DRIVING FORCES ON KNOWLEDGE
FORȚELE MOTRICE ALE CUNOŞTINȚELOR

Amalia Venera TODORUT, Cecilia Irina RĂBONȚU
"CONSTANTIN BRANCUSI" UNIVERSITY, TARGU-JIU, ROMANIA

Abstract:
In this paper I propose to present the driving forces on knowledge : increasing the incomes, reducing expenses, the amplification of gross and net incomes , the decrease of paid taxes, the decrease of the sum sizes allocated for fix capitals, the reduction of used capital's cost. The main factors which determine the substantial change of the firm's efficiency based on knowledge refer to: the great weight of knowledge in firm with an impact under multiple forms over its functionality and performances; the growth of weight and importance of unquantifiable inputs, especially represented by tacit knowledge; the transformation of a part from the external stakeholders in component parts and/or in participants to the intellectual capital and value chain.The supervision indicators of performances are very significant and concentred on the following domains: the growth and renewal of the firm, the general efficiency and the stability of clients, staff and firm.

Key words*: knowledge, efficiency ,costumer, knowledge value.*

JEL classification*:* M10

Introduction

On the base of some researching which lasted 14 years, Mark Clare[1] formulated the equation of the knowledge value or the equation of the knowledge management value, which in a synthetic manner, quantifies the value created by knowledge in a firm. This equation is:

$$\mathbf{VMC = f\,(C, B, R) = \sum CFA}$$

in which:
-VMC – the value of knowledge or of knowledge management;
-C – implicit costs;
-B – resulted benefits;
-R – assumed risks;
-∑CFA **–** actualized total cash-flow.

This equation expresses the fact that the created value from knowledge is a function of costs, benefits and risks associated to the investment in knowledge – projects or firm strategy in its assembly, as well as to knowledge usage and protection. It should be remembered the fact that a usual cash-flow is not calculated, but a prospective one, actualized, thus, taking into consideration the real financial values, considering the incomes and costs dynamic. The equation, at firs sight, has nothing spectacular because it incorporates known economic categories and not new and unusual elements. The variables and the mechanisms on which the determination of costs and risks is based are still unusual, because through them the impact of some intangible elements is taken into consideration, such as creativity or the relations with the trades' people, over the monetary fluxes. Referring to the equation's components

[1] Clare M., Capitalizing Knowledge : Corporate Knowledge Management Investmens, in Creativity and Innovation Management . no.3, 2001.

and to the mechanisms through which it is operated, the following essential aspects can be pointed[2]:

-the evaluation of the results of knowledge usage is a more complex process than a simple calculation of determining the coefficient of the investments efficiency;

-determining the value of knowledge usage needs knowledge concerning the cash-flow calculation and the usage of actualization techniques of costs and incomes;

-when determining the knowledge value there is an identification of the so-called driving forces of knowledge, presented in table no. 1;

-the intangible benefits of the projects based on knowledge should be connected and established with one or more driving forces of knowledge;

-building the trees of knowledge value makes possible the relation between knowledge and the economic value in the whole organization.

Table no. 1

The driving forces of knowledge

Nr. Crt.	The driving force
1	Increasing the incomes by selling more products and/or by the assimilation of new products and services
2	Reducing expenses by diminishing the costs with quality and the commercialization of manufacture, administrative products etc.
3	The amplification of gross and net incomes variables as following the growth of efficacy in production and economy, thus, generating superior incomes and at the same time reduced costs
4	The decrease of paid taxes and duties through intelligent strategies and modalities of narrowing the taxations bases
5	The decrease of the sum sizes allocated for fix capitals as a consequence of the rational admeasurement and usage of investments
6	The reduction of used capital's cost by optimizing the sources of capital (credits, participations with capital in the firm, leasing etc) and the professional renegotiation of the usage conditions

The essence of using this equation consists in developing the capacity of correlating the monetary fluxes with the driving forces of knowledge, which, for the practicians of knowledge management, is indispensable. The elaboration of the tree of knowledge value is of great help. In figure no. 1 such a tree is presented, being taken from the Mark Clare's work, and who refers to the investments in a portal for the service given to the customers. The given functionality consists in a number of solutions used in the preceding period and which can be easily identified through researches by the firm's specialists and the respective customers. It is supposed that in the same time this set of studies is used for the electronic education, too, being written on the home personal page of each person involved in this and for treating intelligently the problems. As a result, some customers solve themselves their own problems and give fewer calls to the assistance centre of the firm. In this situation the necessary staff from the assistance centre is reduced and the involved expenses for salaries decrease. The pressure over the existent staff is also reduced, the productivity grows and the fluctuation of human resources is diminished.

