

Innovativeness of the Furniture Enterprises in Bulgaria

Radostina Popova

Abstract—The paper presents an analysis of the innovation performance of small and medium-sized furniture enterprises in Bulgaria, accounting for over 97% of the companies in the sector. It contains advanced features of innovation in enterprises, specific features of the furniture industry in Bulgaria and analysis of the results of studies on the topic. The results from studies of three successive periods - 2006-2008; 2008-2010; 2010-2012, during which were studied 594 small and medium-sized furniture enterprises. There are commonly used in the EU definitions and indicators (European Commission, OECD, Oslo Manual), which allows for the comparability of results.

Keywords—Innovation activity, competitiveness of innovation, furniture enterprises in Bulgaria.

I. INTRODUCTION

THE development of the modern global economy is characterized by dynamic processes, multipath propagation of information and knowledge-intensive development. These trends, of course, lead to an increase in the dynamics of the external environment for organizations, belonging to different sectors and strengthening the competitive battles between them. The result is expressed in changes, related to innovation cited by many authors as one of the most important indicators of the competitiveness in micro level [6], [7].

The research on issues of corporate innovation in Bulgaria is mostly for group-sized enterprises - SMEs on the one hand and large, on the other hand - for a period of 2-3 years. Depth and representative research on the subject in the Bulgarian Woodworking and Furniture Industry (BWFI) lacks. Partial studies and interpretations related to innovation, entrepreneurship and competitiveness in the forestry sector are made under international projects and programs (COST, INNOFORCE - EFI, etc.) and projects of The University of Forestry (UF), Sofia, Bulgaria. The problems of innovations are annually discussed in the international conference on Innovations in Forest Industry and Engineering Design, organized by the University of Forestry.

II. STATE OF THE FURNITURE ENTERPRISES IN BULGARIA

The Furniture Industry in Bulgaria is part of the Woodworking and Furniture Industry, which produces about 2.6% of the total GDP and over 20% less than that of the manufacturing industry. For period 2005-2008 furniture makers are over 2000 enterprises, 98% of them are SMEs.

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After 2008, the number is significantly reduced due to the changed economic conditions; in 2012 there are 1770 enterprises. In 2011, an increase in the number of enterprises and number of employees began. There is a 20% increase and export of furniture from the previous year, and over 70 % of enterprises exported mainly to EU countries. These trends pose that by the increased production of furniture and dealing with the requirements of the European market, Bulgarian furniture enterprises started to increase their innovation potential [1], [11].

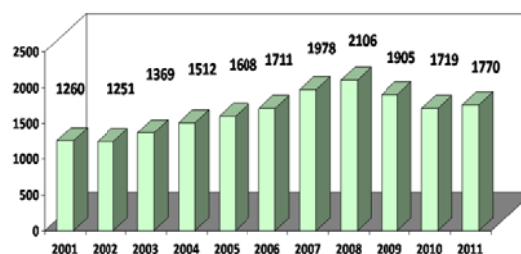


Fig. 1 Furniture enterprises in Bulgaria, 2001-2011

Products manufactured in the furniture enterprises is extremely diverse as to the final product (styles and models, colors and sizes), and implies diversity of forms of organization of production, depending on the type of production. It reflects on the design development, engineering, technology and training of staff. Furniture enterprises, depending on the objects, produce furniture for the public spaces (hotel furniture, office furniture, school furniture, etc.) and home furnishings (kitchens, bedrooms, dining rooms and living rooms) in the forms of sofas, tables, chairs and furniture parts. This diversity suggests variability and flexibility of complete solutions, and new products often require new technologies, techniques and working methods.

However, some of the main trends in the furniture industry in the EU: [2]

- e-business,
- the growing importance of design, eco-design and eco-manufacturing;
- cooperation between producers and experts;
- outsourcing of production and some functional activities.

III. METHODOLOGICAL BASIS FOR MONITORING AND EVALUATION OF INNOVATION IN THE EU

The Innovation research in the EU - Community Innovation Survey (CIS) defines innovation as the company's new or significantly improved product (good or service), introduced

to the market or within a firm or a new or significantly improved process [5]. They are based on the results of new technological developments, new combinations of an existing technology or a utilization of other knowledge acquired by the enterprises.

The officially accepted and used in the EU classification of corporate innovation divided them into 4 types of innovations that can be made in an enterprise: [4]

- Product innovation (goods and services) – new to market or new to firm;
- Process innovation (production and delivery) ,
- Organizational innovation internal and external)
- Marketing innovation (price, distribution, design, etc.).

The methodology adopted for the monitoring and evaluation of innovation in enterprises from member states of the EU is prepared according to the recommendations in the Oslo manual - Third edition, 2005. The first edition was in 1992 and based on it studies were organized by the EU, including CIS and comparable studies in Australia and Canada. Using the recommendations on management of firm innovation, every 4 years, research in the EU is performed. CIS includes a series of such studies (over 200 documents) committed by the national statistical offices in the EU, Norway and Iceland. Harmonized surveys are designed to provide information about the innovativeness of different sectors and regions, the data and results of these studies are used for the annual benchmarking of European innovation and other research in this area [3], [4].

