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THE ROLE OF INTELLECTUAL CAPITAL IN TURBULENT TIMES

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INTRODUCTION

From the aspect of intellectual capital management, there were two turning points in recent economic history, which have fundamental influence on how businessmen and related professionals view the interpretation of company performance: the Enron Case in 2001 and the current Credit Crunch (2007/2009). In both cases the reliability of existing fundamentals were questioned.

The Enron case provided a good example for the situation when stakeholders of an enterprise unquestionably accept the picture provided by the management and the auditor. As a result of the scandal, both the accounting regulations and the work methods of the large audit companies were criticized and even questioned. The aftermath of this case put on hold the previously process of including the 'soft' elements (such as value related to customer relationship) of company value into the official accounting reports.

During the last decade many conservative observers used the Enron case as a reference why the accounting records should refer only to those corporate elements that are measurable with certainty. The old approach of conservatism prevails: take the historic costs and interpret them, in some cases you are allowed to revalue and therefore present the 'fair value'.

The recent hit at the financial markets has no direct link to the intangible elements. The real estate bubble characterizing the period which led to the current crisis meant that financial institutions were financing real estates at a significantly higher value then the real market value. During the period of rising values, credit accommodation was linked to the expectation of further increasing value behind the assets. Therefore the uncertain future expectations were packed into a format of a tangible asset and were presented as a reliable market fundamental in a format of 'fair market value' (despite the conservative approaches targeted after the times of the Enron scandal).

Both turning points underline, that future value relating to enterprises somehow need to be presented to the stakeholders. Besides the challenges assigned to the interpretation of internal values, the management also face difficulties when they try to properly measure and monitor the value drivers (that are intangibles in most of the cases) of their companies.

Parallel to these events the International Accounting Standards Committee started to adopt more flexible approaches in the field of accounting for intangibles (IFRS 38). However, the question is not finally resolved.

In this article – as a first step – we provide a **quick overview about intellectual capital elements** and we explain some **challenges related to identifying them**, including **different approaches aiming to measure these elements**. As a consecutive step, we **outline some suggestions** helping management and company owners to **monitor intellectual capital elements**.

THE CHANGING EMPHASIS PLACED ON PRODUCTION FACTORS

The majority of economists agree that the role of tangible assets – lands, buildings and machinery – is not as significant as it was in the past. Parallel to the increasing role of the service sector, the proportion of intangible elements of production factors (e.g. competency, client and organization related assets) is continuously growing, since a significant part of intangible production factors is represented by people.

Capital owners of physical assets will face difficulties in this new environment. They used to control the economy by owning the physical (tangible) production factors, however these days a significant part of production factors are owned by the people themselves[1], who are not closely tied to these original capital owners. This means the fall of the monopoly of conventional capital, so the capital owners need new management techniques to better control the mix of these production factors.

Some parts of intellectual capital are easier to control than others. Therefore company managers should concentrate on those intellectual production factors which are more manageable. If the management of intellectual capital[2] is at least partly solved, then a

[1] E.g.: customer relationships, knowledge, innovation capability, etc.

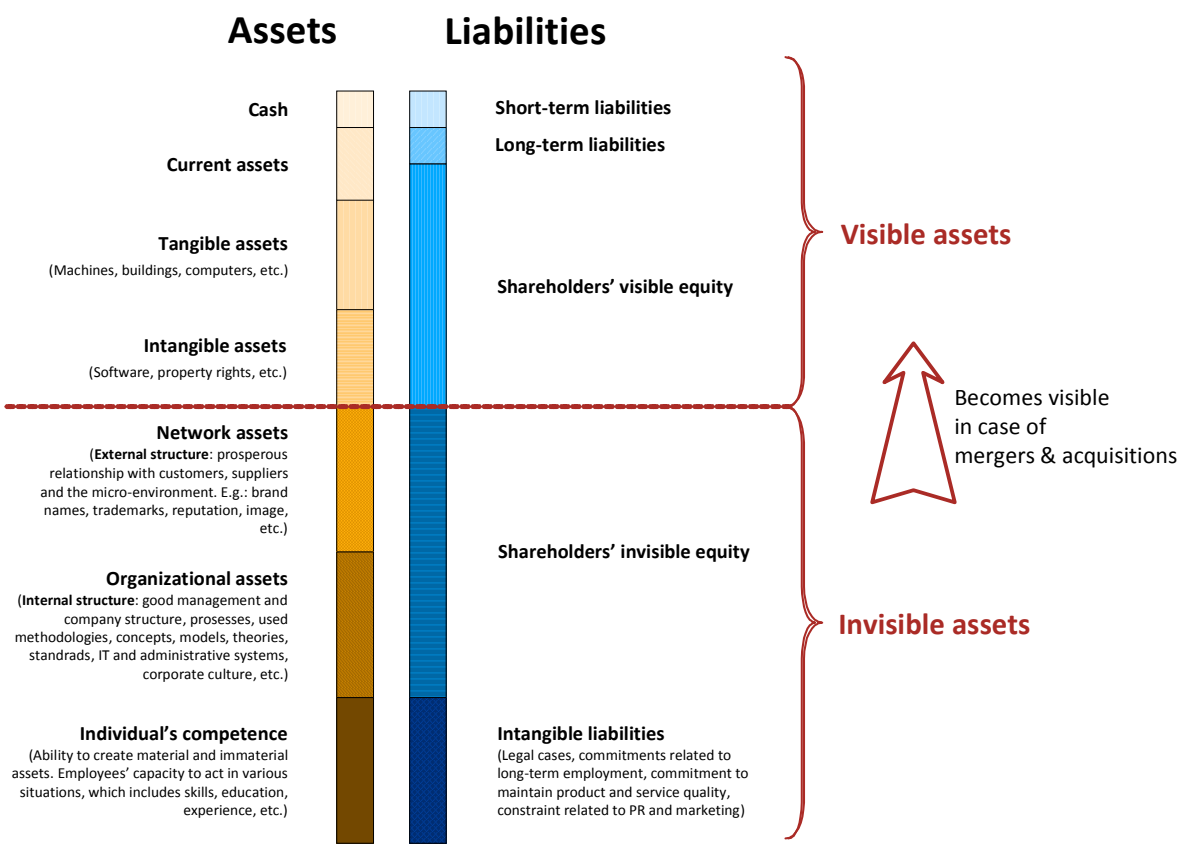
[2] The ownership of intellectual assets. In the general terminology these categories (intellectual assets and intellectual capital) are often used as synonyms.