[2] Nicolescu O., -Economia, firma si managementul bazat pe cunostinte, Editura Economica , Bucuresti 2006

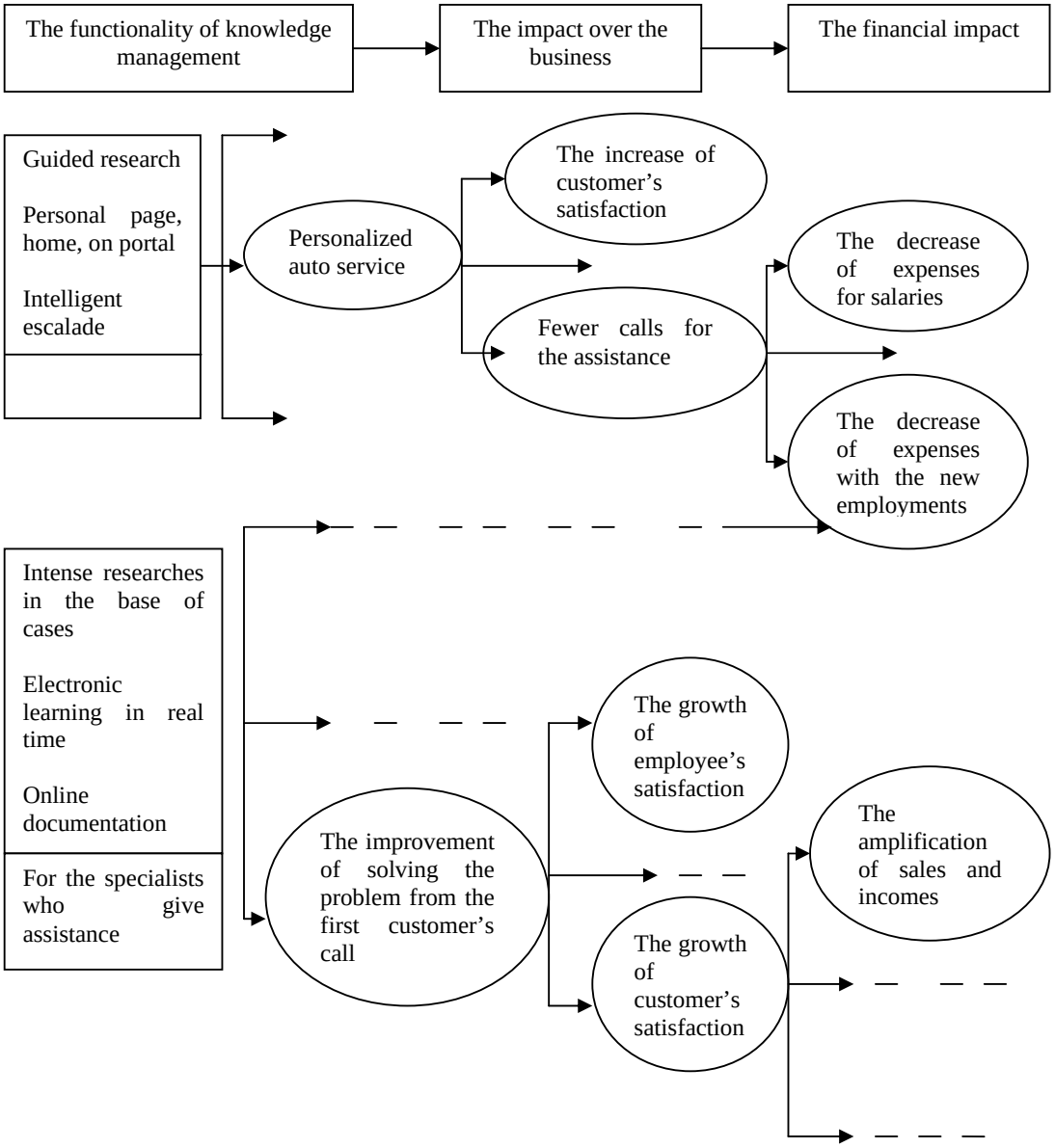

Figure no. 1 The tree of knowledge value

Another modality through which knowledge influences positively the performances consists in the growth of customers' percentage whose problems are solved after the first call at the assistance centre. It also results an elimination of frustration and a decrease of customer's costs that solved immediately the problem. Consequently, his or her satisfaction for the firm and its products increases, the customer buys more from it, determining thus the amplification of the organization's incomes.

The method of the knowledge value tree can be used in any domain in which the knowledge mapping is possible. These can be resumed to two:

- the usage of knowledge – transformations within the firm – actualized cash-flow – value;

- the usage of knowledge in processes and practices – changes in the business mechanism (the example above can be framed in this category) – actualized cash-flow – value.

The practice shows that projecting and using the tree of knowledge value is difficult, but it helps a lot to understanding the mechanisms through which the usage of knowledge creates value and, based on this, it contributes to amplifying the firm's efficiency.

Finally, there are four remarks concerning the content and the usage of the knowledge tree:

a) the tree of knowledge value represents in fact an application of the well known panel of correlated analysis of causes and effects within an organization at the specific of using the knowledge;

b) the tree of knowledge value, although very valuable, can astound only a part of the economic effects of using knowledge in the firm, especially the explicit ones. Other procedures are also necessary to have the capacity of evaluating the economic effects, inclusively the financial ones, at a cash-flow level and profit of treating the knowledge in a firm;

c) the results of using the panel of knowledge value depend a lot on the logic capacity and on understanding and analysis, both of processes of treating the knowledge and of the economic ones within the firm, of people who use this method;

d) the equation of value and the tree of knowledge value are expressions of a different type of evaluating the efficacy and efficiency specific for knowledge, comparatively to the classic approaches. The degree of results' relativity is easily big, but with a high capacity of understanding the economic effects and stimulating the knowledge capitalization.

