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BEHAVIORAL FACTORS OF GROWTH OF THE ECONOMY INNOVATIVENESS

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Purpose: The aim of the article is to present the impact of behavioral factors on the increase in enterprise innovation, showing the cause and effect relationship between the enterprise's environment and the development of the pro-innovation attitude of its employees.
Design/methodology/approach: In the process of preparing the article, desk research and statistical methods were used. As a result of the analysis of sources, it was found that the issues of behavioral aspects of innovation are extremely rarely presented in scientific literature and mainly concern personnel management. Moreover, the basis for pro-innovation attitudes of company employees are behavioral models, social values and priorities created by the external environment. The use of statistical methods allowed to confirm this thesis.
Findings: During the research, it was found that the key factors that determine the creation of pro-innovation attitudes of society are the level of democracy in society, the development of civil society and the social responsibility of government institutions. Under the influence of these factors, social values, behavioral models, culture and attitudes of society members are created that contribute to the maximum extent to awareness of the need to transition from an industrial economy to a knowledge-based economy and contribute to the creation of pro-innovation socio-economic conditions.
Originality/value: Research results show that one of the key factors in increasing the innovativeness of the economy is the level of democratization of society, shaping civil society and increasing social awareness. It determines the reduction of the "power distance", the effective functioning of power institutions and spheres of socio-economic life, and, above all, the development of the education system, the level of which has a strong correlation with the innovativeness of the economy.

Keywords: innovations, behavioral factors, economic development.

Category of the paper: Research paper.

1. Introduction

A change in the paradigm of socio-economic development towards the creation of a knowledge-based economy (KBE) means a change in the role and importance of specific production factors. A knowledge-based economy means "an economic order in which knowledge, rather than labour, raw materials or capital, is the key resource" (Drucker, 1994). But knowledge itself is not a direct factor of economic development, but is a source of its qualitative changes caused by the use of innovations. Therefore, the innovativeness of the economy is one of the pillars of the knowledge-based economy (Dahlman, Andersson, 2000).

The innovativeness of the Polish economy over the last two decades ranks 3-4 from the bottom in the European Innovation Scoreboard ranking. Reading the scientific literature related to the issues raised leads to the conclusion that a systemic approach to solving the problem of increasing innovation is necessary due to the fact that innovative activity is not only the domain of organizations and enterprises directly related to the implementation of the innovation cycle, but concerns many other spheres of socio-economic life.

Assuming that the source of innovation is a person who has knowledge, his behavior largely determines the success of transforming a new idea into an innovative product. The article concerns behavioral factors of innovation growth, which among many publications related to the problems of economic innovation are presented very modestly, despite their growing role in the conditions of creating the knowledge economy. The vast majority of publications on the behavioral aspects of innovation concern the enterprise level. However, the creativity and innovativeness of enterprise employees are determined by the prior impact of cognitive and behavioral factors occurring in various spheres of socio-economic life - society, education, public policy.

2. Methods

According to the approach dominant in the scientific literature, the innovative activity of enterprises is determined, on the one hand, by the impact of the external environment and, on the other hand, by the internal conditions of the company's functioning. The source of innovation in a company is the creativity of its employees, which in turn is based on appropriate pro-innovation attitudes of employees. As we move to a knowledge-based model of economic development, these attitudes play an increasingly important role in increasing the innovativeness of the economy.

In developed countries, there is an increasing emphasis on the role of creativity and innovation in keeping the economy viable and competitive with other major powers. The need for creativity and innovation is emphasized both in business and in government institutions and the public sector (Paulus, 2008, p. 228). Creativity and innovation are closely related. Creativity is an inherent feature of innovation and reflects the ability to combine ideas in a unique way or create an unusual relationship between two ways of doing things. Therefore, it is an innovative approach to work and problem solving (Michalski, 2014). Creativity is divergent thinking, it is a process of creating ideas, not guided by any model. Innovation, on the other hand, is convergent thinking, consisting in selecting, improving, specifying and critically implementing selected ideas into everyday practice (Baruk, 2006). The creativity stage of this process refers to the generation of ideas, and innovation refers to the next stage of implementing ideas towards better procedures, practices or products (Anderson, 2017).

