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ROLE OF THE INTELLECTUAL CAPITAL IN INSTITUTIONAL "HEALTH"

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Abstract

The sustainable development is a process of continuous and permanent improvement, learning and perfecting, and the introduction of sustainable development policies into a society or company guarantees the creation of sustainable (not only immediate) value and consequently long-term benefits. In the age of knowledge, each organization is constantly changing. The success of the organization depends on how the crises that occur during this period are managed. An important factor in managing these crises is the intellectual capital. During the process of assimilating the intellectual capital, a transformation of the individual's identity is also realized. Identity transformation is an important social process that employs dissonance, attributions and divides the role of expectations. In this paper we want to highlight the concept of intellectual capital, which is it role into organizations and societies and which are the benefits for institutional health.

Key words**:** *intellectual capital, sustainable development, institutional health*

INTRODUCTION

At present, the concept of sustainable development is widely used in all areas and it is useful and correct to be applied for satisfying the basic material necessities, in order to provide the resources for optimizing the quality of life in terms of health and education.

Sustainable development is a complex process whose metrics involve a system of common indicators, but which also differs from country to country.

The human resource is considered to be the most important, the only one able to attract, combine and use the other resources necessary for a company, to achieve the proposed objectives.

Human capital has developed as a concept in the economy, where it is regarded in particular as "estimating a person's ability to generate income through work" (Di Bartolo, 1999) [4].

The notion of intellectual capital appeared in the business world in the 1990s, and at the focus is the information that gives rise to intellectual capital.

In the present paper, it was described the meaning of sustainable development for a village, medium in size and population, from Braila county where the main occupation of people is the agriculture. There are two possibilities:

(1)they practice only agriculture all the time in combination with animal husbandry

(2)they can have a daily job into local firm/company/institution and, in parallel with this to practice agriculture in order to obtain them own bio food products.

MATERIALS AND METHODS

To show how is defined the intellectual capital for a Romanian county, we selected some formulas and models.

One of the examples, the AK model developed by Paul Romer and Sergio Rebelo [7] studies the effects of accumulation of knowledge. The phenomenon considered endogenous is that, using new technologies, the economy accumulates experiences and knowledge which, in turn, favours the introduction of new technologies, generating growth.

It recognizes the validity of the growth model developed by Solow (1956) [9], it has tried to exceed its limits (in the absence of technical progress or, of its continuity, the growth is not maintained, in the long term, reaching a

steady state in which the growth is null). In Solow's elaborated version (which includes the technical progress factor) the growth rate is exogenous.
Starting from the Cobb-Douglas formula, with neutral technical progress, the production function is written:

$$Y(t)= K^{\alpha}(t)\,[A(t),L(t)]^{1-\alpha}$$

where:
K= capital;
L = work;
A = technical progress.
The model assumes that technical progress is the result of learning through practice, being a function of capital growth.

$$A(t)= BK^{Ø}(t),\ B>0,\ Ø>0$$

where:
B= coefficient of growth of K factor
The growth rate of the population is constant, the rate of economies is exogenous.
δ – depreciation of capital
And we have:
s(t) = I(t) and s(t) = sY(t) – saving rate;
K(t) = I(t) – δK(t) = capital rate;
For Ø = 1 şi n = 0 – growth is self-sustaining
By substitutions, we obtain:

$$Y(t)= K^{\alpha}(t)\,[BK^{Ø}(t),L(t)]^{1-\alpha}$$ [3].

The mathematical formula which can show the connection between consumed quantities from different factors and maximum quantities of goods obtained only by natural ways, organisational or technical is Cobb-Douglas formula.
Charles Cobb and Paul Douglas, two economists believe that the production is the result of labor and the capital used.
The below mentioned formula proposed by them and called production function Cobb-Douglas represents:

$$Y = a\,L^{\alpha}K^{\beta}$$
$$a > 0;\ \alpha > 0;\ \beta > 0,$$

where:
a = proportionality factor which shows the proportion of the increase of the production over the increase determined by the increase of the mass of the factors L and K;
α, β = coefficients of elasticity of production in relation to the labour factor, respectively capital [2].
Applying this formula into our case, our village from Braila, with a population of 3k inhabitants, results:
$\alpha + \beta > 1$ and that means the yield of factors L and K is increasing, the production increasing faster than the mass of the factors increases.
In another words, the engine of endogenous growth is the stock of technological knowledge [1].Technological knowledge and physical capital are the accumulating factor;
The accumulation of knowledge is realized inside the company through the process of learning through practice: the more it is produced, the more the technological knowledge develops, which will allow to increase the efficiency of the production in the following periods for quantities of invariable factors of production.
The assessment of intellectual capital can be considered a good starting point for a more efficient management, in order to increase the competitiveness, but it can also provide a reporting tool.

