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THE CONCEPT OF INTELLECTUAL CAPITAL IN DEVELOPMENT SYSTEMS

Abstract: *The human capital and structural capital constitute the primary assets of every organisation and more and more every territory: on urban, local, regional, national and global levels. Restructuring technique, technology, organisation of production and work (means of production, subjects of work, power factors and economic factors) necessitates great knowledge, competence and skills, as well as the right organisational culture and philosophy. These factors constitute the basic elements of human capital. Mutual dependency of these factors results in the need of proper management of planning, organisation and motivation as well as of controlling human capital.*

Business practice confirms the need of developing basic organisational features that would result in creating a unique corporate image. It turns out that an individual character of a company facilitates its winning competitive advantage. Shaping the basic variables in corporate resources enables one to identify technical, organisational, economic and social features. Creating an individual character of a company on the basis of primary material resources rarely brings the desired effect.

The material character of technical, organisational and economic resources is a feature that may be easily copied by competitors. Among the distinguished features, only human capital may thus decide on the individual character of a company.

Key words: *human capital, intellectual capital*

JEL Classification : *J24, O15*

The concept of human capital

The concept of human capital may be considered as capital itself. According to a dictionary definition, capital is every value that brings added value¹. There is no clear definition of human capital in the literature. Some experts dealing with the problem of corporate capital stress the role of tangible and financial assets, devoting less attention to human capital. A number of

¹ Skrzywan S., *Small Encyclopaedia of Accounting*, PWE, Warszawa 1961, p. 78

authors identify human capital with the knowledge and skills of managers only. The definition is often limited to social factors describing human capital.

Recently, human capital is most frequently defined as knowledge and skills acquired in the process of learning and professional training as well as health and vitality (...) that cannot be the subject of market turnover and cannot change its owner as it is an individual feature of this owner¹. In relation to business activity, human capital may be described as a combination of the following factors²:

- human features: intelligence, energy, positive attitude, reliability and involvement,
- ability of a person to learn: receptivity, imagination, creativity and sound reason,
- motivating employees to share information and knowledge: team spirit and objective-orientation.

The existence of numerous factors characterising human capital is confirmed by the cycle of human capital development and by the fact that knowledge management has been accepted as the basis of human capital management. According to J. Naisbitt and P. Aburdene, the traditional understanding of strategic resources concerned mostly material assets, that is traditional production factors, whereas the contemporary definition of these resources stresses the importance of three elements: information, knowledge and creativity [Naisbitt, Aburdene1985]³.

In present economic reality, knowledge constitutes one of the most important factors determining competitiveness of economic organizations and in spatial context like urban and regional competitiveness. The above statement finds its application not only in case of various categories of economic entities but also on the level of regional and national economies. Condition for economy based on knowledge require precise strategies to be implemented by local authorities. Those strategies have to take into account a particular role of intellectual resources while winning competitive advantage on a market. Top priority of knowledge in modern economy was noted among others by P.

¹ Kożuch B., *Investing in Human Resources and Economy Development*, Papers of the Polish Economic Society, VII Congress of Polish Economists, Session IV: Entrepreneurship and competition, Book 12, Agencja Wydawnicza INTERART-TAL, Warszawa 2001, p. 5

² Fitzenz J., *ROI of Human Capital*, Dom Wydawniczy ABC, Kraków 2001, p. 9

³ Naisbitt J., Aburdene P., *Reinventing the Corporation. Transforming Your Job and Your Company for the New Information Society*, A. Warner Book, New York 1985 (in:) Wawrzyniak B., *Corporate Human Resources Management*. (in:) *Human Resources Management* 2001, No 3-4, p. 52

Drucker who at the same time determines traditional means of production as being of secondary importance. Knowledge is understood as utility and means to achieve social and economic results. It is a basic asset applied to introduce innovations systematically [Drucker 1999] ¹. L. Edvinsson, one of pioneers of the intellectual capital concept, stresses that in a situation of economy of knowledge, value of countries, regions, organizations and individual units is directly connected with their knowledge and intellectual capital [Edvinsson, Bounfour 2004] ².

