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CITIES AND REGIONS IN THE NEW LEARNING ECONOMY

MIASTA I REGIONY W NOWEJ GOSPODARCE UCZĄCEJ SIĘ

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Summary: The features of the learning economy and the modern challenges for regional and urban policy were briefly characterized in the paper. Special attention was paid to the specificity of functioning of the learning cities-regions under new economic conditions. Based on the chosen definitions of a knowledge, information and ICT sector, the rules of learning process applicable in the territorial units were generally described.

Keywords: learning economy, knowledge, city, region.

Streszczenie: W artykule zwięźle scharakteryzowano cechy gospodarki uczącej się i wynikające z nich współczesne wyzwania dla polityki regionalnej i miejskiej. Szczególną uwagę zwrócono na specyfikę funkcjonowania miast-regionów uczących się w nowych warunkach gospodarczych. Na podstawie wybranych definicji wiedzy, informacji i sektora ICT opisano reguły procesu uczenia się obowiązujące w jednostkach terytorialnych.

Słowa kluczowe: gospodarka ucząca się, wiedza, miasto, region.

1. Introduction

At present, we can observe the systematic and deepening transition from an industrial to a knowledge-based or learning economy and society [OECD 1996], which is associated with the growing role of science and its use in the modern economy. Knowledge and skills are now becoming one of the most important sources of the long-term and possible to maintain competitive advantage. According to P. Drucker knowledge is a proper factor of production replacing capital and labor [Drucker

1992]. The development of the information society, in which access to information and its skilful use are most important, plays a decisive role in this respect.

In addition, there are different economic criteria associated with combining business with space and otherwise formulated social criteria and prerequisites binding social and cultural development with spatial units [Secomski 1972, p. 20 and see more Szul 1991]. The modern economy is characterized by the globalization [Parker 1998, pp. 6-7] of production processes and the internationalization of markets. Simultaneously the new economy illustrates the decreasing role of the state borders for the flow of international capital, the increasing role of the metropolises as incubators of innovations and advanced technologies to obtain the production of high added value, and finally the transition from the concept of stability to the concept of flexibility [Otok 2000, pp. 182-185]. Due to new applications of human competences and knowledge, the new branches of the economy based on the processing of information and the creation of new services are built. Acceptance and effective implementation of above mentioned factors of growth allow to achieve benefits brought by the globalization process of the world economy. As a result of growing significance of knowledge in management [Roos 1999] the new concepts of the economy have appeared, like for example the concept of the knowledge-based economy [Kukliński 2001] and the concept of the learning economy [Bizoń 2016].

The development of the learning economy involves a complexity of economic and social processes. On the one hand, it holds the promise of increased productivity and an improved standard of living. On the other, it implies that individuals and organizations face major challenges in adjusting to new circumstances. The emergent forms of economic activity affect the characteristic nature of work and the types and levels of skills required in the economy. As a result, these developments have raised concerns about the capacity of educational systems (broadly defined) to fulfill new requirements with respect to learning. The capacity of both organisations and individuals to engage successfully in learning processes of a variety of kinds has come to be regarded as a crucial determinant of economic performance [Lundvall, Johnson 1994].

It should be stressed that high levels of individual learning in itself does not contribute to economic growth before it has been applied to the production of goods and services. The extent to which individuals and organizations absorb and apply learning and innovations will determine their competitiveness in the learning economy. There are the same implications for territorial units, which means cities and regions. And while the economy is increasingly globally, the differences in economic development between cities and regions will not necessarily disappear. Indeed, the diversity in knowledge-based economic development reflects the complex interaction between global and local contexts as well as policies for increased decentralization [OECD 2001, p. 7].

2. The concept of the learning economy

The concept of the learning economy is being developed in response to the changes that extend beyond previously accepted concepts. One of the factors which contributed to creation of this concept was a revolution of information technology. The term of learning economy, according to Bengt-Åke Lundvall, is more detailed and more accurate in comparison to the commonly used term of knowledge-based economy.

The most important change occurring in the economy is not increased use of knowledge or universal access to it, but the fact that knowledge much more quickly becomes obsolete and therefore has to be developed to have a reference to reality. In this situation regions, cities or companies are involved in organizational learning and achieve new competences.

