result in the risk that human resource measurement systems lose sight of the forest for the trees in the sense that only a limited number of measures could be grasped by a manager. It has been suggested that future research ought to be directed towards how to develop useful measurement systems to align human resource strategy with the competitive strategy of business.

Conclusions on the balanced scorecard

Numerous BSC models and measures have been suggested in the literature and the concept has inspired the development and application of a variety of models. BSC is intimately related to intellectual capital and comprises not only tools for the measurement of intangibles resources, but also a vision of continuous learning and change to create value for the future. The mere existence of BSC reveals a message that what finally counts is not only financial outcomes, but even long-term relationships with customers and employees. These relationships are facilitated or hampered by adequate or inadequate organisational structures. However, it remains to be investigated whether firms really practise BSC as a vision of priorities or as a tool to accomplish superior financial performance.

Although there are many recent studies on the extent to which companies disclose information on intangibles, it is difficult to draw any firm conclusions as to the extent quantitative information is released. This is due to the existence of a variety of models and a variety of stakeholders' interest that have to be taken into account. The overall view is that outside stakeholders, such as investors and analysts, consider non-financial indicators in their decision-making. It is apparent that investors and analysts consider market-oriented information, but opinions differ considerably whether such issues as employee satisfaction, ethics and environmental issues are considered.

Depending on what is the ultimate goal of the firm some authors believe that metrics concerned with the management of intangibles in itself has no ultimate value to the firm. What finally counts are such economic factors as market share, revenue, gross-margin and customer satisfaction.

Scientific studies on the experience of the utility of the concept are rare. Few scientific investigations on the influence of company management or financial results exist. However, the literature suggests that there is no lack of enthusiasm and intentions on how to use the BSC concept. Executives appear to be pleased to have started a process of transforming the organisation into a "BSC-organisation". The main advantages are an increased awareness of company vision connecting operational tasks to strategic, employees' participation and flexibility in regards to the different measurements, whereas the sole disadvantage is the cost

of actually carrying out the transformation process. However, the companies that are referred to have recently adopted the concept and the implementation process is taking place.

Numerous BSC models and measures have been suggested. They comprise a mixture of measures of outcomes and performance drivers. However, it could be questioned whether the most basic issues that drive human performance are identified.

Top management support is a precondition for a successful implementation because the strategic connection is actually the reason for dealing with BSC. This is to say that before starting the process of transforming the firm into a "BSC-organisation," it has to be carefully considered why this transformation should be achieved. Measures should be highly diversified, considering the differences in the organisation. Nevertheless, the number of measures should limited and only measures that could be managed should be developed.

As in the case of HRCA, the ethical issue has been neglected. However, whereas a limited number of studies concerning ethical issues have been conducted in the field of HRCA, none have been found in the BSC area.

Overall conclusions and proposals

Despite numerous articles and books on visions and models designed to capture intangibles in HRCA or BSC models, little is known about the outcome of such efforts. Theoretical elaboration on possible effects is not rare but investigations on firm level are comparably scarce.

HRCA and BSC have been developed and applied primarily for internal managerial purposes, though they occasionally appear to be used for external marketing (?) in an attempt to gain image and market value. Whereas HRCA has been pushed forward by researchers and practitioners in fields of human resources and accounting, most recent developments of different BSC models are related more to the strategic management of the firm. The interest in and applications of HRCA and BSC appear to be more frequent in Northern Europe, Northern America, and Australia than elsewhere in the globe.

The future of HRCA may well be to link it to the BSC. To date, HRCA suffers from not being grounded in business strategy. Linking HRCA to BSC would solve this problem and, conversely, the BSC would have the option to utilise measures that have already been developed within the HRCA framework. This effort of combining HRCA and BSC appears to already exist when reviewing some of the recent literature. Despite the basic differences between the two, they are treated as if they were very similar.

However, before the application of HRCA, BSC or any other model (i.e., before measuring) you have to know what to measure. For instance, Which are the important value drivers in the firm? How could they be identified and operationally defined? For example, in reference to how much firms spend on training values ranging from 3 to 60 percent of a firm's labour costs have been reported, depending on how training is defined. Even more complicated is how to operationally define and measure such issues as feelings, fears and dreams.

A standard setting with respect to intangibles is already under way. Apparently, different individual actors have already taken part in the standard setting procedure. However, despite these bold efforts, intangibles are defined in numerous ways and from such perspectives as accounting, statistical and managerial, to name a few. There is no consensus as to what constitutes an 'intangible'. Some are more "tangible" (e.g., patents) than others (e.g., unconscious processes). Because of the nature of intangibles, presumably a consensus will never be reached. Probably definitions on intangible assets as well as intangible investments

for accounting and statistical purposes could be widely accepted, but definitions on such intangible phenomena as processes in the organisation are not likely to be easily agreed upon.

Nevertheless, there is clearly a need for clarification of what we are talking about whenever the term 'intangibles' is used. In any case, it is desirable to separate those intangibles that could be defined in common from those that could not. A failure to do so would at the very least lead to relativism as regards comparability between firms. Further, a failure with respect to finding definitions will preclude the possibility of measuring and, at least to some extent, controlling those intangibles.

Could it be so that once a certain intangible is measured and reported and the importance of that intangible for the overall performance of the firm is known, interest will be re-focused on another intangible? Once you have learnt something, you change the scope of interest. Indications on this are found in all of the 'aha' reactions in connection with research on implementation of HRCA, as well as in the following quotation by Gordon Petrash, Global Director of Intellectual Asset & Capital Management at Dow Chemical Company. "We find the process of trying to establish the measures for intangible assets and intellectual property in itself has significant value in bringing consensus and understanding of what drives you toward the future - this has been one of these Eureka's to us as we have gone through the process. The process itself has great value."

If this is true measuring and reporting on intangibles is a continuous learning process and thus all efforts of establishing permanent and standardised indicators will be in vain. The individual firm will always strive to capture and measure new intangibles. Comparability and the possibility to understand from external stakeholders will always suffer in this respect.

The question of standards is presently being pushed. However, is it possible to agree upon a standard? For what purpose? Which standard? How? Or, as Webber states, "the real issue with intangible measurements is not whether there is a metric, but whose metric it will be and how it will become a standard".

1. MEASURING THE IMMEASURABLE

Already during the medieval European wars, market prices on prisoners were established. According to Frey & Buhofer (1986), in 1642 Austria and Sweden agreed upon the following price list (in taler).

Field marshal	20000
Colonel	1000
Cavalry captain	200
Infantry captain	150
Non-commissioned officer	16
Private	8

Table 1: *Market price on prisoners during the medieval European wars according to Frey & Buhofer (1986).*

Because the prisoner was conceived of as the general property of the capturing soldier, a quick decision had to be reached already on the battlefield whether to kill or spare the prisoner's life. Costs of keeping the prisoner had to be compared with expected future income. When the state moved in to claim ownership of the prisoner, the efficiency of the market declined. The incitement for the individual soldier to capture a prisoner was lost. After the revolution, France forbade the trade of prisoners. Casualties increased dramatically according to Frey & Buhofer, which is why The Red Cross was established in 1863. As the above illustration points out, the enterprise of either killing or capturing was influenced by the measurement procedure.

1.1. What is the purpose of the present study?

The aim of the present study has previously been formulated by the OECD as (1) experience with attempts to measure and put information on intangibles into non-financial frameworks; (2) experience with attempts to put information on intangibles into financial accounting frameworks; and (3) impacts of disclosure on management of intangibles and other measures of firm performance. Financial frameworks refer to financial statements, whereas non-financial frameworks refer to things not included in such statements. 'Experience' may include empirical findings as well as theoretical elaboration.

After having reviewed the literature it seems natural to present the financial (mainly dealing with the human resource management oriented concept Human Resource Accounting) and the non-financial framework (mainly focusing the strategic performance oriented concept Balanced Scorecard) as separate chapters. Although the two chapters are not identically structured because of conceptual differences and because of the type of literature, three perspectives will appear in both of the chapters. First, there is a description of the concept, then an analysis of the actual use of the concept and, finally, an analysis of whether any evidence exists regarding the influence on management as a result of an application of the concept.

In the present article, concepts that embrace different aspects of intangibles will occasionally be used without being defined. Sometimes the actual concept is clearly defined in the original source, but too often (unfortunately) it is not. In some cases, a specific word is used in the same mysterious way as in the original source. Bringing clarity to different concepts is not a primary task of the present survey. The many different terms in use may serve as an illustration of the necessity for the development of definitions as well as the need for the classification of concepts. However, a short elaboration of the most central concept 'intangibles' will initially be undertaken. Because non-financial is a more recent phenomenon in comparison with financial reporting, the literature review begins with the financial framework. At the end of the article, conclusions are drawn about the lessons that may be learned from the present literature survey.

The literature is derived from two sources: references cited in major articles and 15 different databases containing scientific literature. More than 100 keywords or combinations of keywords in English, Spanish, French, Italian, German and Swedish have been used. Because of this search, more than 2,000 references were found. From these, about 400 were selected for further reading, resulting in 180 references referred to in the present article.

Despite the considerable quantity of articles and books covered, it is no guarantee that all the relevant literature is covered in the present review. There are several reasons why this might have occurred. First, relevant references might not have been in the databases; second, authors might have used inadequate keywords; third, we might have missed relevant literature as a result of using inadequate keywords; and we might have excluded relevant literature because of a poor interpretation of the abstract. Literature specifically treating such issues as goodwill and environmental, ethical or brand accounting has been excluded. Further, because the present aim is to report on experience, literature that proposes models to measure intangibles has been utilised only to clarify the subject. All these possible shortcomings imply that the reader's contribution to complete the present survey is welcomed.

1.2. What is meant by 'intangibles'?

There is no generally accepted definition of "intangibles." Reilly (1992) proposes that the most 'common' categories of intangible assets are Technology-related (e.g., engineering drawings), Customer-related (e.g., customer lists), Contract-related (e.g., favourable supplier contracts), Data processing-related (e.g., computer software), Human capital-related (e.g., a trained and assembled workforce), Marketing-related (e.g., trademarks and trade names), Location-related (e.g., leasehold interests), and Goodwill-related (e.g., going concern value).

Canibano & Sanchez (1998) state that the adjective 'intangible' normally accompanies different concepts, including assets, investments, resources or other phenomena. The transformation of the adjective into a noun is ample proof of the existing lack of a broadly accepted definition. The aim of this paper is not to discuss all the definitions that have been suggested, but to give a glimpse of the variety of definitions by briefly presenting some that are developed from accounting, statistical and managerial perspectives.

1.2.1. Definitions of intangible assets for accounting purposes

Hendriksen & van Breda (1992) state that intangible assets are the result of deferrals of expenditures on services as opposed to expenditures on property. Some of these assets are

known as deferred charges while others are the traditional intangibles. Examples of the two kinds of intangibles are (*a*) traditional intangibles, including brand names, copyrights, licenses, patents, etc. and (*b*) deferred charges, including advertising and promotion, authors' advances, computer software development costs, organisation costs, training costs, etc.

As a response to the growing concern for intangibles, the International Accounting Standards Committee initiated the project for an accounting standard in 1989. After three revisions (the Draft Statement on Principles on Intangible Assets in January 1994, the E50 in June 1995 and the E60 in August 1997), the IAS 38 was finally issued in the autumn 1998. One big issue in this development process were the three questions of (IASC 1998a):

1. whether internally generated intangible assets should be recognised at all in the balance sheet, and, if they were to be recognised, if the recognition criteria for these internally generated items should differ from recognition criteria for externally acquired assets;
2. if an intangible asset's fair value could be reliably determined; and
3. if the value of intangible assets should be amortised and, if so, over what period.

The definition of intangible assets given by IAS 38 (1998b: §7) is formulated as follows: "An intangible asset is an identifiable non-monetary asset without physical substance held for use in the production or supply of goods or services, for rental to others, or for administrative purposes. An asset is a resource: (a) controlled by an enterprise as a result of past events, and, (b) from which future economic benefits are expected to flow to the enterprise."

This definition requires that the intangible asset is identifiable such that it can be clearly distinguished from goodwill. The control aspect is important in this standard. When an enterprise has insufficient control over the expected future economic benefits arising from a team of skilled staff and from training, there might be serious problems in finding these to meet the definition of an intangible asset. This also concerns specific management or technical talent, which IAS 38 states is unlikely to meet the definition of an intangible asset, unless such assets are protected by legal rights in order to use them and obtain the future economic benefits expected from them. The standard further states (1998b: §16): "However, in the absence of legal rights to protect, or other ways to control, the relationships with customers or the loyalty of the customers to the enterprise, the enterprise usually has insufficient control over the economic benefits from customer relationships and loyalty to consider that such items (portfolio customers, market shares, customer relationships, customer loyalty) meet the definition of intangible assets."

IAS 38 states that (1998a: §11): "An asset is separable if the enterprise could rent, sell, exchange or distribute the specific future economic benefits attributable to the asset without also disposing of future economic benefits that flow from other assets used in the same revenue earnings activity." In IAS 38, an intangible asset should be recognised at cost only if (1998a: §19): "it is probable that the future economic benefits that are attributable to the asset will flow to the enterprise; and the cost of the asset can be measured reliably". The standard excludes certain forms of intangibles since these should not be recognised as assets; these intangibles are *internally generated* goodwill, brands, mastheads, publishing titles, customer lists and other items similar in substance. We see that the possibility to recognise intangible assets is severely restricted in this standard.

1.2.2. Definitions of intangible investments for statistical purposes

Whereas the interest of the IASC is to establish criteria for the accounting of intangible assets in the financial statements, the OECD has tried to produce a standard practise concerning intangible investments. In 1992 (OECD, 1992 p.114), the OECD offered the following (negative) definition: ”Intangible investments cover all long-term outlays by firms aimed at increasing future performance other than by the purchase of fixed assets”. According to Croes (1997), this definition has low statistical orientation because it does not specify what actually constitutes an intangible investment and, although it does mention the goal of these investments, it still remains unclear what is meant by ‘future performance’.

Mortensen et al. (1997) and Vosselman (1992) address the latter problem. The former authors propose that factors contributing significantly to the growth of firms or nations without being included in the traditional category of fixed assets should be recognised as intangibles. Additionally, Vosselman holds that intangible investments are the cost of intangible products that remain in use for more than one year.

Croes (1997) proposes the following definition:

> Intangible investments are all new goal-oriented activities to a firm or disembodied tools used by a firm, on a strategic and tactical level, during the reference period. On the tactical level, they are aimed at a quantitative change or extension of existing knowledge, while on the strategic level they are aimed at the acquisition of completely new knowledge.

They refer to services or output indicators of these services that can be bought from third parties or produced for their own use, and normally embrace a certain degree of risk. They include marketing, technological, informational and organisational activities or tools.

These activities or disembodied tools have to be separately identifiable and measurable in financial terms.

The results are reflected by expected pay-off in the near future. They are assets concerning the stock of knowledge or power on the market or strength of the internal organisation, having a useful life of more than one year.

These investment activities are measured by their expenditures, occurring in the present.

Purchases of small, disembodied tools or minor activities, which are not capitalised, are considered expenditures on an operational level and are included under current expenditures. Assets acquired through restructuring (such as mergers, take-overs, break-ups, and split-offs) are excluded.