A concept of intellectual capital that goes back to the beginnings of the 90's of the 20th century became an interesting notion to investigate for practitioners and researchers from various scientific disciplines. Different conceptual approaches accepted by the scientific milieu and a constant development of theories in this field have not resulted so far in creation of a standard and widely accepted definition of the intellectual capital. Multitude of definitions and conceptual approaches may result from a broad and interdisciplinary character of the intellectual capital as well as from different approaches presented by researchers working in economic and social fields.

The second half of the 20th century constitutes the beginning of a new stage of development of social and economic relations. The shift concerns abandoning production of material goods and concentrating on production, organization, transfer and exchange of knowledge [Delanty 2001] ³. The mentioned shift caused conceptualization and perception of modern phenomena as the knowledge society [Giddens 1991] ⁴. The authorship of this notion is attributed to Daniel Bell, the author of *The Coming of Post-Industrial Society: A Venture in Social Forecasting* issued in 1973 [Bell 1973] ⁵. In his work, Bell points at decline of knowledge as well as society of practical knowledge (technical, professional) and the beginning of theoretical knowledge domination. This includes development of technologies based on advanced research and theoretical works “*a new intellectual technology*”. Simultaneously, it is recognized that the beginning of the “*knowledge society*” era, is

¹ Drucker P.F., „*Spółczesność pokapitalistyczna*“, PWN, Warszawa 1999, str. 40-41.

² Edvinsson L., Bounfour A., “*Assessing national and regional value creation*”, *Measuring Business Excellence*, Vol. 8, No 1/2004, p. 55.

³ Delanty, G. (2001), *Challenging Knowledge: The University in the Knowledge Society*. Buckingham: SRHE & Open University Press.

⁴ Giddens, A. (1991), *The Consequences of Modernity*. Cambridge: Polity Press, Knorr Cetina, K. (1999), *Epistemic Cultures: How the Sciences Make Knowledge*. Cambridge, MA: Harvard University Press.

⁵ Bell, D. (1973), *The Coming of Post-Industrial Society: A Venture in Social Forecasting*. New York, NY: Basic Books.

accompanied by growth of importance of education, particularly on higher education level.

The intellectual capital

The intellectual capital became a subject of investigations for economists, sociologists, specialists in management and accounting. According to literature studies presenting different scientific approaches it may be concluded that the main source of intellectual capital is knowledge understood as a factor of primary importance for any organization's value. While attempting to define the notion of the intellectual capital for the needs of the present paper it can be assumed that its main source is knowledge understood as a factor of primary importance for economic value. Understanding knowledge as a source of value was confirmed by Wriston who claims that "*the new source of value is not material, it is information, knowledge used for creating value*" [Wriston 1992]¹. The literature on the subject most commonly defines the intellectual capital as "*knowledge that can be transformed into value or profit*" [Edvinsson, Sullivan 1996]². The intellectual capital approached at an enterprise level is understood as "*intellectual subject which has been formalized, seized and used to create assets of high value*"³ [Edvinsson, Sullivan 1996].

According to a present stream of evolution of intellectual capital theory certain attempts have been made to transfer and apply this concept on national, regional and urban systems. The above approach fits into innovative policy foundations which aims at constructing economy of knowledge. Intellectual assets localized in regions become determinant for their future development. They also constitute a certain base for creation of regional and urban innovations systems and winning competitive advantage. Edvinsson in his discussion over one of the first complex works concerning intellectual capital in regional and urban context (Bounfour A., Edvinsson L., eds., "*Intellectual Capital for Communities, Nations, Regions and Cities*") points out that intellectual capital considered in this sense can be seen as capacities to achieve regional and urban competitive advantage in the future in the following

¹ Wriston W., „*The Twilight of Sovereignty*”, Scribner's New York 1992 [after] Edvinsson L., Malone M. S., „*Kapitał intelektualny*”, PWN, Warszawa 2001, p. 10

² Edvinsson L., Sullivan P., „*Developing a model for managing IC*”, European Management Journal, Vol. 14, No 4, Aug 1996, p. 357, Stewart T.A. „*IC: the new wealth of organizations*”, Doubleday/Currency, New York 1997, Sullivan P.H., Harrison S., „*Profiting from IC. Learning from Leading Companies*”, Journal of Intellectual Capital, Vol. 1, Issue 1, 2000,