certain part of the intellectual capital will be controlled and owned by the company and its owners.

Managers are familiar with the bookkeeping recommendations of the Accounting Laws and Regulations, or the International Accounting Standards. They must know the balance sheet itself, which shows the assets of a firm. But are all the important assets taken into account in regular balance sheets? Not entirely. Conventional accounting does not support the overview of both tangible and intangible production factors. Let us think about clientele of companies, organizational factors, or knowledge and competence of employees, which are all basic elements of corporate operations and are essential in generating profit. None of these elements are presented in the conventional balance sheet. Therefore instead of the official, conventional balance sheets, company owners and managers should think in terms of the more complex Total Asset Model (Figure 1).

Figure 1.

The most popular Total Asset Model[3]



The „Invisible" Balance Sheet
Source: *Karl-Eric Sveiby ©*

The Total Asset Model expands the traditional balance sheet with new corporate production factors such as relationship assets or organizational assets. One could say that invisible[4] assets are "under the surface" and clearly separated from the well-known visible assets. If we consider the model from the ownership point of view, it becomes obvious that these invisible assets are differentiated by the possibility of ownership. A part of the invisible equity is owned by the shareholders, while another part is similar to debts and obligations. The exact proportion of shareholder's invisible equity and intangible debts and obligations depends on how well the intangible assets are managed. The Total Asset Model is attracting attention among managers, because

[3] Detailed description of originals (Edvinsson, Sveiby, Stuart, etc.)

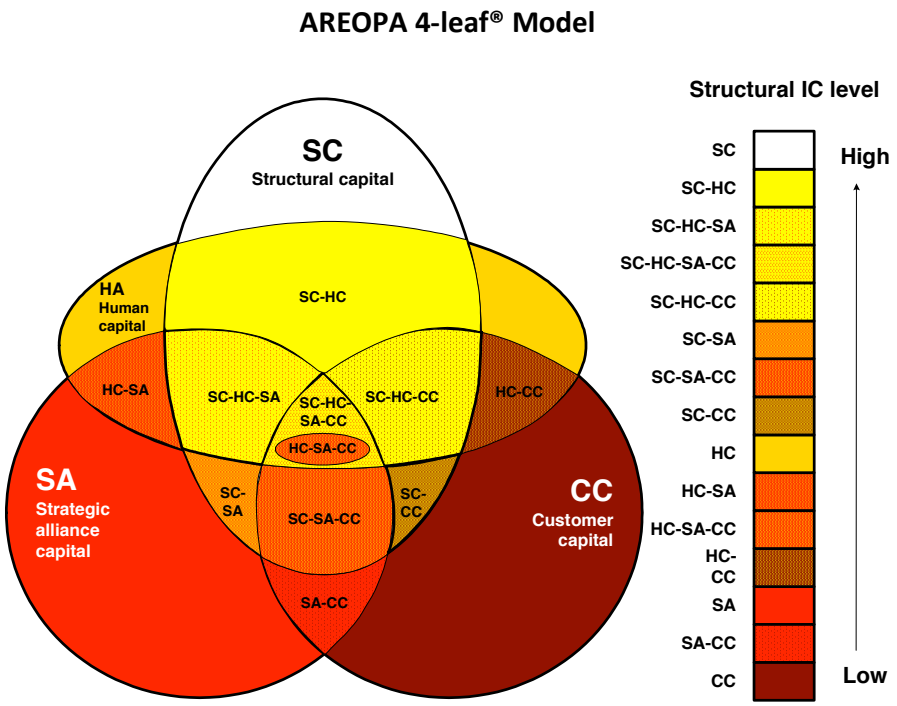
[4] Invisible, intellectual and intangible terms are used as synonyms throughout the text.

unlike conventional accounting reports it takes into account the complexity of production factors.

This model is very important in visualizing the invisible intangibles, but like all models it has some misleading elements. The Total Asset Model gives the illusion that the assets – tangible and intangible – are isolated and clearly separated from each other. In addition to this there is another imperfection. There is an additional important intellectual asset missing from this model, which is to be known as the strategic alliance of a company.

The AREOPA 4-leaf® model[5] gives a much more realistic and complex depiction of the corporate assets (Figure 2.). This model shows that intangible production factors are combined and closely interrelated, and presents the overlaps among the four main production factors. For example the value related to a customer – that we know due to the cooperation with one of our strategic partners (i.e. subcontractor with specific knowledge) – is presented in SA-CC category.

