INNOVATIVENESS WITHOUT PROTECTION

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Abstract: *This paper analyses the most important findings of the analysis of innovation capacities of SMEs which were provided within consulting services by a team of associates of the Science and Technology Policy Research Center (STPRC) of the Mihajlo Pupin Institute (MPI), which is a member of the EEN Serbia consortium. These specific consulting services have been provided to SMEs since 2016 as a specific project within the EEN Serbia project, entitled "Extended EEN innovation support service for innovative SMEs in Serbia".*

Keywords*: SMEs, innovation capacity, EEN, Serbia*

1. INTRODUCTION

The European entrepreneurship network, named "ENTERPRISE EUROPE NETWORK" (EEN), is Europe's largest business support network, offering a variety of assistance to small and medium-sized enterprises (SMEs) in the European Union (EU) and beyond. Over 50 countries from Europe and other continents are part of this business network. In Serbia, this network was formed and started operating in 2009 thanks to the funds of the Competitiveness and Innovation Framework Program (CIP) and the European Commission. EEN in Serbia enables SMEs and scientific research organizations (SROs) access to the markets of the European Union and other member states. Specific support for SMEs and SROs, eager to operate in EU markets, is organized under the EEN Serbia project, which operates in Serbia since 2009 gathering several organizations within consortia named EEN Serbia. Main aim of this project is improving the competitiveness of small and medium enterprises through the implementation of integrated services focused on innovative capacities, productivity and internationalization of business operations of supported SMEs.

This paper summarizes the most important findings of the analysis of innovation capacities of SMEs which were provided within consulting services by a team of associates of the Science and Technology Policy Research Center (STPRC) of the Mihajlo Pupin Institute (MPI), which is a member of the EEN Serbia consortium. These specific consulting services have been provided to SMEs since 2016 as a specific project within the EEN Serbia project, entitled "Extended EEN innovation support service for innovative SMEs in Serbia".

2. INNOVATION CAPACITY OF FIRMS – THEORETICAL ASPECTS

Today, it is generally accepted that innovation plays an important role in enhancing a firm's competitive advantage (Hult et al., 2004). Innovation is mostly generated by the capacity of firms to find solutions to the existing problems and to respond to the challenges in the market (Zhi-Hong, 2015). There are several factors that affect the ability of firms to innovate and improve their innovation capabilities. Theoretical and empirical studies on innovation at the firm level have recognized several factors that have positive impact on innovation capabilities of firms. Organizational learning has been proved as an important driver in generating innovations (Hurley & Hult, 1998). Firms that are willing to learn have greater abilities to adapt to new market challenges. The findings additionally show that absorptive capacity has a positive impact on innovation (Spithoven et al., 2011; Fabrizio, 2009). Some empirical evidence also suggests that imitation serves as a source of innovation (Weterings & Boschma, 2009). Establishing an innovation network with other relevant organizations and inter-firm ties have also been recognised as an important factor of firm's competitive advantage (Freel & Harrison, 2006).

Based on previous research, it is clear that innovation is important for the firm and that there are certain factors that affect the ability of firms to innovate and create a competitive advantage in the market. Developing an adequate methodology for assessing the innovation capabilities of firms is important in order to take measures to improve internal capacities based on the assessment of the current situation. In this

regard, a significant number of techniques for measuring the innovation capacity of a company have been developed within various methodologies. Current methods and techniques for assessing the innovation capacity of a company include: innovation assessments, benchmarking, interviews, qualitative and quantitative types of questionnaires, etc. Innovation auditing is a methodological approach that comprehensively assesses the innovation capacity of a company which includes (Chiesa et al., 1996):

- assessment of existing innovation practices and performance;
- identification of discrepancies between existing and desired practices and the reasons for their occurrence;
- definition of action plan for overcoming the resulting deviations.

