THE 3 MS OF INTELLECTUAL CAPITAL – MEASURING, MONITORING AND MANAGING

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Abstract

This paper intends - based on the current state of the art of Intellectual Capital measurement to picture necessary development towards an integrative reporting instrument for Intellectual Capital. Although Intellectual Capital measurement evolved due to the intention and necessity to disclosure intangible assets meeting the information demands of all stakeholders, it has not quite succeeded in this effort. Caused by the strict concentration on not just measuring the employed intangibles some shortcomings of traditional accounting systems are repeated. The article starts off with a representation of present Intellectual Capital measurement approaches and evaluate them due to their practicability as integrative management tools. A survey on the issue of Intellectual Capital conducted within an Austrian company with an international background prepares the background for the presentation of an integrative concept of measuring, monitoring and consequently managing Intellectual capital.

Keywords: Intellectual Capital, Measurement, Monitoring.

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Introduction

Knowledge and its management have become major issues of discussion in management as well as in research in the course of the late eighties and nineties. As a consequence also Intellectual Capital and Intellectual Capital Management attracted practicians and researcher attention. However one may not get these terms mixed up, they are obviously different - but yet similar in meaning - and therefore often used in synonymous ways. Especially an article which intends to deal with Intellectual capital thus has to start off with a clear and precise definition.

Knowledge can be characterized as information in context, together with an understanding of how to use it. Examples would include knowledge about drainage in a street, derived from looking at a schematic and understanding how the placement of houses may or may not affect drainage.[Mayo 2001, Stewart 1997]

Intellectual Capital is to be defined as the non-financial and non physical resources used by and within a company, it is knowledge which can be converted into profits (Sullivan, 1999:210). *Intellectual Management* deals with the interactions between all resources, tangible and intangibel to create maximum value (Sullivan 1999:228).

The following discussion on the current state- of- the- art and on present problems of reporting on Intellectual Assets (Intellectual Capital) will address researchers as well as practitioners. It kicks off with a valuation of present approaches which try to overcome information deficiencies concerning intangibles as the result of shortcomings of traditional accounting. Most of these approaches concentrate on measuring IC - the information gained however mainly addresses only one or a restricted number of stakeholders. The measurement of IC should rather aim at satisfying all stakeholders' information needs - therefore it should integrate external as well as internal issues. Furthermore current measurement approaches focus on presenting intangibles without their implicit financial aspects– in how far they attribute and correspond to present and future earnings is very restrictively pointed out.

The development that has to follow in the attempt of measuring IC is to establish the relation between financial reports and reports on IC. First of all this effort demands a distinctive knowledge about possible interest groups and their needs for information. The discussion about IC was started due to the fact that traditional financial reports could not cope with presenting intangible assets and as a consequence book value and market value diverge. For handling this discrepancy all efforts concentrated on trying to present a statement of intangible assets for present and future shareholders. However knowledge about intangible assets is especially crucial for a company's development – the internal purpose of reporting about IC has to be put in the centre of interest since current internal accounting systems cannot provide this information. When speaking about a company's development one should furthermore acknowledge the dynamics of intangible assets and therefore take them into account when establishing an integrative management information system for intangibles.

If we can manage measuring IC considering all issues mentioned above - internal and external - we will also be able to monitor IC. Monitoring IC – as a further challenge for research on IC - is necessary because as stated before IC represents one of the main factors of success - strictly tracking its development and its consequent protection seem to be inevitable. By doing this one will also get information on future potentials, one will know where there are shortcomings and one will be able to react to this. More-

over it will lead managers to be able to reach the ultimate goal concerning IC – namely true management of IC.

The necessity to succeed in this attempt can easily be explained. As far as normal (tangible) assets are concerned no one would question the necessity of efficient management – with intangible assets everybody seems to be satisfied by just measuring them - questions of profitability and productivity (being completely legitimate for traditional assets) are not even touched. Consequently measuring and monitoring can only function as the starting point – the goal has to be MANAGEMENT (in all its dimensions) of IC regarding all aspects of this peculiar form of assets – if a company succeeds or fails in handling its intangibles the profit and loss account will show it in the end.

This paper therefore presents a concept to how companies could set the course from simply measuring towards managing IC in an also distinctive financially-oriented way. Deriving implications for IC from strategy it concentrates on developing a management concept that tries to embody the demand for information needed in the monitoring and managing process. This includes measuring on a less aggregated level than present approaches suggest as well as enabling not only a retrospective but active planning for the businesses future ahead.