Figure 2.



[5] www.areopa.com

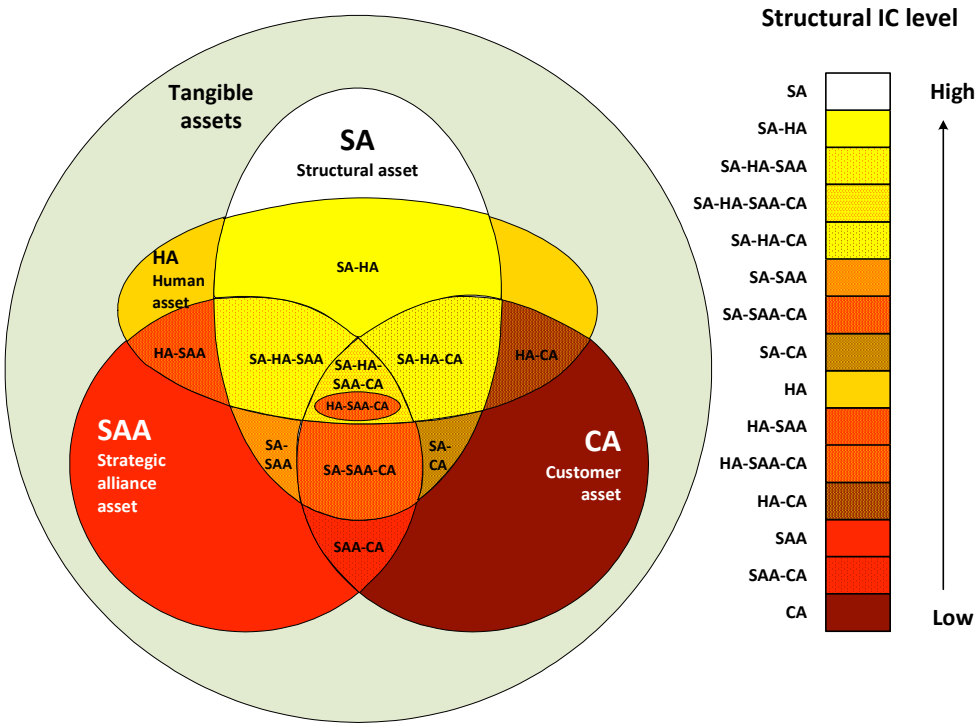
After studying AREOPA's 4-leaf model we made some extensions to it and by doing this we defined a new total asset model. There are two major differences between the original 4-leaf model and the extended one:

1. We have **presented the tangible assets** that have strong interrelation with intangibles.

2. We have **replaced the "capital" by "asset"**. By doing this we would like to emphasise that the existence of an intellectual element has an asset type of manifestation (i.e. the intellectual element is identifiable and measurable). On the other hand in case of every asset we can investigate the ownership structure (i.e. up to what proportion the company owns, therefore controlls the asset). In this aspect "capital" refers to the ownership structure (similar to liabilities side of the balance sheet).

Figure 3.

Extended Total Asset Model based on the AREOPA 4-leaf® Model[6]



In this adjusted 4-leaf model (Figure 3.), tangible assets complement the intangibles, and thus without the intangible assets there would be a gaping hole. In this sense the tangibles are depending on intangibles and not conversely. A good example of the interrelationship between tangibles and intangibles is when obtaining a computer without having the proper knowledge to use it, there is an asset in the balance sheet which brings no added value to corporate operations and therefore to the value of the enterprise. On the other hand if there exists the specific knowledge needed to use the new computer, value is added to the enterprise, which is already greater than the purchase price of the computer.

The coloured scales – named Structural IC level – on the right side of the Figure 2. and 3. describe how much we can structure and control each category. The higher the asset is presented on the scale, and thus the more light-coloured it is, the more it can be owned

[6] In this figure we have completed the 4-leaf Model of AREOPA with the dimension of tangible assets. By doing this we would like to emphasize that the presence of intellectual capital is always closely relating to tangible assets.

and controlled by a company. In such a way this asset model gives a much more realistic overview about the sharing rules of intangibles among their owners.[7]

Greater wealth needs greater, and more complex intellectual capital, but investing into intellectual capital also brings higher risk. In order to be able to effectively manage intellectual capital, the decision makers should face (and answer) the following questions:

- Where and how to invest in intellectual capital with maximal result and minimal risk?
- How to keep the value and the stability of the investment and how to avoid the risk of losing it?

To answer these questions, intellectual assets need precise measuring. How to measure intangibles will be described in the next section.

