ASSESSMENT OF THE INNOVATION CAPACITY OF BUSINESS ENTITIES IN THE REPUBLIC OF SERBIA

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Abstract: *The paper aims to assess the innovation capacity of business entities in the Republic of Serbia by conducting desk and field research. Desk research involves an analysis of relevant literature, statistics, and data on different actors of the innovation system of RS. Field research is conducted using a survey on a sample of 10 large companies and 30 SMEs. Additionally, a good practice example technique is used to gain insight into the business model and practice of a company that successfully innovates. To assess the innovation capacity, the differences between large and SMEs are analysed in terms of a strategic approach to innovation development, degree of familiarity with the concept of innovation, type of innovative activities and perception of innovation environment and the importance and quality of activity of individual participants in the innovation system. The research confirms that large companies have a more pronounced strategic approach to the innovation development and are more familiar with the innovation concept. When it comes to performance, large companies consider the academia and science to be the most successful, and SMEs consider the ICT companies as most successful. Concerning the importance, large companies attach equal and greatest importance to science and academia, large companies, start-up companies and ICT companies. On the contrary, SMEs believe that the Ministry in charge of innovation is the most important actor in the innovation system. The research results indicate that SMEs innovate differently from large companies. Considering that the national innovation system is still insufficiently developed, and that there are numerous obstacles, the Serbian business entities have solid innovation capacity.*

Keywords*: Innovation, capacity, large enterprises, small and medium-sized enterprises, Serbia*

1. INTRODUCTION

Constant innovation activities that lead to a new product or process is the way firms should differentiate themselves from others to achieve sustainable growth (Jung &

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Kwak, 2018). Generating and applying new knowledge through innovation is a basic source of economic growth. Innovation is the process of transforming an idea/innovation into good/service that consumers/customers are willing to purchase (Saguy, 2011, pp. 1876). A distinction is made between radical and incremental innovations. Radical innovation refers to the fundamental changes in the activities of a firm, or an industry, and represents clear departures from the existing practices (Demircioglu et al., 2019). Incremental innovation can be conceptualized as requiring minimal, if any, departures from the existing templates of organizing and production (Ahmad & Erçek, 2019). Innovation is a prerequisite for achieving smart and sustainable development in a modern business environment characterized by dynamism and uncertainty. Innovative companies are the leading bearers of economic growth and generators of new jobs. Activities based on knowledge and new technologies are rapidly gaining in importance while connecting different actors in the innovation system. The links between business entities and public institutions facilitate the implementation of existing and the development of new innovations thus improving the competitiveness of enterprises and economies. The generation, application and commercialization of knowledge encourage the development of high-tech products and services that affects the growth of productivity and competitiveness of exports and production.

Knowledge that underlies the development of new business ventures, production systems, products and services, represents the intellectual capital that underdeveloped and developing countries lack mostly due to its high value. This stems from the fact that knowledge-based economies are characterized by dynamic development of information and communication technologies (ICT), scientific and technological progress. Knowledge is a means, and not an end in itself. It is a basic precondition for the development of innovation. According to the current Serbian legislation, innovation is a successful market application of an invention, i.e., a concept, method and/or idea to produce a new product/service or process.

Innovation capacity has often been equated with the formal research and development (R&D) activities of enterprises and innovation output with new products (Kirner et al., 2009). Innovation capacity is the resource inputs and intermediate transformative assets that enable a firm to engage in activities needed for innovation (O'Connor, Roos &Vickers-Willis, 2007, pp. 537). Szeto (2000) emphasizes that improving the innovation capacity of firms is dependent upon various factors, among which the continuous supply of innovation resources and the accumulation of innovation knowledge are crucial.

Given the importance of innovation for economic growth and competitiveness, the paper aims to assess the innovation capacity of business entities in the Republic of Serbia. To realize the research objective, the following hypotheses were tested:

- H1: Large companies have a more pronounced strategic approach in the process of innovation development and are more familiar with the concept of innovation;
- H2: SMEs and large companies generally perceive the innovation environment, and the importance and quality of work of individual actors in the innovation system differently; and
- H3: SMEs innovate differently from large companies.