The concept is based on a survey carried out among managers (especially CFOs) in an international company of the grinding industry. The main target of this survey was to get an impression in how far management has on the one hand already become familiar with current possibilities of intangible assets reporting; on the other hand the survey was also interested in how far the management was satisfied with these approaches and which issues still demanded further discussion and development.

Evolvement and current state of the art

Although one may get the impression that the IC – movement started in the above mentioned time period of the 80s and 90s the history of Intellectual Capital – although not explicitly called IC- goes way back.

Already the published work of J. Robinson and Edward Chamberlin in the 1930s was calling on resourced based- accounting (Chamberlin 1962). In her book “The theory of growth E. Penrose continued these first steps and developed an approach for resourced- based accounting (Penrose 1959).

The term ‘intellectual capital’ was first used in a publication by John Kenneth Galbraith in 1969. His concept of the term incorporated a degree of ‘intellectual action’ rather

than ‘intellect as pure intellect’. The implication of his view is that the intellectual capital is more likely to be a dynamic rather than a static form of capital. (Edvinsson and Sullivan 1996: S.358)

The 1980 finally represented the real kick-off for a series of publications which explicitly dealt with the topic of Intellectual Capital. It basically started with the works of Hiroyuki Itami (Itami and Thomas1991) and Karl –Erik Sveiby in 1986 Sveiby 1990). It was in 1986 when Charles Handy published work relating to Human Capital as well as David Teece (Teece 1986) who was interested in extracting value from innovation. 1987 saw the foundation of the Konrad Group in Sweden to discuss intangible assets and they published their results two years later.

The fact that in 1991 Edvinsson became Vice President of Skandia had significant meaning for the discipline of knowledge management and Intellectual Capital. The first implementation of Intellectual Capital as a corporate function finally led to the first publication of an Intellectual Capital report 4 years later. In 1994 another important protagonist of the Intellectual Capital movement entered the scene Tom Stewart who published “Intellectual Capital” as a cover article in *Fortune*, which 3 years later was even published as book (Stewart 1997). Finally the year 1996 saw the first foundation of an institution for intangibles research namely at the New York University by Baruch Lev. The year 1997 could be described as a milestone concerning publications on the topic Intellectual Capital. Three major works were published namely by Sveiby (Sveiby 1997), Edvinsson and Malone(Edvinsson and Malone 1997) and Roos (Roos et.al.1997) It is therefore not surprising that this had to be followed by the launching of the first journal explicitly dealing with Intellectual Capital (Bontis 1999).

To continue a chronological description of the Intellectual capital movement after the millennium is hardly possible and even not very useful. On all levels – academic, company –based and by public institutions – the topic has become widely spread. Many articles in referred and acknowledged journals have been published, well-established business schools took up the issue. Official bodies such as financial regulators worldwide, government, the EU, the World Bank and the OECD established groups to take part in discussion and research and to achieve a possible consensus view.

Of course the topic has also attracted the “conference” world and numerous companies started attempts to collect their own non - financial metrics. Although a large number of surveys has been conducted, they do not really reveal what exactly is being done.

Beside this historical outline about Intellectual Capital it is definitely of major interest in how far the contents of this discipline and its measurement methodologies have evolved and developed.

"First generation measurement systems were based on the assumption that financially biased measurement systems should be supplemented with non- financial indicators, including intangibles. Whilst this was a valuable development, the problem with this first generation approaches was that they were static and failed to illustrate adequately the linkage between different performance measures. Second generation measurement systems addressed this issue by using strategy and/or success maps to take into account the dynamic nature of performance and the transformation processes linking objectives and resources. Third generation measurement systems will build on these developments and seek to link, explicitly the non-financial and intangible dimensions of business performance to the generation of free cash flow." (Neely, Marr et al.2003:129)

Undertaking the effort to measure Intellectual Capital one could very easily recognize the difficulties which are inherent to this kind of asset. Therefore the measurement of Intellectual Capital was ignored or belittled, its presentation and discussion precluded or subject to potentially crushing liability and consequently its management considered to be difficult. In some cases Intellectual Capital seemed to be viewed more as a liability than an asset.(Wallman 1999:183)

The amount of methods and approaches which nevertheless try to overcome this obstacle is most impressing. Table 1 tries to give an outline of the most acknowledges approaches (Roos 200):