1.2.3. Definitions of intangibles for managerial purposes

Apart from focusing on intangible assets or investments, it might, from a managerial point of view, be valuable (or perhaps even more valuable) to focus on intangible processes, activities or phenomena.

Hall (1992) asserts that intangible resources can be defined as either 'assets' or 'skills'. Assets include the intellectual property rights of patents, trademarks, copyright and registered designs, as well as contracts, trade secrets and databases. Intangible resources, which are skills or competencies, include the expertise of employees, suppliers, distributors and the culture of the organisation, enabling it to cope with change, put the customer first, etc. In addition to being categorised as assets or skills, intangible resources may be categorised as being people dependent and people independent.

Lowendahl (1997) and Haanes & Lowendahl (1997) provide definitions on a number of intangibles for the purpose of strategic management of professional service firms. Because there is no consensus on the definition of 'resources', Haanes & Lowendahl refer to Itami (1987) who suggests that resources consist of (a) physical, human and monetary resources that are needed for business operations to take place and (b) information-based resources, such as management skills, technology, consumer information, brand name, reputation and corporate culture. After further elaboration on the concepts of intangible resources, intangible assets, capabilities and competencies, Haanes & Lowendahl and Lowendahl categorise intangible resources into competence and relational resources. By the latter is meant reputation, client loyalty, etc., which are conceived as being fundamental to the performance of the firm. Competence is defined as the ability to perform a given task and exists at both the individual and organisational level. On the individual level, it includes knowledge, skills and aptitudes; on the organisational level, it includes client specific databases, technology, routines, methods, procedures and organisational culture.

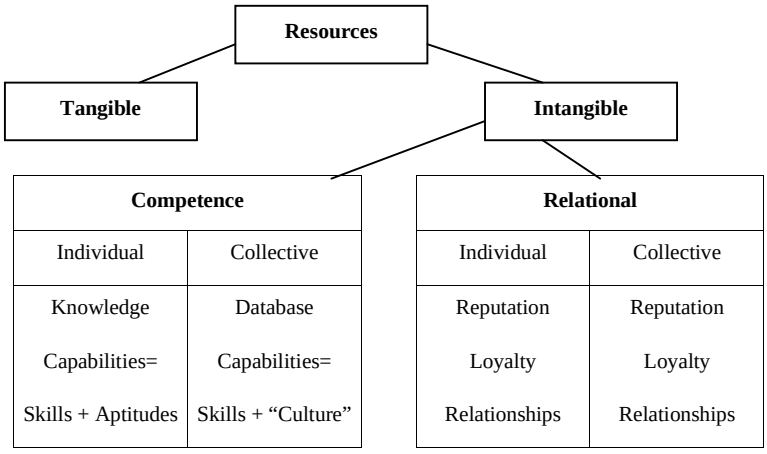

Figure 1: *Classification of resources according to Lowendahl (1997, p. 87)*

To illustrate from the level of the organisation (firm), Skandia, a major Swedish insurance company, prefers to use the concept 'intellectual capital' (IC), which they define as "the possession of knowledge, applied experience, organisational technology, customer relationships and professional skills that provide Skandia with a competitive edge in the market" (Edvinsson, 1997, p.368). IC consists of human and structure capital as could be seen in the following classification of different forms of capital.

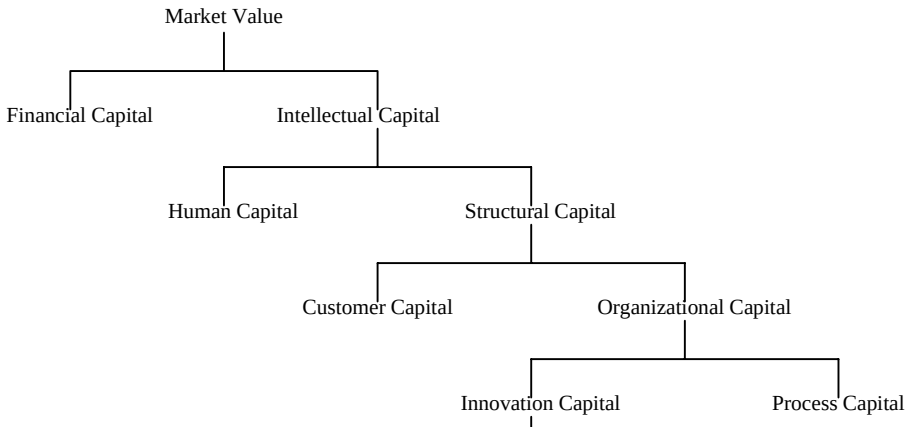

Figure 2: *Classification of intellectual capital by Skandia (Drake, 1997, p. 11)*

1.2.4. Concluding remarks concerning definitions

As previously stated, there is no consensus concerning what constitutes an 'intangible'. Because of the pure nature of intangibles, we are never likely to arrive at such a consensus. Definitions on intangible assets and intangible investments for accounting and statistical purposes could reach a common acceptance, but definitions on such intangible phenomena as cognitive (or even unconscious) processes in an organisation are not likely to attain such status. Nevertheless, there is a powerful need for clarification of what we are talking about whenever the word 'intangibles' is used. At least it is desirable to separate those intangibles that could be commonly defined from those that could not, if identification, control and measurement are to be undertaken; even more so, if comparability is a desirable quality in what concerns accounting, statistical and managerial purposes.

2. ATTEMPTS TO PUT INFORMATION ON INTANGIBLES INTO A FINANCIAL ACCOUNTING FRAMEWORK

After describing Human Resource Accounting (HRA), experience with the concept will be referred to by means of analysing today's actual use of HRA, in addition to its influence on decision-making and learning. The chapter concludes with some general remarks (including problems about the fulfilment of asset criteria) concerning experience with HRA.

2.1. What is human resource costing and accounting?

During the past couple of decades, numerous authors have claimed that major parts of the world economy have transited into a knowledge-based economy. In this process, it has often been proposed that traditional accounting and financial reporting have become increasingly less useful (Roslender, 1997; Lev, 1997). According to Tollington (1994, p. 94), "The balance sheet as currently constructed is a hotchpotch of historic costs, revaluation's and fair values which are not underpinned by an all-embracing theoretical framework or, in the case of brands, a regulatory framework. ...We have, in respect of goodwill and brands, arrived at the point where the distortion in balance sheet values is now unacceptable and must be addressed if we are to retain our professional credibility." Wallman (1996) presents several reasons for this distortion, including changing concepts of the traditional "firm," recognition and measurement difficulties, issues related to the timeliness of financial reports and limitations associated with current information channels. Some investigators (e.g., Ryan & Tibbits, 1996) recommend the old system of historical costs complemented with a new system consisting of up-to-date information pertaining to the current cash equivalent of assets.

Wallman holds that there are three distinct purposes and functions of financial reporting: (1) asset, capital and investment allocation; (2) "contracting" and "ex post settling-up" and (3) corporate stewardship and monitoring. The contractual functions of accounting and financial reporting seem reasonably well-served by the current model, but in the other two areas accounting and financial reporting do not appear to be meeting the needs of users as well as they might.

Traditional financial statements are now significantly less reflective of the assets that create wealth than in times past. Intangible assets such as brand names, intellectual capital, patents, copyrights, expenditures for research and development, human resources, etc. are generating an increasing amount of our overall wealth. It has also become harder to define the outer edges of companies. Historically, the assets and liabilities that produced the wealth were recognised in financial statements as costs and were 'hard' or tangible. However, the shift to a knowledge-based economy has created, or focused, increased attention on entirely different categories of assets. These 'soft' assets are not recognised in the financial statements. The primary obstacles relate to valuation difficulties, the inherent uncertainty of any value ultimately determined and the resulting potential for fraud. The rapid acceleration of events that may significantly affect share values makes the system of annual audits and quarterly reports obsolete according to Wallman. It is hard to obtain a good picture of anything that is moving so quickly and changing so often when only snapshots are taken at relatively long intervals.

In Wines & Ferguson's (1993) analysis of 150 Australian firms, it was found that a number of accounting policies were adopted for the treatment of identifiable intangible assets;

identifiable intangibles capitalised and amortised systematically; identifiable intangibles capitalised and amortised non-systematically; identifiable intangibles capitalised and not amortised; identifiable intangibles written off in a lump sum against retained earnings or reserves; etc. An increase in the number of companies recognising identifiable intangible was also shown. Finally, an increase in the percentage of companies electing not to amortise identifiable intangibles and a decrease in the percentage of companies adopting a systematic amortisation policy were noted.

Tollington (1994) argues that there is a huge problem of providing meaningful published accounts and containing accurate and reliable values of intangible assets. When considering goodwill from this point of view, Tollington draws on the words of Tearney (1994, p. 43): "goodwill is determined by the drop-out method, i.e. whatever is left must necessarily represent goodwill cost." If goodwill should be accounted for there is a need to find an alternative to the accounting methods used today.

To measure human value as a part of goodwill, HRA was introduced into the accounting literature in the 1960s (Flamholtz, 1985), although support for the idea of accounting for human resource values can be found much earlier (Johanson & Nilson, 1990; Sackmann et. al., 1989). In 1964, Hermansson published a pioneer work concerning the valuation of human assets, and in 1968 Brummet, Flamholtz & Pyle used the term 'human resource accounting' for the first time. Thereafter, a large bulk of articles has been published in the area. In 1973, American Accounting Association's Committee on Human resource Accounting defined HRA as 'the process of identifying and measuring data about human resources and communicating this information to interested parties' (Flamholtz, 1985). It provides information about human resource costs and values, serves to facilitate decision-making "and motivates decision-makers to adopt a human resource perspective" (Sackmann et. al., 1989, p. 236). Gröjer & Johanson (1996) express the management orientation of HRA even more clearly in the assertion that HRA concerns the management of human resources. Despite the management orientation of the concept, HRA may also be used externally.

The idea of measuring human resources for managerial purposes stems not only from accountants; psychologists and sociologists (e.g., Likert, 1967) have also proposed that the financial utility of different activities in the field of human resource management ought to be measured. In 1965, both Cronbach & Glaser and Naylor & Shine developed models for estimating the financial utility of personnel selection. They used the concept 'utility analysis' (UA). To embrace both HRA and UA, Gröjer & Johanson (1996) suggest the concept Human Resource Costing and Accounting (HRCA).

HRA rose rapidly to the upper echelons of the research agenda. The 1960s was a period of basic academic research to develop and assess the validity of models for the measurement of human resource cost and value (Flamholtz, 1985). Already in the 1970s a widespread erroneous belief emerged suggesting that HRA was concerned only with treating people as financial objects. "Although preparing financial statements that included human resources was undoubtedly a part of HRA, it was not by far the most significant part. Yet precisely because it was dramatic and innovative, 'putting people on the balance sheet' became the dominant image of HRA for many people" (Ibid., pp. 2-3).

At the end of the 1970s and the beginning of the 1980s, the interest in HRA declined within both academia and the corporate world. Meanwhile, an intensive development started within UA. Schmidt et al. made a significant contribution to the area in 1979. Since Schmidt's paper, a considerable number of scientific articles have been written (e.g., Hunter & Schmidt, 1982; Boudreau, 1983; Boudreau & Berger, 1985; Cascio & Ramos, 1986; Cascio, 1991; Martin & Raju, 1992; Boudreau, 1996; Cascio, 1996). UA has mainly been applied to personnel selection matters and more recently to downsizing (Mabon, 1996; Mabon & Westling, 1996)

and training (Jarret, 1998). Even in the preventive health and safety sector an increasing interest has been devoted to empirical evaluations of financial outcomes, although only a few studies (e.g., Johanson, 1997) have been published thus far (Pelletier, 1993).

A great number of studies have been performed in the area of training. A review of this literature is found in a report from the European Commission (1996) as well as in Barret & Hövels (1998). Some work has been performed on effects of training at the level of the firm e.g., at Merck & Co. (Jarret, 1998) and at Sears (Boudreau & Ramstad, 1997), though a more significant body of work has been undertaken to establish a correlation between skills levels and productivity (e.g., CEREQ, 1990; Sevestre, 1990; Coopers & Lybrand, 1994; Hansson, 1998). Some of the published investigations of financial outcomes of human resource investments have addressed the problem of estimating the costs and benefits of separate human resource activities as opposed to the impact on the overall business performance. Exceptions to this are studies by, e.g., Bassi et al. (1997a), Bassi & van Murren (1999), Eliasson & Braunerhjelm (1998) and Ulrich (1997).

Many investigators (e.g., Boudreau, 1998) propose that further research with respect to the linkage between human resource performance and organisational outcomes has to be undertaken.

According to Cascio (1991), in 1989 Scarpello & Theeke reviewed over 140 articles and books on HRA. When both HRA and UA are taken into account several hundred articles and books have been published to date.

Three purposes can be distinguished in the HRCA literature: (1) an ambition to improve the management of human resources from an organisational perspective by increasing the transparency of human resource costs, investments and outcomes in the management accounting rituals, such as profit and loss accounts, balance sheets and investment calculations; (2) attempts to improve the bases for investors company-valuation; and (3) aspirations from human resource specialists, company doctors or unions to use monetary arguments when suggesting investments in human resources.

2.2. Is human resource costing and accounting utilised today and if so how is it utilised?

Roslender & Dyson (1992) maintain that HRA has largely failed to develop in the way of practical applications and Skarlicki et al. (1996) propose that there is a weak link between the UA information and managerial decision-making. Finally, Turner (1996, p. 65) holds that considering the generally positive views, HRA "has progressed at something less than a snail's pace in the past two decades." Could these observations be accurate? How frequent is HRCA used among practitioners? These questions are difficult to answer because of, for example, measurement difficulties. Nevertheless, some studies have attempted to highlight the important issues.

Maher (1996) has experienced that managers in the British hotel industry accomplish analysis of human resource investments only on an ad hoc basis, though they are aware of the necessity of adopting a more business-like approach. In an American survey of industrial/organisational psychologists, Highhouse & Macan (1994) found that 46% of respondents who had presented a HR activity to management reported using utility estimates.

An area in which HRA applications are common is within the football business (Brummans & Langendijk, 1995; Morrow, 1996, 1997). According to Morrow, 18 British football clubs

included players in the balance sheet before the Bosman case. The most common valuation method was to use acquisition cost of players acquired on the transfer market. Other clubs incorporated a value for the entire squad, whether purchased or home grown, and based the value on different kinds of future value. After the Bosman case, "the adoption of a prudent policy of capitalisation and amortisation of a player's cost of registration over his contract life is viewed as the most appropriate accounting policy to adopt" (Morrow, 1997, p. 69). Football clubs adopting HRA normally produce twin balance sheets. Mortensen et al. (1997) found this idea useful for firms in common. These authors propose one transaction driven balance sheet made up in accordance with general bookkeeping principles and another based on exploiting future cash flows.

Dawson (1994) reports that HRA has recently explored a revival, and Gröjer & Johanson (1998) suggest that Sweden may be an exception in that *HRCA* applications are rather common. During the 1990s, the demand for better information about human resources has been obvious. Many different parties have conveyed this interest (e.g., human resource departments, financial departments, company doctors, unions and, more recently, from top management, investors and politicians). Gröjer & Johanson propose that the keen interest of HRCA in Sweden might be related to several factors. Four important factors include (1) a fairly extensive education in HRCA at universities and by consultants; (2) a use of HRCA to legitimise the position of human resource directors as members of the executive board; (3) an interpretation of HRCA as a new approach to strategic thinking rather than a technical approach regarding how to 'put people on the balance sheet'; and (4) a use of HRCA as a change instrument in the shift from a regulated economy to a more market-oriented economy. To serve as an illustration, two examples of typical Swedish HRA applications will conclude this section of the paper.

