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RESEARCH ARTICLE

Organizational Innovativeness: Objective and Subjective Approach and their Implications

Teresa Bal-Wozniak*

Dept. of Enterprise, Management and Ecoinnovation, Rzeszów University of Technology, Poland.

Abstract

The article is of conceptual character andproposes a change in the paradigm of thinking about organizational innovativeness. It is founded on an assumption that the currently dominant technocratic (objective) approach to innovativeness stems from individual creativity. It helps to acquire competitive advantages mainly in the countries of Technology Frontier Area (TFA) and by big corporations. The imitation of patterns based on the technocratic (objective) approach oriented towards innovation management is burdened with a high risk of ineffectiveness in catching-up countries, which include Poland and other countries of Central and Eastern Europe. It causes the lack of proper utilization of innovative potential of enterprises, network economy and information-telecommunication revolution. In order to overcome these threats, the author proposes to appreciate the subjective role of an individual (a human being) in the innovation process and popularization of the subjective approach to innovativeness. Perceiving organizational innovativeness not only as the intensity of introducing innovations, but also from the perspective of innovative capabilities of a person, opens up a possibility to build theories about primary sources of innovations. Its use in practice should help to ensure a common activation of creative potential of human resources and to eliminate obstacles encountered by enterprises when accessing innovative talents with reference to the improvement of well-being and not only to business goals.

Keywords: *Innovation management, Integrated model of innovativeness, Objective approach, Organizational innovativeness, Subjective approach.*

Introduction

The history of the global economic development shows that the role of factors of production in building "the wealth of nations" [1] and the success of enterprises changes with the passing of time [2, 3]. The variability of environment in which companies function causes that methods of organizational management, which have been used so far, do not ensure expected effectiveness. Various problems appear resulting from radical acceleration of technological and civilization changes. Together with intensified globalization processes, they create completely new-in qualitative sense-conditions in which function markets, countries, managing entities, individuals and whole societies.

The conditions of decision-making are always changing. In the times of globalization of liberalization and dissemination of information and communication technologies, these changes have shocking character. A specific example for Central and Eastern Europe and a source of changes in all aspects of functioning of enterprises was the transformation of the socioeconomic system, which started in 1989. It also opened the way to an external transfer of technologies and copy-modernization based on the imitation of innovation management patters. They do not bring effects in the form of innovative indicators helping to radically narrow the technological gap and escaping from the middle income trap [4, 5]. The problem of low innovativeness of post-communist economies is connected not only with the inherited technological distance and low GDP *per capita*, or path dependency and post-communist non-innovative legacy. Building efficient markets has been in progress since the beginning of the 1990s.

Those 25 years of building efficient markets and imitating patterns of innovativeness management based on the subjective approach encounters barriers as enterprises have a limited access to innovative competences. Moreover, connected with it are delays in institutional adjustments of these countries to challenges and threats of globalization of liberalization and technocratic culture of the information age [6]. A successful pursuit by these economies of a moving target of Technology Frontier Area [7] requires not only an import of new technologies and patterns of their management, but also patterns of innovativeness management oriented towards discovering, developing and activating innovative potential locked inside of human resources.

New information and communication technologies (ICT) and advanced manufacturing (AMT), as well as the so-called high technology (HT) [8, 9], which lead to completely different action methods, become possible thanks to a fast, practically revolutionary, knowledge creation, skills to reach it and use it to achieve expected results. Innovations are the tool to put knowledge to practice. Building core competitiveness is based on a broad support of innovations so that contemporary companies, countries and nations have a lasting competitive advantage. Coping with it to a great extent is conditioned by the ability to introduce innovations, i.e. innovativeness.

Therefore, organizational innovativeness is a central concept in scientific research and managerial practice. Despite numerous attempts, to explain and study in depth the essence of innovativeness the issue still exists and comes down to ambiguity in defining the concept of organizational innovativeness and its frequent identification with the concept of innovation. The aim of this article is to present the subjective approach as a base for the new paradigm of thinking about organizational innovativeness, as well as to show theoretical and practical implications of such a change.

Objective Approach to Innovativeness and Its Implications

From the role of knowledge in the development of civilization [10] results an opinion that innovativeness in contemporary globalized economy is perceived as a higher need due to business goals of entrepreneurs, competitive position of countries, as well as challenges posed by postmodernism towards human individuals. Such thinking is not reflected in practice of innovativeness and in treating it as a competence which facilitates the application of knowledge in the form of various innovations. There is a paradox in its definition as it is assumed that innovativeness is an ability to permanently introduce innovations. However, in order to apply it, instead of focusing on shaping this ability, emphasis is put on the number of innovations, their type, the number of innovative companies and similar objective measures. In fact, it stresses the intensity of introduction of innovations and acquiring a competitive advantage from synergy effects of using all types of innovations. This objective approach leads to confusing goals with means. Well-being is subdued by technological and business goals, therefore, innovative competences of a person are also subdued by them. This approach is not about popularizing innovative behaviors to improve well-being, but to utilize existing creative human capital with the use of its concentration in innovative clusters, brain drain and creating an isolated environment of people who belong to the creative class.