The ability to acquire new skills is critical to spatial units, and the background for gist of learning are the processes of globalization, changes in information technology and deregulation of markets, contributing to increasing competitiveness and faster transformation. In the rapidly changing reality, people, organizations or regions are facing new problems which solution requires the acquisition of new skills. Transition to the learning economy results in new organizational forms characterized by more effective, horizontal structures based on decentralization, multidirectional communication, innovations and networking.

The traditional understanding of “knowledge as information” was combined with a “linear” understanding of innovation processes where it was assumed that a rather straightforward conversion took place from investments in basic science to economic growth, passing through applied science, technological development and marketing.

Knowledge generation now shifts from vertically integrated hierarchies to networks. “The vertical integration structure of knowledge, characteristic since the second world war, is being progressively replaced by the institutional creation of an information exchange market, based on real-time, on-line interaction between customers and producers” [Antonelli 1997, p. 3].

Consequently, access to any given knowledge base is less important for the economic success of firms and individuals, than their ability to rapidly acquire new competences as they get confronted with new types of problems. New knowledge is created at an increasing rate, but the quantity of business relevant knowledge is also being reduced as knowledge becomes obsolete at a faster pace than before. *Know-who* sounds somewhat pedestrian as compared to *know-why* and *know-how* but actually it may have become the most important kind of knowledge in the learning economy. The combination of increasing complexity and rapid change makes it crucial to know who knows what and who knows to do what. Information technology has a role to play since it makes informal networks more directly connected overcoming distance in time and space. The increased importance of *know-who* type

of knowledge makes it necessary to take into account the social dimension of economic processes. This kind of knowledge is strongly intertwined with trust and has increasingly been defined as a social capital [Woolcock 1998]. And trust is a very peculiar resource. According to Kenneth Arrow “it cannot be bought on the market and if it could it would have no value whatsoever” [Arrow 1971]. Therefore, in this area, the role of ICT can only be to operate as a superstructure that has to be built upon a basis of social relationships.

The concepts of all sectors of economic activity such as the “information society” or the “digital era” are focused on the role of ICT as the cause of a shift in the techno-economic paradigm, while the “learning economy” focuses on the need for continual learning by individuals and organizations to adapt to the changes wrought by ICT [*Knowledge Economy Indicators* 2008, p. 1].

We have seen that the spread of ICT has changed the role of information: ICT enhances the divisibility and storage of information, its processing, transportation and communication, and consequently its accessibility and tradability. In principle, this has improved access to codified knowledge. Yet, in order to benefit from this improved access, developing countries need to strengthen their tacit knowledge base. This has far-reaching implications for the process of knowledge creation: its effectiveness critically depends on linkages and interactions among participants in this process. Knowledge generation within a society “is strongly influenced by the network of relations among its firms, [...] with externalities, communication and interdependence playing crucial roles” [Antonelli 1997, p. 2].

Nevertheless, merely introducing ICT without combining it with investment in training of employees, changes in management and changes in work organization has a negative impact on productivity growth. The simultaneous organizational changes and building of staff capacity are needed and the existing growth potential should be mobilized to solve social and economic problems if in the occurring changes society will take into account the promotion of the learning process. This process has led to the optimal realization and effective implementation of new technologies within Community regional policy and as the most effective obtaining the benefits of this process as it is possible.

It has to be argued that the new economy should be considered as a time of strong demand for a new type of economic policy, especially for one of its areas – regional policy. Making effective regional policy it is necessary to consider explicitly the changes taking place in the modern economy, such as: the rapid development and importance of ICT, the formation of a new type of companies that are characterized by a focus on the shares, e-commerce, lack of trade unions and entrepreneurship of founders.

The fact that in recent years high productivity rates have been registered predominantly within the sectors producing ICT reflects that for these sectors the ICT is not representing a new but rather an old and well-established paradigm. And,

for Silicon Valley and some of the Asian NICs (newly industrialized countries) the absence of “old economy” sectors has been a key factor making it possible to rapidly transform the new economy sectors from being “new” to becoming “old”. This is one reason why it is adequate to call the current era for “a learning economy” [Lundvall, Johnson 1994; Archibugi, Lundvall 2001]. What is at stake is the capacity of people, organizations, cities and regions to learn. Learning to cope with and use the full potential of new technologies is, in a sense, to transform them from being new to being old.

