The Possibility of Developing an Appropriate Framework for Reflecting Information and Making Decisions on the Human Capital

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Abstract

The rapid evolution of the economic environment, under the influence of constantly moving factors, leads to rapid changes in economic theory. The rapidity with which they follow, also influences aspects of information reflection and decision making in the field of human capital. In order for the information and processes of decision-making in the field of human knowledge not to risk being mistaken, a good knowledge and interpretation is necessary. Consequently, through this scientific approach, we considered a schematic presentation from which to identify the stages of creation and use of information necessary for the use of human capital, establishing a parallel regarding the allocation of resources in the field of physical capital. Therefore, making the right decisions in stocktaking and human capital flows will contribute both to economic development and raising the standard of living, as well as to the responsibility of governments and individuals.

Key words: Human capital, physical capital, decisions, information flow, investment.
J.E.L. classification: A 19, D04, M29, M48.

1. Introduction

The continuously diversifying and moving market forces the requirement to rethink the allocation mechanisms that determine the production, dissemination and consumption of knowledge. As companies react differently to new technological and competitive forces, the clues we have tend to prove that the role of investment in human skills for their competitiveness is constantly increasing. Another proof of the change in the nature of the investment is provided by the increasing complementarity between physical and immaterial investment as high technology integrates them. Over time, rising unemployment and worsening fiscal pressures, as well as the public interest in this productivity paradox, have given rise to research and analysis of human capital and the labour market.

The imperative need to improve signals in order to allow efficient and effective choices in the labour market and within the entities allows a valid method of reviewing the mechanisms that inform and direct the investment directly into its knowledge and use. *Regarding these realities, it is imperative to rethink information systems and decision-making in human capital.* So we have structured this paper as follows: Section 1: Introduction, Section 2: Research Methodology, Section 3: Literature review, Section 4: Human capital and the content of the acquired knowledge, Section 5: Information flow - schematic exam in deciding on human capital, Section 6: Approaches addressing the decision on human capital and physical capital and the final section of the conclusions.

2. Research Methodology

Aspects related to information reflection and decision making in the field of human capital are extensively developed in the specialized scientific literature. In our paper we used theoretical information taken from books, articles and studies relevant to the field investigated, with which we synthesized them in order to analysis of the main decisions used in the allocation of human capital.

3. Literature review

It is also recognized in a way that does not imply mentioning the passage of the capital to the share of activity between the transition between the agricultural and the industrial economy, that the level of knowledge held by employees becomes visible in their total production capacity that increases in relation to raw materials, real estate capital or management knowledge (Chang et.al., 2016; Ienciu et.al., 2016; Dima and Man, 2013; Vyacheslav et. al., 2016). As some authors have pointed out, Pocas (2014) and Angelopoulos et Malley (2017), the presentation of the scientific and technological system has seen spectacular progress over the years, and it is noticed that the stock of knowledge doubles in a period of seven to ten years, which implies an annual growth rate of 7 to 10%, and the relative proportion of physical and intangible investment has changed considerably.

Even before these cyclical phenomena, which have been repeated since 2008, the OECD had reported in various publications and in the analysis of new technologies emerging over the years that the socio-technical nature of micro-economic exchange requires a sensitive transformation of the signals that govern investment in human capital. With the growing importance of knowledge in the field, carried out in OECD member countries, this is not yet taken into account for the quantification/measurement and establishment of human resource prices. It is almost unanimous to recognize the need to transform the challenges faced by companies that treat investment in human capital as assets capable of generating dividends over a prolonged period. In fact, individuals should consider investing in qualified training as a lifetime commitment in asset formation (Macris et al., 2011, Măcriș and Măcriș, 2010). Faced with budget constraints, unemployment, economic recession and instability, with an increasing demand for long-term investment in growth-enhancing infrastructures, governments are wondering how to invest in improving the efficiency of knowledge, dissemination and consumption (Măcriş and Man, 2012; Man and Măcriş, 2017).