APPROACHES TO MEASURE INTANGIBLES

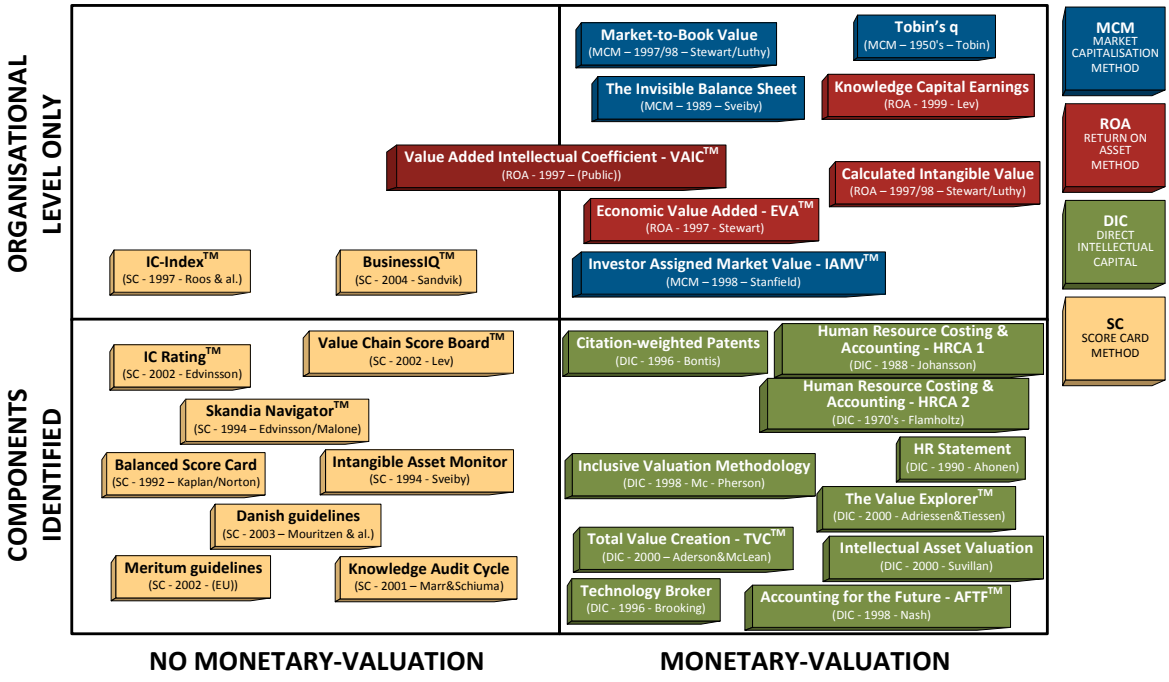
Science and efficient management begin with measuring. Everybody is familiar with the well-known management slogan: *"what cannot be measured cannot be managed"*. We think it is true only in the following form: *"what cannot be measured cannot be efficiently managed"*. As we will show, there are some difficulties in measuring intangibles, which is the main reason why their exact measurement is only in an initial stage.

To show the current status of intangible measuring methods, Karl Erik Sveiby's classification is the most convenient summary (Figure 4.).

[7] In one of our previous studies (REF 10) we described the risks associated to the ownership of the intangible assets. We should note that knowledge about the ownership status of the most important intellectual asset group – therefore the knowledge about the liability part of the balance sheet – itself helps us to control the associated risk level.

Figure 4.

Karl-Erik Sveiby's classification of methodologies to measure immaterial assets



Intangible Assets Measurement Models
Source: *Karl-Erik Sveiby ©*

It is visible from this classification that there is a large number of existing measurement techniques. Mr. Sveiby classified the measurement methods based on the approach and characteristics of each method. The two dimensions of the matrix refer to the level of measurement focus (aggregated vs. disaggregated) and to the type of the measurement (monetary vs. non-monetary). The different colours show the different measurement method categories: Market Capitalisation Method, Return On Asset Method, Direct Intellectual Capital and Score Card Method. The distribution and the position of the coloured boxes among the quadrants shows that certain methods refer to specific approaches (i.e. Direct Intellectual Capital methods are useful in case we want measure the monetary value at the components level).

Let us examine the quadrants separately! In the **upper left quadrant** the measurement is practically impossible, which means that there is no point to measure aggregated non-monetary values. Significant results have been achieved in the design of measurement techniques belonging to the **upper right quadrant**. The company valuators realized long ago that there is a difference between market and asset value of a company. The

development and use of "*Tobin's Q"* methodology was its famous manifestation. "Tobin's Q" basically analyzes the difference between the market value and the book value of the company in total monetary format. Actually, in everyday practice there are three popular methods used to calculate the market value of a company. These are the following:

1. **The market capitalization method (MCM)**: when the number of issued shares is multiplied by the market price of the shares, where this total amount is regarded as the market value of equity. For the calculation of enterprise value the market value of equity and the value of short and long term liabilities are combined.

2. **The discounted cash flow method (DCF)**: when a company's forecasted future free cash flows are discounted by the cost of capital of a company and that is all added up.

3. **The comparison methods**: in cases when we both lack stock exchange information and the knowledge of the company's business plan, the appropriate way of valuation could be the one made on comparisons. In this case we need exact information about realized M&A transactions of similar companies, and we use these transactions' key indicators (for example EBITDA multiple) to apply them to our company valuation.

Any of these three valuation approaches provides information about the market value of a company, from which we deduct the book value, and this provides a rough calculation of the intellectual capital value.

The aggregate monetary approaches are not useful in everyday management because they do not provide information about the firm in total and do not give any help in answering detailed management issues. Despite this fact, these approaches have an important contribution in attracting the attention of managers to the existence and importance of intangibles.

Tremendous effort has been made in the **lower left quadrant**. Several of these methods became widely known and highly popular. These methodologies are, for example, the Scandia Navigator of Edvinsson and Malone, the Intangible Asset Monitor of Sveiby, the balanced scorecard of Norton and Kaplan, the Koch-Schneider-Nagel model, the EFQM methodology, etc. Although these methodologies do not measure an exact value of intangibles, they create awareness in managers that intangibles should be managed. Besides, they provide guidelines for managers about what to manage as intangibles or what kind of intangibles they should manage and control.

The biggest unknown field of intellectual capital calculation methods is the **lower right quadrant**. Although a large number of methodologies have been developed, there is not one widely accepted methodology used to evaluate the separate, specific elements of intangibles.