RESULTS AND DISCUSSIONS

Referring to our village from Braila county, we can say that agriculture is the number one occupation, the most advantageous for farmers and all local people, from all financial points of view and the formula Cobb-Douglas highlighted this aspect, in this way we can talk about sustainable development of a village.
We can say that everything is related to the supply, production and sale of a product cannot be achieved without the help of the technology set up and directed by the person / employee.
The person/employee to be able and authorized to use the agricultural machines correctly must first be trained. The more people trained in this regard, the better the production goes; in other words, the role of

the intellectual capital is to ensure the health of the farm/institution of which it is a part and for which it works and, of course, to ensure the sustainable development of the of the society [5].

As a statistic at the village taken into account, we can say that:

- 40% of the people have completed high school and a college, which means they have a computer, technical knowledge and a foreign language.
- 60% being assigned to studies belonging to the vocational schools, but following the different trainings they are authorized to use the agricultural equipment, and not only, at a certain level and in different ways.

As a result, over time it has been observed that many farms have higher incomes because they have employees with higher intellectual capital, that's the reason why more and more companies, both large and small, want to recruit in their own personal team with a high level of qualification and education, which can respond to the future demands and requirements of the economy and society.

Critical success factor for all types of organizations intellectual capital, is based, first of all, the evolution of education and studies [6].

It is the ability of employees to innovate in thousands of ways to improve the efficiency of a job.

The importance of investing in intellectual capital is the first step towards economic stability, even in these times of economic crisis.

The intellectual capital means performance into a society or organization/company and this aspect leads to success, prosperity, evolution and a vast portfolio of competencies.

The evolution of the professional career must be part of a knowledge map within the organization. This map is very valuable for the organization, because it includes the knowledge networks that are created between the employees, as well as the way in which they are organized around the production.

In the current economy, more and more managers are fighting to effects of the financial crisis, trying to find all kinds of solutions to increase the value of the company, and the importance of intellectual capital and its components are very important and even vital for some companies. This new era of technologies, new inventions and innovation has a great impact on the strategies, objectives and goals of many companies, which is why many researchers in the economic field regard intellectual capital as a sure source of growth in business value.

Most of the times, intellectual capital is considered a hidden wealth of companies, which, despite not being presented in its financial statements, offers an added value for the company. In today's economy, intellectual capital seems to be one of the safest things to prevent the effects of the current economic crisis, but also for the sustainable development of the economic entity. That's why more and more companies tend to invest more and more in intellectual capital, because they represent the engine of successful business [8].

Sustainable development has also a profound impact on many businesses, their operations and their supply chains.

The complex and interdependent nature of environmental problems will cause businesses to go beyond simply complying with environmental regulations to develop innovative responses to environmental challenges.

Companies that act according to the principles of sustainable development often obtain high performances (even in the short and medium term) compared to the other companies due to a better control of the different categories of risks to which they are exposed.

In the global civilization, the new economies that are based on innovations have as a priority the technological development that leads to a high level of competitiveness and to human development and the proven fact is that technological progress is essential for human progress.

Digital innovations open up new perspectives and "break the boundaries" of how people can use technologies to expand knowledge, stimulating growth and development.

New technologies are diffused, both between different countries and within them.

A rational starting point in examining the notion of intellectual capital is the analysis of the organization made from the perspective of resources. Viewed from this perspective, any organization or firm presents itself as a system consisting of a set of resources mobilized within a given structure [10].

Technological innovations can improve human potential and abilities, in other words they are a source of ensuring human development.

The financial advantages for companies obtained from investing in people, mainly in their education and training, are already proven and known. This investment has a high rate of recovery, respectively benefits in the form of increased labour productivity, professional skills development, innovation capacity, increased mobility of workers. However, many organizations still see employee education and training programs as a cost and not as an investment.

To clearly define the concept of intellectual capital, the below mentioned aspects are defining:

- intellectual capital is the sum of all the people in an organization know, giving it competitive advantages on the market;
- intellectual capital is recognized as a value in most organizations, but also the key to the success of that organization
- Intellectual capital represents the intellectual material that has been formalized, captured and valued to produce even more valuable assets. He is given by that knowledge that can be transformed into values.

The most important factors for sustainable development within an organization or company are: human capital and, of course, the structural capital.

Structural capital refers to ownership of information systems, distribution networks, supply chains.

Human capital consists of:

-educational capital

-biological capital.

Educational capital means: human resources, suppliers, customers with them intellectual skills achieved in schools, studies, trainings etc.

Biological skills refer to physical abilities, a good state of health.