4. Human capital and the content of the acquired knowledge

The analysts and economist researchers generally address such issues from a common sense observation, so that in order to be effective and efficient within and outside the context of the labour market, decision-making must be based on correct information. The quality of information requires, to determine with precision or to be evaluated with a high degree of reliability, the likely costs and benefits, in the short and long term. When investing (learning, for example) in acquiring knowledge, it is desired to know the value of the activity proposed by the training provider (e.g. the trainer). The following consequences are the investor, who provides knowledge to a person to apply them in production, wishes to reduce the risk if he does not have the necessary skills to produce for the market. *Without proper information it is impossible to make optimal decisions for an investment. In a market economy, accounting and financial analysis systems specify "game rules" to determine, through increasing information, the effectiveness of the decision. But the information provided can't be entirely complete* (Ciurea and Rakoş, 2016; Man and Măcriș, 2016). This factor, combined with market synchronies, explains that economists and policy-makers face difficulties, taking into account existing information, whether they are over or under investment, or whether human capital has been effectively used (Man and Măcriș, 2015). Integration of corporative governance into organisation's social responsibility system. On the other hand, if, in reality, investment rates appear to be in progress, we are not interested in the content and quality of the investments included in human capital. We need to know how these findings influence the decision-making processes. *In other words, before discussing the percentages of return, the efficiency of the stages and/or the investment choices in the human capital, it is important to know what their purpose is.* Measures or accounting for the investment logically precede the taking into

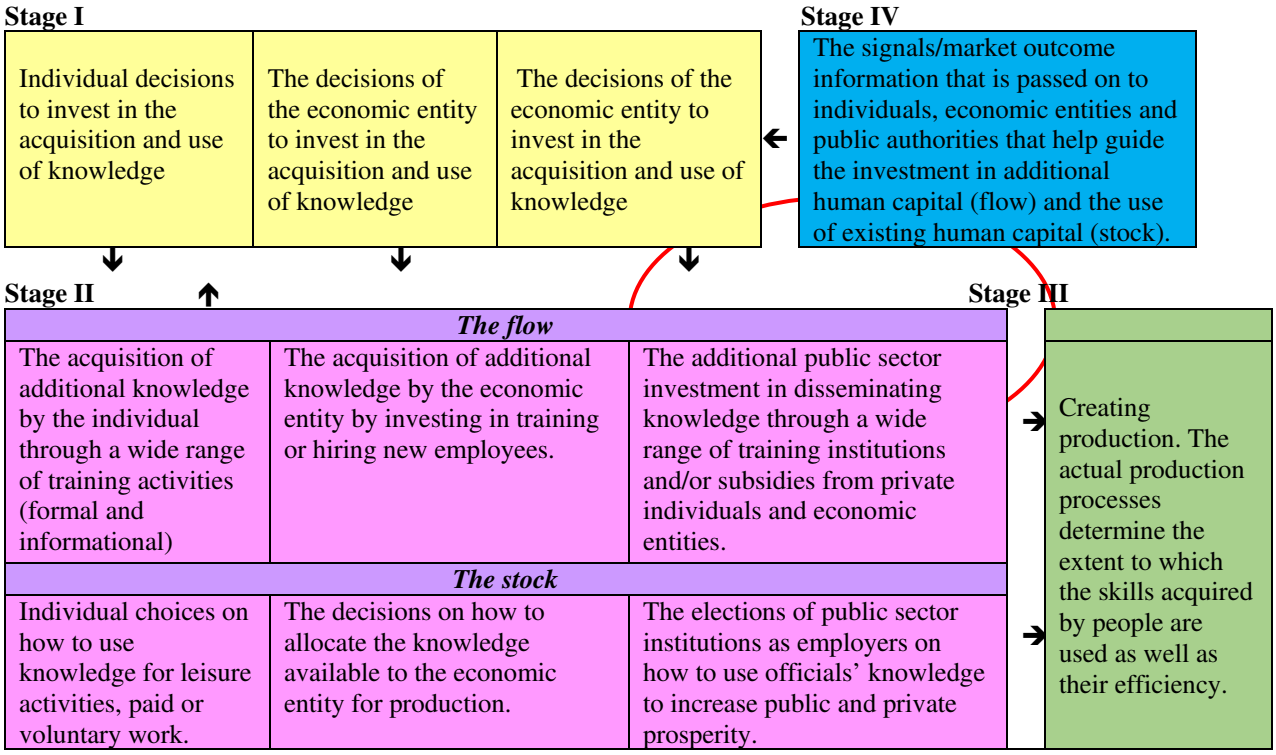
account of the period in which profits are recorded. From the methodological point of view, the analysis requires a preliminary examination of the means and objectives of the allocation, in order to know who needs information and for what purpose they will be used (Ciurea and Man, 2017). Therefore, a methodological criterion is more valuable for human capital than for the physical one, so that analyses have suggested policies likely to improve the available information to make choices regarding the acquisition and use of human capital.

