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## CONDITIONS OF INNOVATIVENESS GROWTH OF ENTERPRISES IN POLAND<sup>2</sup>

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### *Abstract*

*Innovativeness activity of enterprises is stimulated by a number of factors which have their source inside the company or its surroundings. The aim of the article is to specify the determinants stimulating innovativeness of industrial enterprises in Poland, on the bases of survey research conducted among entrepreneurs. Factors which are perceived as the most favourable for the growth of innovativeness in industrial enterprises are: existing atmosphere of mutual trust between employees, especially executive employees, and managerial staff as well as possession of their own financial resources. The respondents emphasise the significant role of competition in stimulating innovativeness. Awareness of the enterprise concerning innovativeness activities of competing companies and market pressure on constant improving of products are perceived as other important stimulators of introducing of product and process innovations in industrial companies.*

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JEL Classification Codes: **L60, L03.**

**Keywords:** innovations, innovativeness, conditions of innovativeness, innovativeness stimulators.

### **Introduction**

Poland takes relatively low position as far as innovativeness in European and world rankings is concerned. According to the latest Bloomberg's ranking, Poland

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takes 24<sup>th</sup> position among 50 countries (Bloomberg, 2014). However, according to the summary innovation index (SII) for EU countries, Poland belongs to the group of „moderate innovators” and takes 5<sup>th</sup> position from the bottom of the list (European Commission, 2015). Hence, one of the key objectives of Polish economy for the next years is the growth of innovativeness of enterprises, which was reflected in the Strategy of the Country Development 2020 as well as in action undertaken within Union programmes implementing. The first to connect innovations with the theory of economic growth was Schumpeter (1960). At present EU considers innovations and competitiveness as key factors of economic growth, and special role in the range is assigned to radical innovations, which create new markets, facilitate development of enterprises and simultaneously economic growth (Tellis, Prabhu, Chandy, 2009). Innovative activity of enterprises is determined by a number of factors creating a group of barriers or stimulators. Researchers are more often interested in barriers of innovation implementing, overbearing which should result in innovativeness growth of enterprises, which in turn will be reflected in the growth of innovativeness of the region and the country (Kamińska, 2014).

The aim of the study is to identify the factors which stimulate innovativeness of industrial enterprises in Poland basing on survey research (Kamińska, 2015).

## **1. Stimulators of innovativeness growth of enterprises**

Stimulators of innovative activity may have their source inside the enterprise itself and result from its resources such as intellectual, financial, and real capital, organisational culture and the owner’s and executive staff’s characteristics. The uniqueness of resources and the fact, that the enterprise usually influences forming of the internal innovative potential, causes the fact that, in the literature from the field of management, the role of internal conditioning of implementing innovation is particularly emphasised. (Pichlak, 2012).

The greatest responsibility for forming organisational culture is assigned to executive staff of the highest level, who sets directions and conditions of development. Detailed comparison of the direction of influence of internal factors on innovativeness of enterprises has been prepared basing on the literature on the subject by M. Pichlak (2012), accounting for the following internal determinants: research resources (human, real and financial capital), communication system, organisational culture, leadership style, characteristics of the members of the managerial team, the kind of organisational structure, creating of inter-organisational connections. Higher level of expenditure on research-development activity, technical support, employing highly qualified employees, effective communication system, transformation leadership, and specialisation of enterprises translate in the researchers’ opinion into the improvement of the level of innova-

tiveness of organisation, being stimulator of innovative activity. On the grounds of the subject literature, it can be stated that, in case of some of the factors, the direction of their influence on the level of innovativeness is not always explicit. It refers to e.g. the age and work experience of the members of the managerial team, the level of diversification of executive staff, creating inter-organisational connections, for which it cannot be clearly deduced if they are stimulator of barriers of innovativeness. The forgoing indicates the need for continuing research of factors which determine innovative activity of enterprises.