In the objective approach, innovativeness should ensure competitive advantage of an enterprise and an economy, whereas sustainability of innovation processes becomes a goal of development and all types of advancement. In this situation, a human individual is important as creative human capital or a consumer of innovations – a human individual has to be an easily manipulated object, which is ready to live at the expense of the future, sometimes on borrowed money [11]. Successful innovation management has to make it possible to obtain synergy effects from the total use of various innovations.

This is required by globalization of liberalization and favorable conditions are created by disseminated information and communication technologies, network structures of markets and information society, as well as technocratic culture [12].

The implementation of real processes shows that with the subjective approach to innovativeness coexist also tendencies to disintegrate development, destabilize economic situation, polarize and exclude from modernization processes the precariat, which is constantly expanding, [13]. Clusters of creative class emerge which suck out people with creative talents, as well as peripheral communities of infantilized innovation consumers. Technetronic culture together with mechanisms of innovation-based economy create an environment encouraging modernization which encompasses all spheres of human existence. It facilitates modernization of everything, reduction of a person to creative human capital, and, in result, emergence of innovativeness as a superior quality objectifying its subject-a person-by forcing them to live at the expense of the future. A dangerous drift of the meaning of life is identified on a personal level [14] which infantilizes hyper consumption [15] -a society of risk is created on a social scale [16], grows the risk of global technological threats and crisis-generating financialization of economy under the influence of uncontrolled financial innovations stimulating animal spirits [17].

The currently dominant technocratic (objective) approach to innovativeness stems from individualistic conception of creativity [18]. It causes the innovative potential of network economy and information society is not properly utilized to harmonize the technological development with the development of other spheres of human existence. Complex determinants of contemporary civilization threats are not connected with innovations *per se*, but with the ways of utilizing them and organizational determinants of diffusion of innovations. However, the latter stem from an individual and reduced to *homo oeconomicus* perception of human nature [19]. Their products are technological fundamentals of contemporary civilization, as well as commercialization of all spheres of human existence.

In economic practice exist also different barriers stuck in the ways of thinking and action of people and stemming from cultural determinants, systemic solutions and a technological gap. These barriers cause the implementer of innovations-a human being-to become an object reduced to human capital, and not the subject of innovation processes. A huge number of studies and analyses is devoted to the elimination of these barriers, some of them refer to Poland, whose economy and society copes with specific transformational and post-capitalist coincidences which create an unfavorable climate for innovations, not only the original ones.

Towards the Subjective Approach to Innovativeness

To overcome barriers and to focus innovations on catching-up with development, as well as harmonization of development in all spheres of human existence, the author proposes to popularize innovative behaviors based on the subjective model of innovativeness.

Subjectivity is understood here as an ability of a person to "self-organize their freedom out of respect for other subjects and social subjects" [20, p. 351]. Such understanding does not indicate that a positive role of technology in socioeconomic development should be questioned; it should rather be given its proper place, without unnecessary fetishism. Innovativeness understood as the ability to introduce innovations and expressed by innovative behaviors, should be used to realize the achievements of science and technology not only due to business goals. The latter play a role in development processes if they help improve well-being in all spheres of human existence.

In the process of shaping creativity, humanistic and technological culture should be shaped as well in order to strengthen

those emotions and intuition which help to create various types of knowledge [21, 22, 23], thus, a fodder for innovative behaviors that comprise innovativeness. A need to integrate the episteme of cultural circles, natural and exact sciences, social and humanistic sciences, technology and technological sciences. The subjective approach to innovativeness is connected with the integration of these fields of knowledge.

Only integrating micro mechanisms of its creation, which grow out of an integrated space of knowledge, taking into account the subjective approach to innovativeness, gives hope to limit the growth of threats to the development of humanity stemming from the way of using new technologies and achievements of science and technology to disseminate the progress of civilization. An integrated model of innovativeness may be constructed based on three basic groups of determinants: technological, financial and subjective ones which are connected with people and their intellectual capital. The integrated model requires subjectivity to be respected in the perception of innovativeness which is one of the most important displays of people's activity. In the subjective approach, the goal of innovations is to create new qualities to improve well-being in all spheres of human existence. However, in the traditional, objective approach, they are, above all, a tool of competitive advantage of an enterprise. The dichotomy between the traditional, objective approach and the subjective approach is based on development threats to competition of a new type (based in innovations). They bring benefits to corporations or network structures. However, these benefits may bear social costs expressed in shifting the results of negative external effects of progress to future generations. This aspect is neither discussed, nor elaborated upon by the representatives of the innovation management sub discipline.