Determining the innovation capacities of a firm includes a large number of dimensions of the firm innovation process, namely, product innovation, process innovation, marketing innovation and organizational innovation. There are a number of different assessment tools developed in the past 20-30 years which main aim is to assess innovation and technological capabilities of firms. Tidd, Bessant and Pavitt in their work "Managing Innovation" have developed a framework for assessing the innovation capacity of the company which consists of short questions with the aim of helping the management of innovative companies to gain insight into their innovation capacities in order to get the most realistic answer to the question: "How well does the company manage innovations" (Tidd at al., 1997). There are also other assessment tools developed recently: Syntens Innovation Scan method, developed by the Dutch Syntens Institute, is an assessment tool that evaluates the innovation capacity of a company in a quick and illustrative way through schematic analysis. The IMP³rove Assessment, developed by European Innovation Management Academy (www.improve-innovation.eu), helps companies to understand the key success factors of innovation management in 5 innovation management dimensions: innovation strategy, innovation organisation and culture, innovation life-cycle management, innovation enabling factors and innovation results. This tool is based on benchmarking methodology. The INNOVATE assessment tool, that was used for the purpose of analyses presented in this paper, is a diagnostic tool that encourages domestic businesses to improve their innovation management in order to improve their competitiveness. It was created in the framework of ICIP and SECEP projects funded by the European Union. The presented assessment tools differ in complexity, approaches, innovative types that are evaluated and other dimensions. However, regardless of which assessment tool is used, they all the same aim, which is to assess the current state of the firm's innovation capacity and, based on the assessed state, to provide a basis for consultants to create an action plan for measures to improve the firm's innovation capabilities.

Recent studies conducted in Serbia have shown a very low level of innovation activities within SME sector and comparing them to the developed countries in the Europe, they are far behind (Prljić et al. 2016). As regards to the structure of innovation expenditure, Serbian companies are mainly focused on purchasing already developed machinery and they pay very little attention on technology transfer processes. The share of turnover from sales of unchanged or marginally modified products is dominant (Strbac & Kutlaca, 2018). However, some research papers indicate that new product development is a priority for a group of female Serbian SMEs, showing a high level of awareness of the importance of innovation for the company's development (Popovic-Pantic, 2014). The same research indicates that preferred forms of innovation commercialization in the companies are the sales of final products as opposed to selling concepts and patents which are almost never practiced.

General problem for the SME sector in Serbia is insufficient systemic and institutional support (Dukic et al., 2015). An innovation system is not sufficiently supported in the economy and society. Despite the progress in the development of certain parts of the innovation and scientific-technological infrastructure, the output indicators the National Innovation System (NIS) do not show significant improvements, with the exception of the increased number of papers in reference international journals (Kutlaca & Semencenko, 2015). The concept of NIS is in the initial phase of conceptualization and actually far from being functional. The management of innovation policy is not efficiently coordinated among responsible ministries and agencies which leads to the overlapping in innovation policy instruments (Semencenko & Kutlaca, 2018).

2.1. Innovation capacity: macro *vs*. micro level

Having in mind the very early stage of the development of the National Innovation System in Serbia, usual misunderstanding of the notion of innovation (mixing the concepts of invention and innovation), preferring scientific research activities which end with published articles instead of developing technologies and rather separated research sector and economy, SMEs in Serbia are faced with difficult mission to operate without adequate resources, knowledge and support. EEN is, therefore, engaged as "mission impossible" in order to provide SMEs with incentives and advice how to access international market with knowledge and competence, i.e. with innovation, rather than chip labour and low-cost raw material.

Nevertheless, particular task assigned to the teams of consultants within EEN-Serbia consortia since 2016 is to provide innovation support services to innovative SMEs in Serbia. This task includes the following steps: the identification of SMEs that have established their competitive position primarily through innovation of products, processes and services, and then, the analysis of innovation potential and capacity of these companies in order to identify shortcomings and provide advice on how to address these shortcomings and establish more efficient innovation activities in the company.

It is necessary to stress the fact that research on innovation capacity is, in literature, primarily addressed to the level of nation/country. Unlike the WEF (World Economic Forum) mostly qualitative based approach (experts opinions on number of different aspects of innovation process) (WEF, 2019), there are two distinguished, highly quantitative based methodologies (analysis relying on values of number of indicators) (Furman, Porter, & Stern, 2002; Radosevic, 2004).

One definition of *National Innovation Capacity* (NIC) is the ability of the state, as a political and economic entity, to produce and commercialize new technologies over a long period of time (Furman, Porter, Stern, 2002). According to this concept, NIC consists of a developed innovation infrastructure, a developed innovation environment in industrial clusters and connections between the innovation infrastructures and clusters. This concept integrates the functioning of research and innovation systems in the country, technological specialization, economic effects of knowledge use, human capital, institutions and state policy. The key indicator for this concept is number of patents registered in US PTO (Patent and Trademark Office) and because of small number of such patents from developing countries like Serbia the application of that concept is practically impossible here. According to the second concept, NIC research identifies four dimensions of innovation capacity: *absorptive, research, diffusion* and *demand* (Radosević, 2004). The initial assumption of this concept is that the growth and innovation capacity of the economy depends not only on the IR supply, but also on the ability to transfer and diffuse technologies and the demand for the creation and use of technologies. Majority of the indicators used for this concept are calculated within Innovation Scoreboard survey, organised and managed by the EUROSTAT (EC, 2019). Later concept is of particular importance for dynamic monitoring of NIC in transitional economics, providing wealth of information to decision makers (Kutlaca & Radosevic, 2011).