Using the following example from a department within Volvo in 1989, Gröjer & Johanson (1996) propose that human resource costs could be illuminated more clearly in the profit and loss account[3].

INCOME			504
- Supplier Costs		- 96	
Gross added value			408
- Depreciation's		- 110	
Net added value			298
Direct wages	- 198		
Personnel turnover	- 47		
Cost of absence	- 47		
Personnel/social cost	- 17		
Retraining costs	- 7		
- Total personnel costs		- 316	
Profit			- 18

Table 2: *Human resource costs at Volvo 1989 (Gröjer & Johanson, 1996).*

The above example caused an extensive interest in doing HR profit and loss accounts in Sweden. This interest reached its climax in 1991 when the Swedish government proposed a legal obligation for organisations with more than 100 employees to provide an account of

[3] The efficiency measurement referred to as 'direct wage costs' has been estimated such that wage costs included in the four other human resource costing components are deducted from the organisation's wage cost bill. As can be seen about 30% of total personnel costs was lost due to high rates of personnel turnover and sick-leave.

personnel costs (e.g., personnel turnover, sickness leave, training and working environment) in their annual report. For multiple reasons, which are beyond the scope of this review, the proposal was eventually withdrawn. Nonetheless, most of the committees to which the proposed legislation was submitted for consideration were positive to the idea of having better information about personnel costs.

One of many organisations that established HR profit and loss accounts on a yearly bases was the Stockholm County Council Public Dental Care Service. Using a detailed profit and loss account (this was possible because of a well functioning time-reporting system), the costs for different personnel activities are calculated as percentages of total personnel costs. This is accomplished for different departments and utilised in the strategic management process[4].

	1994	1996
Replacing employees	3.0	2.3
Employee redundancies	1.0	3.3
Training	6.0	4.5
Absence	2.0	1.1
Rehabilitation		0.1
Physical work environment		1.0
Trade union business	1.0	0.6
Employee benefits	1.0	1.0
Annual leave	9.0	8.5
Miscellaneous	2.0	1.2
Wages for production	75.0	77.4

Table 3: *Different personnel cost items as percentage of total personnel costs. From the HR profit and loss account by the Stockholm County Council Public Dental Care Service (Gröjer & Johanson, 1996).*

These two examples are typical with respect to HRA, but perhaps the most common application of HRCA in Sweden has been to accomplish cost/income evaluations within such areas as recruitment, training and rehabilitation (Johanson & Johrén, 1993; Enstam et al., 1995; Aronsson & Malmqvist, 1996; Gröjer & Johanson, 1996).

These examples may serve as an illustration of the difficulties in determining the actual use of HRA. How should usage be operationally defined? Should usage be defined as the number of disclosed statements in external or internal reports, as changes in decision or as cognitive structural changes? The usefulness of HRCA will be dealt with more extensively in the next section.

Another remark from the Swedish horizon is that *even if HRA models have mainly been proposed by accountants and UA by psychologists, their composite (HRCA) seems to have been primarily adopted by human resource people (as was proposed by Fitz-Enz, 1984) and departmental managers (Johanson & Nilson, 1996a, 1996b).*

[4] As can be seen there is a significant increase in efficiency (from 69.8 to 77.4). Whether this efficiency level is beneficial from a strategic point of view is a question of another kind (Is spending on training sufficient?).

2.3. Does human resource costing and accounting influence managers and investors?

In this section the literature treating the subject of HRCA's power to influence has been classified into three groups, each of which is presented below in a separate subsection. Some concluding remarks will end the section.

2.3.1. Influence on investors' decision-making

Eliasson (1990) posits that the increasing difference between market and book value is an indication of an inability from the capital market to estimate the real value of the firm. In some studies, it has been shown that what is accounted for and how accounting standards are applied may have an impact on the behaviour of the firm as well as stock prices. Thus, Kaplan and Roll (1972) found that accounting changes to increase profit had an impact on stock prices. Hermanson et al. (1992) reported that changes of how to account for post-retirement benefits dramatically altered the behaviour of firms; many firms restricted and reduced their retiree benefit plans when the liability had to be recorded.

There are numerous studies (Elias, 1972; Ackland, 1976; Hendricks, 1976; Schwan, 1976) indicating that HRA information can affect investors' decision-making and their perceived value of a firm. All these were designed as decision-making experiments comparing balance sheets, including and excluding human assets. These experiments have been conducted with students (Elias, 1972; Hendricks, 1976) or bankers and financial analysts (Ackland, 1976; Schwan, 1976). Furthermore, Elias (1972) and Hendricks (1976) examined the association between changes in decision and background factors. With one or two exceptions, they found no relationship, however.

Based on a more recent study by Kerstein & Kim (1995), Hansson (1997) suggested that the Kerstein & Kim study shows that capital expenditures provide value-relevant and incremental information to investors. Their findings indicate that changes in capital expenditures are strongly and positively associated with excess return, i.e. one can earn a higher return by investing in firms that increase investments. However, when firms invest in their personnel, such investment is poorly signalled to investors because there is little or no information included in financial statements. The absence of human resource information could mean that the market would not be able to distinguish personnel investments from expenses. Whenever an investment is made (tangible or intangible), the firm is sacrificing cash flow today for a larger flow tomorrow. Because the value of a firm is normally based on evaluation of future cash flow, one can assume that the forecast would be much improved by knowing the amount invested. For firms with a large proportion of their assets and investments in financially unaccountable human resources, the lack of information could lead to an underestimation of future earnings and return, if earnings reflect the firm's investments. Poor information or inferior information content in financial statements could also lead to uncertainty about the value of the firm. If one assumes that there is a shift towards intangibles (human resources) in generating future earnings, then there is possibly an increasing need for information about these investments (resources).

Based on this reasoning, Hansson (1997) examined pricing in relation to knowledge-based firms and firms that are less dependent on human resources. The risk-adjusted results show

that an increasing dependence on human resources is followed by a rise in abnormal return. The results indicate that investors are not able to distinguish personnel investments from expenses, leading to an underestimation of earnings and return. Hansson asserts that investors may need accounting information on human resources to help improve investment decisions.

2.3.2. Influence on managerial decision-making

The literature contains several accounts of studies dealing with the influence of HRA, even on the level of managerial decision-making (Zaunbrecher, 1974; Flamholtz, 1976; Tomassini, 1977; Spiceland & Zaunbrecher, 1977; Oliver & Flamholtz, 1978; Harrell & Klick, 1980; Gul, 1984; Ogan, 1988; Johanson & Nilson, 1996a). In all of these studies, decisions have been changed because of HRA information. For instance, in Flamholtz (1978), Harrell & Klick (19080), Gul (1984) and Johanson & Nilson (1996a) recruitment decisions were shown to be affected, and the quality of decisions on temporarily layoffs were found to be affected by visualisations of hidden costs in Tomassini (1977) and Ogan (1988). The experiments have been carried out with students (Tomassini, Johanson & Nilson), accountants (Flamholtz, Gul), personnel administrators (Zaunbrecher, Spiceland & Zaunbrecher) and managers (Harrell & Klick, Ogan, Johanson & Nilson).

However, in an article critical of experiments on decision–making Snowball (1979) pointed out that there is nothing very strange about changing a decision when new information becomes available. What is more important is that research has not examined whether decisions are changed because HRA is considered relevant. HRA may be new and deserves attention, but in the final analysis, relevance is the decisive factor. Thus, Gul (1984) operationally defined the concept ”usefulness” in terms of relevance, sufficiency and uncertainty reduction. Even in his study, decisions were changed. Respondents meant that the HRA information was useful for decision-making purposes because it was relevant and reduced uncertainty. Johanson & Nilson (1996a) replicated Gul’s study. They could not confirm that respondents found HRA information useful, as defined by Gul, although decisions were changed.

2.3.3. Influence on individual and organisational learning

Flamholtz (1985) reports that two case studies have shown that the implementation of an HRA system has increased the awareness of the costs of turnover and facilitated acquisition versus development decisions. However, Tenopyr (in Cascio, 1996) proposes that managers are unimpressed with utility estimates. In a study involving 143 experienced managers Latham & Whyte (1994) found that utility analysis reduced the support of managers for implementing a valid selection procedure. As early as 1973, Rhode & Lawler found that managers opposed HRA because it was perceived to limit their freedom of action. However, Jarret (1998) argued that as a result of applying UA in training programs at Merck not only do training managers hold that “we have moved from unconscious incompetence - and there was no going back,” but also a new leadership model has been developed.

Furthermore, Johanson & Nilson (1996a) maintain that, when the usefulness of HRA for managerial purposes is examined, a more fruitful approach to performing experiments on decision-making is to study learning processes inside firms. Thus, they investigated the effects of the implementation of HRCA on everyday working situations. Special efforts were invested to integrate HRCA in the management control process at a hospital. Middle

managers were trained in HRCA and asked to produce a HRA statement, including a HR profit and loss account but not a HR balance sheet, as part of the annual report from the clinic. The effects can be summarised as follows.

Contact with HRCA produced an 'aha'-reaction. Ways of thinking were affected in the sense that the connection between human resources and financial results became obvious. Most of the respondents had not seen things in this light before. Action was taken in three different ways: (1) the persons made their own costings; (2) some of the costings were used in persuasion; and (3) changes were sometimes made as a result of the costings or the persuasion.

Although individuals learn, organisations might not. Therefore, in later work Johanson & Nilson (1995, 1996b) focused on organisational learning. The implementation of HRCA was followed during an 18-month period in three cases: two Ericsson units (production and software development) and one health care unit. The explicit aim was to integrate HRCA in the management control process in which very extensive programmes were carried out. These programmes included training of the majority of managers, changes in information systems and demands from top management for HRA statements, including a HR profit and loss account, as complements to the annual reports. A HR balance sheet was not included in the annual reports.

The findings indicate that HRCA is a useful tool in the hands of managers. Because of the implementation of HRCA, changes took place that otherwise would probably not have occurred. In two of these cases, it was found that the willingness to act, the consciousness to use HRCA tools and the knowledge of how to use these tools existed. Organisational learning processes were initiated but seriously hampered by top management's ambivalent support of HRA.

Boudreau (1998) suggests that a further fruitful step towards an understanding of the effects of HR metrics is to investigate communication based on persuasion theory.

2.3.4. Concluding remarks about the usefulness of human resource costing and accounting

When analysing the usefulness of HRA, a number of features have to be considered. First, there is a difference between the information produced by the application of HRA (single-loop learning, Argyris & Schön, 1978) and the implementation of the concept of HRA (double-loop learning). Studies concerning decision-making seem to have been concentrated on the single-loop quality, whereas the studies on learning and have focused on the double-loop property. Second, stakeholders have different needs concerning both the concept and the information produced. Finally, the word usefulness has to be defined. When is HRA useful? Is HRA useful when decisions are changed or when learning processes start or when action is taken or when habits are changed?

In most studies of decision-making, decisions are changed. One problem, however, is that all are carried out as experiments, and generalising these findings to the usefulness of HRCA in the daily life of a firm is difficult. The learning studies serve to highlight this last point. The individual as well as organisational learning studies show a substantial influence from the application of HRCA, but do not give any information whether the concept will be used in the long run.

In a comparative study of inhibiting forces found in seven case studies, Johanson (1998) concludes that *the majority of managers in most studies hold very positive attitudes toward HRCA. Nonetheless, the actual usage of HRCA as a part of the management control process appears to dwindle. To overcome inhibiting forces when implementing HRCA, efforts should focus on (1) knowledge of human resource costs, values and outcomes, as well as how to calculate these; (2) top management demand as well as other ingredients in the reward system; and (3) a HRCA target setting. These findings may be interpreted in light of Cascio's (1996) postulation that utility analysis presently suffers from three broad sets of problems: (1) theoretical and operational technical problems concerning validity, (2) inability to communicate the results from utility analysis in a credible manner and (3) a failure to focus on critical value-adding activities within the firm. The above mentioned problems highlight the necessity of developing and implementing HRCA from a strategic management view.*

2.4. General experience with HRCA

After discussing the issue of whether human capital fulfils asset criteria, the question of capitalisation of human resources will be addressed. The section concludes with general theoretical remarks concerning HRCA as an instrument of change.

2.4.1. To what extent do human resources fulfil asset criteria?

Turner (1996) contends that since accounting for an enterprise's human resources was first discussed more than 30 years ago, it has encountered two main barriers that impede it from entering into mainstream accounting. The first obstacle is that employees do not qualify as assets and the second is an inability to establish a meaningful system of measurement.

Neither the IASC proposal (that has been referred to in the first chapter of this paper) nor present accounting conventions push the question of valuation of human capital and other intangibles on the balance sheet. Nonetheless, it might be worthwhile to consider whether intangibles and tangibles ought to be treated differently. Many (e.g., Hodgson et al., 1993; Miller, 1996; Lev, 1997) hold that, because there is no substantial difference between tangible and intangible assets, they should be treated in the financial report identically. This is not to imply that there are no intrinsic problems, because there are several. These problems are being dealt with, e.g. Hodgson et al. propose a statistical method to deal with the problem of separating costs.

There is no difference between tangibles and intangibles regarding the possibility to anticipate future incomes (compare real estate with soft-ware programmes!), but attaching future incomes to a specific human resource investment is much more problematic, as suggested by Lev (1997). Because of this problem, human resource investments should not be treated as assets. However, not even the latter argument is always valid; for example, in some cases training of consultants can probably fulfil the requirement equally well as software investment. The problem of attaching a future income to a specific investment is more closely related to the development of a specific future product than to a specific resource. (N.B. acquired goodwill is recognised as an asset despite the dual problem of anticipating and attaching future incomes.)

The two obstacles raised by Turner and referred to in the beginning of this section have relevance; the second difficulty, the inability to establish a meaningful system of measurement, implies even more general and complicated questions, such as What should be measured, for whom and why? (To obtain a fuller understanding of these questions empirical studies on the usefulness of HRA have been discussed earlier in the paper.)

2.4.2. Is capitalisation of human resources an important issue?

Bertolotti (1995) discusses three main methods (to evaluate intellectual property) that also apply to human capital.

1. Cost-based valuations which, however, fail to meet the recognition criterion of an asset because an intellectual property (IP) may fail to contribute any value to the company.
2. Economic valuation has two principal components, namely the identification, separation and quantification of the cash flows attributable to the IP and capitalisation of these cash flows. The advantage of this method is that it is based on cash flows not subject to the vagaries of different accounting treatments and focuses the thoughts of the valuer explicitly on (i) the future, as reflected by the financial projections, (ii) the risks associated with the asset and its associated cash flow stream, and (iii) the duration of the useful life of the IP.
3. By using market-based methodologies, the value of the IP is determined by reference to the price obtained for comparable assets in recent merger and acquisition transactions.

