

## THE ISSUE OF INNOVATIONS IN THE AREA OF INDUSTRY

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### Abstract

*The increase of innovations and innovative solutions is of a significant importance for Bulgarian industrial enterprises. It is a prerequisite for the improvement and development of enterprises, as well as for their competitiveness on the market. The lack of a policy in the research and development area is a huge obstacle to their development, and puts a number of barriers before the organizational structure of the enterprises and their executive management. The major objective of this article is to analyze the issue of the development of innovations in the area of industry as the introduction of new methods and means in the production process shall bring to an improved quality of the manufactured products, smaller costs for the enterprises and increase in productivity. Various factors influencing the development of the innovation process are studied in details.*

**Keywords:** innovation, innovation technologies, industry, enterprise, development  
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### INTRODUCTION

According to the analysis made of the macroeconomic environment, labour market and state of the enterprises in the country, the reconstruction of enterprises in the working sector has been taking place at various rates in the different branches of economy in the post-recession period of Bulgarian business. The state of enterprises in Bulgaria during the recent years has been influenced by the impact of internal and external factors. This way, for example, approximately ten years ago, Bulgarian economy entered a period of recession and economic recovery began at slow rates. Investments showed a significant reduction in the post-global crisis period, and the decrease of employment rates brought to a retarded growth of consumption. On a global scale, political insecurity increased a lot, the Eurozone faced a debt crisis, while the newly occurring economies continued their market expansion. The branches of economy were differently

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influenced by the changes of economic environment (Analysis of macroeconomic environment, labour market and situation of enterprises in Bulgaria with a view to the human resources development, the analysis was prepared under Project No. BG 051PO001 - 6.1.09 – 0001 „Development of a system for forecasting the demand for labour with particular characteristics” under OP HRD, pp. 2-25). On that basis it can be stated that the aspiration for building something new and better has always been the driving force for the development of society. Understanding the essence, the specificities and the mechanisms of transformation of such goals or new ideas into a product that shall meet certain needs, make profits and provide growth, matters a lot for the industrial enterprises. Obtaining and using knowledge in the area of innovations provides opportunities for precise handling of concepts and for developing a steady innovation culture (Pantaleeva, 2013, pp. 11-12).

During the recent years, innovation technologies have been accompanying the development of society and have become a particular characteristics of economy. For centuries scholars have been exploring their role and significance, but the beginning of the modern innovation concept was put some 100 years ago, as innovations are processes, activities or outcomes and the awareness of their specific parameters plays a very important role for the change of philosophy of the industrial enterprises, for opening new jobs, new sources and competitive advantages and for the formation of an innovative culture (Pantaleeva, 2013, p. 18).

## **ANALYSIS AND DISCUSSION**

**Innovations** are the main driving force for productivity, as well as the increased energy and resource efficiency, the improved characteristics of goods and services and the creation of new markets. A policy in the area of innovations should stimulate the much faster development and offering of goods and services and to ensure that the EU enterprises are the first to take the market. Without innovations an industry cannot be competitive on the global market or in the area of traditional sectors (Communication from the Commission to the European Parliament, Council, European economic and social committee, and Committee of the regions, European Commission, Brussels, 28.10.2010, pp. 16-17).

Among the earliest formulations of the word “**innovation**” is that of the Austrian economist and political scientist Joseph Schumpeter. According to his economic theory, the economic development is due namely to innovations in a dynamic environment in which the old markets are destroyed and replaced by

new one – the so-called „*creative destruction*“. According to Schumpeter, it is the radical processes and not the incremental ones that are the reason for the destructive changes, which in fact drive economies. His theory emphasizes on five types of innovations:

- Launch of a new product;’
- Application of a new method of production;
- Opening new markets;
- Acquiring new sources of supply of raw materials;
- Creating a new market structure on a particular market.

In Manuel d’Oslo, **innovation** is defined as „the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations, which establish market advantages and at that increase the competitiveness of companies” (Manuel d’Oslo 3<sup>e</sup>édition, OECD/EUROPEAN COMMUNITIES 2005).

W. Deming thinks that a new product that will perform better is introduced through innovation. “It is necessary to innovate, to predict needs of the customer, give him more. He that innovates will take the market.” (Deming, 2014, pp. 7-8). Kyurova states that the continuous development of new products and searching and taking new markets are essential characteristics of a new enterprise aiming at expanding its influence and taking leader’s positions not only on a local or national, but also on a global level (Kyurova, 2014, p. 59).

V. Iliev studies the processes of innovations that run in all the spheres of enterprises’ activities, and such spheres are to be identified and synchronized. Likening their dependencies is of a significant importance in decision making in an enterprise for stimulating innovations with a final goal and this, in fact, makes the entrepreneur’s profit. The quickly changing environment necessitates the allocation of resources for development with the purpose to undertake a timely response. In this case researchers identify four main factors determining the need for innovations and these are technological process, changing customers, strong competition and changing business environment (Iliev, 2016, pp. 5-6).