The development of creativity and innovation at the corporate level requires the assurance of specific conditions, which in a simplified way can be presented by the well-known " know - want - can" model (Oksanych, 2021). According to this model, a new idea is transformed into an innovative product when the originator diposes the necessary knowledge, resources for its implementation and is sufficiently motivated. The three pillars of innovation - knowledge, resources and motivation - are interconnected. Motivation determines the intensification of effort to acquire knowledge and obtain resources. Acquiring knowledge helps create appropriate motivation systems and optimize the structure of resources and the efficiency of their use. Having resources at your disposal facilitates employee motivation and expands the possibilities of acquiring knowledge.

In every enterprise, the arrangement of these components of innovation is the result of many conditions. However, it should be remembered that the source of innovation is people, their knowledge, skills, experience, but also behavior. Hence, identifying the role of behavioral factors in stimulating the development of innovation in enterprises has become an important problem, because identifying the mechanisms of influence of these factors on innovative behavior is a boundary condition for the possibility of effectively influencing them (Fryca, 2015).

In the last decade, there has been an increase in interest in the behavioral aspects of innovation at the enterprise level, especially Innovative Work Behavior - IWB (Al-Essa, 2022; Al-Omari, 2019; Soputan, 2022; Yuan, 2017).

However, internal innovation factors are the long-term result of the impact of external factors. For example, the human capital of enterprises, which is the basis of their innovative capital, is created under the influence of knowledge, skills, qualifications and motivation of staff, which are a "product" of external influence. Even those factors that are considered strictly internal (organizational culture, enterprise management system, etc.) are created under the influence of the external environment. Pro-innovation attitudes of managers and their effective actions in the field of innovation are based on certain fundamental foundations of the functioning of society: social values, norms, rules and models of behavior, opinions, customs, culture.

According to the Eurostat classification, the main elements of the external environment for business innovation are: spatial and locational factors, markets, knowledge flows and networks, public policy, society and the natural environment (OSLO Manual, 2018). Reading scientific publications on the researched issues leads to the conclusion about close cause-and-effect relationships between them and to determine the role, above all, of the social environment in shaping the features that form the basis of pro-innovative behavior. W. Makarczyk distinguishes two categories of social environment factors that influence the pace and nature of the process of assimilating innovations - (a) features of the social structure of a given community, conditioning interactions within it; (b) patterns shaping the behavior of community members (Makarczyk, 1971). M. He and J. Lee present a model that assumes that social culture (i.e. individualism, power distance and uncertainty avoidance according to Hofstede's cultural dimension theory) has a direct impact on the structure of small-world networks and individual characteristics (He, Lee, 2020). P. Paulus emphasizes that the social context has a great influence on the innovative behavior of employees (Paulus, 2008).

Many scientists emphasize that economic development is largely determined by values, cultural patterns, social awareness and attitudes, and social factors are one of the key determinants of pro-innovation behavior (Bradley, 2013; Harrison, Huntington, 2003; Hryniewicz, 2004; Mu Tian, 2018; Porter, 2003; Rawlings, 2020).

Therefore, understanding the mechanism of transformation of behavioral models created in society into the creativity and innovativeness of enterprise personnel is a necessary condition for the formation of a national innovation system and the development and implementation of an effective innovation policy. Taking into account the classification of elements of the external business innovation environment adopted in the EU, the concept of such a mechanism can be presented in the form of a diagram in Fig. 1. Solid arrows represent the transfer of behavioral models. Discontinuous arrows indicate feedbacks. This scheme is complemented by the behavioral factors of innovation growth listed in Table 1, their spheres of occurrence and the results of their impact.

Creative and innovative behavior at the enterprise level begins to form at the society level. Therefore, the level of innovation in the economy is a derivative of the level of development of society, which is measured by the level of democracy in society.

A democratic society is characterized by a short power distance, which means social control over the actions of the government and the ability to influence on them. The level of democratization of a society determines its ability to effectively manage key socio-economic processes, because a democratic society is a civil society, which means the responsibility of power institutions and ensuring their sensitivity to changes in society and the economy.