The learning economy is characterized by the fact that the economic success of individuals, firms and regions reflect their capability to learn [Lundvall 2004; Lundvall, Nielsen 1999]. It is also proposed to understand the learning economy in two ways: as the interpretation of the economy, emphasising the explanation and understanding of the process of changes in technology, skills and institutions; and on the other hand, as the trends that increase the importance of knowledge and learning at all levels of the economy [Lundvall 1996]. In many scientific elaborations we can also find a definition indicating what the learning economy is not and what should not be identified with it. The learning economy is distinguished from the information society, which is justified by the differences between information and knowledge (knowledge is something more, because it includes skills), as well as from the technological society, because the learning process involves different levels and fields, not just technologies. There are some specific features of the learning economy [Gregersen, Johnson 1997, p. 482]:

a) The rate of knowledge turnover is high; learning and forgetting are intense, the diffusion of knowledge is fast, and a substantial part of the total knowledge stock is changed every year;

b) Learning has become increasingly endogenous. Learning processes have been institutionalized and feed-back loops for knowledge accumulation have been built in so that the economy as a whole is learning by interacting in relation to both production and consumption. When economies learn how to learn the process tends to accelerate. The learning economy is closely related with fast changing in a lot of spheres. These changes are seen in workforce, enterprises and markets;

c) The learning economy focuses on the need for continual learning by individuals and organizations to adapt to the changes wrought by ICT;

d) A key to successful innovation is to have a strong knowledge base including an R&D capacity and a well-trained labor force;

e) Perception of innovation as a socially and territorially embedded interactive process developing in a favorable institutional and cultural context;

f) There is a polarization of the labor market because of the knowledge and skills of employees;

g) The factor of production with the highest level of growth is human capital;

h) There are environmental problems associated with a high rate of innovation and global competition;

i) Distinction between the concept of learning economy and the concepts of information society and technological society;

j) It refers to the different groups of actors and requires them to participate in the learning process.

There are many different types of learning processes and approaches to learning (Table 1).

Table 1. Types of learning processes

No.	Type	Characteristics
1	Interactive	In this process we can observe integration of knowledge by individual units or subjects by mutual relations (contacts) of horizontal character.
2	Institutional	In this process as formal institutions (public organizations, associations, agencies, universities etc.) as informal ones (values, procedures, habits, trust etc.) stimulate learning process.
3	Organizational	It is connected with organizations' ability to the acquisition of knowledge about how do something that is being done. So there the important role plays an ability to manage common operations.
4	By learning	The process points at improving already existing skills in connection with learning.

Source: own elaboration based on [Lundvall, Borras 2011].

On the other hand, we can also identify negative results of development of the learning economy, which one is the growing polarization among societies, regions, cities, sectors, companies etc. The learning economy may, if left on its own, polarize society by excluding those who cannot keep up with the accelerating speed from the ordinary labor market. This is in itself a serious problem for a society that gives a positive value to equality and solidarity. But it is also a problem in relation to the possibilities for maintaining effective learning in society. Learning is basically a social and interactive process. This implies among other things that the quality of learning will mirror the quality of human relations.

Another pessimistic effect of development of the learning economy may be ecological problems related to high pace of innovations and global competition. In order to solve these problems effective innovation policy is necessary. This kind of policy affects the ability to implement changes and generates protective conditions for victims of "game of changes" [Lundvall, Borras 2011].

Certainly, overcoming the problems associated with the increasing social and economic disparities and on the other hand, support the development of learning cities-regions can be realized due to adherence to the principles of new network paradigm [Castells 2008, p. 83].

3. Specificity of functioning of cities and regions in the new learning economy

The learning economy is thus one in which the ability to attain new competencies is crucial for the success of individuals and for the performance of firms, regions and countries. The background for the crucial importance of learning is that the combination of globalisation, information technology and deregulation of formerly protected markets leads to more intense competition and to more rapid transformation and change.