The indicators of supervision for the performances of a firm based on knowledge

The economic finality of the industrial unit based on knowledge, combined with the special nature of its components and mechanisms must be evaluated and supervised through a system of indicators. The attempts to elaborate such systems of indicators are not many and are not enough specific for the industrial unit based on knowledge and/or pragmatic.

Such a system is included in the guide of intellectual capital evaluation, which was presented previously. There is no doubt that the approach is valuable, but from the point of view of reflecting the assembly performances of the firm, it has two disadvantages:

-it is much more comprehensive, the great number of involved indicators being difficult to calculate all the time to reflect the evolution of the firm and to serve at the substantiation, adopting and implementing decisions;

-it does not reflect some of the essential elements concerning the assembly efficiency of the firm, the indicators within the guide being centered over the intellectual capital.

Of course, some of the indicators included in the guide can be undertaken and used also to supervise and evaluate the firm's efficacy and efficiency of assembly.

The most well-known system of indicators for evaluation and supervising the performances of assembly of the firm based on knowledge was elaborated by the specialists of the Center of preparation the future from the well-known Swede firm Skandia. This center is a true intellectual laboratory being managed by Elf Edvinson, the first person in the world who was employed as manager of the intellectual capital. There are also more than thirty people near him, who scans the future, the society and the economy based on knowledge.

The system of efficiency indicators Skandia conceived in a multidimensional vision includes the elements written in the following table:

Table no. 2

The set of indicators for performances supervising – Skandia

Nr. crt	Types of indicators Involved Domains	External structural	Internal structural	Of Competence
1	The growth and renewal of the firm	-the profitability on customer -image luring (amplifying) the customers	-the size of technique-informational investments -the structure changed by customers	-the level of preparation of specialists -the budget for education and training -the specialists fluctuation -the competences which increase the number of customers
2	The efficiency of assembly	-the sales on customer -the gain/ loss index	-the proportion of the assistance staff, totally the staff -attitudes/ values index	-added value/ employee -added value/ specialist -the profit on employee
3	The stability of clients, staff and firm	-the proportion of important customers -the loyalty rate of customers -the frequency of repetitive orders	-the organization's age -Rookie rate -the fluctuation of the assistance staff within the firm	-the fluctuation of specialists -the structure of employees' incomes

Examining the system of supervising indicators Skandia, the following characteristics result:

a) the system of indicators has a considerable dimension – 23 indicators – necessary to reflect the multidimensionality of the firm's performances; although, it can be said that its dimension does not outrun their capacity to calculate and use them efficaciously;

b) the concentration on the economic aspects, 9 indicators refer to sales, profit and expenses;

c) giving a special attention to the indicators which refer to knowledge and employees, 10 indicators, meaning over 40% from the total of the considered indicators; a group of the three groups of indicators focus exclusively over these aspects;

d) the placement of a major attention to the firm's position on market, 7 indicators referring especially to customers and market;

e) the approach in assembly of efficiency in a balanced way, having the same numbers of indicators (7) also for the intern and respectively extern structural elements of the firm;

f) the treatment of the firm in its dynamic – 8 indicators referring especially to the firm development and the innovation within it;

g) giving a special attention without contradicting the firm development, to the problems of stability at the two levels – of performances on the market and of specialists – 7 indicators are used;

h) the inclusion of other indicators, less usual, for some of them – such as the gain/loss index or the attitudes/values index – the calculation is not explained.

We stop here with the considerations because we consider that the main elements of novelty for the system of indicators have been set off. Their periodical determination, for the majority monthly, assures a comprehensive supervision of the efficiency and efficacy's evolution of the firm based on knowledge.

Conclusion

The efficiency of the industrial unit based on knowledge concerns the getting of some outputs, mainly of some incomes, superior to inputs especially to expenses, reflected in producing the added value and implicitly in profit, an essential condition of existence, functionality and the maintenance of organization.

The efficiency of the industrial unit based on knowledge refers to realizing the objectives and unfurling the work processes within the organization in the pre-established temporal and qualitative conditions.

BIBLIOGRAPHY

1. Jessup, Amy – Intellectual Capital Measuring Knowledge Assets, in Knowledge Management Review, vol. 5, no. 2, 2002

2. Clarke Th., - Capitalizing knowledge : Corporate Knowledge , Management Investmens , in Creativity and Innovation Mangement , nr.3, 2001

3. Nicolescu, O. and Verboncu I. – The Fundaments of the Organization's Management, Economic Tribune Ed., Bucharest, 2003

4. Nicolescu, O. and Nicolescu, L. – Economy, Firm and Management Based on Knowledge, Economic Ed., Bucharest, 2005

5. Nicolescu, O. – Management, Economic Ed., Bucharest, 2005

6. Verboncu, I. – Do we know to manage? , Economic Ed., Bucharest, 2006