Basically four different categories of Intellectual Capital measurement methodologies can hereby be distinguished which all have their pros and cons:

- *Direct Intellectual Capital Methods*
    - focusing on measuring Intellectual Capital directly
- *Market Capitalization Methods*
    - Deriving the value of Intellectual Capital from market capitalization
- *Return on Assets Methods*
    - Using the ratio of the ROA to define the value of Intellectual Capital
- *Scoreboard Methods*
    - trying to determine the value of Intellectual Capital by considering the different aspects of a company’s strategy

IC Approaches Major Proponent	Cate-gory	Description of Measure
Technology Broker **(Brooking)**	DIC	Value of Intellectual Capital is assessed based on diagnostic analysis of a firms response to twenty questions covering four major components of IC
Citation- Weighted-Patents **(Bontis)**	DIC	A technology factor is calculated based on the patents developed by a firm. Intellectual capital and its performance is measured based on the impact of research development efforts on a series of indices, such as number of patents and cost of patents to sales turnover, that describe the firm's patents
Inclusive Valuation Methodology (IVM) **(Mcpherson)**	DIC	Uses hierarchies of weighted indicators that are combined, and focuses on relative rather than absolute values. Combined Value Added = Monetary Value Added combined with Intangible Value added
The Value Explorer ^{TM} **(Andriessen&Tiessen)**	DIC	Accounting methodology proposed by KPMG for calculating and allocating value to 5 types of intangibles: a. assets and endowments, b. skills and tacit knowledge, c. collective values and norms, d. technology and explicit knowledge, e. primary and management processes
Intellectual Asset Valuation **(Sullivan)**	DIC	Methodology for assessing the value of Intellectual property
Total Value Creation, TVC ^{TM} **(Anderson&McLean)**	DIC	A project initiated by the Canadian Institute of Chartered Accountant. TVC uses discounted projected cash-flows to re-examine how events affected planned activities.
Accounting for the Future (AFTF) **(NashH.)**	DIC	A system of projected discounted cash flows. The difference between AFTF value at the end and the beginning of the period is the value added during the period.
Tobin's q **(Stewart, Bontis)**	MCM	The "q" is the ratio of the stock market value of the firm divided by the replacement cost of its assets. Changes in "q" provide a proxy for measuring effective performance or not of a firm's intellectual capital.
Investor assigned market value (IAMV ^{TM}***)*** **(Stanfield)**	MCM	Takes the Company's true value to be its stock market value and divides it into Tangible Capital and (Realized IC + IC Erosion+ SCA (Sustainable Competitive Advantage)

Market-to-Book Value **(Stewart, Luthy)**	MCM	The value of Intellectual Capital is considered to be the difference between the firm's stock market value and the company's book value.
Economic Value Added (EVA^{TM}) **(Stewart)**	ROA	Calculated by adjusting the firm's disclosed profit with charges related to intangibles. Changes in EVA provide an indication of whether the firm's Intellectual Capital is productive or not.
Human Resource Costing&Accounting **(Johansson)**	ROA	Calculates the hidden impact of HR related costs, which reduce a firm's profits. Adjustments are made to the P&L. Intellectual Capital is measured by calculation of the contribution of human assets held by the company divided by capitalised salary expenditures.
Calculated Intangible Value **(Stewart, Luthy)**	ROA	Calculated the excess return on hard assets then uses this figures as a basis for determining the proportion of return attributable to intangible assets.
Knowledge Capital Earnings **(Lev, B.)**	ROA	Knowledge Capital Earnings are calculated as the portion of normalised earnings over and above expected earnings attributable to book assets
Value Added Intellectual Coefficient (VAIC^{TM}) **(Pulic)**		Measures how much and how efficiently Intellectual Capital and capital employed create value based on the relationship to three major components: (1) capital employed; (2) human capital; and (3) structural capital
Human Capital Intelligence **(Jac Fitz-Enz)**	SC	Sets of human capital indicators are collected and benchmarked against a database. Similar to HRCA.
Skandia Navigator TM (Edvinsson and Malone)	SC	Intellectual Capital is measured through the analysis of up to 164 metric measures (91 intellectually based and 73 traditional metrics) that cover five components: (1) financial; (2) customer; (3) process; (4) renewal and development; and (5) human
Value Chain Scoreboard TM **(Lev, B.)**	SC	A matrix of non-financial indicators arranged in three categories categories according to the cycle of development: Discovery/Learning, Implementation, Commercialisation
IC-Index TM **(Roos G.)**	SC	Consolidates all individual indicators representing intellectual properties and components into a single index. Changes in the index are then related to the changes in the firm's market valuation

