

# METHODOLOGY OF INTELLECTUAL CAPITAL MEASUREMENT

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## Summary

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The most popular methods of the intellectual capital measurement have been described. Advantages and limitations have been shown.

**Key words:** nonmaterial values balance, intellectual capital, economy, knowledge

## Introduction

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At present, we are interested in the whole range of activity closely connected with Man, his attitude towards problematic situations, where decisions should be taken, which can be even called cognitive predispositions, exploratory, preferable features, patterns of behavior to follow, ability to the risk, thus – intellectual capital.

Human Resource Management nowadays has a huge strategic role to fulfill, and not only in particular enterprise, but in the whole economy. It would be reasonable to set criteria in order to be able to measure effectiveness of Human Research policy of each firm. That is why easy in maintain and simple to describe indicators should be introduced, because it is hard to manage a problem, without not being able to measure it.

## Intellectual capital in the context of economy based on knowledge

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Considering the problem of economy based on knowledge, at the very beginning we should mention the main reasons, which were responsible for

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creation of this phenomena in both – as scientific description and as expression bearing some elements of social, economic and political character.

The modern organization which wants to have significant position, should know some techniques which influence and increase factors connected with knowledge, information and trust of the customers, which can in the future create the situation for gaining competitive advantage.

Innovative dynamics seems to be the most suitable tool of the company in this range. In other words, it is the feature which describes the innovative intensity of changes of global character in each sphere of activity of organization, which wants to create – on basis of intellectual capital – permanent competitive advantage.

Intellectual Capital Management is an important factor in the effort to succeed for each organization, regardless of the range, branch or legal regulations which create basic for functioning of the organization. Rational approach to this issue is one of the simplest methods where positive influence to guarantee development and economic growth can be observed.

Unfortunately, one of the weakest part of our economy is not proper readiness for short periods of time and effective acting within the changing market as well as keeping up to the competitors. For that reason, many firms are facing the problem of being able to implement the methods and ways which led to better execution of own productive resources, of material and non material character.

To explain this situation which weakens such firms, we should consider very limited advanced and system solutions of such problems, which create the basis of integral management. This fault creates the situation that there are growing problems in the companies concerning the optimal use of their own possibilities, and what is more, they are not able to adapt promptly and efficiently. To me, in such a case, it would be most profitable to improve methods of intellectual capital management together with functional summing up of effectiveness of implemented sources. The key solution could be here considering in the strategy system and process approach to the knowledge management.

Also, it would be necessary to take a look at different stages of knowledge management, starting with setting goals, planning, gaining knowledge, and also improving, creation and transfer. Finally – execution, saving and publishing to the public<sup>3</sup>.

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<sup>3</sup> See more: Białobłocki Z., Białobłocka S., Stiepanow A., *Kreatywny menedżment*, Centr profesjonalnoy orientacji młodzieży, Moskwa 2006; Dobija D., *Metodyka szacowania wiedzy*, [w:] *Zarządzanie wiedzą w przedsiębiorstwie*, pod red. B. Wawrzyniaka, Wydawnictwo Wyższej Szkoły Przedsiębiorczości i Zarządzania im. L. Koźmińskiego, Warszawa 2003.

One of the main issue which have to face experts on intellectual capital management, is how to define methods which make it possible to ensure anticipation and to control behaviorism of staff, which influences targets of both – organization itself and employees. Pure competing is not enough to reach the goals, using traditional means like cost, new technologies, production and distributional processes or features of products.

Present situation requires from the organizations to be able to implement activities of organizational character. For example short period of activity, ability for self education, relatively broad competences of the employees. The need to develop them creates the possibility to describe new meaning of personal function along with promotion of personal rank within the whole organization.

As it can be observed, a big challenge for the organization at the beginning of the third millennium is to prepare a list of rules and regulations, which will help in the process of knowledge management and which will be – in the process of global economy – main sources which describe the space of freedom for their survival and development.

As far as we are concerned, the whole approach to the knowledge management must be of complex character and should encourage any changes within the model of activity of such organization, including a new organization based on knowledge.