At present, European Union regional policy is more and more often dedicated to learning cities-regions. The term “learning region” has been proposed among others, by B. Asheim and J. Simmie [Asheim 1996; Simmie 1997] in the nineties of the twentieth century. The concept of learning region developed a model of collective and institutional (or even institutionalized) learning, analyzing the phenomenon of economic growth and competitiveness of such locations as Silicon Valley, Medical Alley in Minneapolis, Cambridge and Aerospace Valley in Toulouse [Lawson, Lorenz 1999]. The learning region has all the features of an industrial district – actually it is its higher stage of development [Olejniczak 2003] – the main difference lies in the degree of flexibility. The learning region constantly changes itself, creates radical innovations (mostly technological), expands into new markets, into new areas, breaking from its development path and thus avoiding ossification.

According to B-Å. Lundvall, interactions among agents allow the creation of new knowledge by the combination of existing one and a certain degree of diversity is necessary to reach an efficient process of learning.

The main entities of a learning city-region are people, organizations and universities [Klasik, Kuźnik 2007, pp. 9-28]. People, taking into account the complexity of knowledge and its development, face the necessity of selection of a way of learning or adaptation to its changes. Learning organization is another entity of the learning region, which is considered within the framework of Community regional policy. This is an entity in which the relationships and internal and external communication affect the development of knowledge, where employees have direct and indirect influence on the shape of the new forms of organizations focused on functional flexibility and the creation of network dependences [Nielsen, Lundvall 2003]. As part of the learning economy also universities were included in the processes taking place in it, becoming simultaneously the subject of competition among similar entities and affecting the building of a new society. This requires appropriate institutional changes to improve a continuous process of research, to establish cooperation and to diversify the organizations’ activities contributing to the formation of knowledge. Universities have to meet all the requirements and besides two traditional tasks – teaching and carrying out scientific researches, they have to pursue now the third one – a direct participation in a dynamic development of a business sector in a city and/or a region.

Do regions and cities play new roles in terms of governance and intervention in order to promote learning, innovation, productivity and economic performance at the local level? Such questions are high on the political agenda everywhere. This publication, which views the debate from the perspective of a regional learning economy, clearly answers in the affirmative. Of central importance is the idea that learning regions and cities, which are especially well attuned to the requirements of the new learning economy, may be fostered through the development of appropriate strategies of public governance and intervention. The relationships among various forms of learning and economic performance at the regional level are analysed and provide strong evidence of the significance of individual and firm-level organizational learning for regions' economic performance [<http://www.amazon.com/Cities-Regions-New-Learning-Economy/dp/9264185682>].

The objective of a policy is generally not to reach a predetermined result or technological output, but to improve innovation processes, learning abilities, adaptive behaviours of economic actors and interaction between them.

Even though we consider that the policy maker has also a "bounded" rationality, and has to undergo a learning process, both individual and organizational, there is a need for policy intervention to improve the performance of the system by coping with the technological evolution. The modes of intervention cover a large range of policies, from education to technology policies, from generic R&D expenditures incentives to public procurements.

An acceptance of the concept of learning organizations by the cities-regions is closely linked to the issue of knowledge management. According to B-Å. Lundvall the most important task for the coordinators of EU regional policy is not a detailed planning of process of acquiring knowledge but rather the creation of favorable conditions for active involvement in the learning process of all stakeholders of urban and regional economy. A key element of knowledge management is an improvement of learning abilities of the operator, and consequently, in particular due to network links, creating a learning organization. It is also worth noting that the management should not limit the creativity of employees or local/regional communities by excessive control and simultaneously the management should not be hindered by managerial level employees or representatives of local government. Skillful management of knowledge is to focus on people and the relationships among them, taking into account the learning process of individuals, groups and organizations [Lundvall 2006].