There are continuous efforts to define accepted approaches for the measurement of disaggregated intellectual capital elements.

- Some efforts are made to measure the expenditures/costs which are invested in certain intangible assets[8]. But the valuation from the cost side is far from accurate. The value of an asset is determined by generated future cash flows, rather than by the replacement cost of that asset. Moreover because of the overlapping of different intangible assets, we cannot clearly connect the intangible assets and the future cash flows.

- The previously presented AREOPA model focuses on measuring this direction and has developed a set of econometric equations to quantify the elements of intellectual capital.

In spite of these attempts already mentioned, there is no widely accepted methodology which is able to measure the intangible elements separately and which connects their calculated amount to the results measured by the upper right quadrant methodologies. The existence of total intellectual capital value is only known from already existing total asset models but so not show an approach that is summarizing it from bottom to top. With methods in the upper right quadrant we can guess their total amount, while with the scorecard methods we can link scorecard indicators to the focused intangible elements, which might show the improvement or decline of these asset elements. But nothing is known exactly about their individual value.

We should recognize that in this field managers appreciate useful and reliable solutions. Without direct intellectual capital valuation methods managers cannot precisely answer the questions; where and how to invest into intellectual capital with maximal result and minimal risk, how to keep the value and the stability of the investment and how to avoid the risk of losing it?

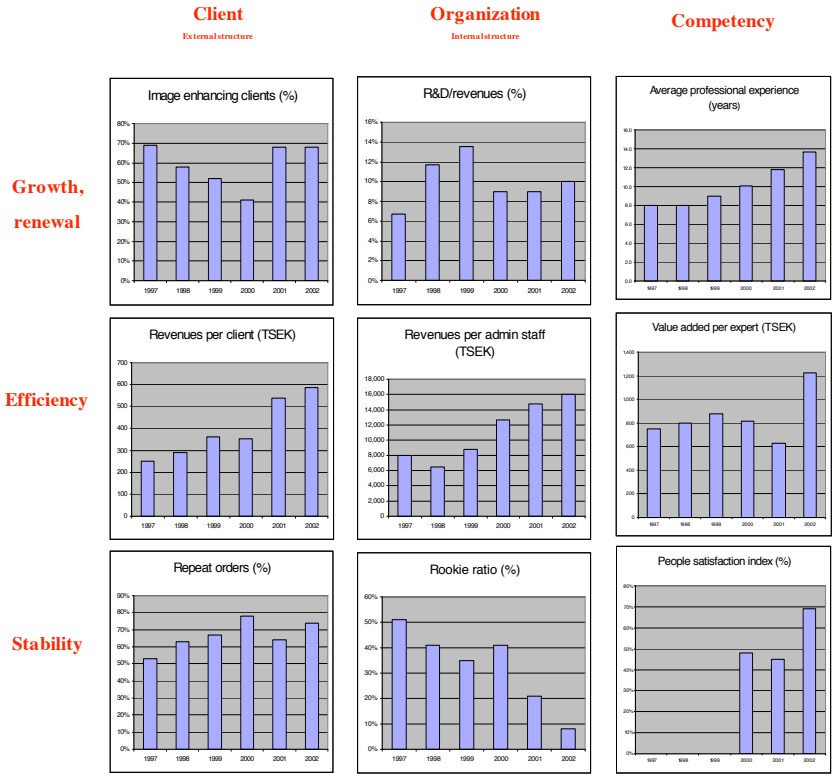
Due to a lack of precisely calculated answers, smart guesses can help in decision-making and managing the intellectual assets (Like the Intellectual asset monitor of Sveiby in Figure 5.).

[8] We have also made suggestions for this in one of our previous publications (REF 08).

If the percentage of image enhancing clients is constant and if the revenue per clients or the number of repeated orders grows, then the client asset base of the firm is more likely to be strong and powerful (see the first column in Figure 5.). If the number of repeated orders grows, if the 'rookie ratio'[9] is not declining, and if the employee satisfaction is constantly high, then we probably have stable intangibles and we do not face big risk of losing it (see the last raw in Figure 5.).

Figure 5.

Sveiby's Intellectual Asset Monitor for CELEMI – an example for quick win scorecard method



These are all important lines of reasoning and good starting points in decision-making, but they do not determine exactly whether we underinvested or over-invested in intellectual assets. Competition in business compels us to carefully balance our investments. However, although the scorecard evaluation is not the most precise

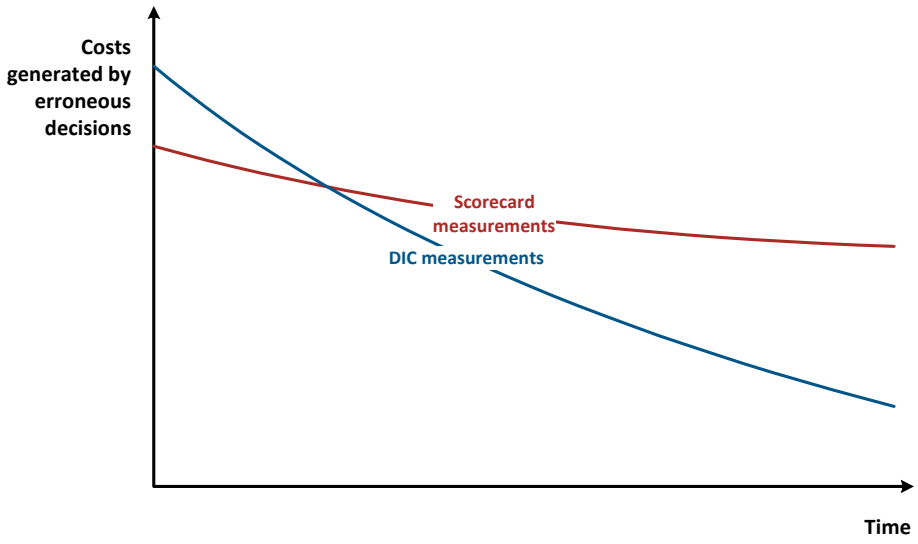
[9] The proportion of junior employees in the organization.

measurement, still it is a good starting point and offers a feasible direction by providing help for managers when there is nothing else to reinforce intuitions and corroborate decisions.

