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BARRIERS TO CREATING INNOVATION IN THE POLISH ECONOMY IN THE YEARS 2012–2016

Abstract. The purpose of the considerations is to present and systematise barriers to creating innovation in the Polish economy in 2012–2016. The desk research was based on the results of Community Innovation Surveys (CIS 2012 and CIS 2014), thematic studies of the Central Statistical Office and a report from the Infuture hatalska foresight institute. The use of statistical and comparative analysis in conjunction with the review of the literature on innovation barriers leads to the conclusion that Polish enterprises recognise the lack of financial resources as a major barrier to creating innovation, while non-financial barriers are much less important. The marginal treatment of non-financial barriers is a reversal of attitudes and directions of activities that are undertaken in the field of creating innovation in highly developed countries.

Keywords: innovations, creation of innovations, barriers to innovation, Poland, CIS 2012, CIS 2014.

JEL: O31, O32, O39

Introduction

Innovation is the product of conscious human activity focused on achieving something new to meet an objective goal within a specific environment. This process is never carried out in subjective and temporal isolation. It is based on the ability of business entities to recognise the value of new information, concepts and ideas, and to absorb and transform them into other concepts and ideas. It is connected with the previous tendency and the ability of individuals to be active in this area. It is an integrated pro-

cess the essence of which is a systematic analysis of the possibilities and constraints that can be revealed in the near and distant surroundings of the enterprise.

Considering the fact that most of the innovation work focuses on factors that increase their success, the purpose of the considerations was to present and systematise the barriers to creating innovation in the Polish economy in 2012–2016. The area of interest included Polish industrial enterprises and those operating in the services sector whose innovation activity was presented in comparison with EU countries. For the needs of the considerations, secondary data was used. The desk research was based on the results of the Community Innovation Surveys (CIS 2012 and CIS 2014) carried out by national statistical offices in the European Union countries, thematic studies of the Central Statistical Office and the report from the Infuture hatalska foresight institute entitled *Handbook: Jak wdrażać innowacje?* [*How to implement innovations?*] (Handbook, 2018).

The attempt to identify and analyse the barriers to the creation of innovations is intended to draw the attention of practitioners and the scientific community to their important place in the formulation and implementation of strategies by Polish enterprises.

Creating innovations

The process of creating innovations is a sequential series of changes in accordance with certain assumptions and values, leading to a new way of production, thinking and creation. The importance of innovations for the development of civilisation strengthened with the development of discussions conducted since the times of Pigou, Wicksell, Schumpeter or Solow. The neoclassical theory of development and technical progress was limited in principle to the analysis of process innovations. The increase in labour productivity was seen mainly in the accumulation of physical capital, underestimating the importance of human (intellectual) capital, new products or new forms of organisation (Schmookler, 1966: 3). However, the conviction that the well-being of the state depends to a large extent on its natural resources, and that business activity is mainly determined by material and human resources, began to lose its validity. In the second half of the 20th century, discussions about economic and social development dominated the topic of innovation.

Approaches to creating innovations and factors determining the effectiveness of this process have evolved from a purely technological approach

to a social one the essence of which is openness to the individual, a deeper understanding of consumer needs and expectations regarding the level and quality of life. R. Rothwell identified five generations of the innovation model and the next significant changes, which were observed in the methods of creating innovation at the beginning of the 21st century, gave rise to the next models, i.e. the sixth and the seventh generations.

According to Rothwell, the first generation model of innovation was driven by science (supply-side model) which dominated until the mid-1960s. The second generation model is a model of market-driven innovation (demand model) that prevailed until the early 1970s. In the 1970s the interaction model was dominant (coupling model), while to the late 1980s it was an integrated model. The fifth generation model prevailing in the 1990s is a simultaneous (network) model which Rothwell calls the systems integration and networking model (Rothwell, 1992: 221). The first two generations of models present the process in a linear perspective and show an emphasis on one of the aspects of creating innovation. Models of subsequent generations are non-linear, complex models. They are characterised by the existence of relationships between demand and supply conditions for the emergence of innovation as well as feedbacks between their individual stages.

At the beginning of the 21st century changes in the methods of creating innovations by enterprises resulted in the separation of the sixth generation model known as the open innovation model (Du Preez, Louw, Essmann, 2015; Brem 2011: 14; Dymitrowski, 2014: 35). The specificity of the innovation creation process is combining the paths of generating ideas, i.e. merging ideas developed by the enterprise and the network in which it operates with ideas coming from the market, external entities operating independently. In this model an important place is attributed to network or online communities. It is recognised that open innovation requires new logic. Such approach puts openness and cooperation at the centre of attention. The advantage of open innovation is therefore a much larger database of ideas, technologies and inspiring opportunities for development.