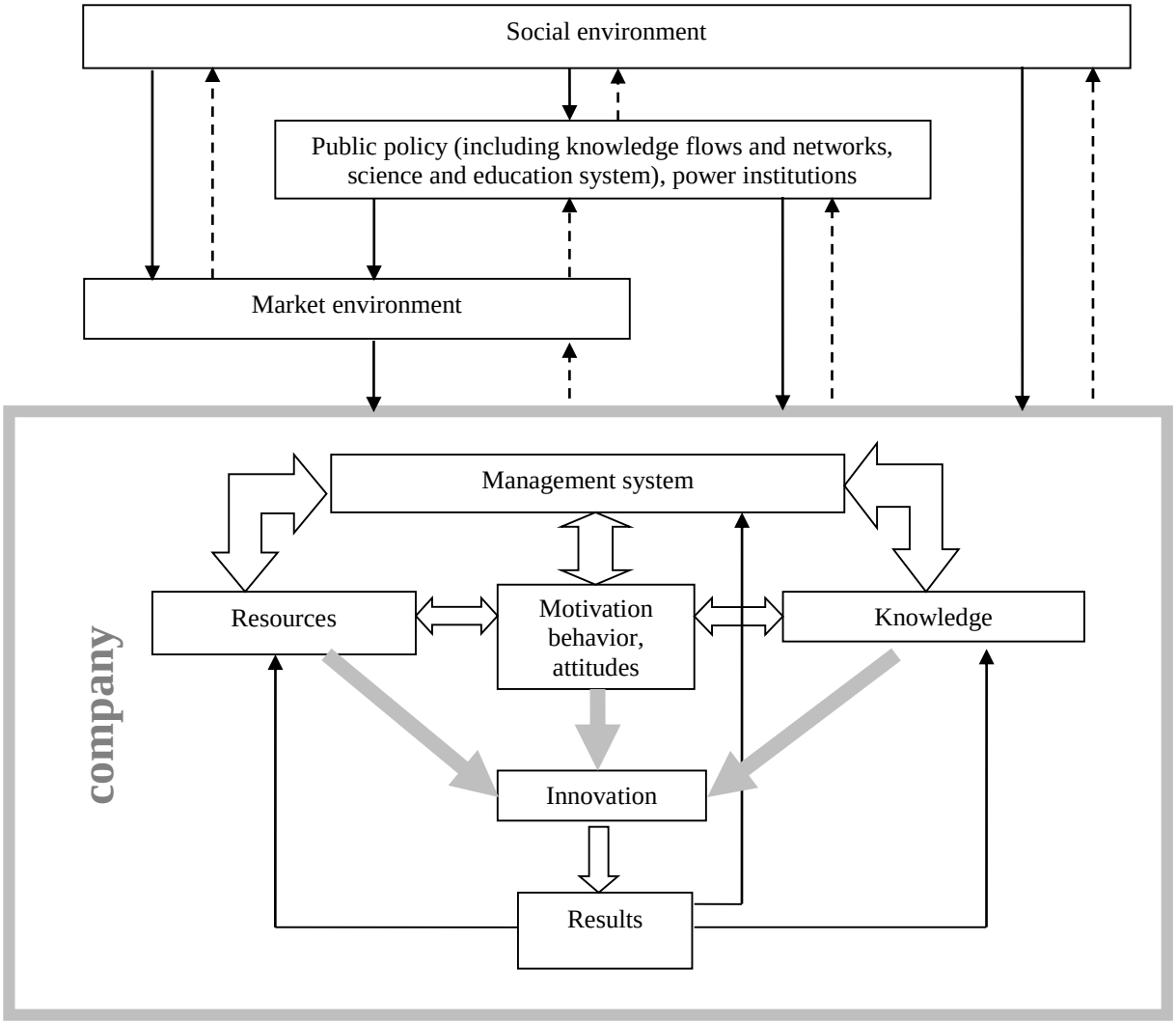

Figure 1. Scheme of the influence of behavioral factors on innovative activity.

Source: own study.

Table1.
Behavioral factors, spheres of their occurrence and effects of influence

Sphere of occurrence	**Behavioral factors of innovation**	**Results of impact**
Society, social groups	Cultural and social environment. (social values and norms, behavior models, opinions, principles, social rules). Effectiveness and social responsibility of government institutions (perception of law, especially human rights, property rights, including intellectual property).	Awareness of the need to perceive the law and respect other members of society and social groups, norms and models of behavior accepted by society. Awareness of the possibility of influencing the authorities and social control behind their activities. Creating the attitudes of a member of civil society. Understanding the key problems of society's development and possible directions of solving them.

Cont. table 1.