The objective approach focuses on quantitative measures with reference to resources and results, and it does not draw attention of centers regulating innovative activity directly to the implementer of innovation processes and its beneficiary-a human individual playing various roles in which they should show their creativity. A need appears to pay attention in innovation management not only to resources, but also to institutions which determine innovative behaviors of people.

Shaping Innovativeness as an Ability to Exhibit Innovative behaviors

Exhibiting innovativeness in the subjective approach is the same as exhibiting innovative behaviors. With the subjective approach to innovativeness is not only connected a chance to identify effective methods to influence the increase in innovativeness, but also founding these methods on natural goals of a human being. Innovative activity, in which the content of creative element is higher than in other spheres of business activity, may create special conditions for self-realization of an individual. The number of determinants which stimulate creativity depends to a greater extent on coordination structures. Moreover, changes in social awareness and the development of scientific thought in terms of social modernization show that the contemporary coordination structures should leave to an individual the possibilities of self-realization adequate to their dignity and harmonious with social interests [24]. Teresa Amiable, after 22 years of research on creativity in professional environments [25], concluded that organizations more often kill and destroy creativity [26], rather than support it. It explains the search for structures more in line with the human nature, which create conditions to pursue a richer life, structures releasing creative tension [27] which pushes to exhibit certain (appropriate) behaviors in accordance to the achieved level of (physical, intellectual, emotional and innovative) maturity and formed attitudes.

Attitudes are defined as "evaluative summary judgments that can be derived from qualitatively different types of information (e.g., affective and cognitive)" [28, p. 621], in other words as constructs which encompass certain dispositions [29].

While defining and trying to measure this psychological and sociological construct, depending on the author's concept of the attitude theory, their different internal structure is emphasized. Very often attitudes with a two-element structure are distinguished [30, 31] which encompasses affective and cognitive dispositions, and attitudes with a three-element structure formed by cognitive, affective and behavioral dispositions. Some authors distinguish a four-element structure of attitudes which is "harmonious organization of motivational, emotional, perception and thought process regarding an individual aspect of the world" [32].

The concept presented in the article stems from an interdisciplinary connection of attitude theory, the idea of subjectivity, the level of individual's maturity and the essence of innovations. The model of shaping attitudes towards the subject matter, which are (or can be) innovations, was based on four types of dispositions: awareness, emotional, cognitive and behavioral. They form the following sequence: know-want-be able to-can (Fig. 1).

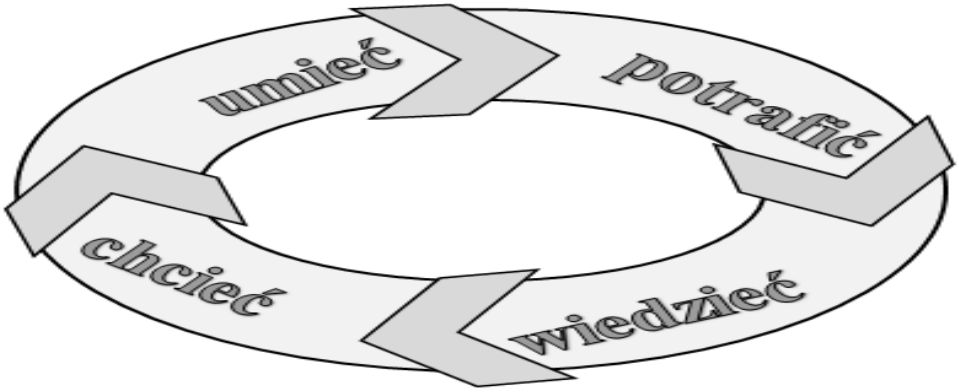

Fig. 1: Components of attitudes as the base for innovative activities on an individual, group and organizational level
Source: own elaboration.

KNOW, i.e. be Aware of Necessity for Innovation in the Context of Opportunities and Threats

A human being can recognize a situation, in other words, notice and receive signals indicating an innovative character of a situation whose consequences (positive or negative) may be visible only in the future (awareness attitude component). Subjectivity in this aspect facilitates recognizing the character of a situation by noticing and receiving various signals: coming from a certain situation of a human being, sent by other elements of an environment or being a derivative of mutual relations of a person with other elements of an environment. Subjectivity eliminates emotional barriers to learning and searching for information and ways of using it, thus it facilitates impartiality. In the case where there are no dispositions to notice development challenges in the context of innovations evaluated as valuable and a low level of sensitivity of the subject, i.e. lack of sufficient awareness of innovative needs, the stimuli which signal the need to replace the current state with a new, more beneficial one according to various criteria will not be received.