Although the sixth generation of the innovation model is still relatively new, attempts are being made to identify the seventh generation model. The seventh generation model combines models of open and network innovations, creating an integrated innovation network. The specificity of the new, only identified, approach to creating innovation is the assumption that in order to fully use all concepts of open innovation, enterprises should develop integrated knowledge networks for the development of innovation (Dymitrowski, 2014: 35).

The increase in the share of social component (social change) in innovation models is an expression of the transition from closed innovations to open ones. The concept of open innovations is based on the diversity of knowledge, skills and social competences, i.e. the values coming from within the enterprise and its environment. Innovations are not only a direct result of scientific research, the involvement of centres conducting R+D activity and other entities active in innovation. They are also created by stakeholders, end users and consumers. Knowledge capital plays an important role in creating open innovations.

Changes in the model approach to creating innovations, occurring over the last decades, indicate that the innovative change is a cumulative process which means that new activities in this area are systematically added to what has been implemented and achieved. The task of the business entities is to discover those areas of knowledge that are compatible with the activities and achievements already implemented (Zielińska-Głębocka, 1996: 101).

Barriers to creating innovation – literature review

As Pellegrino and Savona note (2017: 510–521), most of the innovation work focuses on factors that increase their success and not on those that constrain the innovation activity. However, every active and potential innovator can face the appearance of constraints in any part of the process of creating innovation which in consequence may lead to a failure of the undertaking. Identification and analysis of possible innovation constraints can be helpful in identifying all obstacles that constrain the rate and efficiency of innovation implementation. Undeniably, their identification is essential for the development of any enterprise.

The word “barrier” can be understood as “an issue that either prevents or hampers innovative activities in the firm” (Sandberg, Aarikka-Stenroos, 2014: 1294). In the literature it is combined with such terms as e.g. bottlenecks, constraints, challenges, fears, threats, difficulties, obstacles and problems. Barriers hamper, hinder or complicate the creation of innovations and, therefore, lead to a failure in innovative activity.

The evolution of the creation process of innovation corresponds to the development of the approach to its constraining factors. In addition to the financial barrier, a group of non-financial barriers has emerged. Financial barriers are seen as one of the main constraints of innovation. These include undercapitalisation, short-term liquidity problems, insufficient working capital, insufficient initial capital and poor financial management (Larsen,

Lewis, 2007: 142–151). Although financial sources are key to success in developing and introducing a new product or service, they do not guarantee success in innovation (Cassamatta, 2003: 2059–2085).

Another division of barriers commonly used in research is the division into internal and external barriers. Hözl and Junger (2011), Sandberg and Aarikka-Stenroos (2014: 1294) indicate that internal barriers relate to the organisation, management and competence of the enterprise, while external barriers refer to obstacles caused by the market, government and system and result from interaction with other companies or institutions.

Internal barriers to creating innovation relate to the company's leadership, mentality and other human factors. They are considered in the aspect of the way of thinking, resources, organisational structure and competence¹. Sandberg and Aarikka-Stenroos (2014: 1294) noticed that the restrictive mentality is the dominant barrier for SMEs and large enterprises, while the lack of competence refers to the generation of ideas (in the case of large enterprises), incubation (in the case of SMEs).

In relation to external barriers it is worth mentioning that they can be considered in two categories, i.e. as external barriers corresponding to obstacles that result from the behaviour of a specific actor and as external barriers combined with a macro environment².

Hözl and Junger (2011) also undertake research into barriers to creating innovation in the system of external, financial and human barriers (Maldonado-Guzmán, Garza-Reyes, Pinzón-Castro, Kumar, 2017: 1669–1686). In addition, they indicate that large and prosperous enterprises may encounter the following barriers in the process of creating innovation:

- adoption barriers that limit firms' capability to explore new disruptive innovation, leading to an increase of excessive bureaucracy;
- mindset barriers which are related to the fact that innovative companies are stuck in the stagnant way in which products and markets work and, consequently, do not allow the use of potential opportunities;
- thinking and management limitations (no more ideas).

A different approach to the barriers to creating innovation is proposed by D'Este et al. (2012: 482–488). They distinguish between their two groups. The first group of barriers is related to the political perspective. It concerns entities responsible for creating formal institutions. According to the authors, the activity of these actors should focus on creating conditions conducive to innovative activity, identifying the reasons for the lack of innovation as well as anticipating adverse phenomena. The second group of barriers according to D'Este et al., connects with the perspective of innovation management in the enterprise.