³ Edvinsson Leif, Sullivan Patrick, „*Developing a model for managing IC*”, European Management Journal, Vol. 14, No 4, Aug 1996, p. 357.

contexts: human, infrastructural and in relations between single units. According to the author, intellectual capital of a region is a capacity to generate constant wealth for its dwellers in the future¹. Bontis on the other hand, while conducting research on measuring the intellectual capital of countries, defined it as hidden values of units, enterprises, institutions, communities and regions that constitute a present as well as potential sources of wealth creation [Bontis 2004]². Authors of another research project concerning investigation of the intellectual capital of one of Polish regions propose to define intellectual capital as “*region’s ability to a qualitatively new approach towards joining capacities that the region already possesses in order to create new values*”³. All the definitions proposed let us understand the intellectual capital of a region as common knowledge of single regional entities. This knowledge constitutes a base for realization of specific strategies and taking effective measures in order to assure constant socio-economic development. The above ability and effectiveness in use of common resources of knowledge is determined by collective actions that aim at preservation of the effect of intellectual synergy. In order to transform individual knowledge of single actors of the socio-economic sphere into a common value, it is crucial to engage specific stimuli i.e. social capital as a factor favoring knowledge processes.

A modern paradigm becomes the fact that IC defines organization’s competitiveness, also in global conditions. However, IC is not a static phenomenon and its level is changing, thus competitive capacities of the organization change as well. IC should be perceived through a dynamic systems based on system approach.

The concept of intellectual capital in regional and urban system context is also frequently associated with investing in knowledge, in other words called non-material investments. On the one hand such approach may be considered as fully justified since to achieve a high value of intellectual capital it is necessary to engage certain expenditures which in turn generate specific intellectual assets. Investments in knowledge coming from public and private sources determine future development and growth of the intellectual capital of a region. The above category of investments is defined as expenditures aiming at

¹ Edvinsson L., discussion on an internet forum: <http://www.knowledgeboard.com>, 27.01.2005.

² Bontis N., „*National Intellectual Capital Index. A United Nations initiative for the Arab region*”, *Journal of Intellectual Capital*, Vol. 5, No 1/2004, p. 14.

³ Projekt „*Kapitał Intelektualny Lubelszczyzny. Badania potencjału regionu*” (*The Intellectual Capital of the Lubelszczyzna region. Research on the potential of the region*) www.kapitalintelektualny.pl

reinforcing the existing knowledge, acquiring new knowledge and favoring the circulation of knowledge. The result of investments in knowledge is generation or diffusion of knowledge. According to the approach presented above, expenditures on education, research and development, trainings, innovations and software are perceived as main categories of investments in knowledge [Khan 2005]¹. This approach, among others, goes together with the approach accepted by the OECD in reports published on the economy of knowledge of different countries. The enumerated above categories of investments are often identified with development of an economy based on knowledge.

On the other hand however, identifying knowledge-absorbing investments with the level or sometimes even value of the intellectual capital seems to be, to say the least, superficial. It lacks deeper analysis of processes of creation and use of knowledge resources in creating value. Despite the existence of an obvious correlation between investments in research and development as well as in education and the level of innovativeness, on this basis it is hard to conclude clear-cut about regional or national creativeness. An important element that has to be completed seems to be the effectiveness in use of investments made to create economic value.

Closing remarks

It has to be stressed that the future of scientific thought as well as that of tools for practical application in the process of urban and regional development is more and more frequently associated with concepts of knowledge creation, management and benchmarking of intellectual capital. The concept of IC could be regarded as a sign of system thinking and “*a holistic vision*”. The notion of IC constitutes a certain form of “complement” to the previously presented vision of the economic reality.

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¹ Khan M., „*Estimating the Level of Investment in Knowledge Across the OECD Countries*”, [in] Bounfour A., Edvinsson L., eds, “*Intellectual Capital for Communities, Nations, Regions and Cities*”, Elsevier Butterworth-Heinemann, Oxford 2005, pp. 39-40

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