The hypotheses are developed based on the literature review. The results of desk and field research are used to test the hypotheses. Also, a good practice (case study) technique was applied to present the model to solve the specific problems, develop and improve the innovation capacity of business entities.

Descriptive statistics are used to process and describe the main features of primary and secondary data obtained during the research. The objectification of the research results is performed by qualitative and quantitative analysis of primary data. The results are then placed in the context of the results obtained from secondary research sources. The innovation capacity of business entities in the Republic of Serbia is assessed by applying the comparative analysis of primary and secondary data.

2. LITERATURE REVIEW

To define the concept of innovation, the research begun with the review of the current national legislation. Pursuant to the Law on Innovation Activity of the Republic of Serbia (Official Gazette RS, No. 110/2005, 18/2010 and 55/2013), innovation represents the successful market application of invention, i.e., the application of a new or significantly improved product and/or service, process, marketing method or new organizational method in business. Accordingly, the basic types of innovation are:

- product innovation, as the application of a new or significantly improved product, which is new to the observed legal entity (does not have to be new to the market), and is not a change of aesthetic nature or exclusively sale of innovated products produced and developed by another legal entity,
- process innovation, as the application of a new or significantly improved method of production or delivery (including significant changes in technique, equipment, or software, but not exclusively organizational and

managerial changes) that is new or improved for the observed legal entity, regardless of who developed it,

- organizational innovation, as the application of new or significant changes in the structure or methods of management, with the intention to improve the use of knowledge, quality of products or services, or increase the efficiency of business flows, and
- marketing innovation, as the application of a new marketing method, including significant changes in product design, packaging, marketing and product promotion and product billing.

Innovation usually starts with creating a new idea, and idea generation is considered as a significant factor for firm innovation capacity (Tajvidi & Karami, 2015). Innovation capacity has been defined as continually improving the capabilities and resources of firms for discovering opportunities to engage in new product development (Szeto, 2000). Kirner et al. (2009) noted that innovation capacity refers to R&D activities of enterprises and innovation output in terms of new products.

Innovation is mainly associated with large enterprises. However, the importance of small enterprises is not in question. The real question is whether there is a difference in the innovation capacity of business entities of different sizes? Many studies have addressed this question providing different conclusions. SMEs face specific obstacles when engaging in R&D and innovation, many of which can be traced back to market failures (OECD, 2019). Hirsch-Kreinsen (2008) points out that in small enterprises innovations are not necessarily result of formal R&D, but rather results of daily business development, customer collaboration or optimization of processes. In large companies, innovative activities even without success can be used to acquire new knowledge and skills, while in SMEs they can be fatal and cause large losses and business closures. In relation to large enterprises, one of the advantages of SMEs is reflected in less bureaucracy and a greater degree of flexibility and ability to react to market and technological changes (Đuričin & Beraha, 2016).

Despite the importance of R&D investment, it cannot be achieved in most companies, except for a few large ones, due to the lack of fuds (Jung & Kwak, 2018). The ability to mobilize funds in favour of innovation is on the side of large firms (Pavolna, 2019). Limited access to finance is perhaps one of the most significant limiting factors for SMEs when introducing new technologies into business processes. It is difficult for SMEs to secure external funding support (Lv et al., 2018). Compared with large firms, SMEs are more difficult to obtain loans from banks (Tronnberg & Hemlin, 2014; Zhang et al., 2016). However, the lack of resources in SMEs to engage in looking outward is said to be a barrier to open innovation, but at the same time this shortage is cited as a motive for looking beyond organisational

boundaries for technological knowledge (Spithoven et al., 2012). The results of the research conducted by De Martino & Magnotti (2018) indicate that the role of the qualified staff is crucial, even more important than R&D investment, and moreover confirm the importance of collaboration in the case of small size of the firm given the lack of internal expertise and the limited resources to carry out in-house R&D activities. Karantininis et al. (2010) also addresses the issue of collaboration by exploring the form of relationships among firms (vertical integration, contractual arrangements and market power) in the innovation process pointing out that innovation is influenced by a firm's organization, stage in the chain and export orientation.