Table 1
Barriers in implementing innovations considered “high” as % of innovative enterprises according to CIS 2012 [%]

existing competition	high competition in quality		market control by competitors	lack of qualified personnel	lack of demand		high costs		lack of adequate financing	high price competition				
	Malta	Lithuania			Greece	Serbia	Serbia	Italy		Slovenia	Cyprus	Cyprus	Austria	Portugal
Romania	31.3	43.0	Lithuania	28.5	Romania	33.4	Greece	41.9	Serbia	41.4	Serbia	39.4	Cyprus	65.4
Lithuania	19.5	36.8	Hungary	27.3	Estonia	28.1	Italy	41.5	Portugal	33.9	Greece	37.7	Austria	65.3
Turkey	14.9	34.5	Malta	23.6	Turkey	26.2	Serbia	39.3	Turkey	32.6	Cyprus	34.1	Portugal	63.1
Malta	13.3	31.9	Turkey	23.5	Lithuania	22.4	Portugal	37.2	Slovenia	27.5	Slovenia	31.5	Malta	62.3
Poland	13.0	29.8	Serbia	22.9	Austria	19.0	Cyprus	34.7	Estonia	26.9	Croatia	29.5	Estonia	61.3
Serbia	11.6	29.5	Estonia	21.2	Germany	18.8	Slovenia	34.4	Bulgaria	26.7	Turkey	29.1	Germany	61.2
Estonia	11.6	27.4	Romania	19.9	Serbia	16.5	Hungary	32.3	Cyprus	26.6	Portugal	28.7	Slovenia	60.7
Hungary	10.5	26.6	Bulgaria	18.8	Bulgaria	15.2	Slovakia	31.5	Greece	25.7	Lithuania	27.5	Hungary	59.7
Slovakia	10.2	26.1	Cyprus	18.4	Slovenia	12.3	Croatia	30.8	Hungary	25.7	Romania	24.5	Slovakia	56.5
Bulgaria	8.4	26.0	Poland	17.3	Malta	12.1	Holland	25.5	Croatia	25.3	Italy	22.7	Italy	55.1
Portugal	8.2	25.5	Austria	17.2	Portugal	11.5	Turkey	24.3	Lithuania	23.9	Hungary	22.6	Lithuania	53.2
Austria	7.1	25.2	Croatia	17.0	Poland	9.7	Bulgaria	24.2	Malta	23.6	Estonia	22.2	Croatia	50.5
Germany	6.0	24.8	Slovakia	17.0	Croatia	9.5	Poland	23.5	Romania	20.5	Bulgaria	20.3	Turkey	49.5
Greece	6.0	23.3	Portugal	15.6	Hungary	9.3	Malta	21.4	Poland	17.8	Poland	20.2	Poland	48.6
Cyprus	5.9	22.6	Germany	15.5	Sweden	8.9	Lithuania	19.6	Slovakia	17.7	Slovakia	17.9	Greece	47.8
Croatia	5.7	20.6	Italy	14.1	Holland	8.6	Germany	15.6	Italy	17.3	Malta	15.1	Bulgaria	46.0
Slovenia	5.0	20.5	Slovenia	13.2	Cyprus	7.9	Romania	15.2	Austria	17.0	Holland	13.6	Serbia	43.4
Holland	4.3	17.4	Sweden	13.2	Greece	6.2	Sweden	14.9	Germany	14.6	Austria	10.2	Holland	42.6
Italy	3.8	13.6	Greece	12.3	Slovakia	5.4	Estonia	13.0	Holland	7.8	Germany	10.0	Sweden	33.2
Sweden	—	12.7	Holland	11.4	Italy	5.1	Austria	12.3	Sweden	6.9	Sweden	7.3	Romania	8.0

Source: own study based on: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=inn_cis8_obst&lang=en [accessed: 18.09.2018]

Table 2 The reasons for the lack of innovation and barriers to innovation as % of non-innovative enterprises according to CIS 2014 [%]