Subjectivity with reference to a group of determinants of KNOW type is closely connected with an attitude of an entrepreneur, manager or implementer, a representative of government or municipal administration, a scientist, etc. It is a driving force of innovative axiology; it determines the character of its functionality, the perception of alternative entrepreneurial opportunities. On such shaped innovation awareness will depend (within the emotional component) the degree of change acceptance

and the level of engagement or resistance to innovations (new technologies, products, organization systems or marketing solutions).

A tool of exerting influence on this attitude component is mainly he knowledge of „know-why" type. Why is it so? Why everyone cannot live a better life? Why business profits should be connected with the satisfaction of participants in managerial and implementation processes? The way of influencing this fundamental attitude component is dissemination of such functional knowledge with the use of different educational channels. It must be knowledge based on the integrated approach, which respects research achievements of the systemic analysis and holism. Access to knowledge of knows-why type accelerates progress and helps to avoid mistakes.

WANT, i.e. Feel obliged to Engage into and Release Motivation to Innovative Activities

A human being may evaluate and interpret the opportunity and necessity for innovative activities (therefore, a conscious introduction of a change) according to their own feelings (comfort or the lack of it) and aspirations resulting from them, as well as the feeling of obligation to act (emotional attitude component). Subjectivity in the emotional aspect is connected with dispositions to release the feeling of obligation regarding the search for new solutions to improve well-being achieved by developing one's own competences, an economic success and the business sphere. A rational explanation of this feeling is an expected surplus of the sum of benefits from the change, which is greater than its costs in comparison to effects achieved in a situation of no change. Such expectations have, first of all, intentional character-they stem from certainty of innovation functionality in comparison to realized development goals-and they are formulated based on opinions [...] e.g. about the nature and characteristic of innovations.

What is meant here is the rational use of motivational logic by rewarding persons for the use of the subconscious to release emotional power" [33], for the sphere of dispositions to creative activities, and to shift from the routine to the risk of undertaking creative activities. The subconscious helps to exceed the standards, rules, schemes and stereotypes. Its wise use minimizes the risk as it indicates an activity characterized by deep emotional engagement, which increases the probability of achieving personal gains and the common good in a long-term perspective. Thanks to realizing its unlimited creative powers, an opportunity appears to include every person in this creative process.

In practice it corresponds with the subject's aspirations, with its subjective feelings influencing evaluation and interpretation of emerging connections between a given situation and the objects of an environment. The ways of shaping this attitude component are included in the influence on feelings, whereas any possible instruments should be directed at strengthening motivation to cooperate in order to create coherent qualities disposing to creativity, which brings about changes in social capital.

Creative destruction in the field of creative social capital is a prerequisite for the emergence of a coherent system of qualities stemming from the axiology of the market and from connecting them with the qualities deeply rooted in tradition, customs and religion. This process must be supported by conscious actions (leading and managing) to extract, expose and disseminate qualities in order to reach their critical level – when this level is reached, grassroots powers of pro-innovative behaviors are released.

Reaching such a state requires permanent efforts to connect them on three levels: individual, group and organizational [34]. It seems possible to accelerate the effects thanks to the instruments adjusted to a certain level [35], i.e. connected with rewarding professionalism, popularization of a healthy lifestyle, paying attention to the equality of opportunity principle as a base for motivation, strengthening ethical attitudes by tools reducing and blocking poverty, exclusion and marginalization.

BE ABLE TO, i.e. Possess Necessary Competences: Knowledge and Proficiency in using it

A human being can understand a situation in the context of various relations thanks to their capability to connect observed phenomena with patterns, based on the knowledge they possess (cognitive attitude component). Subjectivity in this aspect facilitates making knowledge useful in all scopes: not only in understanding a situation which requires innovative activity, but also in searching for new knowledge (learning to learn) with reference to all spheres of human existence. It happens when a subject becomes capable of using knowledge to discover and develop the creative potential. In practice, the level of sensitivity of the subject may help to receive a signal (within the first level of shaping innovative maturity). Within the affective component, a further increase in this sensitivity will take place (decreasing the degree of indifference or even forming a positive attitude). However, the difference may so inconsiderable that it will not lead to a cognitive reflection, i.e. the received signal will not be confronted with possessed patterns. Therefore, despite being aware of a situation which requires introducing innovations and exposing positive engagement, there will be the lack of dispositions in terms of its understanding (cognitive attitude component), due to insufficient knowledge, including the knowledge about the implications of the lack of action.