As the position of large companies and SMEs in the innovation system differs, a diverse approach is necessary to foster innovation development. While large companies are generally characterized by a strategic approach to innovation development, in SMEs innovation is not necessarily the result of formal R&D (Forsman, 2011). In SMEs innovation is often a result of everyday business operation. This primarily refers to the daily needs for the development of cooperation with customers and process optimization (Hirsch-Kreinsen, 2008). Since in small firms the development activities are integrated in daily business efforts it is very difficult to differentiate the daily business development from innovation (Forsman, 2008). Research shows that only one third of small businesses have a formal plan for innovation development and slightly less than half of them reserve funds in the form of a special budget for innovation (Jong & Marsili, 2006). Most SMEs do not have any formal written innovation plan, and less than half of those enterprises set a budget for innovation in the firm (Marsili & Salter, 2006). Also, innovation in small enterprises is a result of investigation, learning, assessment, and adaptation of technologies (Santamaria et al. 2009). This could result in difficulties in distinguishing innovation development from other business activities, especially in small enterprises in which the development work is integrated into their daily business (Forsman, 2011; Forsman, 2008).

Because of the specificity of innovation development, SMEs usually need to outsource certain types of services and resources. Forsman (2011) points out that in many SMEs accumulation of knowledge which is a precondition for the development of innovative ideas is only possible by outsourcing from the external environment (Forsman, 2011). Also, the innovation capacity can be increased through networking (Caniels & Romijn, 2003). The benefits of networking are reflected in the possibilities for knowledge improvement, access to new markets, lower production costs, lower R&D costs, etc. (Karaev et al., 2007).

The empirical results of the study conducted by Kutlača et al. (2020) reveal a strong interdependence among the R&D expenditures and economic performance at the national level in Serbia, and thus emphasized the importance of continuously encouraging investments in research and innovation. In terms of the innovation performance and the level of development of the national innovation system, Serbia lags behind the EU-28 average. Given that a national innovation system refers to a set of organizations, institutions and their relationships directed towards generation, diffusion and application of scientific and technological knowledge in a country (Marjanovic et al., 2019, pp. 94), there seems to be a strong direct correlation between this system's quality and the innovation performance of business entities. This emphasizes the need to take action to improve opportunities and conditions for innovative activities. According to the latest available data provided by the Statistical Office of the Republic of Serbia, the average investment in R&D in Serbia is less than 1% of GDP.

3. DATA AND METHODOLOGY

Desk and field research methods are applied to realize the research objective (Đuričin & Beraha, 2018; Wonglimpiyarat, 2011). Additionally, a good practice technique is used (Đuričin, 2019; Beraha & Đuričin, 2016). Desk research involves the collection and analysis of relevant aggregate data. Desk research includes the analysis of the following data:

- relevant national regulations: Law on Innovation Activity ("Official Gazette of the Republic of Serbia", No. 110/05, 18/10 and 55/13).
- data on national innovation policy measures and programs and the size of funds for financing innovative activities.
- academic and professional literature, statistical data, and information on the participants of the innovation system of the Republic of Serbia and
- geographical representation of participants in the national innovation system and their scope of activities.

The research sample and questionnaires are defined based on the results of the desk research. Field research is conducted through the survey (Tuan et al., 2016). The questionnaires are designed in accordance with the European methodology: "Recommended practices for the Online CIS" - European Commission - Eurostat - Directorate G: Global Business Statistics, 2014. The questionnaires are structured and adapted to the research objective, i.e., respecting the role that business entities have in the national innovation system.

In most cases, the survey is conducted indirectly, i.e., by forwarding the questionnaire to the e-mail addresses of business entities. Each e-mail is personalized and contains information about the purpose and objective of the research. In a small number of cases, the questionnaires are administered in person. The sampling of representatives of large enterprises and the SME sector is conducted considering the desk research results. To assess the innovation capacity, the questionnaire is sent to the addresses of large companies which, according to the results of the research of the Business Registers Agency (APR), belong to the group of 100 most successful companies in the Republic of Serbia. The survey was realized in the period March-June 2018. In the case of SMEs, the survey is conducted on a random sample, considering data on their predominant activity. The innovation capacity of business entities is assessed on a sample of 10 large companies and 30 SMEs.