Researchers throughout the short history of HRA have exploited all three approaches described above. (An overview of models that have been proposed is found in Sackmann et. el., 1989.) Many models, developed mainly in the 1960s and 1970s, were intended to value human resources derived from historical costs (Flamholtz, 1985; Sangeladji, 1977), replacement costs (Flamholtz, 1985), opportunity costs (Hekimian & Jones, 1967), net present value of expected wage payments (Hermansson, 1964; Lev & Schwartz, 1971; Friedman & Lev, 1974), net present value of expected incomes (Jaggi & Lau, 1974; Flamholtz, 1985), returns exceeding normal returns in comparable firms (Hermansson, 1964) and, most recently, liabilities to the employees (Gröjer, 1997). Whatever model is used financial ratios will be affected. This has been demonstrated by Gröjer (Ibid.) who changed the content of the balance sheets in 11 Swedish firms by inserting figures on investments in training and recruitment and wage liabilities. As a consequence, liquidity, solvency and return on equity showed a reduction. The magnitude of the decrease was due to personnel intensity, wage structure and investments in recruitment and training.

Lev (1997) presents sizeable evidence on the decreasing usefulness of financial information to actors on the stock market. For example, about 90-95 percent of stock price changes for individual companies in the US is unrelated to the firms' reported earnings. Based on findings from another study, Lev holds that what actually triggered stock prices was more timely releases, such as product announcements and FDA drug approvals. Some empirical evidence also exists indicating that mangers are credible as forecasters. Forecasts of earnings have a significant impact on stock prices and, in addition, they are superior to those made by analysts.

Financial reports are presently untimely a result of the lag between the occurrence of events and their consequences. In this respect, there is no difference between tangible and intangible assets. The majority of firms chose a pre-determined straight line (or accelerated) depreciation of historical cost values because of difficulties in predicting future benefits of the asset. However, the latter reason is often used against the capitalisation of intangibles. There is no empirical evidence of a difference with respect to estimations of future benefits. To illustrate, Lev compares real estate with software programs. Another shaky classification is the one in acquired assets (to be regarded as assets) and those internally generated (to be expensed). Thus, he proposes a capitalisation of expenditures to which future benefits could be attributed, e.g., R&D, product development, brand development, customer-based enhancement, restructuring and reorganisation. Human capital is excluded because of difficulties in associating specific benefits with the costs. The outcome of his proposal would be a better matching of costs and benefits and hence a more meaningful portrayal of the firm's performance. It will additionally improve investors' possibilities to evaluate the success of the firm's innovative activities. To make them timely, historical-based reports have to be augmented with progressive financial reports that help illuminate expected consequences of managerial actions and external events.

Resistance from managers versus capitalisation of intangibles is not surprising in that it is a constant reminder of lastly made investments and a failure has to be openly admitted by writing off the asset.

Lev (1997b) concludes that Proposals to capitalise intangible assets have generally been opposed by managers, financial analysts, and accountants for the following reasons: (1) intangibles are too uncertain to be considered assets; (2) amortisation of the capitalised values is subjective and could be misused to manipulate financial reports; (3) the costs of intangibles bear no relationship to their real value in light of future benefits; and (4) failure of intangible projects presented on the balance sheets as assets may expose managers and auditors to frivolous shareholder litigation. However, based on the following arguments, Lev claims that these concerns are overemphasised noting that: (1) Investors already act as if organisations capitalise intangibles; (2) while investors largely adjust for the expensing of intangibles, they also appear to substantially discount the value of intellectual capital; (3) research from recent acquisitions of in-process R&D and technology reveals a high correlation between prices paid for such intangibles and the cumulative R&D cost of the acquired enterprises; and (4) since 1985, most software producers have capitalised a portion of their R&D and product development costs in a manner similar to that proposed above without an emerged litigation avalanche. According to Lev, all of this makes a strong case for treating most intangibles the same as assets and for the systematic and universal measurement of intellectual capital.

To conclude, *advantages and disadvantages were discussed concerning the controversial balance sheet issue, which is only one dimension of HRA. To include information about human resource investments in the financial statements is a powerful source of information to hold. If they are included in the financial statements, they will also be subject to standardised treatment; if such information is excluded, there is no extant procedure for their standardisation. There is a risk that information outside the financial statements might be too simplified and, in order to use it, some sort of standard on definitions and measurements must be developed.*

Advocates of a balance sheet valuation suggest that inclusion of investments in human resources ensures a more accurate value of the company investments. Opponents hold that the balance sheet is already an insufficient instrument to exhibit the true value of a company. Another argument is that a valuation based on historical costs is not a valid measurement of the value, whereas another opportunity, a valuation based on future earnings, concurs with

present accounting conventions (Scarpello & Theeke, 1989). *As regards the management of human resources, Drake (1997) contends that improvement will not be accomplished by the extension of accounting practises. A last argument is that despite an almost 30-year long debate of the issue, balance sheet valuation is hardly (except for football clubs) practised today (Johanson, 1998a).*

2.4.3. HRCA and change

HRA is based on the implicit assumption that traditional accounting and costing procedures significantly influence habits in the organisation. In this respect, accounting rituals are powerful. The fact that accounting figures are normally discussed as the first point on the agenda at every management meeting provides an extremely timely opportunity to influence what is discussed in the organisation. This is not to imply that the content concerning human resources is sufficient. On the contrary, the content has to be improved. In contrast to the balanced scorecard, using the old tools to show the new is anticipated to be a powerful instrument to change habits.

However, HRA has been criticised during the past 10 years. According to Scarpello & Theeke (1989), HRA is an intriguing concept, but it is hard to understand why there has not been a more serious effort to develop valid and reliable measures. To exemplify, although the cost-oriented approach illustrated by the Volvo case above certainly adds useful information, it has been (rightfully) criticised for not focusing on the real concern of HRA--outcomes and values. Even if Flamholtz (1985) and Gröjer & Johanson (1996) would certainly disagree, Drake (1997) applies the label 'minstrand' to HRCA, which concerns the notion of cutting costs, minimising waste and improving accountancy in the interest of the management of human resources. Further, Roth & Bobko (1997) argue that up to now utility analysis has focused too narrowly on the value of job performance in monetary terms. They suggest a multi-attribute utility analysis that allows decision-makers to incorporate multiple outcomes into their analytic decisions.

As stated earlier, opinions differ whether HRA and UA are widely used. Probably this has to do with whether authors refer to external use in financial reports or internal use in the organisational learning process. In the meantime, Schuller (1997) convincingly notes that the human capital concept is an immensely powerful analytical notion. "...but it is time to ask whether it may have achieved, at least implicitly, a dominance which partially undermines its contemporary utility" (Schuller, 1997, p. 5). Further, he observes that, the more human capital language is accepted, the greater is the difficulty in justifying learning activities that cannot show a visible return.

In an article titled Pitfalls on the road to measurement: The dangerous liaison of human resources with the ideas of accounting and finance, Pfeffer (1997) remarks that it is the low status of human resources that makes the measurement task so pressing. One indicator "of a function's power is the extent to which its role is taken for granted and not assessed using a variety of micromeasures" (Ibid. p. 362). The short-term focus in financial reporting serves as a contradiction in measurement-driven organisations in that costs will be highlighted, whereas the outcome will be realised somewhere in the future. This argument, which clashes with HRCA, is interesting in the sense that it was the same argument that Likert used in favour of HRA in the 1960s (Likert, 1967).

One issue that HRCA literature has almost entirely neglected concerns ethical component of business. As noted by Nilson (1992), ethical considerations may cause hesitation to apply

HRCA. There is a risk that putting a price on people may make human beings substitutable to other forms of capital. Consequently, many investigators argue against the use of HRCA on ethical grounds; paradoxically, other investigators express approval of HRCA for the very same reasons (Johanson, 1992). As Holmgren (1998) points out, this controversy mirrors two ethical standpoints: those arguing against HRCA take a deontological viewpoint while those in favour of HRCA take a teleological position. These two points of view can never reach a settlement.

In a number of Swedish case studies, Hällsten (1997) investigated whether the implementation of HRCA has improved working conditions from an ethical standpoint. Although single examples could be found, the author warns that, if the utility assumption underlying HRCA is strained, organisations might become even more instrumental and hence come into conflict with ethical values.

Gröjer & Johanson (1998b) note that after 30 years the HRA concept is far from accepted. This lack of accord may is largely due to the existence of multiple agendas among those who express an interest in the subject, e.g., a management control interest, a capital market interest, an accounting interest and a quality of working life interest.

Many other concepts have been suggested as well. Roslender (1997), for instance, proposes a societal approach to the subject. He uses the term "human worth accounting," a term more closely linked to the critical accounting project than the financially oriented "human asset accounting" and the management oriented "human resource accounting" project. Apart from addressing different audiences (external versus internal), human asset accounting and human resource accounting also suffer from being vague about what constitutes an asset and a resource, respectively. Assets from an accounting perspective are normally well, but too narrowly, defined when compared with emerging knowledge-based theories (Grant, 1996; Haanes & Lowendahl, 1997). In the latter theories "resources" are also subject to elaboration, trying to capture not only stocks of knowledge (assets) but also processes. "Human competence accounting" would be a concept close to the knowledge-based theory of the firm. However, this concept does not easily refer to the demand from a working environmental perspective that is obvious in such countries as Finland, Sweden, Denmark and Austria.

In German speaking countries, such concepts as "Human Vermögungsrechung" and "Personal Controlling" have been proposed. The former, closely related to "human asset accounting," has been abandoned in favour of the latter. However, the latter concept, in contrast to all other concepts being discussed in this article, refers more to managing human resources than to measuring and reporting.

As in the case of "human worth accounting," the value aspect is emphasised when using such concepts as "human value accounting" or "value contributing accounting." However, the former concept does not automatically refer to costs and the latter does not necessarily concentrate on human resources. In that respect, "value contributing accounting" is similar to the more current concept "intellectual capital." The basic idea of the concept is to highlight not only human capital, but also other strategically important intangibles classified in numerous ways.

In general, HRA and UA literature is very measurement oriented. A true representation of a certain problem is regarded as most important. This produces the risk that human resource measurement systems lose sight of the forest for the trees in the sense that only a limited number of measures could be grasped by a manager (Pfeffer, 1997). Gröjer & Johanson (1996) question whether a detailed correctness is more important than affecting action. How should HRCA measures be constructed in order to affect action? Boudreau (1996) and Cascio (1996) suggest that future research ought to be directed towards how to develop

useful measurement systems to align human resource strategy with the competitive strategy of the business.

When analysing the pros and cons of the usefulness of HRCA, consideration should be given to whether the aim is to improve the management or the valuation of the firm, i.e. various stakeholders may have a different utility of the concept.

Let us conclude the present chapter by referring to Wallman's (1996) 'coloured accounting proposal'. He suggests we need to move away from a model that primarily relies on black and white recognition in the financial statements and move towards a model where financial statements and related disclosures are viewed as different layers of information. The model may be seen as refining the current system by adding new sets or layers of information. It also re-focuses our analysis to de-emphasise recognition and towards providing greater disclosure of useful information.

The primary focus of the model is to provide relevant information, with specification of both the items to be reported and the form and level of the assurance of these items. The first question would be whether an item should be part of the firm's financial disclosure, and then progress to a discussion of the appropriate layer of reporting the item. The first layer would include those items satisfying recognition criteria and are the current core financial statements. The second layer would include those items that generally satisfy recognition criteria. However, the difficulty with the recognition of these expenditures as assets concerns reliability. Because the expected future value of these expenditures is difficult to determine with any certainty, and the utility of the expenditures often is intertwined with the use of other assets, questions arise about the verifiability and neutrality of valuation measurements. By establishing a second layer for the reporting of such information, outside the core layer of information, such amounts could be capitalised or revalued as appropriate. Establishing this additional layer of reporting outside the core, with the layer defined based on some, but not all, of the current recognition criteria, allows for the reporting of relevant, but perhaps, less reliable information. It may be difficult to determine for certainty the value of something as brand, but we know that zero is almost invariably the wrong answer. The third layer could contain items that possibly raise concerns regarding reliability and definitions, such as measures of customer satisfaction, as opposed to investments to develop customer satisfaction. A fourth layer in the colour spectrum of reporting could be specified for items that satisfy measurement, reliability and relevance criteria, but clearly do not meet the definitions of statement elements. In many cases, these items currently assist in the evaluation of recognised statement elements. Risk-sensitivity metrics provide a good example of information that might fall within this fourth layer of disclosure. Given the current focus on risk management, it is safe to say that risk-sensitivity analysis is relevant to firms and users of financial statements. The fifth layer contains items raising definitional, reliability and measurement concerns. This is useful for relevant items that do not meet the definitions of elements and that cannot yet be reliably measured. For example, the going concern value of a firm, intellectual capital, or the value of a trained work force (even if the firm has invested substantial amounts in training) do not meet the definition of an asset because the employees to which these investments sometimes relate are, arguably, not controlled by the firm. In addition, estimates of the value of such items are highly subjective, not easily audible and perhaps specific to a particular firm or industry. Therefore, such measures generally would not meet reliability criteria. However, instead of not reporting these items at all, as is customarily the case, under the coloured approach such items could be disclosed in the fifth layer, along with a description of the limitations associated with any particular valuation.

One of the more challenging aspects of the proposed model involves providing an indication of the degree to which information in the various layers is subject to verification or

attestation. The goal here would be to provide users of financial reports with a better indication of the quality or certainty of the information provided.

There are several distinctions between the coloured model and the current accounting and financial reporting model. Briefly, the coloured approach is more aligned with the purposes of financial reporting and more compatible in dealing with the dynamic nature of information that is relevant to end-users of financial reporting than the current black and white system. It allows us to make finer distinctions among various types of information, thereby avoiding the daunting task of determining whether items that are close to the recognition/non-recognition border are in or out of the financial reporting paradigm.

3. EXPERIENCE WITH ATTEMPTS TO PUT INFORMATION ON INTANGIBLES INTO A NON-FINANCIAL FRAMEWORK

As we stated earlier, the non-financial part of the literature survey has focused mainly on the balanced scorecard (BSC), thereby excluding such concepts as environmental and ethical accounting. This chapter starts with a descriptive section in an effort to deal with the somewhat volatile concept. In the next section, the actual use of BSC is analysed. Before concluding the chapter with recommendations concerning the implementation of BSC, a section evaluating the literature on the influence of management on the individual firm is provided.

3.1. What constitutes the Balanced Scorecard?

After questioning contemporary management accounting in several articles during the 1980s, Kaplan & Norton (1992) introduced the BSC concept. However, already in 1979, Parker suggested a balanced view on firms' operations comprising financial measures and measures related to marketing strategy, research and development, social responsibility and employees.

Despite Parker's early contribution, the 1992 article by Kaplan & Norton appears to have been more timely and may be recognised as setting into motion the scorecard approach, i.e. the starting point to "put the BSC to work" (Kaplan & Norton, 1993). Ampuero et al. (1998) have observed that references to BSC in a sample of prestigious business journals have increased significantly in the past five years. Thus it has been observed that 60% of large US corporations (e.g., AlliedSignal, Federal Express, General Electric and Wal-Mart) use some version of a scorecard that integrates financial with non-financial measures. According to Roslender (1997), the BSC could serve as an illustration to contemporary 'best practise' pursuits in accounting for strategic positioning, i.e. to support managerial attempts to achieve and sustain a strategic position in the market place.

The BSC intends to reflect the necessity of balance between the traditional financial perspective and the three non-financial elements of customers, internal business processes and innovation/improvement. BSC translates an organisation's mission and strategy into a comprehensive set of performance measures to provide the necessary framework for a strategic measurement and management system (Kaplan & Norton, 1996). The BSC enables companies to track short-term financial results while simultaneously monitoring their progress in developing the capabilities and acquiring the intangible assets that generate growth for future financial performance.