5. Information flow - schematic exam in deciding on human capital

The richness and diversity of information and interactions that characterize decision-making in human capital is based on the express interpretation of Figures 1, 2 and 3 to be presented below. ***Interpretation Figure 1 proposes*** as an example ***the historical incidence of introducing universal and compulsory school education that allows citizens to obtain the elementary level of literacy, computation and behaviour in the industrial/urban environment.*** The reforms of the education and institutions in question, as far as industrial was substituted for agricultural and rural societies, helped to specify and formalize the signs that accompany each step described in this figure. The decisions of individuals, companies and public institutions have been significantly modified by introducing a new system for establishing and validating key competences. These signs have facilitated the changes that have occurred in the investment (flow) and job (stock) schemes of physical and human capital.

In the **first stage**, decisions are adopted by private individuals, societies, and public authorities. Production takes place in the **second stage** and uses the human capital acquired through training or employment (flow) and through existing knowledge (stock). These economic activities create real output in the **third stage** where the productive impact of knowledge materializes in goods or services. The **fourth stage** is where transactions (on and off the market) contain signals that validate or invalidate decisions taken in the first stage. The information circuit thus forms a closed circle and the decision making/sending of the signals restarts. The decision-making decision, when choosing an investment in employee training, illustrates how the circuit's functionality works. In the first stage, the management of an economic entity decides to invest in acquiring new skills by requiring employees to improve their training.

Figure no.1. The circuit that links the stock and the flow of knowledge of individuals, production and decision-making



Source: Adaptation by: Cheng et.el. 2016

Figure no.2. Indices to make a correct decision on physical capital

Decisions on:	Individuals (housekeeping)	Economic entities (Production)	Public powers - producing services or infrastructures
The use of stock of the physical capital	The productive capacity, in quantitative terms, cost of use and estimated yields	➔	
The acquisition of physical capital	The productive capacity in quantitative terms, purchase cost, usage and estimated yields	➔	

Source: Adaptation by: R. Miller to the OECD, 1996

Figure no.3. Signals for decision making on human capital

Decisions on:	Individuals (knowledge/skills)	Companies (management and acquisition of skills)	Public powers (investment in human capital)
The use of human capital stock	The labour market clues: remuneration, job security, etc. Values and culture of work. Life cycle of work, arbitrage between work and leisure.	Hiring, accounting and staff management systems. Engineering studies and management practice, social relationships, stranded costs.	Investment strategies for general infrastructures. Technical and political debates on resource use, labour market planning.
Additional investment in the acquisition of human skills	The labour market signals: remuneration, job security, etc. Values and culture of work. Experience of work. Costs and benefits.	The costs and benefits of investment determined by the entity's internal strategy, human resources management policies, and public policies. Form or buy. Labour/Capital Complementarity. Company strategy.	The signals emanating from economic entities, private individuals and constituencies: comparisons with other jurisdictions, analytical studies.

Source: Adaptation by: Angelopoulos and Malley, 2017

This decision translates a fairly complex and risk-free calculation, starting from the information mentioned in the fourth stage about the marginal productive capacity that will result from the acquisition of new knowledge (or a new motivation) by the employee. *The increase in productive capacity is compared with the various alternative costs starting from the hiring of the individual according to the assumed competencies, taking into account the fact that he still needs to improve them through appropriate courses and risks resulting from the cessation of production due to bankruptcy, redundancies or the departure of the employee.* The degree of risk and complexity of taking this specific decision-making decision is influenced by the quality of the information system on human capital that has been put into practice. The quality of this system varies, obviously, from one society to another and from country to country. Once the investment was made in the second stage, through which a capital flow joined the stock, we enter the critical stage that occurs at work with reference to the skills acquired in production (Măcriș, 2009, 2013; Miller, 1996). Applying a theory or skills in practice is an activity subject to difficulties as a result of the deterioration of the technical or psychological conditions of work due to poor communication between management and the staff employed. In the long run, the positive effects of improving staff skills translate into productivity gains. The result of this production product is on the market in the fourth stage, where the final verdict is presented in terms of the quantities sold and the prices that allow the calculation of the return on investment. It should also be borne in mind that there is within the economic entity, a system of sanctioning labour performance that does not appear on the market or through output.

The decision-making scheme outlined above indicates the steps of creating and using information necessary for the use of human capital, establishing a parallel in the allocation of resources in the field of physical capital. By subdividing the processes of creating and using signs, we can predict where obstacles meet when we employ and effectively use human capital.