3. INNOVATION CAPACITY OF FIRMS – CASE STUDY

3.1. Innovation capacity on micro level: INNOVATE as tool for analysis

Analysis of innovation capacity on micro level, i.e. level of companies, is primarily based on expert opinion and assessment of different aspects that best describe the innovation capacity of on company. Previous, theoretical section of this article has provided several methods widely accepted for analysis of innovation capacity of SMEs within expert support for enhancement of the innovation performance of companies. The STPRC team of consultants has provided such sort of innovation support since 2016. Quality and reliability were criteria for selection of information collected during innovation scanning and innovation consultancy provided to 31 SMEs by STPRC team of consultants during the period 2016 - spring 2020, and arrangement for the purpose of this paper in order to emphasize major aspects that constitute innovation capacity of the firm. The INNOVATE is used as a diagnostic tool that encourages companies to improve innovation management, as well as to increase the level of their competitiveness. It is a self-assessment tool, and facilitated by the consultants can provide support with concrete action planning within SMEs.

An important feature of the INNOVATE tool is that it is applicable to all companies regardless of size and year of operation, including micro and start-up companies, and does not rely on quantitative financial data of companies, which is very often difficult to obtain from companies. INNOVATE provides feedback on the extent to which a company manages twenty one different aspects or “dimensions” of innovation management by comparing current company practices with one of four predefined statements. Answers are entered simply via a series of predefined drop-down menus, and the result is generated automatically through the tool's diagnostic element. The company's performance, compared to four possible levels, is then graphically displayed both in terms of dimensions and in terms of the company's overall performance (INNOVATE, 2012).

INNOVATE also includes a number of forms that help the company to develop and implement an action plan defined according to the priorities for improvement within the innovation management, with the application of (INNOVATE, 2012):

- SWOT analysis - management tool that highlights the strengths and weaknesses of the company, along with potential threats and opportunities;
- PESTEL analysis - technique used to analyse the external (macro) environment in which the company operates;

- Strategic Analysis and Roadmap tool - an analytical tool that highlights the company's long-term strategic goals and then demonstrates how they relate to key short-term goals, competition and obstacles, but also markets and partners;
- An action plan that transforms the roadmap into a concrete action plan and includes a clear specification of all project tasks and timetables within the project for each project task, while clearly defining related responsibilities and timelines;
- Locating resources that help the company identify available resources that may be helpful to them in implementing the action plan.

The company's performance in relation to each of the dimensions is automatically displayed graphically, and is divided into "resources" and "results". When the self-assessment is complete, the tool displays summarized results. The overall current performance of the company could be classified into one of the four predefined levels (INNOVATE, 2012):

- Level 0: Companies with a low level of innovation that apply the traditional approach in business;
- Level 1: Companies that accept external advice and the need for planning;
- Level 2: Companies that look at their business strategically;
- Level 3: Innovative companies with an international perspective.

3.2. Findings of the analysis

Descriptive statistics for selected 31 SMEs are provided in Table 1 with aggregated results of self-assessment phase of implementation of INNOVATE tool.

Table 1: Distribution of SMEs according to aggregate self-assessment level

Self-assessment level	Number of SMEs	Percent of SMEs
Level 0	0	0%
Level 1	20	64.5%
Level 2	8	25.8%
Level 3	3	9.7%
Total	*31*	*100.0%*

Although only three companies were assessed as "*companies with an international perspective*" (level 3), it is important to stress the fact that ALL companies are innovative, having innovation (process, product or service) as main driver of their competitiveness! This situation imminently leads to an obvious question - is the intellectual property (trademark, product, process, knowledge in any form) of the company protected? Data in Table 2 could provide answer to this question.