The results were the main source of data to measure innovation in the EU. The collected information is disseminated on the Eurostat website. The questionnaire contains indicators that reflect innovation activity and units of observation are the nonfinancial and financial sectors with 10 or more employees by economic activities in the countries according to the classification of economic activities (NACE Rev.2). The study reflects the results of innovation activities of economic activities (NACE Rev.2), and units of observation are the nonfinancial and financial sectors with 10 or more employees: 10-49 (small), 50-249 employees (medium) and 250 employees (large). Studies focusing on SMEs by establishing large companies are innovative. Indicators of innovation in the questionnaire are grouped into the following sections: [9]

- General information about the enterprise - name, status, size, turnover;
- Types of innovation and innovation results – new products, processes, organizational and marketing innovations;
- Sources of information for innovation - internal sources and external sources;
- Objectives of innovation - market share, profit, quality;
- Innovation activities and expenditures - R & D and other innovation activities;
- Innovation collaboration with other enterprises in the country, the EU and non-EU countries;
- Financial support - external sources.

For 2008-2010 and 2010-2012 periods, the structure of the questionnaire are changes, not alter the nature and focuses at

different times - sections as technical skills, public procurement and innovation strategies and obstacles to achieving the goals of competitiveness and innovation [9], [10].

In the synthesis of the logical consistency of the questionnaire is: innovation goal and idea, innovation activity and the innovation result.



Fig. 2 Content of innovation performance

A. Objectives and Sources of Information for Innovation

The goals and ideas of business on innovation prejudice their innovation activity. They are triggered by internal enterprise and external factors that occur in the interaction of enterprises and other organizations. They can be varied in different forms and aspects - production, management, financial, environmental.

B. Types of Innovation Activities and Expenditures

The innovation activity is carried out in enterprises of a 3-year period. Specific innovation activities that make expenditures in this area are: [4]

- R & D carried out in the enterprise;
- R & D provided by another enterprise;
- Acquisition of equipment and software related to innovation;
- Acquisition of external knowledge related to the development of product and process innovation;
- Training related to innovation;
- Marketing activities presenting the innovation;
- Technical and preparatory procedures for the production of new or improved products and introduction of new or improved processes.

C. Results of Innovation

The results of innovation reflect the realized to technological innovations (product and process), especially new products entering the market for a period of 3 years.

IV. RESULTS OF INNOVATION PERFORMANCE OF FURNITURE ENTERPRISES IN BULGARIAN PERIOD 2006-2012

Studies of innovation activities and innovation results of furniture enterprises in Bulgaria are made using the European methodology or part of it, and evaluation of corporate innovation. The scope of the monitoring of small and medium-sized furniture companies in Bulgaria is for three consecutive periods, with different emphasis on innovation performance:

- 2006-2008 (551 enterprises - sample) - innovation activity;
- 2008-2010 (32 enterprises - quota sample) - types of innovation activities;
- 2010-2012 (11 enterprises - a representative sample of companies with marks Verified Bulgarian Furniture of the Bulgarian Branch Chamber of Woodworking and

Furniture Industry - BBCWFI) – competitiveness of innovation.

A. Results of the Survey of Innovation Activity of Furniture Enterprises in Period 2006-2008

For period 2006-2008, the innovative performance of furniture enterprises is below the average in EU. The main economic indicator that reflects the cost of financing innovative activities is behind the EU average - just 1.48% of the turnover of furniture enterprises in the EU average - 2.21% [9]. The main economic indicator that reflects the result of innovation - the share of turnover and the market for new furniture, and the results are also lower than that of the EU average. It is noteworthy that only new furniture is now more realized by firms with higher innovation intensity. The average European level of the index in 2008 was 13.3% according to Eurostat and behind it more than 2 times. The SMEs surveyed for furniture production averaged 5.4%. The value of the indicator of innovation activity increases with an increase in the size of the enterprise.

Medium-sized furniture companies are:

- 68% higher turnover of small enterprises;
- 29% higher spending on innovation by small enterprises;
- 30% higher revenues from innovative products from small enterprises.

B. Results of a Study of the Types of Innovation Furniture Enterprises in Period 2008-2010

European methodology used to evaluate the innovation of the company allows the comparative analysis of the innovation performance of enterprises by size and from different sectors of the economy, but it also contains a lot of imperfections in terms of the coverage of specific activities for various industries.