According to Kaplan & Norton, an effective strategic learning process requires a shared strategic framework that communicates the strategy and allows all participants to see how their individual activities contribute to achieving the overall strategy. The BSC provides a representation of the organisations' shared vision. The use of measurements as a language helps translate complex and frequently nebulous concepts into a more "precise" form that promotes consensus among senior executives. The BSC communicates a holistic model that links individual efforts and accomplishments to business unit objectives.

The scorecard should incorporate the complex set of cause-and-effect relationships among outcome measures and the performance drivers that describe the trajectory of the strategy of those outcomes. The measurement system should make the relationships (hypotheses) among

objectives (and measures) in the various perspectives explicit so that they can be managed and validated.

Outcome measures without performance drivers fail to communicate how the outcomes are to be achieved. Moreover, they do not provide an early indication about whether the strategy is being implemented successfully. Conversely, performance without outcome measures may enable the business unit to achieve short-term operational improvements, but will fail to reveal whether the operational improvements have been translated into expanded business with existing and new customers and, eventually, to enhanced financial performance.

Renaissance Solutions Inc. actively promotes the BSC concept. This company is a Boston-area consultative firm whose President, David P. Norton, co-authored the first publication on BSC. The very term "balanced scorecard" reflects an understandable rebellion against traditional reliance on GAAP reports as the sole basis for performance measurement. Scorecard people, moreover, tend to have non-financial backgrounds in such fields as marketing, line management, strategic planning and human resources (Cates, 1997).

Numerous firm applications of the BSC exist today. Two of the most cited are Skandia and Dow Chemical. Whereas Skandia (Edvinsson, 1997) initiated their measurement system of Intellectual Capital even before the article by Kaplan & Norton in 1992, the Dow Chemical Company (Petrash, 1996) has spent the past four years developing a vision, functional systems and tools for the 'value management' of its Intellectual Assets (IA). Intellectual Assets is defined as knowledge or legal instruments that have value or the potential for value. Intellectual assets are part of a larger body of intellectual property that does not necessarily have value. Both these are part of an even broader defined body of knowledge called 'intellectual capital.'

Intellectual capital = Human Capital + Organisational Capital + Customer Capital

Human capital concerns the knowledge that individuals possess and generate upon demand; organisational capital is that knowledge that has been captured/institutionalised within the structure, processes, and culture of an organisation; and customer capital is the perception of value obtained by a customer from doing business with a supplier of goods and/or services.

Each year Dow Chemical develops an economic profit target. This measure, along with a number of other essential measures, is the driving force behind each of the 15 major business-unit strategies. Every project and every employee's personal goals must be aligned with the business strategy. Alignment from the corporate objectives – to the business strategies – to the functions and, finally, to every employee, is a continuous process and everyone's responsibility.

The important role for leadership is the transformation of human capital into structure capital (Edvinsson, 1997). Whereas the goal of knowledge management is to improve the value *creation capability*, the goal of IC management is to improve the value *generation capabilities.*

Demarest (1997), however, does not share this opinion of what knowledge management is about. He introduces the concept 'commercial knowledge', which is related to effective performance. He is defining the concept as "an explicitly developed and managed network of imperatives, patterns, rules and scripts, embodied in some aspect of the firm, and distributed throughout the firm, that creates marketplace performances" (Ibid., p.377). By 'imperatives' is meant behavioural directives that are unchallenged, whereas 'patterns' refer to predictive models that have a certain longevity (e.g., "if a customer has never called with a product

complaint before, you can expect the following kinds of behaviour…"). The difference between rules and scripts is that rules might exist as general postulates while scripts are co-ordinated sets of rules targeted at a particular context.

Commercial knowledge is tacit, shared by a group or embodied in raw materials, products and services, machinery and mechanisms, business practises and processes or environment and culture. Knowledge management has to consider (1) the construction of knowledge; (2) the transformation of tacit knowledge into processes, practises and machinery (embodiment); (3) the dissemination of embodied knowledge throughout the value chain; and (4) the application of disseminated knowledge to particular problems.

Furthermore, Demarest states that metrics concerned with the knowledge management itself has no ultimate value to the firm. What finally counts are economic factors such as market share, revenue, gross margin and customer satisfaction. These opinions differ slightly from those put forward by Edvinsson, who argues that for the long-term sustainability of the firm it "is much more important to focus on nurturing the roots than harvesting the fruit" (Edvinsson, 1997, p. 366).

For internal management control reasons, Olve et al. (1997) have compared financial measurements and the BSC (Table 4).

Financial measurements	**BSC**
-Difficult to understand	-Everybody can express an opinion
-Mandatory and regulated	-Flexible and many options
-Verifiable and objective	-Value-oriented
-Primary utility; to avoid trouble	-Primary utility; to encourage business

Table 4: *A comparison between financial measurements and BSC by Olve et al. (1997).*

Many elaboration's on the BSC model can be found in the literature. For example, Maisel's (1992) balanced scorecard model is described in which the innovation/improvement perspective has been exchanged for a human resource perspective: "To achieve our strategies, how must our organisation function?"

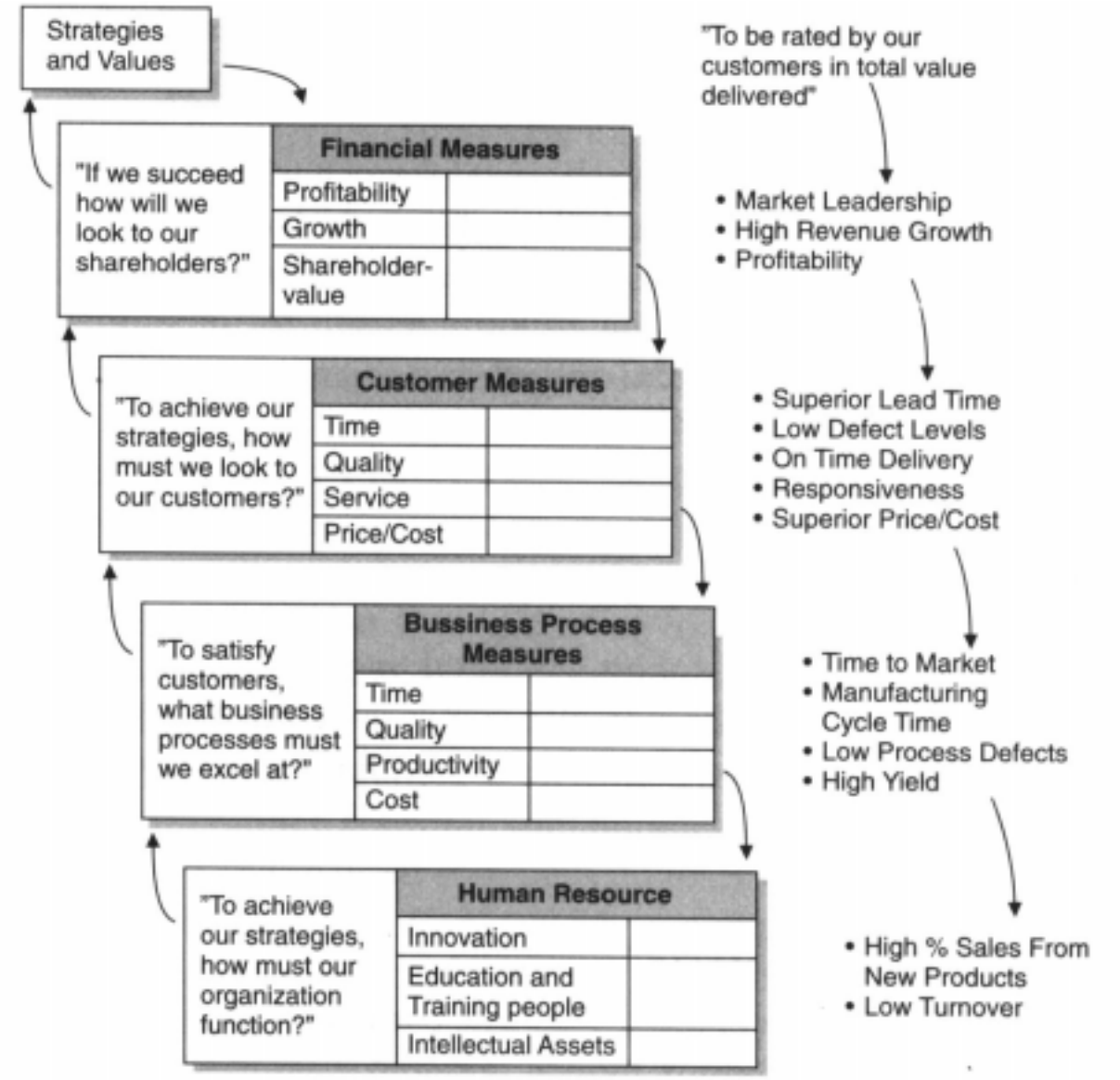

Figure 3: *Maisel's (1992) balanced scorecard model*

Roberts & Adams (1993) propose that a measurement system should not only facilitate the implementation of a company's strategy, but also promote a culture of constant change. van Wieringen (1997) has elaborated a model for measuring quality of professional education based on a BSC concept that includes financial, customer, internal organisation and development perspectives. Additionally, he proposes four other approaches to measure quality. These approaches consist of social appreciation of the institution, qualification targets to be met by the professional education, results operationally defined in terms of the functions of education and results of effectiveness (mastery, innovation, productivity and involvement). He finds that measures of the financial and the customer perspective can easily be compared to the other two.

Although the BSC appears to be the most widely used concept, the idea of measuring and visualising the invisible in non-financial terms is of course not a Kaplan & Norton exclusivity. In "The invisible balance-sheet" a Swedish group (Sveiby et al., 1989) successfully (at least in relation to attention in the Swedish debate) argued for non-financial measurements of human, structure and market capital. Obtaining inspiration from this book,

The Swedish Coalition of Service Industries (1995) recommended different performance measures on intangibles. One of the active members in the Council is Skandia. Skandia also participated in a group headed by The Swedish Public Relations Association (1996) that proposed measures of intangibles in five different segments (see the two tables below). The intention has been to satisfy the specific requirements of an individual company and to create a list of generally applicable factors to be used when comparing firms.

	Leadership (L)	**Market (M)**	**Finance (F)**	**Employees (E)**	**Community (C)**
Performance Measurements showing Awareness of the company (and its management)	In defined audiences	Among customers and potential customers	Among owners, potential investors lenders, analysts, and financial media	Among employees and potential empl.	Among politicians, opinion builders and the general media
Performance Measurements showing support and involvement	Support for visions, goals and strategies	The corporate brand position	Investor satisfaction (ISI)	Training investment per employee	Support for corp. visions, strategies
	Support for basic values	Customer Satisfaction (CSI)	Rankings	Competence level	Handling of critical issues
	Confidence in management	Inquiry Share	Ratings	Support for visions etc.	Confidence in the organization
				Motivation (ESI or ECI)	
				Empowerment	
Performance Measurement linked to profits/results	Supportive Behavior	Market Share	Relative Cost of Capital	Value Added per Employee	Freedom to Act
		Relative Price Level	Share Price/ Book Value		

Table 5: *Return on communications. A measurement model proposed by The Swedish Public Relations Association (1996, p. 16)*

In the employee segment, the following measurements are proposed.

SUGGESTED PERFORMANCE MEASUREMENTS IN THE E SEGMENT
Employee-related

	Performance Measurements	**Definitions**	**Measurement (ex. questions)**	**Strategic value**	**Financial relevance**
Performance Measurements showing Awareness of the company (and its management)	Awareness of the company and its attraction among potential employees	Overall awareness of the company, what it does and who are in charge	Which companies in the Y business do you know? Do you know any of the exec.'s? Which comp.'s in this bus. Would you want to work in?	Starting point for developing the comp.'s position.	Necessary condition for demand in all fields. Cuts costs and improves efficiency
Performance Measurements showing support and involvement	Training investment per employee	Time, cost and qualit. Efforts to raise employee competence level	Time, money/empl. Qualitative meas epending on the company's situation, cf.w. competitors	In many comp.'s an increasingly significant competitive condition	Key productivity factor
	Competence	Measure of employee ability to handle present and future tasks)	Company-adjusted tests	As above	As above + fewer mistakes
	Support for company visions etc.	Preparedness to get involved in the company	Attitude survey	Active involvement.	Reduces employee turnover
	Motivation	As above	"Empl. Satisfaction /or Commitment index"	Promotes constructive initiatives	Productivity and job satisfaction
	Empowerment	A work situation, where initiatives are encouraged	Internal surveys	Efficiency, less bureaucracy and need for detailed supervision	As above
Performance Measurement linked to profits/results	Value Added per Employee (or other productivity meas.)	Revenues minus purchases div. by no of employees	From accounting	Higher productivity	Lower costs

Table 6: *Return on communications. The measurement model applied to the employee segment (The Swedish Public Relations Association, 1996, p. 46)*

Sveiby (1997, 1997b) has further developed a model for the measurement of intangibles which he calls the Intangible Assets Monitor. This model has been applied to several Swedish companies.

Cates (1997) proposes four criteria that managers can use in testing the functionality and cost efficiency of any proposed performance measurement system. These criteria are (*a*) diagnosis of the paths to value creation, (*b*) projection of whatever unfolding scenarios senior and segment managers wish to explore (*c*) valuation of shares and (*d*) applications to goal-setting, compensation policies, mergers & acquisitions pricing, line manager empowerment and good two-way communications between analysts and investors.

Smith (1998) states that the formulation of strategic goals and the monitoring of their achievement is a complex exercise for any organisation. For Smith, the integration of quantitative and qualitative measures to provide an indication of the competitiveness remains a challenge for management accountants. Although the balanced scorecard is a possible means to overcome short-terminism, it still gives no clear indication of a weighting system that would enable the four perspectives within the balanced scorecard to be combined satisfactorily to yield 'organisational effectiveness'. The author also asserts that the question of comparability also remains unclear because different market situations, product strategies and competitive environments will require different scorecards. According to Booth (1998), the real difficulty is not so much the classification, identification and measurement of intangibles, but rather finding the links between intangibles and financial performance.

Balanced score card is closely related to the intellectual capital concept. The latter not only comprises measurements and organisational learning, but even an attempt to create value for the long term. Intellectual capital deals with the logic of an economy of creativity (Mouritsen, 1999) by empowering individuals and structuring processes. By putting knowledge into information technology, personnel knowledge is rendered structural and becomes re-usable at many places simultaneously. The stories and metaphors comprising a vision of the future are as important as the measurements of intangibles (Ibid.). The latter is similar to the view that scorecards represent a language utilised in the dialogue between top management and employees (Cepro, 1998). It is a means to emphasise the link between the performance of the individual and the firm. Presently, according to Wurzburg (1998) there is considerable work underway in enterprises trying to identify how crucial intellectual capital variables contribute to the firm's performance.