Literature of the subject differentiates and identifies such processes which deal with the knowledge management as location, gaining, developing, sharing and publishing, using as well as saving.

## **Measurements of intellectual capital effectiveness**

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Intellectual capital in the sphere of the proper management, to be used more effectively – doesn't particularly differ from other resources of the organization. As it is being considered to a high level – or even more – than finance resources, it should not vary from accepted standards of examination methods, as only in a such case it can be properly used for the organization's goals. To be able to evaluate empirically results of such action, it is necessary to manage intellectual capital to measure it. Next difficulty is the need of measurable approach to the assets and not only as objects which can be calculated, but as countable indicator. At least for that reason the calculation of the value of intellectual capital makes it necessary to be aware of quite new theoretical basis, based on pioneer concepts. Taking into consideration above, we may try to define individual taxonomy of a new model in relation to the proper set of balanced standard. Searching deep

into the literature of the subject, we can meet two concepts of the measurement of intellectual capital.

In the first – we talk about the separation of particular parts for the further analysis, while the second holistically claims, that intellectual capital should be measured within the whole organization without any division. No matter which method is taken, measurement of intellectual capital will be useful to create the general strategy of the organization.

Company's goals can be properly formed with the knowledge of managers, who know what their employees can do, and this contributes to the proper evaluation together with the description of strategy realization. Obtained in this way results should be used by preparing motivation system of the wages policy.

To measure intellectual capital successfully, we should consider variety of indicators. Due to complicated character of nonmaterial assets, practically, we can put it into four main categories, each measured in a different set of indicators<sup>4</sup>.

As to the meritum of hidden assets, we cannot just describe the indicators but mutual relations between, them which influence them and consequently, stimulating the functioning of organization as one unit. Only then, with mutual relations, we can evaluate the value of intellectual capital, because it describes its real value, and these are based on shaped methods of evaluation. The most frequently methods used are:

- KCE
- VAIC
- Navigator Scandii – first in the world implemented system of enterprise value measurement.

The first of them operates on the basis of economic parameters, such as material and financial assets. Moreover, factor of nonmaterial factors is being added. Next, from all the assets rate of return is calculated as well as the profit from material and financial assets by multiplying rate of return of those assets by their value. Obtained indicator makes it possible to describe what part of standard incomes despite of those expected according to the balance sheet, can be calculated as nonmaterial assets. Above mentioned method is based on economic function of relations between investment and resources as well as results of production. The final result is influenced by productivity of material, financial and nonmaterial assets of the company.

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<sup>4</sup> See: Fazlagić A., *Jakościowe i ilościowe metody pomiaru kapitału intelektualnego*, „Problemy Jakości”, nr 9, 2005; Nycz M., Smok B., *Jak mierzyć kapitał intelektualny*, Zarządzanie wiedzą i rozwiązania business intelligence, Katowice 2007.

Second method is being used to estimate the intellectual capital of the company. VAIC makes it possible to evaluate efficiency of creation of added value of both – material and nonmaterial assets. Indicator factor of added intellectual value is responsible for effectivity of added value creation and is based on using of material and nonmaterial assets. Can be used in the case of monitoring of current operational activity. It also may be used while identification of the influence of the intellectual capital on such activity. The key point of VAIC is added value, it means the difference between net income and operational cost, without looking into spending on wages or other employee's services. As a result of such activity divided into spending connected with human capital, we obtain effectivity of creation of value added factor by human capital.

The third method – Scandia Navigator – was introduced by the Swedish insurance company, and one of the main authors was Leif Edvinsson. This method, which makes it possible to measure intellectual capital of the company, we can limit to collection of standards to classify its achievements, together with realization of goals in five spheres:

- Finances – financial record in the past
- Customers – investigates how customer's needs are satisfied by services and products
- Employees – creates knowledge
- Processes – is connected with employees' management inside the factory and all other activities outside to satisfy customer's needs
- Rebuilding and development – determines durability of the company and evaluates processes which assure long term activities as well as rentability.