Tidd and Bessant (2011) based on the study of the subject literature determined a number of the following integrated elements creating internal environment facilitating innovative activity:

- Common vision, leadership, the will of being innovative, engaging all the employees in the realisation of the strategic aim,
- Appropriate organisational structure facilitating creativity, science and interactions,
- People who activate and simplify implementing of innovations (including promoters, business innovators, champions, technological gatekeepers),
- Effective team activities, often connected with the need to invest in the team building,
- High level of engagement in innovations in the whole enterprise,
- The atmosphere of creativity with positive attitude towards ideas supported by appropriate motivating,
- Focusing attention on the surroundings signifying orientation on external and internal clients, extensive contacts and cooperation.

Research conducted in 249 companies from Silesian voivodship indicate that internal factors which facilitate and stimulate innovations the most is the support of executive staff (rating 3,42 in the scale of 1 to 5), availability of funds (3,24) and the level of communication inside the company (3,13). According to the respondents the smallest influence has cooperation with science and research institutions (1,82) and existing legal regulations (2,34) (Kraśnicka, Ingram (red.), 2014).

Second group of stimulators of innovative activity derives from organisation surroundings. Competitive environment is created by existing and potential competitors, suppliers and clients (Romanowska, Gierszewska, 2009), who are often initiators of introducing innovative changes in the company. Also economic, technological, social, demographic and political-legal factors belonging to the macro-environment can have stimulating or suppressing influence on generating or implementing innovations. Characteristic of macro-environment is strong influence on activity and possibilities of company development, usually accompanied by the lack of influence of organisation on forming it.

A significant group of stimulators of innovativeness can be generated by meso-environment created by regional environment factors, including activity of insti-

tutions from business surroundings providing services for companies and local authorities, which especially in the recent years have disposed of a number of means allowing for the growth of innovativeness of companies (Kamińska, 2011).

One of the conditions of innovativeness of enterprises growth is the improvement of cooperation between the sphere of science and business (Kamińska, 2013). S. Szultka together with his team identified a group of factors which stimulate transfer of technology from the research-development sphere to enterprises (2008). The most important stimulator of technology transfer is competition as well as petering out of simple reserves of competitiveness improvement. Next place is taken by financial factors – easier access to public resources for innovation and research as well as changes to tax law, also debureaucratisation of economy. The respondents emphasise the role of competition in making decisions by the companies referring innovating solutions and technology transfer. Competition itself is the main driving factor of innovative changes. An easier access to public resources for innovative and research-development activity is especially important in case of small and medium-sized businesses, in view of their limited financial potential and the fear of taking a risk.

Learning the factors which dynamise innovativeness of companies is a necessary condition to develop recommendations for changes in innovative policy of the country and regions.

## **2. Dynamising innovativeness factors in Polish industrial companies – research results**

The aim of survey research was to learn factor which facilitate and suppress product and process innovations in Polish industrial companies as well as to learn the opinions of the companies on the suggested changes aiming at dynamising of innovativeness of Polish industrial companies.

In the research the definition of innovativeness suggested by *Oslo Manual* developed by OECD and Eurostat was used. Innovativeness should be understood as implementing a new or significantly improved from the point of view of the company product, process, marketing method or an organisational method in economic practice, work place organisation or relations with environment (*Oslo Manual*, 2005). The subject of presented consideration is technological (product and process) innovations, which are the most often implemented in industrial companies.

The research was conducted in 100 industrial companies and referred to four selected groups of factor determining implementing innovations in industrial companies: factors concerning employees and executive staff, financial conditions, research-development activity of the company and market conditions.

In each of the enumerated groups a few factors were defined, whose significance was rated on the scale from 0 to 5.

The respondents consisted of executive staff of industrial companies, where 47% of the surveyed are the company owners, 39% are in the position of a chairman or director, and 14% work on the position of higher rank manager and manages part of the company.