6. Approaches addressing the decision on human capital and physical capital

In most of the OECD countries, there is currently a contrast between the diversity of decision signs/systems that influence the use and acquisition of human capital, and the homogeneous and transparent information used to invest in physical capital. This difference is schematically highlighted by the differences between Figures 2 and 3 which present the different types of information that individuals, economic entities and public powers face when making decisions.

In relation to the overall circuit described in Figure 1, the various cells in Figures 2 and 3 relate to the stage at which the decisions are taken (step 1) using the information derived from the transactions on the market and outside it (step 4). This then determines the actions considered as stock and flow of knowledge of individuals (stage 2).

Figure 2 shows the different types of signs (production estimate, costs or benefits) used by private individuals, economic entities and public authorities that refer to the use and purchase of a supplement to physical capital. At this level, the signals used are the same, whether we refer to shopping, to a job, to dishwashing or a new refinery. The intent in Figure 2 summarizes the common methodology, apart from techniques or institutions, used by individuals, economic entities and public authorities when deciding on the use of a material object or investment (for example, a plant or a motorway). The presentation of the decision on the use of physical assets or investment as a rigorous process of resource allocation has given rise to criticism, confirmed by the competent factor and daily experience. Figure 2 does not deny the existence of economic uncertainties, but insists that the institutions and techniques adopted to fix the investment in physical capital and use allow the use of a proven amount of compatible information and methods. *The advantage of a decision-maker when it comes to investing in physical assets is that there are already valuation bodies and rules in the field of accounting, engineering and financial analysis.* These generally correspond to accounting norms, making it possible to analyse the costs and calculate the current project values. In the field of accounting, the literature explains broadly the role played by the laws, regulations, conventions and professional norms in terms of the definitions and methods used. Between Figures 2 and 3, the differences lead to the quality of the existing information and method of decision making. In the vast majority of countries/industries, physical capital choices are transparent and compatible with the notion of inter-related costs/benefits of investing in human capital. As far as physical capital is concerned, the comparison between the current and the future benefits becomes possible due to the use of the discount percentage, when the cost measure takes into account the depreciation. In the case of human capital, it is difficult to assess the costs and benefits over a given period of time beyond the current accounting exercise.

Figure 3 gives us an approximate picture of the complexity of the real world, the diversity of signs and methods that characterize decision making on human capital. *Unlike the physical capital, which can be quantified and measured, there are differences in approach for the human being due to the available, diversified methods and information.* The economic difficulties that characterize all the choices about investing in "assets" become visible in the case of human capital, which is difficult to quantify due to the obvious complexity.

7. Conclusions

When the learning act turns into a „permanent" activity for an individual or for a company or economic entity, the decision on the allocation of human capital becomes complex. For a hiring employer or for a private person, schooling, it answers, at first instance, a simple decision. Putting into practice then becomes complex taking into account the multitude of possible choices and market incidence. Jobs are in constant change, which constantly changes human capital data. The stated factor reacts in turn to hiring and training decisions.

From this point of view, the distinction between the two main approaches to the decision is important. The first concerns the internal division into society and the existing competencies according to the tasks, the company being the one who decides the use of the human capital stock, if it is already or on the point of being recruited. The second approach is to allocate resources for the acquisition of productive skills. The decision to invest in a human capital flow is the corollary of a whole series of analyses of economic entities. *Insofar as continuing training - whether internal*

or external - becomes determined for competitiveness, it is increasingly difficult, but especially important, to make the right decisions in determining stocks and flows of human capital.

Allocations should generally be applied to a universe in which hypothetical is thought, the existence of perfect information and its rational use. In the real world, where these hypotheses do not exist, it is essential to check whether the information is produced, materialized, transmitted and treated in order to understand its usefulness. We already know from the practice of the past decades that it took many years to develop the conventions and institutions needed to assess and balance the value of physical capital. It is also worth noting the constant and appreciable effort made on human capital, the challenge of obtaining accuracy and transparency in the assessment of relative prices, an assessment of which depends on the efficiency of its allocation itself. It was found that in Romania, in order to achieve the objective of "*investing in human capital*", it is necessary to go through stages, not only conceptual, but also mentality - the citizens of the country, businessmen, parents, children, understanding that investment in education is the most an important objective for the future. In this sense, awareness of the value of human capital leads to economic development, raising the standard of living, thus becoming a global responsibility of all individuals and governments.

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