## **Qualitative methods of intellectual capital measurement**

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Above described classical measurement techniques, together with browsing different financial methods to check effectiveness of intellectual capital, make it possible to calculate its value for particular units. Taking into account qualitative methods – their implementation is limited mainly to the certain group of people, eventually to the whole nation. Such information can be presented in a qualitative form – descriptions, charts or pictures. One of the earliest methods to measure the intellectual capital which became popular, we may own to the co-creator of the concept of intellectual capital management and one of no doubt guru of management. It was based mainly on a great number of numerical indicators, and we talk here again about Leif Edvinsson, who introduced them quite a lot, over 150. Quantitative methods

gained many supporters very soon, but their main aim was to make out of them similar methods being used in bookkeeping of companies. For that reason, to measure intellectual capital, now we are using qualitative methods such as descriptions, charts and color codes<sup>5</sup>.

Considering the usefulness of the measurement method, we should not mention only amount or even quality of measuring indicators, because they do not give the final result. It is namely the quality of manager's decisions which is the most important. Intellect as a capital is an abstract word and is hard to notice. We can observe only its pure results. It would be useless to look for any relations between the reason and results, with the help of measures. It would be hard to describe countable intellectual potential, considering percentage of the staff with higher education title. It would result in lack of such proof in relations with the financial results of the company. In such situation – more important seems to be research and understanding.

We should divide them into measuring methods – responsible for collecting information about actual situation, and those which present the situation. The first group consists of observation, life stories, interviews, and the second consists of clarifications, histograms, quotations, reports, maps and charts. Easier for the readers is visualization of qualitative methods, because in a simple way we can present complex relations, whereas description supported by words and figures would be of much broader character.

Qualitative indicators are presented with the help of words or illustrations and the results are of non-standard character. Their realization is based on competence and the process of idea creation is based on general knowledge about reality, but reports – in contrary to bookkeeping reports can be read and understood by persons without any special prior preparation. Application of indicators in any report goes down with the moment they are out of context, which they have gained serving for the branch of organization. Michael Porter has already stressed, that the potential profitability of the functioning of organization can be known only when we consider particular branch and organization<sup>6</sup>.

Methods based on quantity are characterized by objectivity and credibility only when they are limited to a tiny part of the uniwersum. We deal here with the opposite situation, when less objective qualitative methods present the phenomena in the broad aspect, but are less credible and not practical, when compared to the quantitative indicators. Reliability of datas

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<sup>5</sup> Schumpeter J., *Teoria rozwoju gospodarczego*, Wydawnictwo PWN, Warszawa 1960.

<sup>6</sup> Porter M., *Strategy and The Internet*, Harvard Business Review, 3/2001.

Probst G., Raub S., Romhardt K., *Zarządzanie wiedzą w organizacji*, Wydawnictwo Oficyna Ekonomiczna, Kraków 2002.

collected with the help of qualitative measurements is problematic to obtain, as there is lack of standards of i imposed by intellectual capital accounting. Qualitative methods face severe criticism as they are of totalitarian mechanism of asymmetric composition, imposed to the relations of the research object – the researcher itself.

The question of intellectual capital should not only consider quantitative indicators, which inform about the dynamics of the phenomenon in certain time, but also qualitative, which are a source of information about organizational culture, more communicative, informing with the help of the case description than with the use of quantitative indicator.

## Conclusions

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Traditional approach, maintaining the level of ability, is not enough. Huge role plays here the proper preparation of the employees to the new organizational and market changes as well as to the changes concerning the way how to look at the work. This difficult task requires from all specialists who are involved in the process of managing of intellectual capital, particular knowledge and ability, but many of them don't have them.

Contemporary tools, together with managerial technologies of intellectual capital, create new possibilities, and the proper use of them could definitely increase the hidden potential and the intellectual level of organization, making it possible to gain the competitive advantage. Such an intelligent organizations create the most modern stage of the process of the organizational improving. They are functioning in such way, that they are not only using its own knowledge, but they are also renewing and updating it<sup>7</sup>.

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<sup>7</sup> Compare: Reško D., Wołowiec T., Żukowski P., *Zasadnicze problemy z podstaw zarządzania organizacją*. Nowy Sącz: Wyższa Szkoła Biznesu – National-Louis University 2010.

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