Intangible Assets Monitor **(Sveiby)**	SC	Management selects indicators, based on the strategic objectives of the firm, to measure four major components of intangible assets: (1) growth; (2) renewal; (3) efficiency; and (4) stability.
Balanced Score Card **(Kaplan and Norton)**	SC	A company's performance is measured by indicators covering 4 major focus perspectives: (1) financial perspectives; (2) customer perspectives; (3) internal process perspective; and (4) learning perspective. The indicators are based on the strategic objectives of the firm.
IC Rating **(Edvinsson)**	SC	The results of an IC Rating are presented from 3 different perspectives: (1) an assessment of the present efficiency of the Intellectual Capital; (2) an assessment of the company's efforts to renew and develop its Intellectual Capital and (3) an assessment of the risk that the present efficiency will decrease
Meritum Guidelines **(Eronen and Ahonen)**	SC	The Meritum Guidelines describe how companies can identify, measure and report their intangibles. The Guidelines suggest that measurement and management should be made in 3 phases i.e. the identifying, the measuring and monitoring phases. The Guidelines suggest that reporting, named IC statements, should cover a vision of the company; a summary of intangible resources and activities; and a system of indicators.
Danish Guidelines **(Bukh; Mouritsen)**	SC	The Danish Guideline for IC statements is a general model designed as a strategic tool for knowledge management. The guideline includes a detailed description of the Danish concept for IC statements and of how companies can make an IC report. The Danish Guideline comprises comprises three elements: the knowledge narrative, the management challenges , including specific actions and indicators, and a report.

Table 1: Methodologies of Intellectual Capital Measurement

When evaluating those approaches one will furthermore recognize that there exists a strong emphasis on the strategic aspect of intellectual capital. The metrics of IC that are delivered are often highly aggregated. Consequently their capability to transport good information about the operational aspect of intellectual Capital is rather restricted.

When talking about good metrics one should concentrate on the following checklist (Mayo 2001:44)

- They are simple to understand.
- They are clearly defined so that people interpret them in the same way
- Data can be collected in a way that ensures that the effort required is proportional to the resulting usefulness of the measure.
- The process of measurement has integrity: Measures are made in a consistent way and are seen to be reliable.
- They do not have built-in biases, such as “leading” or “loaded” questions of a survey
- They make sense in the context of other measures - for example, if one measures skill through an off-job assessment centre, how does this match with the perceptions of colleagues in the workplace?
- They are credible as “roughly right, not precisely wrong”.
- They focus on what is important and comprise key outputs or are linked to them.
- They are at the right level of detail to enable appropriate action to be taken
- They can be used for tracking change
- There is a clear ownership of them by an individual or team
- They are taken at the right frequency, chosen to provide useful trend and comparisons

When taking a narrower look at the mentioned methodologies one unfortunately will find that some of proposed metrics do not meet the above mentioned requirements.

Many of the metrics lack creativity in terms of determining the size and the growth of the organization and do not necessarily address the types of knowledge that produce the most value-added benefits for the organization. Various assumptions (some perhaps erroneous) may be made in terms of current used metrics. For instance, assuming the average age of an employee to be young (let us say 30) may not necessarily mean that the organization is a vitally strong, innovative company (Liebowitz, Suen 2000: 62)

Nevertheless all the efforts which were taken to solve the issue of measuring Intellectual Capital did attribute a lot to the disciplines development. Those approaches represent the result of the first phase of the “intangibles movement”. But there is still a steep way ahead. The inertness and commoditization of most intangibles have important implications for the future development. They do imply that corporate value creation de-

pends critically on the organizational infrastructure of the enterprise, on the business processes and the systems that transform lifeless things – tangible and intangible – to the bundles of assets which are generating cash-flows and conferring competitive positions. Such organizational infrastructure, when operating effectively, is the major intangible of the firm. Therefore it seems to be clear what has to follow at this point. After Phase 1 of intangibles work, which was primarily directed at the documentation and awareness-creation within companies, now the focus has to be laid on organizational infrastructure, the intangible that counts most and about which little is known. Organizational infrastructure that is managerial processes, organizational blueprints, incentive and control (corporate governance) systems when operating successfully enables management to generate excess product out of invested resources. (Lev 2003:123-124)