The spheres of functioning of institutes of power and public policy	Economic policy and economic development model (industrial society, post-industrial economy, knowledge-based economy), innovation policy. Antitrust policy. Efficiency and social responsibility of government institutions (perception of law, especially human rights, property rights, including intellectual property). Education systems, higher education (creating personality, key skills necessary for the knowledge-based economy - learning ability, ability to acquire, systematize and use knowledge, ability to work in a team). Science: financing and efficiency of use.	Awareness of the role and importance of decisions made by the authorities and the responsibility for making them. Attitudes towards science and education: awareness of the need to acquire knowledge and develop the ability to use it. Understanding the relationship between knowledge and standard of life. Development of competences and skills, including the ability to work in a team, present and justify one's own opinions and views.
Market environment	Industry structure: share of high and medium-high technology industry. Innovation model: based mainly on the import (transfer) of innovations or on own (domestic) innovative products. The level of involvement of the economy in cooperation (building cooperation networks) at the international level. Competitive environment.	Awareness of the need for innovation as a key factor in the company's survival on the market and strengthening the company's competitive position.
Company	Innovation culture. Management system (motivation, decision-making, knowledge and information management). Human capital. Knowledge (resources, sources, methods and techniques of use and transfer). Competitive position.	Development of creativity and innovation, willingness and ability to engage in the company's innovative activities, ability to take initiative, understand the need for changes and their acceptance.

Source: own study.

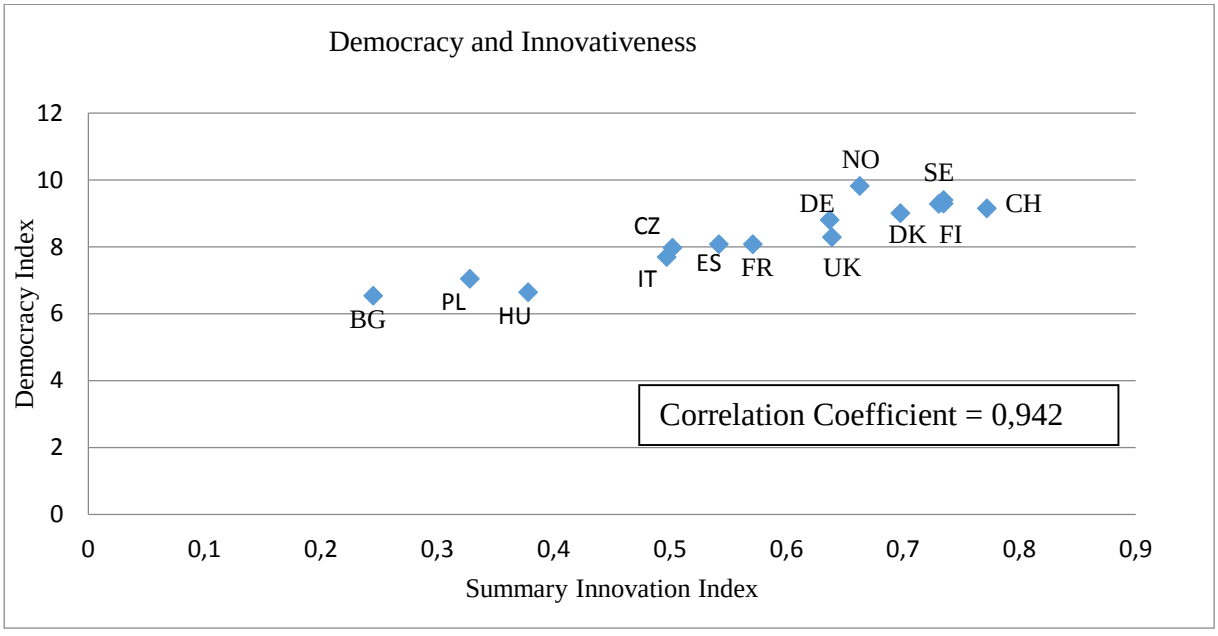

Figure 2. Relationships between the level of democracy and innovation.

Source: Own study based on (Frontline ..., 2022; European Innovation Scoreboard, 2022).

On the other hand, in a democratic society, social values, attitudes and models of behavior are created that are most needed in the context of emerging challenges in social and economic life. In the conditions of a knowledge-based economy, these include pro-innovation attitudes, creativity, social responsibility, the desire to acquire knowledge and the ability to use it. Therefore, it seems quite logical that there is a high correlation between the level of democracy in society and the innovativeness of the economy, which is characterized by a correlation coefficient of 0.942 (Fig. 2). Countries characterized by a high level of democracy and the development of civil society are among the leaders in innovation.

When analyzing the mechanism of the influence of the macro-environment on the increase in innovativeness of the economy, attention should be paid to the nature of the impact of its elements on the behavior of both society in general and its individual groups, including enterprise personnel. In this respect, the macroenvironment has both direct and indirect influence.