Presently, scorecard measurements are better and cheaper solutions, and even more reliable quick wins, than the direct intellectual capital calculations (DIC). But the future is with DIC measures as only those methods are able to reduce costs of erroneous management decisions and solve the careful balancing of investments in intangibles, just as it is more or less solved in the tangible world (see Figure 6.).

Figure 6.

Scorecard vs. DIC measurements



CURRENT CHALLENGES OF LISTED COMPANIES

In these turbulent times managers need to prove to the investors that their company's current status provides more security for the future than other companies in the same industry. As the enterprise value has a strong correlation with both the level of intellectual assets and the effective composition of these assets, those who opt for capturing and presenting this information, might be in a better position. This may be possible, despite the fact that the measurement of these assets is not easy.

Communication with financial markets[10]

Stock prices are always volatile. Why? For internal reasons and external ones.

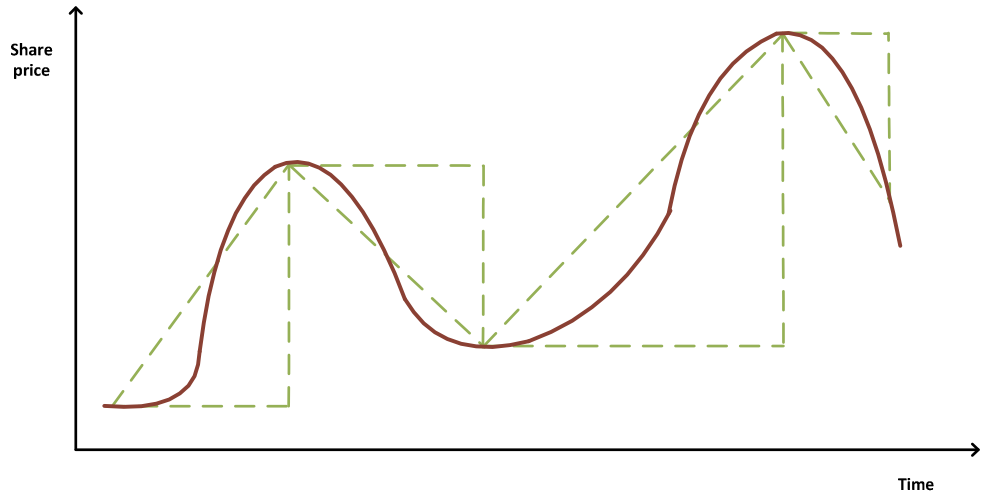
Internal reasons include the results of how the managers develop the company value – both tangible and intangible together on the asset and liability side. If they do it effectively, this sooner or later results in higher asset value and as a consequence of it, in higher stock prices. If this development is ineffective, the asset value of the company and the stock price will decline.

Besides the internal factors, the short-term stock price is always subject to external factors such as general status of the industry, business environment of the company, country/region related information, news relating to similar companies, etc. This is mainly due to the fact, that investors in general follow the advices of the external evaluators who are less informed than the management and can rely mainly on external information.

Let us suppose, that in case of a hypothetical enterprise (Figure 7.) the stock price curve over a certain period is the following.

Figure 7.

Volatility of stock prices – I.



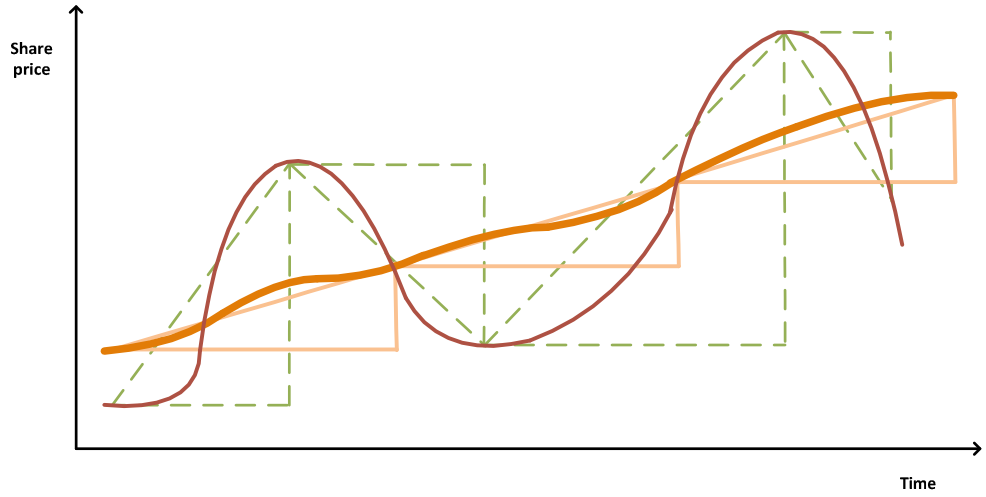
[10] In this part of the article we refer to companies where there are no fundamental issues regarding their operation.