Types of indicators used to measure intellectual capital:

- Leadership;
- Motivation;
- The ability to execute delegated tasks;
- Networking;
- Number of Employees;
- Age in the company;
- Stability in the position;
- Number of managers;
- Number of women managers;
- Percentage of managers with higher education;
- Average age of employees;
- Average duration of training programs (hours / employee);
- The average cost of training programs (hours / employee);
- IT knowledge.

CONCLUSIONS

In order to realize the potential of some businesses, it is very important to attract and retain the right combination of people who have collective expertise and have access to information networks. All the more so given the rapidity of many of the technological advances and the potential profits for private sector organizations, which exploit the first new market opportunities.

In the age of knowledge, each organization is constantly changing. The success of the organization depends on how the crises that occur during this period are managed. An important factor in managing these crises is the intellectual capital. During the process of assimilating the intellectual capital, a transformation of the individual's identity is also realized. Identity transformation is an important social process that employs dissonance, attributions and divides the role of expectations.

It is very important to know and to understand the real value for what means intellectual capital and over and over again, to invest in it, because it provides companies with a much greater well-being than similar companies, but they do not invest in this type of resource. The

current economy is based on these ways of developing the company, because they are reliable methods not only to keep the company afloat but even to develop it.

REFERENCES

[1]Anonymous, 2017, Intellectual capital and education in the context of the new economy and society based on knowledge, (Capitalul intelectual si educatia in contextul noii economii bazate pe cunoastere), http://muhaz.org/capitalul-intelectual-si-educatia-in-contextul-noii-economii-s.html, Accessed on 04.02.2020

[2]Anonymous, 2020, Production functions-Cobb Dougkas function (Functii de productie-Functia Cobb Douglas), http://www.creeaza.com/afaceri/economie/Functii-de-productie-Functia-d967.php/, Accessed on 09.02.2020

[3]Antonescu, D., Zaman, G., Georgescu, G., Goschin, Z., 2015, Economic endogenous development at the regional level. The case of Romania (Dezvoltarea economica endogena la nivel regional. Cazul Romaniei), Expert Publishing House, Bucharest, https://www.researchgate.net/publication/282124806_DEZVOLTAREA_ECONOMICA_ENDOGENA_LA_NIVEL_REGIONAL_CAZUL_ROMANIEI?enrichId=rgreq-c16efcd18be01cf94f748e56934776c7-XXX&enrichSource=Y292ZXJQYWdlOzI4MjEyNDgwNjtBUzoyNzcxODE5MDIxNDc1ODRAMTQ0MzA5NjcyMzExOQ%3D%3D&el=1_x_3&_esc=publicationCoverPdf, Accessed on 04.02.2020.

[4]Di Bartolo, A.,1999, Modern Human Capital Analysis: Estimation of USA, Canada and Italy Earning Functions, Working Paper, Dipartimento di Statistica, Università di Milano-Bicocca.

[5]Fidel, R., Methods used for the intellectual capital assessment (Metode utilizate pentru evaluarea capitalului intelectual), https://www.slideserve.com/rosa/metode-utilizate-pentru-evaluarea-capitalului-intelectual, Accessed on 04.02.2020.

[6]Moroianu, N., Moroianu, D., 2018, Intellectual capital in actuality (Capitalul intelectual în actualitate), http://www.oeconomica.uab.ro/upload/lucrari/820063/18.pdf , Accessed on 04.02.2020.

[7]Rebelo, S., 1991, Long-Run Policy Analysis and Long-Run Growt, The Journal of Political Economy, Vol. 99, No. 3 (Jun., 1991), pp. 500-521.

[8]Schiopoiu Burlea, A., 2013, The impact of the intellectual capital on the organization performance (Impactul capitalului intelectualasupra performantei organizatiei), Informatica Economica Journal, No. 1(25):119-122, http://revistaie.ase.ro/content/25/Schiopoiu.pdf http://online-cig.ase.ro/cignew/pics/ss2013/SESIUNE%20COMUNICARI%20CIG%202013/SECT%201%20CONTAB%20ment%202%20Importanta%20cap%20int.pdf, Accessed on 04.02.2020.

[9]Solow, R.M., 1956, A Contribution to the Theory of Economic Growth, The Quarterly Journal of Economics, Vol. 70, No. 1 (Feb., 1956), pp. 65-94.

[10]Stibli, F., 2012, Intellectual capital-a key resource for extening the prganizational intelligence, (Capitalul intelectual resursa cheie pentru extinderea inteligentei organizationale), https://intelligence.sri.ro/capitalul-intelectual-resursa-cheie-pentru-extinderea-inteligentei-organizationale/, Accessed on 04.02.2020.