A basic way of acquiring dispositions in this field is education on all levels, supported by learning by doing and lifelong learning. Contemporary conditions cause a necessity for "organizational learning", starting with a family, workplaces, a local community or a bigger collectivity. Building this attitude dimension requires drawing attention to strengthening educational equipment, i.e. equipping people in capabilities to acquire knowledge and to live in an information society, using the products of knowledge and creating them not only for personal benefit, but also for professional, group and universal benefit.

The effects of competences depend not only on the effectiveness of all channels of education system, but on many other determinants. In the field of education, the market mechanism requires multidirectional support and therefore, there is a variety of mechanisms such as: a system of current and prospective coordination of education, job market and cooperation of schools with enterprises, elastic educational systems of adaptive capabilities, creativity and entrepreneurship, connecting education with upbringing in the spirit of cooperation, honesty and citizenship, orientation towards elastic adaptation to new challenges.

CAN, i.e. Act Effectively: Find Opportunities, Create those that are needed and Seize the Existing Ones

The behavioral attitude component and subjectivity connected with it refers to a disposition to shape implementation opportunities for introducing innovations in an organization. It shifts the responsibility for to the organizational level. Realizing these dispositions requires various (financial, technical, systemic, infrastructure) conditions. In the contemporary world, particularly important become conditions for the virtualization of reality, for a free flow of information and knowledge[1]. Without a quick solution to overcome the Internet barrier, it is impossible to popularize creative and innovative behaviors.

Apart from information solutions (including IT) and infrastructure in its traditional sense (technological, economic, telecommunication), a change in the behavioral component of innovative attitudes is facilitated by the infrastructure of organizational innovation systems (in the form of entrepreneurship, competences and creativity, a team work system, organizational support, a network of external connections). An example of a network structure based on cooperation (even of rivals) is Porters's clusters [36] in which horizontal information flows, which

[1]Very large differences can be observed when comparing Member States. The Netherlands and Denmark compete for the first position with around 40 lines per 100 inhabitants followed by France, Germany and the UK. At the bottom of the list, four Eastern European Member States (Romania, Poland, Bulgaria and Slovakia) have lower than 20% penetration [37].

are based on the resources of social capital, facilitate the processes of sharing knowledge, and by that they also facilitate mutual complementation, supplementation and enhancement of competences.

Mechanisms shaping innovativeness from its subjective side must be supported by mechanisms included in the scope of the economic policy of a country directed towards market effectiveness. What is meant here is particularly the structural policy, which transforms technological capabilities to gain economic competitiveness, simplifications in the research and development sector in relation to R&D expenditure, supporting the knowledge and technology transfer and FDI influx.

Implications of the Subjective Approach to Innovativeness

Perceiving organizational innovativeness from a subjective perspective is connected with theoretical and practical implications. It proves the necessity and possibility to bind theory with practice-the solution of science to an identified practical dilemma of innovation- or innovativeness-based economy. If we assume that it is possible to overcome inertia regarding the lack of utilization (or wasting) organizational innovative potential of catching-up economies, peripheral environments with small and medium enterprises, practical implications of the subjective approach become particularly important.

In the research on organizational innovativeness conducted so far dominate models which include such determinants of innovativeness as: organizational openness, future company orientation, innovative risk, pro activeness (measured, e.g. by the number of managers showing initiative) [38, 39, 40], expenditures and results measured by quantitative methods, especially short-term ones, i.e. external factors regarding direct participants of managerial and implementation processes. They work better as measures of innovativeness evaluation than of shaping innovative potential, and subjects are hidden in their background. This innovative potential of subjects decides upon the ways of engaging these determinants, i.e. of synergy effects and entropy.