Enterprises for which the lack of internal finance was a highly important barrier to innovate	Enterprises for which the lack of skilled employees within the enterprise was a highly important barrier to innovate	Enterprises that considered innovating, but barriers were too large	Enterprises for which the low market demand was not an important reason to not innovate	Enterprises for which previous innovations were not an important reason to not innovate
Slovakia	10.4	Cyprus	Malta	Malta
Poland	9.8	Greece	25.4	68.5
Greece	6.0	Poland	Czech Republic	Hungary
Italy	3.6	Italy	Poland	Sweden
Cyprus	3.5	Slovakia	Portugal	France
Switzerland	3.4	Croatia	Holland	Czech Republic
Portugal	3.0	Portugal	France	Poland
Czech Republic	3.0	Czech Republic	Bulgaria	Holland
Croatia	2.9	Bulgaria	Hungary	Bulgaria
Bulgaria	2.8	Estonia	Estonia	Portugal
Estonia	2.7	Romania	Luxembourg	Iceland
Lithuania	2.4	Lithuania	Iceland	Luxembourg
France	2.4	Austria	Lithuania	Slovakia
Austria	2.1	France	Latvia	Estonia
Romania	2.0	Hungary	Slovakia	Norway
Hungary	2.0	Luxembourg	Austria	Austria
Latvia	1.9	Latvia	Norway	Romania
Luxembourg	1.7	Holland	Romania	Latvia
Holland	1.4	Iceland	Croatia	Croatia
Norway	1.4	Norway	Cyprus	Cyprus
Iceland	0.9	Malta	Italy	Greece
Malta	0	Switzerland	Greece	Italy
		:		Lithuania
				13.3

Source: own study based on: http://appsso.eurostat.ec.europa.eu/mui/show.do?dataset=inn_cis9_exp&lang=en [accessed: 18.09.2018]

Table 2 continued
The reasons for the lack of innovation and barriers to innovation as % of non-innovative enterprises according to CIS 2014 [%]

Enterprises for which the little market competition was not an important reason to not innovate	Enterprises for which the little market competition was a highly important reason to not innovate	Enterprises for which previous innovations were a highly important reason to not innovate		Enterprises with no compelling reason to innovate		Enterprises for which the low market demand was a highly important reason to not innovate			
Malta	75.0	Greece	10.5	Cyprus	20.9	Sweden	94.6	Italy	26.3
Sweden	55.9	Latvia	9.0	Italy	17.1	Malta	94.5	Cyprus	26.3
Portugal	53.1	Slovakia	6.9	Latvia	13.4	Iceland	93.8	Greece	25.5
Czech Republic	52.1	Croatia	6.8	Austria	12.1	Holland	93.0	Slovakia	20.6
France	51.3	Italy	6.3	Slovakia	11.7	Luxembourg	91.9	France	18.6
Hungary	50.5	Estonia	6.1	Portugal	11.5	Norway	91.2	Norway	16.7
Holland	47.5	Lithuania	5.9	Greece	9.3	Hungary	91.1	Luxembourg	15.9
Poland	46.3	France	5.9	Luxembourg	9.2	France	90.3	Austria	14.1
Luxembourg	45.1	Austria	5.0	Sweden	9.1	Latvia	89.8	Portugal	13.1
Bulgaria	45.0	Czech Republic	4.7	Croatia	9.0	Austria	89.7	Latvia	12.9
Norway	41.8	Bulgaria	4.4	Estonia	8.3	Lithuania	87.9	Holland	12.5
Estonia	41.6	Poland	4.2	France	8.3	Romania	87.7	Lithuania	12.1
Slovakia	40.3	Portugal	4.0	Czech Republic	8.1	Bulgaria	84.7	Bulgaria	11.8
Lithuania	39.4	Hungary	3.9	Holland	7.7	Czech Republic	84.1	Hungary	11.8
Iceland	38.2	Cyprus	3.8	Lithuania	6.8	Portugal	83.0	Sweden	11.8
Austria	37.4	Iceland	3.8	Iceland	6.5	Croatia	81.6	Croatia	11.6
Latvia	34.7	Norway	3.6	Poland	6.4	Italy	79.6	Iceland	10.7
Cyprus	29.7	Luxembourg	3.5	Romania	5.7	Estonia	76.5	Czech Republic	10.0
Italy	27.1	Romania	3.1	Bulgaria	5.0	Poland	75.8	Estonia	9.2
Greece	24.3	Holland	2.7	Hungary	5.0	Greece	74.6	Romania	9.0
Croatia	21.9	Malta	2.1	Norway	4.7	Slovakia	71.8	Malta	7.5
Romania	1.7	Switzerland	:	Malta	4.2	Cyprus	71.4	Poland	6.9

Source: own study based on: http://appsso.eurostat.ec.europa.eu/nu/show.do?dataset=inn_cis9_exp&lang=en [accessed: 18.09.2018]

The classification of barriers to functional and psychological ones is also noteworthy (Lian, Yen, 2013: 665–672). Psychological barriers are associated with beliefs, imaginations and attitudes of entities acquiring innovations with respect to the country of origin, brand, industry and culture. The group of functional barriers includes:

- usage barriers – the lack of compatibility between the innovation introduced on the market and consumer’s expectations;
- value barriers – the new product is not clearly better than the existing one which does not encourage the consumer to buy, recognise its value;
- risk barriers – combine with caution and distrust of the consumer towards offered innovations.