Together with the issue of organizational infrastructure future efforts on Intellectual Capital also will have to concentrate on further developments on the topic of measurement. This does not mean other approaches on measurement but a new understanding of measurement. Guiding a business towards strategic goals requires third generation performance measurement approaches of Intellectual Capital that are soundly based and can reliably measure progress in order for organisations to gain real value from measuring business performance be it intangible or intangible.(Neely et.at 2003: 135)

The survey and its findings

The reason for conducting this survey was twofold. On the one hand the diffusion of intellectual Capital measurement methodologies within an Austrian but yet international company should be controlled. On the other hand the following demand should be met.

“So far, we have seen too few inductive studies, that is studies that are trying to build theory from observation of and participation in the context of the business issue investigated.(…) Moreover, it is encouraging to see the many joint efforts between business school professors and practising managers to research and publish in this area. We are convinced this is the way to know more about knowledge management and intellectual capital in companies. The managers, scholars and consultants that work in this exiting area (…) have different experiences and rest their assumptions on different epistemologies …. This means that they all bring something valuable to the “party” shedding more light on the issue of managing knowledge and intellectual capital.”(Roos, von Krogh:1996)

The company the survey was conducted with is Europe's largest manufacturer of bonded grinding, cutting-off, sawing and drilling tools. Worldwide the Group belongs to the leading system suppliers, which offers grinding tools with bonded abrasives in all conventional grit and bond types as well as a comprehensive range of dressing tools.

The company's brands have not only won an outstanding position in their home market. They are worldwide known brand families and represent the performance potential of over 70,000 different products.

The company consists of 5 holdings, 8 production locations and 17 distribution locations worldwide.

The questionnaire was sent to the Chief executive officers of these sub-companies who mostly are also the Chief financial officers. Due to a very helpful support by the responsible member of the company's executive board of the headquarters most of the questionnaires were returned (90%).

Basically the following issues were questioned:

- *Definition of Intellectual Capital*
    - managers were asked to give a definition of Intellectual Capital in their own words
- *Knowledge about the different measurement methods*
    - managers had to state which measurement methodology –given in a list they are familiar with
- *Relevance of Intellectual Capital measurement*
    - managers were asked about the relevance and importance of IC measurement and which other company functions should be dealing with this topic
- *Knowledge about the different components of Intellectual Capital*
    - in this section of the questionnaire managers had to answer detailed questions about Human Capital, Structural Capital, Customer Capital, Process Capital, Innovation Capital
- *Valuation of the different components of Intellectual Capital*
    - probably the most difficult part of the questionnaire – managers were asked to give their evaluation of Human Capital, Structural Capital, Customer Capital, Process Capital, Innovation Capital which in total build 100% of the company's Intellectual Capital
- *Necessary development in the measurement of Intellectual Capital*
    - this section of the questionnaire had the intention to find out where there are deficiencies in the present approaches and methodologies and what kind of future developments might be necessary to meet the existing challenges

The detailed results of this survey cannot be published here due to reasons of security professional secrecy and the company's policy. Furthermore to generalize the results due to only one conducted survey would not meet scientific standards. However some basic information can be given - moreover it prepares the background for further reflections on the subject of measuring, monitoring and managing Intellectual Capital.

The definition of Intellectual Capital as such caused some major problems. A mixture of terms including market value , book value, intangible assets, intellectual property were given and also many attempts to relate them to each other were made – the topic is obviously familiar however the questioned managers saw themselves confronted with the usual problem of giving exact definitions.

As far as the measurement methods are concerned the following can be stated. Methodologies like the Intangible Asset Monitor or the Skandia Navigator are more familiar than those concepts which are proposed by less prominent proponents. Concepts like the EVA or BSC are well known but this can be adjoined to the fact that those concepts were established for other purposes in the first place.

A high number of the managers acknowledge the relevance and importance of Intellectual Capital measurement. This result is important and even surprising if one relates it to the result concerning the definition of Intellectual Capital. Although not being quite sure and capable of how to define Intellectual Capital the managers are well aware of the importance of IC measurement – an apparent contradiction but it might be explained by the nature of Intellectual Capital.