Micro-companies constituted 20% of the researched sample, small businesses 30%, medium-sized 40%, and large enterprises 10%. In the researched sample, food industry was the most highly represented (19%), next mechanical industry (14%), clothing and textile industry (13%), building materials industry (12%), timber industry (8%), metal, tool (7%), chemical, electro-technical and pharmaceutical (5% each). Other industries constituted 12%.

### **3. Factor referring to the employees and executive staff**

In the area of this part of the research, eight factors facilitating innovations referring to employees and executive staff were evaluated by the respondents. In the opinion of the respondents, the most important factor facilitating taking up and realising innovations is the presence in the company of mutual trust atmosphere between the employees and the executive staff. Up to 85% of the respondents chose high or very high significance of that factor.

Analysis made by Dworak (2011) indicate that the higher level of trust there is in a country, the higher level of innovativeness. Trust is formed by characteristics such as honesty, loyalty, suitable competence. Trust allows for courageous presenting and implementing of innovative ideas without fear of losing salary or job.

Another most often mentioned factor of a high or very high significance is having high qualified engineering employees, capable of realisation of important product and process innovations (61% answers – high or very high significance). That answer indicates the need to adjust education to the needs of enterprises.

The respondents emphasise the key role of executive staff in implementing innovations and mention focusing the senior management on innovations as the third very important and important factor in implementing innovations (59% of responses). The owner and the managerial staff decide especially on the directions of the company development and innovative activity. Next most significant stimulators of innovativeness the respondents identify the activities of the managerial staff in the range of formulating and realisation of innovative ideas as well as stimulating innovators to high effectiveness through adequate remuneration.

According to the respondents, it is less important to stimulate innovators to high effectiveness through assigning them a high prestige, as well as creating by the company favourable conditions to improve creative qualifications of the employees.

The research results indicate the key role of senior management, whose direct engagement in the process of creating innovations, creating the atmosphere of mutual trust, employing highly qualified engineers, are significant factors of success in the form of growth of innovativeness of industrial companies. Senior management is perceived by the respondents as initiator and main driving force of innovativeness.

#### **4. Factor concerning financial conditions**

In the opinion of the respondents, the most important financial factor which stimulates product and process innovations in their companies is possession of the company's financial resources for realisation of innovations (68% indications to high and very significance). Such conviction results from the fact that, as research shows, small and medium-sized businesses have limited possibilities of obtaining credits and loans from outside (Kamińska, 2011). The other two factors: obtaining significant financial support from public resources (state, local or Union) as well as obtaining by a company tax relief for the acquisition of new technologies are ranked at the second position and have similar evaluation rates – 58% and 57% responses respectively.

#### **5. Factors concerning research-development activity of enterprise**

From the seven enumerated factors, in the opinion of the respondents, the most important influence on undertaking and realisation of innovations is the awareness of the enterprise of innovative actions of competitive companies (52% indications to very high and high significance).

Second most appreciated stimulator concerning R&D activity emphasises the significance of knowledge of the company's functioning and implementing of innovations. The respondents are convinced that the awareness of the research and development trends in the field of conducted activity in the country and in the world highly and very highly stimulates undertaking product and process innovations in their companies (42%). The factor of success in the researched area is possession of well-equipped R&D cells by the company (42% responses – very high or high significance). For 37% of respondents effective cooperation in the scope of innovation with research units results largely in the growth of innovativeness of the enterprises.

Whereas the researched companies do not appreciate cooperation in the range of preparing and implementing innovations with other Polish companies based on e.g., strategic alliances, consortiums, or clusters and consider that factor as the least important (24% of indications).

## 6. Factor concerning market conditions

Among market stimulators of innovativeness growth of industrial companies, the most important appeared the existence of strong competition creating pressure on continuous development and increasing competitiveness of products and services (75% indications to very high and high significance). Fast technological progress existing in an industry is the second most important market factor imposing product and process innovativeness (63% of responses). In the opinion of respondents a little less significant (61% indications to very high and high significance) is the necessity to lower the costs through innovations on account of price competition.