Concluding deliberations on the classification of barriers to the creation of innovation, the change in the approach to their identification should be stressed. It turns out that important information is provided by the analysis based on the division of enterprises into innovative and non-innovative ones.

Research on barriers to creating innovation from the perspective of innovative and non-innovative enterprises has been conducted, among others, by Hölzl and Junger (2014). In 2014 the results of the Community Innovation Survey (CIS), which are based on methodological recommendations contained in the Oslo Manual, were based on responses from non-innovative enterprises, while in CIS 2012 innovative enterprises were the basis (see tables 1 and 2).

Barriers to create innovation in Poland in 2012–2016 – desk research

According to the latest Community Innovation Survey (CIS 2014), Polish non-innovative enterprises, among the factors constraining innovative activity, highly evaluate the lack of internal financing (24.8%) and the lack of qualified employees (9.8%). The low demand on the market is considered the least important. Whereas according to CIS 2012, in which innovative enterprises were surveyed, the highest rank was attributed to the existence of competition on the market. Subsequently, the lack of demand and adequate financing was indicated. The least important constraint was the lack of qualified personnel.

The indicated constraints are important from the point of view of launching an innovative product or process into the market. According to Pellegrino et al., this possibility is reduced by 7% in case of financial

obstacles, by 4.7% in case of presence of market constraints and by 2.6% in the face of regulatory obstacles (Pellegrino, Savona, 2017).

CSO research carried out in 2012–2016 on a group of non-innovative enterprises indicates that financial constraints are the main reason for the lack of innovation activity. The highest percentage of non-innovative industrial enterprises (on average 19% in the analysed period) and service companies (nearly 12%) pointed to the lack of financing opportunities from internal sources. Similarly, the external financing options were perceived (on average 13% of non-innovative industrial enterprises and 9% of service enterprises). Non-innovative service enterprises also recognised the difficulty in obtaining public grants or subsidies (over 8%) as a similar constraint, while industrial enterprises indicated the lack of demand. Other equally important barriers included finding partners for cooperation and qualified employees.

The presented research results of Polish enterprises indicate that among barriers to creating innovation financial barriers are highly rated. One of the conditions for the efficient creation of innovation is the proper recognition of the external environment. The stimulus to the creation of innovation, as P. F. Drucker states, does not have to be a technological factor, often observations of the market, demographic processes and social attitudes are enough. However, it should be emphasised that the ability to identify changes in the environment is not a sufficient condition. According to the theory of absorptive capacity (Ettlie, 2000: 83); Zastempowski, 2010: 88–90), the information obtained from external sources requires internal processing, taking actions leading to its use in practice.

Therefore, creating innovation is basically about a human being. His attitudes, skills, competences, flexibility of adaptation and openness to changes are important, which are revealed at various stages of the process of creating innovation. Resistance to innovation that employees pose can be conditioned by risk and change (Sitkowska, 2006: 40–41). The introduction of innovations infringes to some extent the safety of employees. They may feel the depreciation of their own qualifications, the decline in the prestige of the job, the loss of their current position in the enterprise, or the loss of jobs in the event of failure of the company's innovative activity. As a result, the level of individual concern can lead to resistance to change, i.e. constraint of the innovative activity.

Undoubtedly, the indicated barriers should be considered important and their inclusion in the formulation and implementation of the strategy of the activities of Polish enterprises is emphasised by the results of a survey carried out in October and November 2017 by Infuture hatalska foresight institute. Quantitative research indicates three main barriers to creating in-

Table 3 Reasons for no innovations and barriers to innovation in service and industrial enterprises in Poland in the years 2012–2016