For period 2008-2010 the adapted and formulated indicators reflect the specifics of the furniture industry and comply with the basic ones used officially in the innovative research in the EU. Specific innovation activities relate to the main types of innovation and costs associated with them - product and process, organizational, management and marketing, and are associated with innovations in key areas - new materials, technologies, internal and external organizational changes, training of human resources, certification and standardization, pricing and distribution, awards for innovation. The main types of innovation activities of furniture enterprises for period 2008-2010 are as follows:

- 1) The predominant product innovations are with low innovation - the use of new materials in the production (which are mostly new to the company and the Bulgarian market - lightweight melamine faced chipboard, MDF - matte and glossy, solid wood with special effects, veneer and plywood polycarbonate plates with natural botanical elements, hinges from leading European and world producers etc.)
- 2) Organizational and managerial innovations are second in importance - embedded systems for quality management (ISO 9001), followed by training of personnel.

- 3) Process Innovation – on the third place. Costs are made for the purchase of new machinery and equipment - mostly circular, edging machines and membrane presses. Next - a new automation of production processes is done.
- 4) The lowest results are in terms of marketing innovations, where leaders are the new promotion techniques and new market channels, and changes in the brand.

C. Results of a Study of the Competitiveness of the Innovation of Furniture Enterprises in Period 2010 - 2012

In period 2010-2012, CIS focused on the results of innovation activities of enterprises and in particular the results with a high degree of novelty that defines high competitiveness and innovation. Ownership of industrial property means ownership of intangible goods that are produced or acquired for profit and control its use. Industrial property is listed in the Article 1 of the Paris Convention for the Protection of Industrial Property, to which the Republic of Bulgaria has joined in 1921, and under the Convention, the main object of protection are: inventions and utility models, trademarks and geographical indications, industrial design, company names, prosecuted unfair competition, new plant varieties, animal breeds, topographies of integrated circuits etc [8].

- The results of the study of the innovations of 11 leading furniture enterprises participating in the Verified Bulgarian Furniture of BBCWFI (the total number of member companies is 13) for the period 2010-2012 can be summarized in the following:
- More than half of the surveyed enterprises have realized new products during the period;
- 30 % of enterprises bring 5 to 10 new products, one third of which are new to the market;
- 18% of enterprises have a registered patent, slightly below the average score for industrial SMEs in Bulgaria by 20%;
- None of the companies has registered industrial design or trademark, and other forms of protection of intellectual property;
- Half of the innovative enterprises develop the software and machines needed for their production;
- Enterprises with the highest innovative performance work actively on projects related to the improvement of competitiveness, human resource development, energy efficiency and safety;
- Innovative enterprises have implemented more innovative activities as part of a public contract for the supply of goods and services to public sector organizations;
- The purpose of product innovation furniture enterprises are increased market share and profits;
- Managers state the high cost of registration and lack of staff to deal with R & D, furniture makers, as barriers to the registration of patents.

V. CONCLUSION

Studies related to the innovation performance of furniture enterprises in Bulgaria, suggest that it is below the EU average or industrial SMEs. By increasing the number of employees in the furniture enterprises, their innovation activity increases. The prevailing product innovation - new furniture is introduced now, but there is a low realization of innovative products that are new to the market.

Analysis of the results allows for the formulation of the following conclusions regarding furniture enterprises in Bulgaria, as a subject of future studies:

- low level of R & D, as well as costs associated with it;
- low level of implementation of innovative products;
- low level of patent activity;
- low level of collaboration and co-innovation;
- furniture enterprises mainly finance their own innovation activities;
- lack of concrete measures and activities related to the development of innovative furniture enterprises in strategy development of the Woodworking and Furniture Industry in 2013;
- the lack of a law for innovations in Bulgaria strongly influences the potential to stimulate investment in the innovation projects of the SMEs, and the full support of innovation in enterprises.

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REFERENCES

- [1] BBCWFI, State of Woodworking and Furniture Industry in Bulgaria, 2012.
- [2] D. Ivanova, R. Popova et al., The Competitiveness of the Furniture Industries, Avangard Prima Publishing House, Sofia, 2010.
- [3] Hollanders, S. Tarantola, Innovation Union Scoreboard 2010 - Methodology report, 2011.
- [4] Oslo Manual, Guidelines for Collecting and Interpreting Innovation Data. 3rd edition. A Joint Publication of OECD and Eurostat. OECD / EC, 2005.
- [5] Pro Inno Europe, The Innovation Union's Performance Scoreboard for Research and Innovation - Innovation Union Scoreboard 2010 and 2011, 2011.
- [6] R. Chobanova, Innovativeness of the National Economy, Prof. Marin Drinov Academic Publishing House, Sofia, 2012.
- [7] R. Canter, From Spare Change to Real Change: The Social Sector as Beta Site for Business Innovation, Harvard Business Review, Vol. 77 No.3/1999.
- [8] www.bpo.bg [Official site of Patent Office of The Republic of Bulgaria]
- [9] www.eurostat.com [Official site of Eurostat].
- [10] www.nsi.bg [Official site of the National Statistical Institute of Bulgaria]
- [11] www.timberchamber.bg [Official site of the Branch Chamber of Woodworking and Furniture Industry].



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