The increase of productivity, efficiency and innovativeness of Bulgarian enterprises are fundamental internal factors able to compensate to a certain extent the consequences of the worsening demographic processes. In a relatively steady outer environment, the growth depends on the combination of reforms in key sectors with investments under OP IC 2014-2020 in support of an export-oriented economy based on knowledge, innovations and sectors of high added value (“Innovations and Competitiveness” OP 2014-2020). **The innovation strategy**

**for smart specialization of the Republic of Bulgaria 2014-2020** is among the compulsory prerequisites (CoM Decision 668/2012, amended by CoM Decision 102/2013, amended by CoM Decision 597/2013) under the Partnership Agreement of the Republic of Bulgaria outlining the subsidy from the European structural and investment funds in accordance with the EU Common Strategic Framework, the Specific recommendations of the Council from July 2012. The strategy is developed in compliance with two guidelines of the European Commission (published in May 2012 and November 2012) and makes an integrated document of innovation policy, policy in the area of science and digital growth. This document is prepared in compliance with the two main priorities of Europe 2020 Strategy, and namely smart and sustainable development. The main objective of Bulgaria's Innovation Strategy is */quoting literally from the accessible version on the website of the Ministry of Economy and Energy of the Republic of Bulgaria/, „improvement of competitiveness of Bulgarian industry”*. It should be noted that only competitiveness of “industry” is defined within the objective (Rusev, 2007 p. 144). Further on, it is specified that “this means building a “knowledge-based” industry, i.e. implementing new products, materials and technologies of production, management and services based on modern scientific works, that shall bring to:

- A growth of the gross domestic product;
- An increase in added value created by Bulgarian industry;
- Increase of productivity;
- Export growth;
- Improvement of the balance of payments of the country;
- Attracting foreign investments.

## **RESULT AND DISCUSSION**

The European experience, according to K. Kerchev, proves that a specific infrastructure is needed to support the relationship between science, research and innovative companies at every stage of their development (Kerchev, 2007, pp. 165-167). Such structures are the technological units in the forms of clusters, technology transfer centres, innovational business centres and incubators, technological centres and parks, etc. The implementation of competitive programme financing of research to activate the provision of research outcomes applicable to industry and the demand by the part of the business is a way to overcome the issues to that regard. Investments in novelties provide an

opportunity to increase competitiveness of companies on long-term perspective (Belomestnov, Shipoenko, 2017, pp. 21-30).

For example, V. Belomestnov and S. Shipoenko study the issue of demand for sources for development with the transition to innovational economy. They note that with the introduction of innovations with the help of various technologies of various generations, there exists an issue of the loss of material resources that could be partially compensated by the use of intangible resources, mainly human (Belomestnov, Shipoenko, 2017, pp. 21-30). Industrial change and industrial revival according to D. Jones-Evans shall be influenced by the research-technological development. They should be directed to promoting the development of a strong sector of small and medium enterprises and the provision of efficient technology-transfer systems (Jones-Evans, 1995, pp. 39-41).

Innovation is a process, and depending on the correctness of its use it could be an instrument bringing to prosperity or destruction. A number of innovations on a short-term basis, considering some unsustainable conjuncture on the market can be successful for a certain period, after which pluses will become minuses. Therefore, V. Kalaydzhieva reckons that many scientific discoveries and their application as innovations in practice can be deemed a success for a particular enterprise or production process bringing to a financial profit, but can also have an exceptionally negative effect on a global scale, and examples to that regard are the discoveries in the area of chemistry, nuclear energy and their implementation. It should be recognized that no progress of mankind can be expected without the aspiration for innovational activities and novelties (Kalaydzhieva, 2013, pp. 40-41).

V. Kalaydzhieva supports also the thesis that there exist methods for measuring innovativeness and competitiveness having regard to classification of innovations in product, technological and organizational, which supposes involvement of certain characteristics into their assessment (Kalaydzhieva, 2016, p. 353), such as:

- introduction of products featuring new properties;
- application of new technologies;
- implementation of new techniques;
- changes in the organization of production;
- changes in staff's qualification.

M. Filipova and R. Yuleva state that for the efficient management of innovations, a manager plays an important role as he/she is the one responsible of this function, of focusing the development and of reducing the time needed for the market launch of a new product or service, which on its part shall bring to

greater competitive advantages and economic benefits for the company. Innovation management is a mean influencing competitiveness together with innovational culture, innovative strategy, capacity and discipline that makes innovations working and sustainable for the organization. All these shall contribute to the improvement of technology and technique, of product or service characteristics, of the company organizational skills, as well as of to the formation of its “distinctive competence” with regard to its major competitors (Filipova, Yuleva, 2018, pp. 215-228).

The national strategies for the industry are aimed at re-industrialization and development of innovative industries not polluting the environment, being energy-saving and that shall serve as fundamentals for the development of modern industries. According to I. Hristova-Balkanska the processing industry in the country has gone through many and different stages of structural reconstruction that brought to changes into the correlation between heavy and light industry and to reduction of the numbers of employed in the branches of industry in Bulgaria (Hristova-Balkanska, 2017, p. 171).