Direct influence creates features, knowledge and skills that make it possible to become aware of the cause-and-effect relationships between the attitudes and actions of society determined by them and the results of these actions. In practice, this means social responsibility for decisions made in society and the optimal selection of strategic goals and priorities. An example would be the situation with the use of fossil fuels. Given the abundance of coal reserves, the optimal solution seems to be the development of energy based on its use, which ensures low energy costs. However, strategically, such a strategy leads to increasingly worse consequences related to environmental pollution (greenhouse effect, increase in disease, deterioration of quality of life, etc.). Society's knowledge and awareness of the long-term effects of such a strategy determine the choice of an alternative strategy, providing for the development of "green" energy, which is a more effective solution from the point of view of sustainable development. This choice encourages society to engage in innovative activities in order to seek more and more effective solutions within the adopted strategy.

The indirect impact of the macroenvironment on pro-innovation behavior of both societies in general and its individual groups is reflected in the formation of appropriate environment and conditions in the key spheres of social and economic life to support innovation, primarily in education, scientific and research and development activities, highly technological branches of the economy, innovative infrastructure. Such influence triggers market mechanisms for increasing innovation and ensures the creation of innovative attitudes and appropriate behavior of managers and staff of enterprises and organizations.

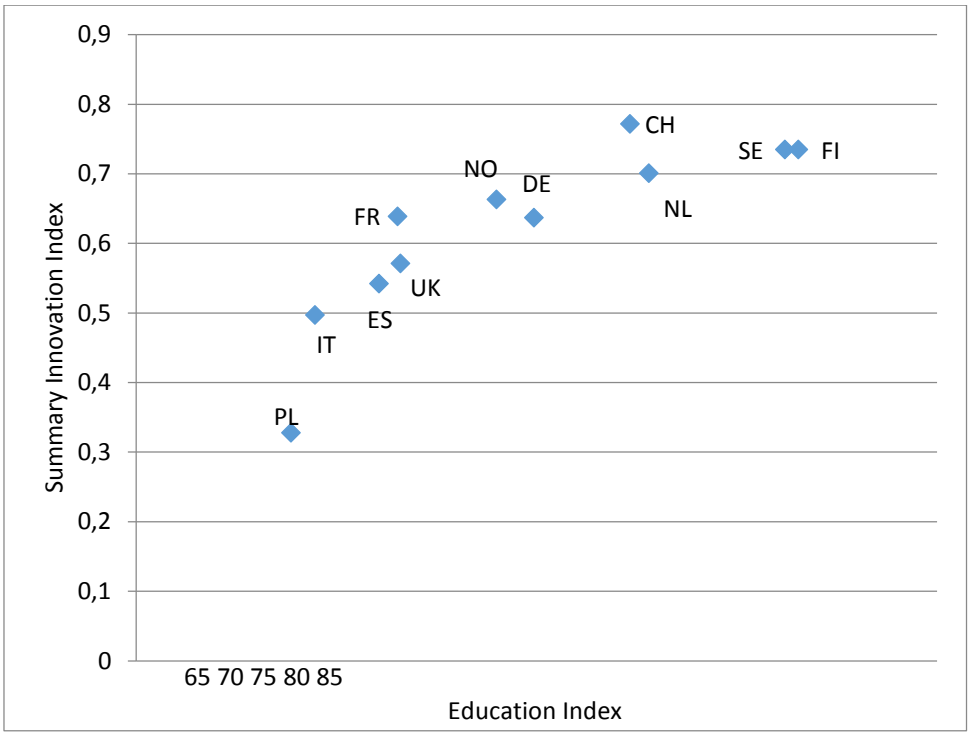

Figure 3. Relationships between the quality of education and the level of innovation.
Source: own study.

A greater level of democratization of society is ensured by greater effectiveness of decisions made in shaping a pro-innovation system of state institutions due to the greater responsibility of the authorities to society and greater influence of society on the authorities.

This thesis is confirmed by the relationship between the level of democracy in society and the level of quality of education (fig. 3). The correlation coefficient between them is 0.807.

3. Discussion

Pro-innovative behavior of employees is determined primarily by external factors. The culture of society, the level of its democratization and the education system play a particularly important role. They determine innovation policy and a pro-innovation market environment.

The degree of democratization of society, on the one hand, determines the creation of innovation-friendly attitudes of its members (creativity, independence of views, ability to critically analyze socio-economic processes), on the other hand, it ensures feedback in relations with power institutions, its flexibility understood as the ability of power to quick and appropriate response to changes in society and the economy. Since the development of civil society covers all spheres of its functioning, the correlation between the degree of democratization of society and the level (quality) of education seems quite logical.