In addition, characterizing the challenges of Community regional policy in terms of the rules of the new learning economy, the fact (related also to the internationalization of management of private companies) of formation learning metropolises in European space has to be noticed. As pointed out by Michel Rochefort, strategies of large multinational companies determine the development of creative learning cities, and regional development less and less depends on the internal economic dynamics of the state. In the future metropolises will develop as a result of the complex

relationships between private and public actors, becoming a competing poles on transnational area. “Their social and economic dynamics, the demand for office space and housing will depend on their ability to overcome other metropolises within the sharp competition” [Rochefort 1998].

It is worth emphasizing, that the metropolis of knowledge [Parteka 2007] is a cluster of institutions, entrepreneurs and investors focused on the functioning within the learning economy. The features of learning cities are:

- participation in the network of innovative cities,
- developed system of business incubators,
- efficient operation of scientific, technological, scientific and technological parks,
- institutions of research and training,
- good transport links,
- high quality environment,
- strategies and programs focused on the specific priorities for the learning economy.

Nonetheless, forces of the learning metropolises are stuck in [Parteka 2007]: IT technologies, hi-tech electronics, financial services, automation, automotive, media and intelligent technical infrastructure (power engineering, transport). Just metropolises, creating a specific network of cities, are not only a carrier of the globalization process but thanks to the ever stronger connections and cooperation have become centers of worldwide development [Korenik, Słodczyk 2005, p. 181]. Metropolises are formed in response to the needs expressed by the community of the region with regard to organizational, economic, institutional, transport, cultural, etc. centers which exist in the region. Hence it is so important to take into account the issue of development of metropolitan areas, representing specific milieu for the metropolises, within the regional policy conducted at EU level. Today, we can talk about the metropolis of Europe, if we look at the area of the so-called European Pentagon “stretched” to London, Paris, Hamburg, Munich and Milan, which occupies only 14% of the area of the 25 European Union countries, is inhabited by 32% of the population of the area and provides up to 43% of global gross product [Smętkowski et al. 2008, p. 5].

Moreover, the development of the learning economy and a growing importance of the metropolises in the process of globalization have resulted in the creation of metropolitan class. Metropolitan class consists of people with the highest incomes and high specialised knowledge, and it has a cosmopolitan character. This means in practice that it does not function in the space of region or country but only in a network system. In other words it can be said that the metropolitan class acts in global space. The class in a direct way reinforces the process of globalization because as an essential element that integrates the members of this class it increases globalization. The members often identify themselves with a particular product or a global service not with a particular location in space.

4. Conclusions

Modern world is dominated by many changes in the economy, which are the result of interdependent simultaneously occurring processes, such as: technological revolution, formation of the global economy and modification of development paradigm associated with the transition from an industrial economy to the learning economy. These processes are related to the increasingly merging of the economies of individual countries in which the role of the state has been steadily decreasing while the importance of regions and cities (they are more flexible in adapting to the turbulent milieu) has been growing [Rykiel 2000]. This leads directly to changes in the priorities of regional policy and transformations in the management of urban space (and indirectly to changes in the social and economic structure of city-regions). These changes and transformations result in the alteration of character of the processes occurring in the territorial units, it means a shift from an evolutionary character to a non-linear character. The consequence is a direct growth and an increased competition by enlarging the spatial extent of the exchange of these particular units.

If the learning regions and cities want to operate successfully in international spatial economic networks, they should take into consideration the new conditions of development, which can be closed in the triad of the three supportive and strongly interdependent phenomena: globalization – competition – innovation. The effective implementation of actions within the regional and/or urban policy (and not only) requires the involvement of all stakeholders in the learning process. The network form of cooperation among these entities undoubtedly opens up broader prospects for success in this regard. Meanwhile, the cooperation may be difficult because of the lack of compatibility between the rules and regulations of EU and institutional structures in the Member State. As a result of this situation *the policy gaps* are built and at the same time the necessity of adaptation to new conditions occurs [compare Börzel 1999].¹ However, these gaps can be significantly reduced, and the negative effects can be weakened due to including the principles of the learning economy paradigm in the activities undertaken by decision makers, regional and local societies.

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¹ The methods of this adaptation depend on the degree of state control and on the institutional culture holding true in a chosen country (informal sense of appropriate and inappropriate behavior in a formal structure). The behavior of local and regional authorities stands out from cooperative and confrontational strategy.

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