In conclusion, *the BSC has inspired the development and application of a variety of models and is an illustration of contemporary 'best practise' in accounting for strategic positioning (Roslender, 1997). BSC is closely related to intellectual capital and comprise not only tools for the measurement of intangibles resources but also a vision of continuous learning and change to create value for the future. The mere existence of BSC reveals a message that what finally counts is not only financial outcomes, but even long-term relationships with customers and employees. These relationships are facilitated or hampered by adequate or non-adequate organisational structures. However, it remains to be investigated whether firms really practise BSC as a vision of priorities or as a tool to accomplish a good financial performance.*

3.2. How is BSC used?

The aim of this section is to see how BSC is actually utilised. Olve et al. (1998) hold that only a few companies have advanced beyond applying it on a limited basis. What have these firms accomplished? Because reporting on the BSC is not easily distinguished from other forms of external reporting on intangibles, the section will start with an analysis of the extant literature on reporting of intangibles. In the next section, the BSC measures actually reported by firms are specified.

3.2.1. To what extent is quantitative information on intangibles disclosed in external reports?

The question of disclosure of information on intangibles has been addressed in a number of studies focusing on the demand for and supply of information.

According to Hackston & Milne (1996), an increasing number of companies are voluntarily disclosing their social responsibility activities (including physical environment, energy, human resources, products and community involvement matters) in their annual reports or separate social reports. Gray et al. (1995) take the perspective that a social contract exists between the corporation and society that holds the corporation accountable to disclose their actions. Surveying shareholders' demand for information, they report that shareholders feel it is more important to stop pollution and improve product safety than to pay higher dividends (!) This is consistent with findings indicating that shareholders want more information about product safety and quality, environmental activities, ethics, employee relations and community involvement (Epstein & Freedman, 1994). These results are also consistent with empirical findings dealing with the stock market reaction to social disclosures. In many such studies (e.g., Patten, 1990), it appears that disclosure of social information causes a market reaction (Gray et al., 1995).

As opposed to Gray et al., Epstein & Freedman and Patten, Eccles & Mavrinac (1995) found a modest interest for an increased non-financial disclosure from investors and analysts, even if analysts do take non-financial factors into account when they publish investment reports (Mavrinac & Boyle, 1996). The latter is especially the case when high tech or high growth industries are addressed. Corporate managers, financial analysts and portfolio managers hold very different views on the importance of non-financial measures (Eccles & Mavrinac, 1995), e.g., reporting of employee satisfaction, ethics and environmental issues are not given high priority.

	Corporate Managers	*Financial Analysts*	*Portfolio Managers and Investors*
Earnings	1	1	2
Cost	5	8	4
Cash Flow	2	2	2
Customer Satisfaction	3	13	11
Segment Performance	4	4	7
Market Share	12	5	5
Employee Turnover	18	15	15
Employee Satisfaction	17	17	17
Employee Training Expenditures	19	18	16
R&D Investments	11	9	8
R&D Productivity	12	12	9
Product & Process Quality	7	14	14
New Product Development	6	10	3
Market Growth	10	3	1
Capital Expenditures	14	7	5
Corporate Ethics Statements	16	19	19
Environmental Compliance	15	16	18
Statements of Strategic Goals	8	11	10
Measures of Strategic Achievement	9	10	12
Statements of Strategic Goals	15	16	18
Measures of Strategic Achievement	9	10	12

Table 7: *Interest in non-financial disclosure (Eccles & Mavrinac, 1995)*

In a later study, Mavrinac & Siesfeld (1997) investigated those non-financial indicators that investors mean are the most and least crucial in their decision-making. The 10 most valued measures were execution of corporate strategy, management credibility, quality of corporate strategy, innovation, ability to attract employees, market share, management experience, quality of compensation policies, research leadership, quality of processes and customer satisfaction. The 10 least valued measures, starting from least valued, were compensation ratios, use of employee teams, environmental & social policies, process quality awards, product quality awards, quality of published materials, quality of customer service departments, number of customer complaints, experience of investor relations personnel, employee turnover rates and quality of guidance.

A critical shortcoming with non-financial indicators is the missing link to financial measures as earnings and cash flow. Some investigators (e.g., Lev, 1997; Cates, 1997) suggest that although non-financial information is of considerable use in some industries, non-financial measures ought to be transformed into financial ones, which would link them to the financial reporting system. The latter view is consistent with findings by Eccles & Mavrinac and Mavrinac & Siesfeld.

Regarding the usefulness of forward-looking non-financial information, Zarzeski et al. (1998) propose that such information is useful to analysts but it does not improve analysts' ability to forecast earnings more accurately. This analysis is consistent with Amir and Lev's (1996) findings. In a more recent paper, Lev (1999) holds that there are a growing number of empirical studies revealing a substantial impact of R&D on productivity and shareholder value. Deng et al. (1999) suggest that patent attributes are statistically associated with subsequent stock returns and market-to-book ratios. These papers suggest that patent-based measures may provide a useful tool for investment analysis of technology based-firms.

The present task, however, is to analyse the supply of information rather than to investigate on the demand for information. Before referring to some of these studies, it is worthwhile to note

that there are numerous studies about disclosing practises, all of which indicate the importance of improved information on intangibles. Because the principal interest in this study is associated with the measurement of intangibles, we focus primarily on research about quantitative information. However, in many of the studies referred to below it is impossible to determine whether quantitative or non-quantitative information is addressed. Therefore, the exclusion of some studies may seem arbitrary.

In 1992, a group of 18 Fortune 500 firms approached American Society for Training and Development (ASTD) asking for help in developing common definitions and measurements of training for benchmarking purposes (Bassi et. al., 1997b). In 1996, this group consisted of 56 firms. (A similar interest has been demonstrated in Sweden. In 1997, 130 organisations reported quantitative information on training and other human resource conditions to the Swedish Key Ratio Institute, 1997.)

Despite the interest in benchmarking of human capital, American companies do not normally disclose such information (Bassi et. al., 1997b; O'Connor, 1998). The annual reports of a sample of 41 public companies were investigated from 1994 to 1996. In the majority of the cases, no information on human capital was provided. The most extensive (although hardly useful [Bassi et al., 1997b]) statement on human resources was found in the financial reports from Coopers & Lybrand.

The Bassi et al. statements are consistent with two other studies. In a sample in 1994 of 460 leading UK companies only 15% mentioned intangibles in their financial report (Mortensen et. al., 1997), and in a similar US Fortune 500 survey an equally low level of disclosure was found (Siegel, 1996). In contrast to these findings, reporting on intangibles appears to be extensive in Sweden. In their 1994 annual report, 43 companies measured and reported at least some of their intangibles (Öhman, 1996). These findings correspond with Gröjer & Johanson's (1998) view that HRCA applications seem to be more common in Sweden than elsewhere. Nonetheless, it cannot be dismissed that, because of the lack of common definitions, comparisons about the extensiveness of reporting on intangibles could be like comparing apples with pears.

By counting the frequency and the amount of words in the annual reports, a sample of publicly traded corporations in six countries (USA, Canada, Germany, UK, Japan and S. Korea) were investigated regarding the disclosure of information on human resources (Subbarao & Zéghal, 1997). This study revealed that corporations in the six countries differed in the incidence of disclosure of human resources information. Two points were however similar. One point concerned the most frequently disclosed items and the other concerned the least frequently disclosed items. Benefits and pensions, normally required by law, had the highest incidence of disclosure and the value added by human resources was the least frequently disclosed item in all the annual reports studied. Even on the value-added strategy, the incidence of disclosure was very low in most of the countries.

	UK	Can	USA	Germany	Japan	S. Korea	Total
TRAINING:							
1. Training Program	12	9	10	16	3	12	62
VALUE ADDED:							
2. VA Strategy	6	7	2	5	5	8	33
3. VA Statement	0	0	0	3	0	0	3
EQUITY ISSUES:							
4. Bd. Diversity (Race)	0	1	6	0	1	0	8
5. Bd. Diversity (Gender)	3	9	16	12	0	0	40
6. Employment Equity	8	4	3	3	0	0	18
7. Disabled Issues	16	0	2	1	1	0	20
EMPLOYEE RELATIONS:							
8. HR Section	16	12	6	17	6	11	68
9. Safety Issues	7	5	4	2	0	2	20
10. Union Activity	0	3	1	5	0	0	9
11. Employee Numbers	20	9	11	19	11	11	81
12. Employees Thanked	18	18	15	17	3	12	82
13. Employees Featured	3	2	7	3	0	0	15
14. HR dir. Committee	1	4	2	0	0	0	7
COMPENSATION:							
15. Exec. Compensation	20	0	2	15	12	0	49
16. Emp. Compensation	19	8	6	17	2	1	53
17. Benefits	16	12	20	16	18	16	98
18. Pension	19	14	19	20	18	1	91
19. Profit Sh. (Shares)	8	7	16	3	0	0	34
20. Profit Sh. (Options)	17	16	19	0	0	0	52
# High	8	1	6	4	0	1	
# Low	3	4	3	3	12	13	
Total Count Per Country	209	139	167	174	80	74	
Rank	1	4	3	2	5	6	

Table 8: *Incidence of human resource disclosure by country (Subbarao & Zéghal, 1997, p. 67)*

The authors conclude (Ibid. p. 71) that "The shareholders, employees and the public need information on human resources and want to know how corporations manage this important national resource. Corporations may know what information these three groups need, but may then decide to disclose only the information that serves their own best interests."

Despite the desire of some stakeholders to obtain social information from corporations, US firms seem to be making fewer social disclosures in their annual reports (Patten, 1991). It is possible that these "non-disclosing" corporations believe that social information can be obtained from other sources. Funds that invest in corporations have a number of sources of information other than annual reports. Taylor (1998), however, proposes that the annual report is the most important source of information to European investors and the fourth most important to American investors.

Gray et al. (1995) hold that corporate social reporting has been investigated from two perspectives. The first is a conventional accounting approach where the principal user is the financial community. In the second approach, "social and environmental reporting {are} at the heart of an examination of the role of information in an organisation-society dialogue" (Ibid. p. 48). Corporate social reporting could be seen as "…forming part of the symbolic universe of language, signs, meanings, norms, beliefs, perceptions and values, through which individuals and institutions define themselves and are defined by others… Companies use their accounting to construct themselves and their relationships with others as they strive to create and maintain the conditions for their continued profitability and growth" (Neimark,

1992, p. 100). In the investigation on the practise of social and environmental disclosure among UK companies from 1979 to 1987, Gray et al. (1995) conclude that social and environmental performance at the end of the period has low priority status.

From a study of 47 enterprises on the New Zealand Stock Exchange, Hackston & Milne (1996) report that whereas both company size and industry are significantly associated with social and environmental disclosures, profitability is not. This finding is consistent with Patten (1990) and others.

According to Gray et al. (1995), a number of studies indicate that the country in which the company reports affects the theme of CSD, if not the amount of disclosure. Agreeable with companies from the USA, UK and Australia, New Zealand companies make most disclosures on human resources, with environmental and community themes receiving significant attention (Hackston & Milne, 1996). Not surprising, statements presenting good news dominate (78 percent) with only a very small proportion of statements making up bad news (6 percent). Further, Hackston & Milne found that monetary, non-monetary, and declarative evidence was about equally represented in the New Zealand sample. Clearly, while many companies do make monetary and non-monetary social disclosures, the vast bulk of their social disclosures are declarative statements. Companies that make declarative disclosures disclose, on average, about 17 declarative sentences each. In contrast, companies making monetary disclosures average about six monetary sentences each.

Although there are many recent studies on the extent to which companies disclose information on intangibles, it is difficult to draw any specific conclusions regarding to what extent quantitative information is released. This is due to the existence of a variety of models and a variety of stakeholders' interest that have to be taken into account. The overall view is that outside stakeholders, such as investors and analysts, consider non-financial indicators in their decision-making. It is apparent that investors and analysts consider market-oriented information, but opinions differ largely whether such issues as employee satisfaction, ethics and environmental issues are considered.

3.2.2. What non-financial BSC measures do firms use in their external and internal reporting?

Based on the limited knowledge on the use of non-financial measures within firms, Strivers et al. (1998) conducted a survey of top executives in US Fortune 500 firms and in Canadian Post 300 companies. A total of 253 companies participated in the study. The survey asked top executives within the organisations to indicate, on a five-point scale, the importance of 21 non-financial performance factors in setting company goals. The results indicated that top executives in both countries believe that non-financial measures are important. Nonetheless, the study also identifies two serious drawbacks according to the authors. First, although non-financial factors are viewed as important, they might not be measured ("the importance measurement gap"). Second, even when non-financial factors are measured, they might not be used ("the measurement use gap").

The non-financial measures where grouped into five general categories: customer service, market performance, innovation, goal achievement, and employee involvement. The results of the study indicate that customer service factors are perceived to be the most important measures, including such factors as "customer satisfaction," delivery performance/customer service" and product/process/service quality. Factors in the innovation and employee involvement categories were perceived to be less important in goal setting. The authors point

to differences between the survey results and to what "business experts" say about the increasing importance of innovation and human capital.

Lingle & Schiemann (1996) examined how executives measure six strategic performance areas crucial to long-term success. In contrast to Eccles & Mavrinac (1995), Mavrinac & Siesfeld (1997) and Strivers et al. (1998), Lingle & Schiemann found that information about customer satisfaction and employee performance were highly valued by most executives. Information about customer satisfaction was even more valued than the traditional management gauges of financial performance and operating efficiency. Nearly half of all managers placed importance on innovation and change and community/environment.

On the other hand, not many would stake their jobs on the information that is available. A wide gap exists between what is valued and what is treated as accurate. Why does this occur? Apart from financial and operating efficiency, relatively few executives report that success measures in other areas are either clearly defined or updated at least semi-annually. A substantial number of organisations have begun to examine performance measures beyond financial and operating efficiency at regular performance reviews, but few have linked such measures to compensation or rely on them to initiate organisational change.

In 1996, the Conference Board held four meetings with representatives from institutional investors, as well as major global corporations using strategic performance measures. The aims were (1) to consider whether strategic performance information can and should be disclosed externally to investors and (2) how companies can improve communication relating to corporate performance conducted among shareholders, boards of directors and company managers. Additional interviews and a survey supplemented the meetings. The Conference Board concludes that global companies increasingly use non-financial measures to enhance success. These strategic performance measures are of interest to management as well as institutional investors.

It was found that after clarifying strategic goals the case-study firms develop key performance indicators that focus on elements critical to achieve strategic goals. Thus, firms use a varying number of indicators, ranging from as few as 3 to as many as 20. Kleinwort Benson uses 20 measures grouped into four major categories (The Conference Board, 1997, p. 18):

1. growth measures (operating profitability, business volumes and value of client assets);
2. client satisfaction measures (client retention, client satisfaction survey ratings, client satisfaction index, client service standards and investment performance);
3. marketing and sales measures (audience perception, recognition of client needs/opportunities, innovation index, sales pipeline and product movements); and
4. business management (staff retention, staff satisfaction, training progress, project progress, internal customer relations, credit quality and balance sheet).

Based on the external reporting on intangibles in 10 Danish (PLS Consult, Ramboll, Sparekassen Nord Jylland) and Swedish (Skandia, Telia, ABB, Luftfartsverket, Sparbanken Sverige, WM Data) organisations, Erhvervsudviklingsrådet (1997) provides and classifies a number of measurements of the knowledge capital as shown in Table 9.