Conclusions derived from pre-emptive market analysis conducted by companies are less stimulating factor to implement innovations, as well as export development.

The above results indicate that implementing of innovations in companies takes place under the influence of strong competition and technological changes, it is not however, the effect of realisation of development and innovation strategy. Research by Orłowski, Pasternak, Flaht and Szubert (2010) indicate that businesses seldom develop long-term strategies, and furthermore they are not based on strong and weak sides of the enterprise. The lack of knowledge of the market and clients as well as the strategy of development poses a great barrier to the innovativeness of companies. Especially in small businesses, obtaining information about clients' expectations allows for quick improvement of the process of servicing clients and the offered products. Small businesses should be characterised by flexibility of actions and special closeness with clients, which allows for meeting the changing expectations and tastes of clients (Hausman, 2005).

As part of their own propositions from the area of market stimulators of implementing innovations, the respondents emphasised the necessity to apply market tools by the companies, including market communication with clients, participation in fairs, and following trends and fashion.

The respondents also had the possibility to list other stimulators of implementing of product and process innovations. The responses referred to expectations of the enterprises regarding lowering the taxes and ZUS contributions, changes to labour law as well as general policy regarding enterprises conducted by the state into more friendly. The respondents emphasised the need to shorten the deadlines of payment of debts, because the current long terms of payments result in problems with keeping the financial liquidity.

## Conclusions

The factor which is perceived as the most facilitating undertaking and realisation of innovations in industrial companies is the existence of mutual trust atmosphere between the employees and executive staff. 85% of respondents consider this factor in the context as highly or very highly significant.

In the other included in the research areas, the following factors are considered to be the most facilitating undertaking and realisation of innovations in industrial companies:

- In the area of financial conditioning: possession of sufficient financial resources for realisation of innovations,
- In the area of research and development activity of a company: undertaking works on innovations because the awareness of the company of innovation activity of competitive companies,
- In the area of market conditionings: encountering by the company's products or services strong competition, which puts pressure on continuous development of the products and services, so that they could be competitive.

Referring to various types of propositions of changes which aim at dynamising innovations in Polish industrial companies, the respondents accepted in the highest degree the following:

- The proposition to mobilize creators towards innovative actions through significant remuneration (bonuses) for effective inventions – acceptance at the level of 95,0%;
- The proposition to oblige the state to financially support the funding of small innovative businesses – acceptance at the level of 87,0%;
- The proposition to oblige the state to financially support the research and development activity of industrial companies – acceptance at the level of 87,0%.

It should be emphasised that the presented conclusions are the result of the first part of the research conducted among industrial enterprises. Comprehensive research includes using Delphic method and interview with scientific units and they are in progress.

However, already on the present stage it can be stated with confidence that improvement of innovation of industrial companies in Poland is only possible under the condition of increasing the state support for innovation activity of companies with simultaneous change of attitude towards innovations of the companies themselves, which should treat innovativeness as an element of the enterprise growth. Meanwhile, as presented results show, a number of companies introduce innovations in fear of losing the market – as a response to the competitors' actions, not from their own need to develop or will to improve their competitive position. The obtained results are not very optimistic and indicate clearly that the researched businesses do not possess sufficient information about the markets or



clients. The researched companies are often forced to increase innovativeness by micro-environment, whereas they are not initiators of implementing innovation as a result of undertaken strategy of development.

Therefore, there is a need to spread among the company owner, managerial staff, and other employees of the companies the innovation awareness, including the significance of innovativeness in the life of individuals as well as its results in the shape of growth and development of companies, countries and regions.

Entrepreneurs emphasise the need to create effective incentives, including among other adequate remuneration of innovators, which will mobilise the creators to innovative actions.

The research results clearly show that the current EU, state and local authorities aid in financing of innovative and research and development activities is insufficient. The entrepreneurs await tax reliefs, decreasing taxes and other financial incentives, which in their opinion would dynamise conducting of research and development works and implementing innovations.

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