By dividing the period into segments, we may be able to define the sub-periods of value creation and value destruction alternates (see dotted triangles on Figure 7.). During the time of decline there is always the risk that the management may be misjudged, and may be held accountable for at least part of the decline. In many cases management is claiming that the decline is due to the external factors, but they do not have enough communication methods to prove that the internal status is healthy.

Let us suppose that the real value creation[11] is less volatile (see next chart, Figure 8.) and the company reaches almost the same price level by the end of the period and the value creation is constant over the sub-periods.

Figure 8.

Volatility of stock prices – II.



We believe that management needs new approaches to further support their communication about their internal strengths. By doing this at least some part of the volatility – that is due to the external observers' improper understanding of the company's internal status – may be avoided. In an ideal case the stock volatility would approach to the less volatile curve demonstrated in Figure 8.

If the actual stock price and the real value creation significantly differ as shown in Figure 8., managers should use extra resources to manage inconvenient short time declines, that can lead to higher capital costs.

[11] The one that is independent from the 'noise' of the stock market.

Could established communication methods ignore the information relating to intellectual assets? The following examples might help in understanding that in certain areas it is extremely difficult to provide established facts that are backing up the communication slogans:

- The company's clientele is stable and is using the company's products / services because they are above the market average in quality and reliability; the price level relative to the quality provided is highly competitive
- The company has an operational structure that allows it to attain higher than average cost efficiency with unquestionably good quality levels; the management is fully understanding the internal framework and is able to quickly identify points of interventions
- The company has an employee team that is continuously able to renew the company and its products/services; they are dedicated to the enterprise and are properly motivated to carry on the innovative work; the management has the knowledge about the areas where improvement is necessary and they are ready to take the necessary actions
- etc.

Most of these elements are not internal parts of standard reports. Of course they are mentioned in press conferences. What is missing is the direct link between these factors and the exact value creation capability of the company. For the appropriate communication of these examples, the company should construct a framework that allows a proper overview and also makes possible the evaluation among the facts presented in the consecutive periods.

If the value generated by the intellectual assets – and the fact that the knowledge of them also means the understanding of related risks – **are properly communicated towards the investors of the company, there may be a lower level of capital costs**, and higher stock prices. This lower capital cost is due to the fact that many risk factors may be better communicated; therefore the investors are in a better position to judge the status of the company.

Cost management during the crisis

Cost cutting is a logical approach in a crisis environment. But the settled decision of where (and how much) to cut requires the understanding of all internal factors – many

are presented among intellectual assets, therefore are not monitored by the conventional management accounting tools and procedures.

An example for this is the way a corporation should handle its development related expenditures. Those that are fundamental for the future of the enterprise, should be identified and defined as 'strategic expenditures'.[12] By doing this, management is able to make sure that during the time of cost cutting these critical expenses are untouched.

Parallel to the monitoring of costs, it is also fundamental to be aware of the various risk factors companies are continuously facing. During the overview of the most important risk factors, the surprisingly large proportion directly or indirectly relates to the intellectual assets. The market related uncertainties – for example – are inseparable from the relationship (or customer) capital. When we categorise the risks associated with intellectual assets the following main elements prevails:

- Quality of intellectual assets (extension of them)
- Risks related to the imbalance among the intellectual capital elements (i.e. some of them are relatively weak; improper correlation between certain factors)
- Risks related to the ownership of intellectual assets (i.e. the capital dimension)

Knowing the risk level creates an opportunity for the decision makers to take corrective actions and monitor the progress.

List of possible actions

Despite the difficulties described in previous sections, company managers should aim the investigation (and management) of intellectual assets. This strategy may include the following activities:

- Identification of the elements of intellectual assets
- Qualitative examination of the elements, including the analysis of related risks
- Exploration of the equilibrium of intellectual assets by qualitative methodologies; determination of the targeted equilibrium (i.e. what

[12] Robert S. Kaplan and David P. Norton: Protect Strategic Expenditures (Unconventional Wisdom in a Downturn) – Harvard Business Review, Dec. 2008

combination is necessary with what kind of weights assigned to the different elements)

- Analysis of how the targeted cost cutting efforts may jeopardize the elements and the equilibrium among the elements
- Evaluation of identified development projects regarding intellectual assets
- Examination of the connection between the competence level of the enterprise and the targeted level of intellectual assets for each category
- Examination how the main business processes of the enterprise connect to the IC factors. Do the main processes support the intellectual asset categories on the expected level?
- Examination of the tacit / explicit character of the intellectual asset categories (i.e. what is the status of ownership?)
- Exploration of the possibilities of all reliable methodologies available for quantification of intangibles

OTHER PROMISING DIRECTIONS

Life and business do not stop. Managers do not have time to wait. They are compelled to act and they must. What are the other directions of development in intellectual capital management? Due to our practical experiences we believe that some guidelines may affect the future. Apart from direct actions related to intellectual assets mentioned in the previous section, managers have other options. They may be able to identify useful approaches that can focus on some specific areas while creating an indirect positive effect on intellectual assets. Innovation in the field of Intellectual Capital Management could possibly mean the followings:

1. Focusing on human resources by process controlling.
2. Connecting scorecards to processes.
3. Managing individual employee profit centres

Focusing on human resources by process controlling

Stakeholders within the firm gradually disregard the barriers of organizational structure, and pass over the problematic question of power and subordination. In this way they begin to give preference to the processes of the company. Processes are crossing the limits of organizational structures and rely on cooperation of people rather than on separate organizational units. The evolving of matrix organizations is a sign of this change in the way of business thinking.