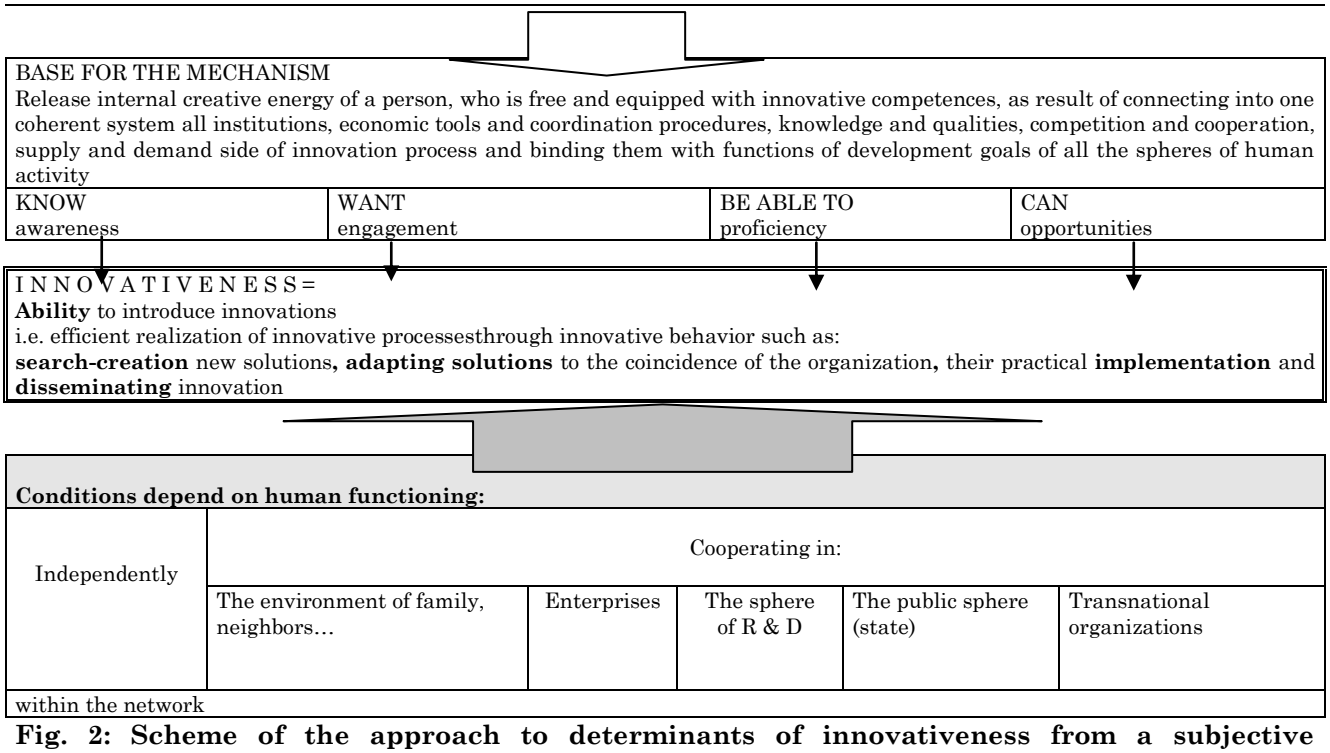

Fig. 2: Scheme of the approach to determinants of innovativeness from a subjective perspective

Source: own elaboration.

The approach proposed in the article, which refers to the subjectivity of a human being (employee, manager and implementer), proposes that organizational innovativeness is based on shaping individual creativity. The subjective approach to innovativeness does not negate external instruments of influence, but is supports a different mechanism: a grassroots (spontaneous) mechanism of activating innovation processes by employees (managers, implementers) who: are aware of the importance of innovations, show readiness to engage, have knowledge and capabilities to use it, can find and seize implementation opportunities.

This subjective mechanisms can be used in all organizations, not only the economic ones, where the effects of functioning of a „system" depend on people capable of creativity, binding competition and cooperation together on single positions, not only in network structures, but also within the framework of neighborhood or public structures, and the structures of a family, and not only business and R&D structures, including transnational organizations (Fig.2).

The popularization of the model requires fulfilling two conditions. First of all, proper understanding of the essence of innovation as an implemented change which shows sign of a novelty with a positive sum of benefits in different spheres of human life, not only in individual dimension, but also social one – long term and not only short term [41].

Such an approach to innovations implies that innovativeness becomes not only a potential factor of production which helps to acquire a competitive advantage. It becomes also a moral virtue whose aim is to improve well-being, an effective tool of connecting economic criteria and criteria of social equity. The popularization of the subjective approach to innovativeness may open new possibilities to develop innovative behaviors, utilizing social capital for them, modernizing goods and services and expanding, at the same time, consumer's benefit. It may serve an extensive use in practice of the concept of innovative and organizational consumption, creating new possibilities connected with modernization of service (a buyer, a person and a personality) as a necessary link, which co-determines well-being, between producer and consumer.

Second of all, shaping and disseminating the conviction that innovativeness is the ability to introduce innovations requires innovative competences from the participants in different stages of innovation process (in the form of innovation awareness conditioned by the level of development of a knowledge-based society; disseminated engagement connected with the level of emotional intelligence; proficiency acquired by education, experience and lifelong learning, and, in the end-causality).