	”How it is” **Resources** **Statistics**	**”What is done?”** **Qualification** **Internal key-ratios**	**”What is the output?”** **Consequences** **Effectiveness**
HUMAN RESOURCES	• Age structure • Training and education • Training costs	• Percentage of employees with plan for development • Training days per employee • Training costs per employee	• Employee attitudes • Turnover • HRA • Added-value per employee
Customers	• Income split on markets and products • Marketing costs	• Customers per employee • Marketing costs divided with income • Administrative costs divided with marketing costs	• Customer attitudes • Repurchases • Customers with long relations to the company
Technology	• Total IT investments • Number of internal/external IT customers	• Number of PCs per employee • Soft- and hardware costs per employee	• IT competencies
Processes	• Cots per process • Number of employees split up on different processes • Investments in R&D and structure	• Rate of turnover • Lead time for product development • Acclimatisation time for new organisational units	• Wastage in percent • Waiting time • Quality

Table 9: *External reporting on intangibles in 10 Danish and Swedish organisations Erhvervsudviklingsrådet (1997, p. 17)*

The intention with these measurements is to highlight value drivers linked to knowledge embedded in people, customer relations, technology and internal processes. The indices suggest that much, if not all, is possible. ”There is an open invitation to all kinds of measurements, and there is certainly the possibility to assemble indicators from at least four themes that can justify measurements.” “… intellectual capital statements open for a variety of different kinds of measurements (Mouritsen, 1998 p. 10).” ”The whole intellectual capital statement is thus a complex of numbering, indexing, talking, writing and visualising a discourse of the future… It is a story which gains momentum by important social discourses mobilised in society (Ibid. p. 10).”

Apart from this Danish investigation, examples of applications on the firm level (however, not necessarily disclosed in external reports) have been reported by different authors. Skandia and Dow Chemical have been mentioned earlier. Thorne et al. report (1995) on efforts from Mitsubishi in Australia, whereas The Conference Board (1997) reports that First Chicago Trust of New York, GenCorp Inc., Kellogg (Australia) Pty. Ltd., Kleinwort Benson Investment Management Ltd. (UK), The Bank of Montreal, Pitney Bowes Inc., Polaroid Corporation, Toyota Motor Corporation and USG are all global enterprises that have used performance efforts. The richest source of experimentation has according to Lynn (1998) occurred in the financial services industry.

Sveiby (1997a, 1997b) reports on some Swedish companies that have included a comprehensive section on intangibles in their annual reports and Olve et al. (1998) present BSC applications found in 12 British and Swedish firms. Olve et al. hold that financial measures are normally outcome oriented, whereas renewal and development measures contain performance drivers. The customer and the process focus comprise a mixture of outcomes and performance drivers.

According to McKenzie and Shilling (1998), performance measures in annual incentive plans have evolved from simply measuring performance to driving it. Based on this statement they

argue that determining the proper performance measures is more important than ever. In addition to traditional accounting measures, human resources practitioners have a myriad of alternatives, including such non-financial measures and approaches as economic value-added and the Balanced Scorecard.

The most determinative value target measure for intellectual assets at Dow Chemical (Bukowitz & Petrash, 1997) is the sum of "NPV of Value Growth and Value Preservation Attributable to Intellectual Assets." How this value target measure is calculated, however, is not revealed in the article. At Dow Chemical, they also use indicator measures, with "the ratio of NPV apportioned to intellectual assets to net Present Costs of R&D for a given period" (Ibid. p 29) being one of the most important measures. This ratio is used as a kind of return on investment, which assists at visualising R&D as a capital investment instead of seeing it as an expense.

The CEO at the Buckman Laboratories uses the measure (Ibid., p. 30) "sales of new products less than five years old as a percentage of total sales." This measure has been used for many years, but it has risen 50 percent during the last four years. Buckman believes this is an effect of the implementation of their knowledge sharing system that has been in use for four years.

Hansson (1998) warns that balanced scorecard indicators, suggested by different authors, are too restricted because they do not capture drivers and processes behind the firms' output. Examples of such drivers might be feelings, values, beliefs, relationships fear and dreams. However, isn't this precisely what Kaplan & Norton and most of the others intends to capture? To unravel whether this is the situation further studies are needed.

Lank (1997) appears to agree in art with the opinion of Hansson. The author enumerates a certain number of management measures that have gained acceptance in different organisations. These are; training days per employee, total time spent in training, number of personal development plans completed, number of performance appraisals completed and assessment against competency frameworks.

The author argues that even if though flawed these measures demonstrate the management's belief in the importance of individual learning, but points out that the development of intellectual capital (or the process of knowledge management) requires a different perspective. To learn about that development a different set of questions must be asked: How well do employees share their knowledge and expertise with colleagues? What processes could be found which make it easy for them to so? What rewards and incentives exist for contributing to the knowledge base? How is the value of intellectual capital measured?

The following areas should be evaluated in order to answer the question as to how an individual's wish to enhance personal employability can be reconciled with the organisational need to leverage its knowledge base and build some structural capital.

1. Individual performance and reward processes (measure the number of contributions, e.g. key documents, made by specific individuals to the knowledge base using IT as the tracking mechanism, use a peer feedback mechanism to assess the extent to which individuals share their knowledge and expertise readily with their colleagues).
2. Approaches to personal recognition
3. Integration with key business processes (Production of project summaries or diary notes)
4. IT infrastructure and training to familiarise people with the relevant IT tools (repositories of reference material, expertise maps and just in time knowledge).
5. Making it as easy as possible to contribute to the knowledge base

Lukka (1998) argues that there are two different kinds of development of non-financial measures in organisations. The first is described in several Scandinavian studies. These studies are in line with the idea of narrative understanding of organisations, where non-financial measures are developed in local units, a development undertaken through experimental learning processes. These processes are directly related to the activities performed within the units and the development is independent from the strategic goals of the whole firm. Lukka argues that the other kind of development can be found in recent American texts. Here, non-financial measures are developed from the strategies of the firms in a top-down approach. The measures are similar in different local units of the organisation and are directly linked to the critical success factors of the organisation. Lukka (1998, p. 340) argues that "the top-down approach to developing a system of non-financial measurement corresponds to the idea of trying to spread paradigmatic understanding within an organisation, which may cause problems at the local level." Lukka notes that a conflict does not necessarily exist between the integration in firms of these two measurement systems. Both can be used in practice inasmuch as "there is a potential division of labour between the two". The measures derived from top-down can be used in standard corporate reporting and they can co-exist with measures developed locally to fulfil the needs of information in those local units without any attempt to consolidate them at higher levels in the organisation. Granlund and Lukka (1996) have found such peaceful co-existence in their study.

Numerous BSC models and measures have been suggested in the literature. They comprise a mixture of measures of outcomes and performance drivers. However, it could be questioned whether the most basic issues that drive human performance are identified. Proposals found in American texts represent a top down perspective aiming at the implementation of strategic goals, whereas the Scandinavian approach comprises logically developed measures not necessarily linked to the strategic goals.

3.3. Do non-financial measures of intangibles influence management?

In his new approach for a research method for management accounting, Jönsson (1998) provides a communicative aspect of managerial work. Jönsson suggests that managerial work is mostly done via face-to-face communication in group situations. Here, decisions are rare events and the most frequent activities involve the search for information. This information is fresh, verbal and characterised by a "brevity, variety and fragmentation in a stream of events where agendas related to but separate from the formal plans of the company are at work" (Jönsson, 1998, p. 414). This communicative aspect implies a certain need of non-financial information. But how are management members influenced by non-financial measures of intangibles?

Sveiby (1997a) states that, despite several Swedish experiments with disclosing information on intangibles, only a handful of companies measure their intangibles according to "a theoretically coherent model" (1997a, p. 94). There are several reasons for this situation: (1) managers regard such reporting as pointless. Only financial analysts read the annual reports and they do not understand the figures. In turn managers do not know how the indicators should be used to follow up strategy; (2) a fear to disclose too much information; (3) lack of comparable data; and (4) lack of empirical evidence that the metrics are useful.

Despite numerous variations of the BSC model, scientific studies about the experience of the utility of the concept lags behind. Scientific investigations of the influence on company management are rare. Experiences in the literature are mostly anecdotes reported from interviews with single CEOs.

In a Northern American investigation on practise and success in benchmarking (Drew, 1997) among managers, senior executives and presidents, 66 percent reported their organisation was busy with a benchmarking project. In all, 81 percent reported some previous involvement in benchmarking. Further, benchmarking against competitors was perceived as being the most successful and widely used procedure. Firms adapting to evolutionary rather than revolutionary change were gaining more benefits from benchmarking. Benchmarking between units of the same firm were significantly linked with performance, whereas external benchmarking was correlated with higher levels of innovation. Central concerns for strategic management were organisational learning, intellectual leadership and knowledge management. Drew concludes that benchmarking can lead to a change in strategic thinking as well as the capacity for change. However, a range of obstacles exists, including time, costs and finding partners.

Fisher (1992) studied the implementation of non-financial performance measures and control systems in high-technology manufacturing plants. To compete successfully measurements of the following intangible key success factors were developed: customer satisfaction, manufacturing excellence, market leadership, quality, reliability, responsiveness, and technological leadership.

The new non-financial measurement system was found to affect the success of the strategy of the firm. In addition, the measures were actionable at the plant level, which provided the possibility for almost instant corrections. The controllers in the studied firms never took a negative position against the new control system; rather, in one firm controllers were actively involved in the change process and took the leading role in the implementation of the system.

Because the new system did not make expressions in monetary terms, there was a problem in determining the link between profit and improvements provided by the new system. There is, therefore, a need for a theoretical framework aiding in the implementation of such systems (Ibid). Otherwise, non-financial measures may conflict, which would make trade-offs difficult to determine. Fischer states that it is important to understand the trade-offs, as well as the strengths and weaknesses of non-financial measurement systems in order to explain the interrelationships existing within the system.

McWilliams (1996) provides examples on how a number of organisations are working with new measurements.

- One organisation that navigates by a constellation of measures, including customer satisfaction, quality, innovation, employee development and financial soundness, is Mobil Corp.'s Americas Marketing and Refining Division (AM&R). AM&R now gauges its progress using a BSC, consisting of 23 measures, only five of which are strictly financial. Through the scorecard the organisation focuses on "actionable" measures, things that business line managers and their employees can influence directly, such as customer satisfaction, yield and reliability. The promise of improved alignment attracted Mobil executive vice-president to the BSC in early 1994. At the time, AM&R's strategic vision was suffering from acute astigmatism. Under the old system, measurement was not a communication device, but was a poor control mechanism. Strategy was driven entirely by corporate planning staff and line people were viewed simply as implementers of strategy. Today, scorecards are embedded in the management process at AM&R. The scorecard is the basis of every conversation. "When I talk to the employees they can tell me what they are doing to impact the scorecard". The vice-president admits he still has not got 100 percent buy-in. The resistance, some of which comes from very high levels, is largely over whether the division should be measuring intangibles like organisational learning and employee development.

- "The BSC is perhaps the best means available to gain consistent alignment between a board's strategic vision and its tactical execution," says a director of process redesign at McNeil Consumer Products, a Johnson & Johnson Inc. Company. On the other hand, a senior vice president at First Chicago Trust Co of New York is using an array of non-financial measures to track and enhance the trust company's operating performance. The value of non-financial measures comes in part from their flexibility. They also invite potential clients to sit in on its weekly performance reviews. "Demonstrating that we have a formal program for measuring and improving service delivery is a powerful statement to our clients and staff. It's also good marketing."
- Pitney Bowes' U.S. Mailing Systems started with a list of 500 key measures on its first pass. According to the director of business analysis, "We had to come up with a separate set of measures just to rank the measures." The final group of seven measures became the basis for a business information system, on-line since October 1993. It is used by executives across the division, including sales, divisional controllers, marketing, president's staff, HR, and finance. "Instead of waiting until the end of each month to get financial reports on a spreadsheet, we've now got an on-line system that gives people a daily snapshot of the business."
- When Whirlpool Corp. created its 'top sheet' in December 1991, people bought into the four value-creating objectives easily, as stated by the corporate director of planning and development. However, many protested loudly that certain measures were not appropriate to their organisation. The company routinely begins analyst presentations with an update on top-sheet measures, after which it gets into the traditional financial numbers. Whirlpool also made the top sheet the main theme of its 1991 annual report, spelling out the value-creating objectives and their accompanying performance targets.
- One important part, according to Kaplan & Norton, is to connect the new measurements to compensation. One solution can be found in Cigna Insurance's property-and-casualty division, which began managing its business with a scorecard at the start of 1995. Today, bonuses, which constitute as much as 10 percent of management- and employee-compensation packages, are tied completely to scorecard results.

Similar examples from the Swedish scene could be found in Olve et al. (1997). Based on literature surveys, personal experience and empirical data from interviews with 17 members of the board of directors in 11 enterprises (ABB, Electrolux, Coca-Cola, KappAhl, Orion Pharma, Gustavsberg, Rank Xerox, Volvo, SJ, SKF and Skandia), these investigators hold that BSC has been well accepted among middle management whereas top management prefers financial measurements. According to the president of KappAhl, people in the firm have increased their understanding of the company's vision as well as the practical implications of this vision (Olve et al., 1997).

Fleisher & Darren (1997) describe a managerial approach in assessing Public Relations/Communications (PR/C) performance using a BSC. The authors feel that the greatest problem PR/C practitioners will face in implementing a BSC approach is to develop measures and proper information systems needed to gather information.

Butler et al. (1997) describe an attempt undertaken by Rexam Custom Europe (RCE) to determine, develop and implement a balanced scorecard for top level use. The performance measures developed by means of interviews were classified into three perspectives (shareholders, extraordinary growth and continuous improvement) instead of the four of Kaplan and Norton. The commitment to the corporate vision and the special role of product development jointly explains why the scorecard deviated considerably from the template proposed by Kaplan and Norton. The authors conclude that Kaplan and Norton seem to have created a model that overlooks the importance of the corporate mission. As in the case of RCE, if the staff generally accepts the mission, then it seems preferable to build the scorecard around the mission rather than to adopt a template developed in other corporate contexts.

Mouritsen (1998) and Ewing (1995) emphasise the importance of transforming visions by means of utilising the BSC. Thus, at ABB a metaphor that associates the BSC to navigation instruments in the cockpit panel is frequently proposed. Three versions of the cockpit panel are suggested: one version reveals the actual status as compared with the ambition on financial, customer, innovation, employee and process perspectives; a second one version provides more precise information on all five perspectives; and the third vision provides, trend, plans of action, ambitions and actual metrics for each of the five perspectives.

Concerning the Swedish insurer Skandia, the reception of the model in 1993 is reported to have been enthusiastic and encouraging. However, experience in terms of in-depth studies of influence on action or learning are still missing, except for single interviews, e.g., with the CEO (Olve et al., 1997; Roos & Roos, 1997) who states that the Skandia model was developed to be used primarily internally. The main effect among managers has been an increased awareness of strategy. Erhvervsudviklingsrådet (1997) also reports the latter type of effect.

Are measurement-managed companies more successful compared with those that down play measurement? If so, how does measurement contribute to success and which are the barriers hindering measurement? These questions were recently addressed in Lingle & Schiemann (1996).

They defined measure-management organisations as those in which senior management was reported to be in agreement on measurable criteria for determining strategic success, and management updated and reviewed semi-annual performance measures in three or more of the six performance areas. Fifty-eight organisations met both criteria for being measure-managed. Non-measurement-managed organisations were those in which senior management disagree on measurable criteria for determining strategic success, and performance measures in only one or two primary performance areas were reviewed on a semi-annual basis. Sixty-four organisations fulfilled these criteria.