To control whether they really know what they are giving their opinion about the next part of the questionnaire was very useful. The different components – Human Capital, Structural Capital , Relational Capital, Process Capital and Innovation Capital – were questioned. The managers' task was on one hand to determine the importance of the various features of Intellectual Capital's components and on then other hand to evaluate /weigh their present state within the company. The answers to this set of questions confirm the impression that the topic Knowledge Management and Intellectual Capital is well integrated into the daily activities although these terms are not always explicitly used for it.

Most interesting are the findings concerning the evaluation of the different components of Intellectual Capital in how far they are contributing to the company's value and profit. The results gave a rather inhomogeneous picture considering that the managers were

evaluating within the same company. Of course one has to acknowledge that the process of evaluation always contains the subjectivity of the person evaluating to a high degree. This explains the different results concerning the IC-components. Furthermore the different company background of the participating managers –whether they are the chief executive officer of a production or only a distribution company – had obviously influence on their statements. For instance it is easily explicable that for the CEO of a distribution company the employed relational capital is an important success factor and it contributes extensively to the company's value. However one general statement can be made – human capital showed the most homogeneous results Human capital is credited for being the foundation of every other component of Intellectual Capital – the development and retaining of structural capital, relation capital etc. is regarded to be hardly possible to be realized without it – this has to be taken as being confirmed by the answers given.

Finally the last part of the questionnaire dealt with possible deficiencies within the applicable methodologies for Intellectual Capital and its measurement and with therefore necessary future developments to overcome them. When discussing the results of this part one definitely has to take into account the findings of the questionnaire and survey in total. The topic Intellectual Capital is definitely present in this company however there does not seem to exist a conscious handling of it which certainly is responsible for not succeeding to the degree which one intends to. Measurement methods do not find the extent of application one would expect. The reason for this situation might be found in the statements given which implicitly reflect the questioned managers' demands:

- Intellectual Capital measurement and its methodologies are too much driven by the demands of the service industry – therefore it is difficult to implement and apply the suggested measures for the production industry
- Intellectual Capital measurement happens on a strategic level and is too highly aggregated – straight implications for definite operative actions are hard to deduct
- Intellectual Capital measurement tries to overcome the shortcomings of the traditional accounting systems. Why is it then right from the start using a rather static (because apart from the SC approaches most of the methodologies still do) and retrospective perspective? Very often one is confronted with the argument that the balance sheet as an information

tool cannot succeed in this duty because it is built up of historical data. Only by thoroughly analysing more transparency of the balance sheet can be gained.

Due to these statements the following needs of managers considering Intellectual Capital measurement can be identified:

- A need to disclose that the company has those tangible and intangible assets at its disposal that it needs to create value for the shareholders and stakeholders
- A need to continuously improve and develop those activities which ensure an effective usage of intangible assets
- A need to bring distinctive leverage to the efficiency with which these assets are used for value creation.
- A need to increase the value of the firm's resources and activities for their different stakeholders and to add more transparency as a consequence
- A need to connect these assets with the actual output of the company – products and services- because in the long run it is them which generate value for the company.

The findings of the survey of course started a very intense further discussion on the topic. The managers had to admit that already only participating in this survey changes their perspective and attitude on Intellectual Capital. Therefore it was very clear that the survey and its findings could not be the final point – moreover a strong impluse was given to continue the work heading towards the actual practice of Intellectual Capital Management and measurement.

The following part presents the basic ideas of a concept, which on one hand tries to consider the expressed manager's demand, and on the other attempts to build a connection to the traditional financial perspective of a company.

The concept

The biggest challenge which this proposed concept intends to meet is to provide managers with useful implications for a more operative use of the results if Intellectual Capital measurement.

There definitely exists no doubt that especially Intellectual Capital in its perception, as a key success factor for a company's welfare needs to have strong strategic support.

Furthermore the value it should contribute to the company can only be the result of strategic reflections. Consequently at the beginning there has to be a

- CLEAR DEFINITION OF THE EXPECTED RETURN ON THE EMPLOYED INTELLECTUAL CAPITAL

However to reach this strategic target of adding value one has to set the framework for it. Consequently two most central questions have to be answered in the beginning. Who are my stakeholders concerning intellectual capital and whose topic is it within the company?