In theoretical dimension, three types of implications can be distinguished: (1) the subjective approach can be treated as a contribution to the studies on resources, in the field established by Barney [42]; it describes-referring to his path-creating-the process of obtaining (access) idiosyncratic organizational resources, their creation and activation; (2) in the context of human resources management, it has provided arguments in support of shifting from human resources management to human capital management (the second name of the sub discipline has a form of competency-based human resource management [43, 44]. (3) It indicated the possibility to manage not only innovations, but also innovativeness by providing a conceptual base which requires further research and development regarding appropriate identification and fundamental determinants within every attitude component.

Conclusions

The objective approach to innovativeness based on the orientation of business sector towards expenditures and results may help organizational productivity and competitiveness that is why it is attractive for the business sphere and GDP-oriented policy. However, it is not sufficient for those enterprises and national economies which have a limited access to creative human capital (small and medium national economies and their enterprises),

particularly where their environment is not saturated with a significant enough creative potential of human capital, innovative organizational culture and other soft determinants of innovativeness. In such an environment, mechanisms of pushing and pulling innovation are weak. The subjective approach to innovativeness could contribute to the process of overcoming competence barriers to innovativeness.

This perspective on the subjective approach opens the possibility to use the integrated model of innovativeness in practice and to base innovation management on in with the use of competency-based human resource management.

Testing it among managers and implementation staff in enterprises functioning within the framework of a chosen economic structure of Porter's cluster of Aviation Valley in Podkarpacie in Poland [45] indicates its positive reception and a need for further research. We should search among interdisciplinary research teams for the answer to questions about organizational innovativeness in the scope of:

- Determinants of each attitude component, which are crucial from the perspective of releasing innovative behaviors, on an individual, team and organizational level,
- Ways of building, developing and disseminating innovative competences, without which expenditures on innovations cannot result in expected intensity of innovations.
- Methods of increasing the level of innovation awareness
- Instruments of releasing engagement
- Channels of reaching proficiency regarding knowledge and the ability to use it
- Mechanism of creating systemic opportunities to introduce innovations
- Stimuli that have institutional character, which exert influence on the ways of thinking and acting adjusted to the requirements of the contemporary world.

References

1. Acemoglu D, Robinson JA (2012) Why Nations Fail: The Origins of Power, Prosperity and Poverty. Crown Business, New York.
2. Leidecker JK, Bruno AV (1984) Identifying and using critical success factors, Long Range Planning, 17(1), 23-32.
3. Drucker PF (1999), Management Challenges for the 21st Century. HarperCollins, New York.
4. IUS (2015) Innovation Union Scoreboard. Maastricht Economic and Social Research Institute on Innovation and Technology, Brussels.
5. GII (2014) Dutta S Lanvin B Wunsch-Vincent S. Edytots. The Global Innovation Index 2014. The Human Factor in Innovation. Cornell University, INSEAD, WIPO, Fontainebleau, Ithaca, Geneva:
6. Castells M (1996) The Information Age: Economy, Society and Culture. 1: The Rise of the Network Society. Blackwell Publishing, Oxford.
7. Gomułka S (1990) The Theory of Technological Change and Economic Growth. Routledge, New York.
8. Mills MP, Ottino JM (2012) The coming tech-led boom. The Wall Street Journal, January 30
9. Roco MC, Bainbridge W, Tonn B, Whitesides G (2014) Convergence of Knowledge, Technology and Society: Beyond Convergence of Nano-Bio-Info-Cognitive Technologies. Springer Science & Business Media.
10. Yua Y, Dongb X-Y, Shenc KN, Khalifad M, Haoe J-X (2013) Strategies, technologies, and organizational learning for developing organizational innovativeness in emerging economies, Journal of Business Research, 66(12): 2507-2514.
11. Bauman Z (2010) Living on Borrowed Time: Conversations with Citlali Rovirosa-Madrazo, Polity Press, Cambridge.
12. Postman N (1992) Technopoly. The surrender of culture to technology. Knopf, New York.
13. Foster JB, Robert W, McChesney RW (2012), The Endless Crisis. Monthly Review Press, New York.
14. Naisbitt J, Naisbitt N, Philips D (1999) HIGH TECH – HIGH TOUCH. Technology and Our Search for Meaning. Broadway Books, New York.
15. Barber BR (2007) Consumed: How Markets Corrupt Children, Infantilize Adults, and Swallow Citizens Whole. W.W. Norton, New York.
16. Beck U (1992), Risk Society: Towards a New Modernity, SAGE, London.
17. Akerlof GA, Schiller RJ (2009) Animal Spirits: How Human Psychology Drives the Economy, and Why it Matters for Global Capitalism. Princeton University Press, Princeton.
18. Wilson N (2010) Social creativity: re-qualifying the creative economy. International Journal of Cultural Policy, 16(3): 367-381.