In turn, the quality of the education system determines the understanding of the importance of innovation for socio-economic development and creates appropriate pro-innovation attitudes of society and its members directly involved in innovative activities.

However, the mere willingness to conduct this activity, i.e. motivation, does not ensure an increase in the innovativeness of the economy. Assuming that innovation is based on three pillars - knowledge, motivation and resources, motivation must be supplemented with an effective system for acquiring, transfer and use of knowledge and appropriate resources (primarily financial). If the motivation to conduct innovative activities is created at the enterprise level with the appropriate quality of human capital (which is largely determined by the influence of the external environment), knowledge and resources depend on the effectiveness of the innovation policy. However, it would be a mistake to assume that such policies do not depend on behavioral factors. Decisions in power institutions are made by people whose attitudes are the result of the influence of the same factors that determine the pro-innovation attitudes of managers and employees of enterprises - that is, the democratization (freedom) of society and the level (quality) of the education system.

The authorities' awareness of the need to create economic conditions conducive to innovation is based, on the one hand, on their knowledge, competences and skills as a product of education, and on the other hand, on taking into account the information coming from the participants of the innovation process, starting from scientific and research institutions. development and ending with consumers of innovative products. The result of such awareness must be involvement in activities that would result in the creation of an effective innovation policy that provides access to knowledge and appropriate resources necessary to support activities at every stage of the innovation cycle.

It is worth noting that all pillars of the "knowledge - motivation - resources" model ("know - want - can") are closely interconnected. Access and use of knowledge while providing resources necessary for acquiring new knowledge and its transfer, as well as for transforming knowledge into innovative products, facilitate the increase in motivation. Society's motivation in pro-innovation activities, while providing appropriate resources, allows for the development of science and the acquisition of new knowledge. Finally, the high motivation for innovative activity in a society that has significant knowledge (including knowledge about the necessary effects of increasing the innovativeness of the economy on society) largely determines the allocation of the necessary resources for it.

The study of behavioral factors of innovation, especially the areas of their occurrence and mechanisms of influence, requires an interdisciplinary approach, because in addition to issues relating to the field of management and economics, it also concerns sociology and psychology. Based on the current state of innovation of the Polish economy, research in this direction should cover issues related to:

- creation of civil society and its impact on the efficiency of management,
- creating effective innovative policy in Poland and the social responsibility of the authorities for the effects of its implementation,
- development of the education and science system to meet the challenges of the Knowledge Economy,
- financial, organizational and legal support for innovative activities.

With a fairly wide range of research issues related to the problem of increasing innovation and creating a knowledge-based economy, their common denominator is behavioral factors, because in every field of activity, in one way or another, related to innovation, there is always a person, his attitudes and behavior.

4. Results

The source of innovation is a new idea, an idea generated by the human intellect. The effectiveness of innovation depends on how effectively each stage of the innovation cycle will be implemented - from the creation of an idea to the commercialization of an innovative product, which is ultimately determined by behavioral factors. Most scientific publications focus on the problem of IWB and analyze the behavior of personnel of enterprises and organizations as part of innovative activities. However, this behavior and attitudes are determined by external factors. Even when it comes to the so-called "internal" behavioral factors (e.g. employee motivation, willingness to engage in innovative activities, initiative, etc.), they are always based on external, "deeply rooted" determinants (e.g. culture, education, social values).

Therefore, creating an effective innovation policy needs to take into account not only the "technical" aspects of economic innovation (science, infrastructure development, financing), but above all those aspects of socio-economic development that create pro-innovation attitudes of society, based on the development of appropriate qualifications and skills of people involved in into innovative activities.

The behavioral factors of innovation can be presented in the form of a model presenting four levels - the level of society, the level of public policy, the level of the company's market environment and the corporate level. Each subsequent level builds on the previous one.

As we move to a higher level (from social to corporate), the nature of the factors of the next level is influenced by the factors from the previous level.

Therefore, it can be concluded that the innovativeness of the economy is a derivative of the degree of development of civil society and the development of government and public policy institutes, including the science education system. They determine the cognitive and behavioral

mechanisms of creativity and innovation both at the enterprise level and in society. Detailing the elements of these mechanisms and understanding the principles of their functioning seem to be quite a current and prospective direction of research. Combined with the growing interest of scientists and practitioners in the issues of IWB, this research will ensure the creation of effective innovative policy and contribute to a noticeable increase in the innovativeness of the Polish economy.

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