Table 2: Protection of the intellectual property of analysed SMEs

Intellectual property	Number of SMEs	Percent of SMEs
Patent	1	3.23%
Trade mark	2	6.45%
Patent + Trade mark	1	3.23%
Nothing protected	27	87.10%
Total	*31*	*100.0%*

Analysis of data in Table 2 should be combined with analysis of data in Table 3 which illustrates resident patent applications in Serbia in period 2014-2019. It is obvious that overall patenting intensity in Serbia is very low, only 23.2 patents per million population in 2018, which is 10 times less than same figure in Austria (Austria: 230.6 resident patent applications per million population in 2018, source: World Bank data)

Table 3: Resident patent application in Serbia, 2014-2019

Year	2014	2015	2016	2017	2018	2019
Individuals	145	123	144	124	112	120
R&D organisations	28	35	32	31	37	15
Companies	28	20	15	18	13	33
Total Resident patent applications	201	178	191	173	162	168

Source: Intellectual Property Office of the Republic of Serbia

The fact that only 4 companies have some sort of intellectual property protected, which is 12.9% of all observed SMEs, contributes to the previous finding that the lack of patenting culture is an important feature of Serbian national innovation system (Kutlaca and Semencenko, 2015). Most of the companies in the sample do not have a clear explanation for the low level of intellectual property protection, which implies that the awareness of the need for intellectual property protection is at a very low level.

Another surprising finding is illustrated in Table 4 – majority of observed SMEs were not aware of the existence of state funds and institutions established to support and finance innovation projects, such as Innovation Fund (IF), and/or programme for funding of innovation projects of the Ministry of Education, Science and Technological Development (MESTD)! Development agency of Serbia (DAS) is fairly known by observed SMEs, but EU funds remain mystery for majority of SMEs. Networking with RDO (Research and Development Organisation) in Serbia is not favourite option for cooperation in innovation projects as well as cooperation with other SMEs in country. EEN as possibility for networking and cooperation internationally is highly acceptable solution for most of the observed SMEs.

Table 4: Major advices to SMEs addressed to enhancement of the innovation capacity

Advice	Number of SMEs	Percent of SMEs
Application for funding by MESTD	27	87.10%
Application for funding by IF	22	70.97%
Application for funding by DAS	4	12.90%
Application for funding by EU	6	19.35%
Cooperation with domestic RDO	4	12.90%
Cooperation with domestic SMEs	3	9.68%
International cooperation using EEN	28	90.32%
Total	*31*	*100.0%*

Table 5 illustrates major threats identified by observed SMEs which could jeopardise their competitive position and realisation of already launched / intended innovation activities. Besides unfair competition, legal issues and lack of skilled human resources are the key obstacles for efficient performance of innovative SMEs in Serbia. Strong impact on their performance has economic and political situation in the country and in the Western Balkans, obvious market for majority of observed SMEs.

Table 5: Major threats for competitive position and realisation of innovation activities

Advice	Number of SMEs	Percent of SMEs
Legal framework for business in Serbia	10	32.26%
Lack of skilled human resources	10	32.26%
Unfair competition	12	38.71%
Insufficient use of IT	1	3.33%
Economic and political situation in the country and in the Western Balkans	8	25.81%
Total	*31*	*100.0%*

4. CONCLUDING REMARKS

Analysis of several aspects which constitutes innovation capacity of the SMEs, presented in this article, points to the following key conclusions:

- All SMEs selected for specific support addressed to innovativeness within EEN project activities are very innovative, ready to change / introduce new products, processes and services whenever innovations arise from market opportunities or there are results of curiosity driven activities of employed associates;
- Although owners and/or employees are aware of importance of intellectual property for competitiveness and market position of their company, often faced with overt attempts by competitors to take advantage of their intellectual property, just small number of SMEs are ready / knowledgeable to make step forward and apply for protection of inventions, trademarks etc. in Intellectual Property Office of the Republic of Serbia! This is not only “lack of patenting culture”, this represents ignorance of the main competitive tool in XXI century, which is knowledge!
- Another important finding is ignorance of the infrastructure built to support innovation activities in the country. SMEs are not aware of existence and variety of programmes and financing schemes addressed to innovative SMEs in Serbia; instead they apply for expensive bank loans! SMEs are not only to blame for such situation; there is a large space for disseminating information on the national innovation infrastructure, particularly funding institutions and schemes;
- Final finding could be call on the competent institutions to include companies in the process of harmonizing the legal framework with the needs, requirements and capabilities of domestic companies, without interfering with the freedoms and principles of the free market. SMEs are in “real economy”, confronted with unfair competition, ambiguities of the legal system and political instability of the region that threatens their business. They could be and should be partner to the creators of the political and economic milieu in creating the best possible conditions for business and support to innovation.

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