19. Rogall H (2009)NachhaltigeÖkonomie, ÖkonomischeTheorie und Praxis einerNachhaltigenEntwicklung. Metropolis-Verlag, Marburg.

20. Wielecki K (2007)Podmiotowość w dobiekryzysupostindustrializmu. Centrum EuropejskieUniwersytetuWarszawskiego, Warszawa.

21. Wierzbicki AP, Nakamori Y. Edytors. (2007) Creative Environments: Issues of Creativity Support for the Knowledge Civilization Age. Springer-Verlag, Berlin Heidelberg.

22. Wierzbicki AP (2010) Operations and systems research in the era of knowledge civilization, Journal of Organisational Transformation & Social Change, 7(2): 239-260.

23. Murgas F (2015) Creativity: Goal or path?On Meaning of Creativity. International Journal of Advances in Management and Economics, 4(3): 162-167.

24. Vrontis D, Thrassou A, Chebbi H, Yahiaoui D (2012) Transcending innovativeness towards strategic reflexivity. Qualitative Market Research: An International Journal, 15(4): 420-437.

25. Amabile T M, Conti R, Coon H, Lazenby J, Herron M (1996) Assessing the work environment for creativity'. Academy of Management Journal, 39: 1154–84.

26. Amabile T.M. (1998). How to kill creativity. Harvard Business Review, 76 (5): 76-87.

27. Senge P., (1990), The Fifth Discipline: The Art and Practice of the Learning Organization. Doubleday/Currency, New York.

28. Crites S L, Fabringar L R, Petty RE (1994) Measuring the affective and cognitive properties of attitudes: Conceptual and methodological issues. Personality and Social Psychology Bulletin, 20: 619-634.

29. Nowak S. Edytor. (1973) Teoriepostaw. PWN, Warszawa.

30. Breckler SJ, Wiggins EC (1989) Affect versus evaluation in the structure of attitudes. Journal of Experimental Social Psychology, 25: 253-271.

31. Trafimow D, Sheeran P (1998) Some tests of the distinction between cognitive and affective beliefs. Journal of Experimental Social Psychology, 34: 378-397.

32. Mądrzycki S, (1964) Postawy jako składnik osobowości. Przegląd Psychologiczny, 8: 105-122.

33. Marphy J (1962)The power of your subconscious mind. Prentice-Hall, Englewood Cliffs.

34. Rafferty AE, Jimmieson NL, Armenakis AA (2013) Change Readiness A Multilevel Review. Journal of Management, 39(1): 110-135.

35. Kang JH, Solomon GT, Choi DY (2015) CEOs' Leadership Styles and Managers' Innovative Behaviour: Investigation of Intervening Effects in an Entrepreneurial Context. Journal of Management Studies, 52(4): 531-554.

36. Porter ME (1998) The Competitive Advantage of Nations, Palgrave, New York.

37. DAE SCOREBOARD 2013 - 2-BROADBAND MARKETS, Digital Agenda for Europe, Communications Committee, European Commission, https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/DAE%20SCOREBOARD%202013%20-%202-BROADBAND%20MARKETS%20.pdf .

38. Ruvio A, Shoham A, Vigoda-Gadot E, Schwabsky N (2014) Organizational Innovativeness: Construct Development and Cross-Cultural Validation. Journal of Product Innovation Management, 31(5): 1004-1022.

39. Li-Min Chuang, Chun-Chu Liu, Wen-Chia Tsai (2014) The Organizational Innovativeness Inventory for information and electronic enterprises: Development and Validation, Journal of Economics and Behavioral Studies, 6(4): 302-309.

40. Flávio de São Pedro Filho, Ravâni PR, de Melo JV, Watanabe CYV, Sakuno IYT (2015) Innovation Management with Focus on Production and Operation Team. International Journal of Advances in Management and Economics, 4(4):11-20.

41. Bal-Woźniak T (2006) Reasons for insufficient innovation in the polish economy, Journal of European Economy, 5(4):367-398.

42. Barney JB (1991) Firm Resources and Sustained Competitive Advantage, Journal of Management, 17:99-120.

43. Dubois DD, Rothwell WJ (2004), Competency-Based Human Resource Management, Davies-Black Publishing, Palo Alto CA.

44. Bonder A, Bouchard C-D, Bellemare G (2011) Competency-Based Management-An Integrated Approach to Human Resource Management in the Canadian Public Sector, Public Personnel Management, 40(1):1-10.

45. Bal-Woźniak T (2012) Innowacyjność w ujęciu podmiotowym. Uwarunkowania instytucjonalne /Innovativeness in the Subjective Approach. Institutional Determinants/.Polskie Wydawnictwo Ekonomiczne, Warszawa.