As a consequence, the focus of the controlling the organizaton should be taken from departmental level to a deeper level called the *hand off process level*, where the tasks are carried out either by individual workers or group of workers, so output is delivered by men to men.[13] This individual level becomes the agents of controlling, and in this way real production factors become the target of management. By examining and analysing the timeliness, accuracy, productivity and efficiency of such processes, we secure the maximal client satisfaction, e.g. we promote the most efficient work processes which strengthen both the organizational and client capital.[14]

This shift in the focus of controlling has a relevant effect on quality, performance and product, even if it is not the main output. Future cash flows can be connected to hand-off processes and because individuals can be directly connected to processes, there is a considerable chance that people may be connected to future cash flow through processes.

Connecting scorecards to processes

It is always a big question in all scorecard projects as to where the most appropriate indicators should come. The large number of cancellations of such projects indicates that the problem is not yet solved.

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[13] Processes can be examined on *strategic level*, on *departmental level*, on *hand off level*, on *task level* and even on *motion level*. The hand off level means that workers participating in the process pass over the output from hand to hand.

[14] The process examining methodology on hand off level is called TAPE® grid of AREOPA, where processes are analysed by a questionnaire to reveal the Timeliness, Accuracy, Productivity and Efficiency of product, process information and treatment inside the company.

On a *strategic level* the indicators are able to be found more easily, but below that level we are often facing some bureaucratic distortions. When the major scorecard indicators are broken down into individual indicators, they usually lose their strategy making power and often transformed to unpopular, unsupported administrative figures.

The solution may also be found on *hand off level*, when the scorecard indicators are selected after the careful analysis of the matching between strategic goals and work processes. First, strategic objectives are defined while a strategic map is created based on these goals. Strategic goals are arranged into a hierarchy and matched with the core business processes. This matching also means a gap analysis between the objectives and the current status. Thus development projects are defined, which may cover the gap between the strategic objectives and the current status of the business.

If the processes do not support the strategic goals, obviously the strategic goals will not be achieved. This gives strategic significance to the indicators of the main processes, indicating that these kind of indicators may never be bureaucratized. If everybody believes in a strategy, than they will feel and accept the importance of the indicators.

If the previously described process is completed at the hand off level, we get useful indicators to manage people and to connect them with output.

Managing individual employee profit centers

Most companies still manage their workforce as a mass, and thus they only concentrate on the overall employee headcount. Progressive knowledge companies, on the contrary, manage their employees in a pyramid system, on top of which there are the innovative and collaborative workers, while at the bottom there are the workers performing repetitive tasks. Thus employees are divided into groups and managed in a different way as a function of knowledge, the most important production factor. In this sense they move beyond handling employees as an aggregate and manage individual employee profit centres.

Basically, it is important to **differentiate employees**, who are engaged in *innovative work* and those, who are only doing *repetitive work*. By doing that we arrive to the task of **selecting the real knowledge carriers**, the owners of important production factors. Innovative work always means creative problem solving, doing something undone, thereby developing something new. On the contrary repetitive work means doing what is already solved and done before. These two approaches of work are different and cannot be controlled the same way.

The *repetitive work* is based on Taylor's work principles, where the main idea – among motivation and the role of salaries – is the time needed for one unit of production. Work consists of activities meaning established procedures and the content of employment is settled. In this case the manager determines the quotient of the time needed to produce one unit of production (unit can be a service delivery as well) and multiplies it by the number of units produced. If the determined time is smaller than the working time, he can see it immediately and start to investigate the reasons.

McKinsey's '*Up or out'* work organization method provides the background of *innovative work*, where the basic element is the chargeability of the individual time consumption. In case of innovative work the key knowledge carrier cannot be controlled by a stop-watch, but by a period of time defined in advance. Utilization of time reporting is useful, and should reveal how much time was used for the unit or units sold or how much for other purposes. In this way managers are able to check chargeability and control the innovative workers. In this case the role of sharing in capital revenue and the pressure of continuous development dominate, but do not guarantee employment. Innovative workers, in many cases, form a special group inside organizations. They may actually do repetitive work, as well, but it is based on a previous innovative work that was generated by themselves using methods they haven't disclosed. This kind of work is a big risk for the investors, because the method and knowledge of solving problems is totally owned by the innovative worker and cannot be duplicated.

By measuring the chargeability of a certain group of people, whom should not be handled as a group, but as individual profit centres, the output required of the knowledge carrier is able to be evaluated, such as the costs he generates and the profit generated by him. This is a further step in connecting some intangibles to the output, which is the main purpose.

In most organizations the Taylorian practice is prevailing, but this innovative work system is gradually developing special employee treatment programs which actually solve the specific controlling problems of knowledge carriers.

It appears that the time of modern human resource controlling systems in Intellectual Capital Management are forging ahead, and their development should be acknowledged and supported.

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We can see that in these turbulent times numerous challenges await company mangers. The better understanding of intellectual assets is a must as their effect on company performance is unquestionable. We believe that each management team should explore the specialties of their organization and carefully plan the necessary actions. There are plenty of approaches available to support such efforts. In our view, the present economic crisis is not likely to undermine the significance of these techniques, but on the contrary it will increase the necessity of them.

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