Talking about stakeholders one has to take into account that all approaches which already exist on Intellectual Capital measurement and management do acknowledge their influencing existence and the interest of the different stakeholders. Therefore the next step in implementing an integrative management has to be the

- IDENTIFICATION OF THE DIFFERENT STAKEHOLDERS' DISCLOSURE INTERESTS

This identification has to be seen in tight connection with the second question – whose topic is the topic of Intellectual Capital anyway? Everybody will agree that Intellectual Capital management and measurement affect the whole organization – so who is going to be held responsible for it? Does the company need its own chief knowledge officer who executes an interface function within the company – or is Intellectual Capital a topic for the chief executive officer, the chief human resources officer or the chief financial officer. This question is of major interest since the emphasis laid on the measurement and management is directly influenced by the responsible person's background-consequently the

- ORGANIZATIONAL IMPLEMENTATION OF THE INTELLECTUAL CAPITAL ISSUE DUE TO THE ORGANIZATION'S SPECIAL FEATURES OF INTELLECTUAL CAPITAL

Iis of crucial importance.

Whereas those two questions are of strategic relevance the following reflections try to enter a more operative level of Intellectual Capital. It was stated throughout this paper that there exists the intention towards the establishment of a concept, which includes the measurement, monitoring, and management of Intellectual Capital.

Management in general contains 4 major tasks – *organizing, planning, carrying out* and finally *controlling.* It is more than stunning that Intellectual Capital Measurement started

off with the last of the mentioned tasks (since measurement represents the precondition of every control). The metric which are collected represent the output of the other three tasks however so far they have not been carried out under this perspective of the later measurement. One definitely has seen the organization, the planning and the carrying out of knowledge management but hardly with the clear target of metrics to be achieved. One reason is certainly represented by the above-mentioned high aggregation of the metrics collected. It is therefore more than necessary to bring them down to a more applicable level. To succeed in this effort one as to bring it down to the level with which a company is present on the market – namely the level of products, processes and services. Starting off from the existing approaches of measurement of Intellectual Capital one has to implement this perspective on products and services by the

- IDENTIFICATION (MEASUREMENT) OF THE VALUE GENERATED BY THE USAGE OF INTELLECTUAL CAPITAL WITHIN THE SINGLE PRODUCT OR SERVICE A COMPANY OFFERS TO ITS CUSTOMERS.

To fulfil this target a combination of the market price- and the cost- approach might be helpful. Although being definitely not easy to master to succeed in this task will open a wide range of new possibilities for Intellectual Capital management and measurement. One of them will definitely be the next necessary step - concerning the company's employed IC – namely the

- DEFINITION OF THE INTENDED IMPACT OF INTELLECTUAL CAPITAL ACTIVITIES ON THE ABOVE IDENTIFIED INTELLECTUAL VALUE OF THE PRODUCT OR SERVICE.

This might be handled by disaggregating those measures one already knows due to Intellectual Measurement approaches. So far the value added by Intellectual Capital as a whole was measured. By splitting it up into its different components and connecting it to the single product or service one creates the possibility to establish clear target metrics for future intended Intellectual Capital activities on all levels.

The consequence of such a successful establishment has to be the next stage within this concept namely the

- ENTERING THE MONITORING AND CONSEQUENTLY CONTROLLING CYCLE ON INTELLECTUAL CAPITAL MANAGEMENT

When having reached this step integrative management of Intellectual Capital can be started. One has the strategic background given by the overall intended profitability

concerning the Intellectual Capital employed, however also on the more operative level clear targets can be formulated and afterward checked towards their level fulfilment. One still executes the act of measurement, however it is supplemented by the possibility of a steady monitoring which is a prerequisite for actually managing Intellectual Capital. It offers the possibility to react on possible deviations just in time and one will not have to wait for an Intellectual Capital report to get the actual picture.

This concept of course still has to undergo a thorough elaboration but already at this stage one can see the potential which lies in such an understanding of Intellectual Capital Management and Measurement.

Summary

It was the intention of this paper to put some new spotlight on the topic of Intellectual Capital Measurement – existing approaches have prepared research and management for the topic however a next stage of development is necessary. To only measure this key success factor of a company's welfare would mean to risk to overlook the potential which lies in it. .*M*easuring, *M*onitoring and *M*anaging are crucial for an efficient use of Intellectual Capital – this paper with the presented concept should help to set path for future developments - yet to completely succeed in the 3 Ms a path of trial and tribulation for researchers and practitioners is still ahead.

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