It was found that a higher percentage of measurement-managed companies are industry leaders, tend to anticipate the future and are likely to remain in a leadership position in a rapidly changing environment. Lingle & Schiemann conclude that (1) firms which are topmost in their industry have agreed upon measures that managers understand, thereby balancing financial and non-financial measurement; (2) linking strategic measures to operational ones; (3) updating their strategic 'scorecard' regularly; and (4) clearly communicating measures and progress to all employees.

Employee measurement was the biggest single measurement area that separates successful from unsuccessful firms. Industry leaders reported reviewing on a more frequent basis a broader range of measures than do non-leaders. In measurement-managed organisations (1) the agreement on strategy was stronger, (2) the clarity of communication was better, (3) unit performance measures were more frequently linked to strategic company measures, (4) individual performance measures were more frequently linked to the unit, (5) a link to compensation was more likely, (6) strong teamwork and co-operation among the management team was more frequently reported and (7) employees in measurement-managed companies were generally less afraid to take risks to accomplish their objectives.

In the Lingle & Schiemann study, four obstacles to measurement were identified. (1) Fuzzy objectives--many companies do not invest the time needed to define with equal precision other areas of performance, such as customer satisfaction, employee performance and rate of change. (2) Unjustified trust in informal feedback systems, such as complaints and criticisms from the sales force about products and services. (3) Entrenched measurement systems--measurement-managed companies tend to involve the work force in developing measures. (4)

The activity trap--too many measures trivialise the effort, which occurs when companies focus on measuring activities rather than results.

In conclusion, evidently *enthusiasm and intentions on how to use the BSC concepts are not lacking. Executives appear to be pleased to have initiated a process of transforming the organisation into a "BSC-organisation". The main advantages are an increased awareness of the company vision to connect operational tasks to strategic, employees' participation and flexibility in regards to the different measurements. The main disadvantage is the cost involved in the transformation process. However, the companies have recently adopted the concept and, as many authors propose, the implementation process will take time.*

3.4 Recommendations regarding implementation of BSC

Olve et al. (1997) conclude that there are no standard solutions regarding a successful implementation of the BSC, but that a number of aspects of the project need to be observed carefully. These include (1) top management support and a shared vision of the importance in the organisation, (2) a project team representing different parts of the organisation, (3) high priority, (4) not too extensive, (5) strategic connection and precise measures, (6) balance and connection between the measures, (7) goals for each measure, (8) IT support, (9) training and information and (10) evaluation.

These recommendations can be compared with Drew's (1997) recommendations on a successful implementation of benchmarking. He suggests that (1) benchmarking is most effective when integrated with other systems, such as strategic planning, budgeting and human resource management; (2) objective information is advantageous; (3) education in benchmarking is required; (4) careful attention should be paid to the composition of benchmarking teams; (5) the concept needs support from top management; and (6) the greatest benefits will be achieved when benchmarking is aligned with other organisational objectives.

Based on seven European case studies, McCunn (1998) reached the conclusion that the BCSs are likely to succeed within organisations if the *"10 commandments"* of balanced scorecard implementation are followed.

DO

- Use the scorecard as an implementation pad for strategic goals;
- Ensure strategic goals are in place before the scorecard is implemented;
- Ensure that top-level (non-financial) sponsors backs the scorecard and that relevant line managers are committed to the project;
- Implement a pilot before introducing the new scorecard;
- Carry out 'entry review' for business units before implementing the scorecard

DO NOT

- Use the scorecard to obtain extra top-down control;
- Attempt to standardise the project. The scorecard must be tailor-made;

- Underestimate the need for training and communication in using the scorecards;
- Seek complexity or strive for perfection;
- Underestimate the extra administrative workload and costs of periodic scorecard reporting

However, even more important is the *11th commandment*: Do not start implementing a balanced scorecard unless it is known what is hoped to be achieved! McCunn argues that 70% of all scorecard implementations fail, even if failure is of a relative nature and greatly dependent on whether the organisation actually knows what results to expect from implementing a balanced scorecard.

Roos & Roos (1997) interviewed executives in five small Northern-European countries in order to develop an intellectual capital (IC) process model in an inductive manner. The authors report extremely positive reactions versus IC and strategically important process factors could be identified. They conclude that (1) to develop an IC system the company must be mature enough to go beyond solely financial indicators, have a clearly defined business orientation and a clear operational commitment to moving ahead; (2) the IC system should measure only the IC change affecting the long-term earning capability; (3) the IC system must be rooted in the language of the company; (4) to be measured IC has to be categorised and indicators on each category have to be developed; and (5) if a balance sheet approach to IC is used a form of IC profit & loss account is required that shows the flows between different IC categories.

According to the Conference Board (1997), the disclosure of strategic performance information is said to be a delicate balance. Whereas better company valuation and improved conditions for institutions to discuss strategy with management are recognised as benefits, costs are identified as exposure of the company to litigation, as revealing competitive information, as not comparable data in some cases and as having no interest in the cost problem from certain segments of the market.

In considering best practise for communicating strategic corporate performance information, The Conference Board recommends the following measures:

1. The process of establishing strategic performance measures must be initiated from the CEO or, ideally, both top down and bottom up.
2. The process of determining strategic performance measures is almost as important as the measures themselves.
3. The vision must be uniformly communicated throughout the company.
4. Companies already have between 50 and 80 percent of the information they need to construct a strategic performance measurement system.
5. Companies should only measure what they want to manage.
6. Different people in the company may need different types of measures.
7. Benchmarking progress against goals is of key importance. Some companies add that managers should not forget to change the goals when such change is appropriate.

In their book, Olve et al. raise several intriguing questions. For instance, should the same perspective always be in focus? How many measurements ought to be used? How often should the indicators be reported? They state further that many problems arise concerning an external use of the BSC concept. Their main objection seems to be that external reporting needs an independent auditing system to be reliable. Another problem is related to the validity

of the information. Extended information might cause information overload and thus be misleading.

A concluding remark on the implementation of BSC would be that *Top management support is a precondition for a successful implementation because the strategic connection is actually the reason for dealing with BSC. In other words, before starting the process of transforming the firm into a "BSC-organisation," careful consideration should be given to the goal of the transformation. Measures should be diversified, taking the differences in the organisation into account. However, the measures should not be too many and, above all, only measures that could be managed should be developed.*

4. CONCLUSION

The aim of the present literature survey will be accomplished by highlighting and, in some cases, expanding on conclusions drawn earlier in this paper. The purpose is not to find solutions on how to report intangibles internally or externally, but to interpret what has been found and to raise some questions for further investigation.

The chapter begins with separate conclusions about HRCA and BSC and ends with some general conclusions and proposals.

4.1. Conclusions on human resource costing and accounting

Three goals of HRCA can be distinguished in the literature: (1) An ambition to improve the management of human resources from an organisational perspective by increasing the transparency of human resource costs, investments and outcomes in the management accounting rituals, such as profit and loss accounts, balance sheets and investment calculations; (2) attempts to improve the bases for investors company-valuation; and (3) aspirations from human resource specialists, company doctors or unions to use monetary arguments when suggesting investments in human resources.

Even if HRA models have generally been proposed by accountants and UA models by psychologists, their composite (HRCA) seems to have been adopted primarily by those managing human resources, i.e. human resource people and departmental managers.

Opinions differ widely whether HRCA is actually used by practitioners today. Human resource costing/income evaluations appear to be widely practised, whereas human resource balance sheets are hardly used with the exception of the football industry, which is probably because of difficulties to accomplish all accounting criteria regarding assets.

Decision-making and learning of investors and managers appear to be influenced by HRCA, where most managers generally hold a positive attitude towards HRCA. Nonetheless, whether HRCA as a part of the management control process is actually used is questionable. When trying to implement HRCA, efforts should focus on (1) knowledge of human resource costs, values and outcomes and how to calculate these; (2) top management demands, as well other ingredients in the reward system; (3) and HRCA target setting. It is necessary to implement HRCA from a strategic-management perspective.

Recognition criteria, such as identification and controllability, might cause problems in some cases. Even the separation of investments and the expectancy of future income are possible to overcome, but attaching future incomes to a specific investment is difficult to achieve.

One perspective that HRCA literature has neglected is the ethical issue. There is a risk that putting a price on people may make human beings substitutable to other forms of capital. For ethical reasons, many individuals argue against the use of HRCA; however, many others argue in favour of HRCA for the same reasons. The two approaches are not likely to ever be united. Admittedly, just as a bread-knife, HRCA can be applied in a flexible manner and serve a number of purposes.

In general, the HRA and UA literature are measurement-oriented. A true representation of a certain problem is regarded as most important. This may result in the risk that human resource measurement systems lose sight of the forest for the trees in the sense that only a limited

number of measures could be grasped by a manager. It has been suggested that future research ought to be directed towards how to develop useful measurement systems to align human resource strategy with the competitive strategy of business.

4.2. Conclusions on the balanced scorecard

Numerous BSC models and measures have been suggested in the literature and the concept has inspired the development and application of a variety of models. BSC is intimately related to intellectual capital and comprises not only tools for the measurement of intangibles resources, but also a vision of continuous learning and change to create value for the future. The mere existence of BSC reveals a message that what finally counts is not only financial outcomes, but even long-term relationships with customers and employees. These relationships are facilitated or hampered by adequate or inadequate organisational structures. However, it remains to be investigated whether firms really practise BSC as a vision of priorities or as a tool to accomplish superior financial performance.

Although there are many recent studies on the extent to which companies disclose information on intangibles, it is difficult to draw any firm conclusions as to the extent quantitative information is released. This is due to the existence of a variety of models and a variety of stakeholders' interest that have to be taken into account. The overall view is that outside stakeholders, such as investors and analysts, consider non-financial indicators in their decision-making. It is apparent that investors and analysts consider market-oriented information, but opinions differ considerably whether such issues as employee satisfaction, ethics and environmental issues are considered.

Depending on what is the ultimate goal of the firm some authors believe that metrics concerned with the management of intangibles in itself has no ultimate value to the firm. What finally counts are such economic factors as market share, revenue, gross margin and customer satisfaction.

Scientific studies on the experience of the utility of the concept are rare. Few scientific investigations on the influence of company management or financial results exist. However, the literature suggests that there is no lack of enthusiasm and intentions on how to use the BSC concept. Executives appear to be pleased to have started a process of transforming the organisation into a "BSC-organisation". The main advantages are an increased awareness of company vision connecting operational tasks to strategic, employees' participation and flexibility in regards to the different measurements, whereas the sole disadvantage is the cost of actually carrying out the transformation process. However, the companies that are referred to have recently adopted the concept and the implementation process is taking place.

Numerous BSC models and measures have been suggested. They comprise a mixture of measures of outcomes and performance drivers. However, it could be questioned whether the most basic issues that drive human performance are identified.

Top management support is a precondition for a successful implementation because the strategic connection is actually the reason for dealing with BSC. This is to say that before starting the process of transforming the firm into a "BSC-organisation," it has to be carefully considered why this transformation should be achieved. Measures should be highly diversified, considering the differences in the organisation. Nevertheless, the number of measures should limited and only measures that could be managed should be developed.

As in the case of HRCA, the ethical issue has been neglected. However, whereas a limited number of studies concerning ethical issues have been conducted in the field of HRCA, none have been found in the BSC area.

4.3. Overall conclusions and proposals

Despite numerous articles and books on visions and models designed to capture intangibles in HRCA or BSC models, little is known about the outcome of such efforts. Theoretical elaboration on possible effects is not rare but investigations on firm level are comparably scarce.

HRCA and BSC have been developed and applied primarily for internal managerial purposes, though they occasionally appear to be used for external marketing (?) in an attempt to gain image and market value. Whereas HRCA has been pushed forward by researchers and practitioners in fields of human resources and accounting, most recent developments of different BSC models are related more to the strategic management of the firm. The interest in and applications of HRCA and BSC appear to be more frequent in Northern Europe, Northern America and Australia than elsewhere in the globe.

The future of HRCA may well be to link it to the BSC. To date, HRCA suffers from not being grounded in business strategy (Cascio, 1996). Linking HRCA to BSC would solve this problem and, conversely, the BSC would have the option to utilise measures that have already been developed within the HRCA framework (Johanson & Mabon, 1998). This effort of combining HRCA and BSC appears to already exist when reviewing some of the recent literature (e.g., Erhvervsudviklingsrådet, 1997; EBNSC, 1998; Frederiksen & Westphalen, 1998). Despite the basic differences between the two, they are treated as if they were very similar.

However, before the application of HRCA, BSC or any other model (i.e., before measuring) you have to know what to measure. For instance, Which are the important value drivers in the firm? How could they be identified and operationally defined? For example, in reference to how much firms spend on training values ranging from 3 (Eliasson, 1990; Bassi & Cheney, 1996) to 60 percent (Eliasson, 1990) of a firm's labour costs have been reported, depending on how training is defined. Even more complicated is how to operationally define and measure such issues as feelings, fears and dreams.

A standard setting with respect to intangibles is already under way. Apparently, different individual actors have already taken part in the standard setting procedure. For instance, Sveiby has proposed the concept "structure capital", Kaplan & Norton have suggested the balanced scorecard and Edvinsson has developed the concept "intellectual capital."

However, despite these bold efforts, intangibles are defined in numerous ways and from such perspectives as accounting, statistical and managerial, to name a few. There is no consensus as to what constitutes an 'intangible'. Some are more "tangible" (e.g., patents) than others (e.g., unconscious processes). Because of the nature of intangibles, presumably a consensus will never be reached. Probably definitions on intangible assets as well as intangible investments for accounting and statistical purposes could be widely accepted, but definitions on such intangible phenomena as processes in the organisation are not likely to be easily agreed upon.

Nevertheless, there is clearly a need for clarification of what we are talking about whenever the term 'intangibles' is used. In any case, it is desirable to separate those intangibles that could be defined in common from those that could not. A failure to do so would at the very

least lead to relativism as regards comparability between firms. Further, a failure with respect to finding definitions will preclude the possibility of measuring and, at least to some extent, controlling those intangibles.

Could it be so that once a certain intangible is measured and reported and the importance of that intangible for the overall performance of the firm is known, interest will be re-focused on another intangible? Once you have learnt something, you change the scope of interest. Indications on this are found in all of the 'aha' reactions in connection with research on implementation of HRCA, as well as in the following quotation by Gordon Petrash, Global Director of Intellectual Asset & Capital Management at Dow Chemical Company (The Conference Board, 1997, p. 20). "We find the process of trying to establish the measures for intangible assets and intellectual property in itself has significant value in bringing consensus and understanding of what drives you toward the future - this has been one of these Eureka's to us as we have gone through the process. The process itself has great value."

If this is true measuring and reporting on intangibles is a continuous learning process and thus all efforts of establishing permanent and standardised indicators will be in vain. The individual firm will always strive to capture and measure new intangibles. Comparability and the possibility to understand from external stakeholders will always suffer in this respect.

The question of standards is presently being pushed. However, is it possible to agree upon a standard? For what purpose (Gröjer & Johanson, 1998b)? Which standard? How? Or, as Webber states, "the real issue with intangible measurements is not whether there is a metric, but whose metric it will be and how it will become a standard" (Webber, 1998, p. 9).

The implications of measuring the immeasurable have become much more complicated in comparison to the medieval battlefield because of the increasing intangibility of risky enterprises.

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