G. Mateev focuses the attention on the modern innovation in production implemented mainly through information technologies. He emphasizes that during the industrial revolution era machines replaced human physical labour, and nowadays it is mainly the computers and telecommunication technologies that expand and facilitate intellectual activities related to the implementation of production in all the branches and businesses of an economy. It can be said that in the area of industry management modern technologies have brought to radical changes with regard to the scales and precision owing to which the information necessary for decision making is being processed (Mateev, 2015, pp. 52-53).

In K. Kercheva’s opinion, the lack of adequate public and private sources of financing of novelties is a major problem faced by the innovational activities of Bulgarian enterprises, and for the most of them their internal resources are the main source of financing of such activities. Investments in novelties provide the opportunity to increase the companies’ competitiveness on long-term basis (Kerchev, 2007, pp. 165-167).

According to the **Organization of Economic Cooperation and Development**, innovations can ensure sustainable prosperity of the country and industrial enterprises. Therefore, P. Kotler et al. state that innovations contribute to the development of many sectors of economy. Automation has not only increased productivity but has also given rise to fears related to the loss of jobs in the larger part of the branch industry (Kotler, Kartajaya, Setiawan, 2019, pp. 59-60).

According to V. Kyurova, in the situation of nowadays new products should be developed all the time, new markets should be sought and taken, and this proves to be the main characteristics of every enterprise in the industry, and all the enterprises should aim at expansion of their influence and taking leader positions not only on local or national levels, but on a global level, too. The author draws some summarized conclusions: the innovation potential exerts a significant influence on enterprises' competitiveness, and there exists a close dependence between the level of innovation potential and the competitiveness. The great significance of the innovation potential for the competitiveness of the enterprises necessitates continuous, purposeful managerial actions aimed at optimization of innovation activities and development and application of efficient, adequate and dynamic changes in the innovation strategy in a competitive environment (Kyurova, 2015, pp.195-196).

It could be stated that in modern society Bulgarian enterprises in the area of industry face many issues related to the organizational structure, marketing, management, opening new markets, and successful sales of goods, products and services. This issue is also analyzed by B. Koyundzhiyska-Davidkova who reckons that only a small number of enterprises allocate funds for innovations on annual basis. Most of the industrial enterprises do not implement marketing and organizational innovations, do not aim their efforts at the development of product innovations, do not implement technological or process innovations, and those spending money on research and development activities are also a small number (Koyundzhiyska-Davidkova, 2016, pp. 203-210). A. Sotirova also emphasizes that innovative development of industry has no alternative without the creation, mastering and use of new knowledge as it remains of major importance for the achievement of real economic and social outcomes, and its bearers – a major resource for development of innovation processes, a major resource for economic and social progress. In this case the human factor's role for the development of innovational processes is undisputed and this brings to the issue of its development, of its preparation and training for increasing its knowledge and capacities for the implementation of innovations. The significant backwardness of Bulgarian industry in terms of innovational development as compared to the other EU-member states, brings to the necessity for implementing a purposeful governmental and corporate policy for the increase of the human factor's role in innovational activities (Sotirova, 2015, p. 53).

During the recent years, regardless of the unfavourable surrounding environment and reported decrease in production capacities, innovations and investments in industry has shown an accelerated rate of increase related to the

growth achieved in a large part of the export-oriented businesses. Foreign demand remains suppressed and this influences adversely the entrepreneurs' assessments of business environment, level of industrial orders, as well as the expectations for dynamics of prices and number of employed in industry. Regardless of that economic activity in industry has increased as a result from the increased demand in a part of the export-oriented businesses and some recovery observed at the domestic market. The growth of industrial production was implemented in a situation of a retarded drop of prices of oil and non-energy raw materials, the negative dynamics of which continued its retarding impact on the change of economic activity indicator (Economic activity indicator in Bulgaria, Ministry of Finance, "Economic and Financial Policy" Directorate, 2013, pp. 2-4).

## **CONCLUSION**

The issue of innovations in the area of industry has been a significant topic for discussion for many years. Within the period of transition from adjustment to new technologies, industrial enterprises need the introduction of new approaches and technologies, improvement of marketing productivity, implementation of new organizational and product innovations, new processes in the search of new markets. Enterprises in Bulgaria also require enhancement of entrepreneur's spirit, stimulation for the establishment of business by young people, and a growth of small and medium enterprises. The attraction of direct foreign investments, shall, for example, contribute to the implementation of new knowledge, experience, to the increase of production, which, on its part shall contribute to a more intensive competition between the enterprises themselves, to qualification and employment of manpower, to growth of people's standard of living. But, regretfully, only a small part of modern industrial entrepreneurs allocate the resources required for the implementation of such activities and this, as a whole, has its influence on their development and progress.

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