Specification	Reasons for enterprises not to introduce innovations				Barriers to innovation										
	Reasons for not introducing innovations	low demand for innovations on the market	no need to innovate due to previous innovations	no need to innovate due to very little competition on the market	lack of good ideas for innovations	lack of internal finance for innovation	lack of external finance for innovation – credit or private equity (including venture capital)	Innovation costs too high	lack of skilled personnel in the enterprise	lack of partners for collaboration	difficulties in obtaining public grants or subsidies for innovation	uncertain market demand for enterprise’s ideas for innovations	Legislation/regulation that generated excessive burden	Legislation/regulation that created uncertainty	Legislation/regulation that lacked consistency across the EU
	enterprises which rated importance of a given reason as “high” as the share of innovation inactive enterprises														
	industrial enterprises														
2012–2014	71.2	28.8	6.6	5.6	4.2	7.6	28.4	18.4	11.7	18.4	12.3	17.3	18.5	–	–
2014–2016	81.7	18.3	6.0	6.4	5.0	7.8	10.1	7.6	5.4	4.1	8.1	6.2	6.4	7.0	5.5
	service enterprises														
2012–2014	81.5	18.5	7.3	7.3	4.2	9.1	20.4	15.4	7.5	15.2	7.4	11.3	13.7	–	–
2014–2016	92.5	7.5	5.3	5.3	3.4	10.2	3.4	3.0	4.0	1.6	1.3	2.7	2.3	2.1	2.1

Source: own study based on: Działalność innowacyjna przedsiębiorstw w latach 2014–2016, Główny Urząd Statystyczny i Urząd Statystyczny w Szczecinie, Warszawa, Szczecin 2017, p. 103–106; Działalność innowacyjna przedsiębiorstw w latach 2012–2014, Główny Urząd Statystyczny i Urząd Statystyczny w Szczecinie, Warszawa 2015, p. 119–122.

novation, i.e. too heavy workload for employees/managers with current tasks (69% of surveyed enterprises), lack of capital/insufficient capital to finance innovation (47%) and organisational difficulties (32%) (Handbook, 2018). In contrast, qualitative research allows to identify the specificity of activities and decisions of Polish enterprises that clearly do not support innovation. They indicate (Handbook, 2018):

- eliminating innovations that bring value but for which it is difficult to clearly identify a measurable financial result, the scale profit;
- equating innovation and fast profit. Building optimistic financial forecasts and anticipating that innovations will start earning in the first year;
- concentrating on solutions and not on problems and needs;
- lack of an alternative action plan in case of failure;
- too rigid or too diffused innovation process;
- excessive proceedings and decisions making process at subsequent levels;
- lack of space for making mistakes and failures (the conviction that every innovation must be a success);
- too narrow tracking of trends, observing only their market, focusing only on their products, brands.

The quoted results of the qualitative study in correspondence with the results of qualitative research allow to conclude that bridging the barriers to creating innovation in Polish enterprises should be fostered by establishing cooperation. Building a network of “innovation coalition partners” – both within the company and the network of partners and contractors will be conducive to gathering and sharing knowledge, creating teams with diverse competences and various experiences. As a consequence, the sense of security and responsibility for innovations in the aspect not only non-financial but also financial will increase.

Conclusion

Polish enterprises recognise the financial barrier as the main obstacle to creating innovation. They pay less attention to non-financial factors, including market ones. However, they are equally important. Modern, highly developed societies function in the era of open innovation and strive for economic activity that will lead to a lasting improvement of the quality of life of not only present but also future generations.

Taking into account the conducted desk research, including the attempt to systematise the barriers to creating innovation, it can be concluded that

the marginal treatment of non-financial barriers is a reversal of attitudes and directions of actions undertaken in highly developed and innovative countries. The specificity of the innovation creation process is combining the paths of generating ideas, i.e. merging ideas developed by the enterprise and the network in which it operates, with ideas coming from the market, external entities acting independently.

In Poland innovative activity is fundamentally based on the diffusion of innovation not on the creation of new innovations. The change in this state should be fostered by taking actions anticipating and counteracting the intensification of non-financial barriers. The specificity of the innovation creation process is combining the paths of generating ideas, i.e. merging ideas developed by the enterprise and the network in which it operates, with ideas coming from the market, external entities acting independently. Creating innovations requires from business entities (innovators, consumers) the ability to recognise phenomena and ideas, convert them into new values (in the form of products, processes, ideas) and disseminate, i.e. use in practice. It is possible thanks to the improvement of the relationship with the environment, the enterprises using different methods of stimulating new ideas and creativity in the employees.

N O T E S

¹ Competences are considered as the competences of discovery, incubation and acceleration as well as commercialisation.

² For example, customer resistance and government are considered part of the first group, while an undeveloped network and ecosystem, technological turbulences and an improper system are considered as obstacles in the macro environment.

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