The example of good practice is selected from the SME sector. It is an enterprise that has been proven to record good results and can serve as a model to solve certain problems and improve the innovation capacity of business entities. It is a successful experience, which has been tested and confirmed and has the potential to increase positive innovation results in practice in case of its mass adoption and implementation.

The research is conducted using two basic data sets. Secondary data refer to data that already exist as such but is used for the first time to achieve the research objective, and they are collected from internal and external sources. Specific data on participants in the national innovation system are collected from internal sources, while general data on the research subject contained in national and international official and publicly available documents, publications, professional literature, reports, etc. are collected from external sources (Đuričin, 2018). Primary data are obtained by field research through a survey on a sample of 40 business entities.

All data (primary and secondary) obtained during the research are processed using descriptive statistical analysis. Qualitative and quantitative analysis is performed for primary data, and the obtained results are objectified. These results are then placed in the context of the results obtained from secondary research sources. To assess the innovation capacity of economic entities in the Republic of Serbia, the comparative analysis of both primary and secondary data is conducted.

4. RESULTS AND DISCUSSION

The results of the research are presented according to the structure of the survey questionnaire and divided into three groups. The first group of results refers to general information on the surveyed business entities. The second group of results

consists of data on the innovative environment in which business entities operate. The third group of results includes data on specific innovative activities and their results.

According to the size, micro, small and medium sized enterprises account for 32.3%, 41.9% and 25.8% of the total number of SMEs in the research sample, respectively. According to the ownership structure, domestic private ownership accounts for 87.1%, foreign private ownership and combined domestic and foreign private ownership account for 3.2% each, while the ownership of the Republic of Serbia accounts for 6.5% of the total number of SMEs in the sample. According to the ownership structure of large enterprises in the sample, domestic private ownership accounts for 66.7%, and combined foreign ownership and ownership of the Republic of Serbia account for 33.3% each.

The enterprises in the sample are mostly export-oriented. 66.7% of large companies sell their products and services on both national and international markets, while 33.3% sell on the local and national markets. The largest share of SMEs, i.e., 32.3% simultaneously sell their products and services on the domestic and international markets. Only 6.5% of SMEs sell their products and services on the national and local markets, 19.4% sell only on the local market, while 12.9% sell exclusively on the national and 12.9% exclusively on the international markets. 16.1% of SMEs sell their products and services on the local, national, and international markets at the same time (Table 1).

The largest percentage of surveyed enterprises are not members of any business association or network. 33.3% of large companies and 17.6% of SMEs are members of some business association or network. Exclusive membership in clusters and international associations is recorded by 8.8% of surveyed SMEs each. Also, 8.8% of SMEs is member of both cluster and business association or network. Cluster members are embedded within a network of relationships within a specific industry, and they are involved in both cooperation and competition (Michailova & Chetty, 2011).

Table 1. General sample data

General data	SME	Large enterprises
Sample structure	✓ 32.3% micro enterprises ✓ 41.9% small-sized enterprises ✓ 25.8% medium-sized enterprises	
Ownership structure	✓ 87.1% domestic private ownership ✓ 3.2% foreign private ownership ✓ 6.5% ownership of the Republic of Serbia ✓ 3.2% combined domestic and foreign private ownership	✓ 66.7% domestic private ownership ✓ 33.3% combined foreign ownership and ownership of the Republic of Serbia
Market share	✓ 19.4% local market ✓ 12.9% national market ✓ 12.9% international market ✓ 6.5% local and national markets ✓ 32.3% national and international markets ✓ 16.1% local, national and international markets	✓ 33.3% local and national markets ✓ 66.7% national and international markets
Cluster/Business association/network/organization membership	✓ 8.8% cluster membership ✓ 8.8% cluster and business network or association membership ✓ 17.6% business network or association membership ✓ 8.8% international organization membership ✓ 55.9% no registered membership	✓ 33.3% business network or association membership ✓ 66.7% no registered membership

Source: Field research results

Considering the dynamism of the modern business environment, innovation needs to be used strategically by firms to gain competitive advantage, achieve superior performance, and compete effectively on global and local markets (Keupp et al., 2012). The research results show that most surveyed Serbian enterprises have a systematic approach to innovation development. More specifically, all large

enterprises and 67.7% of SMEs have innovation development goals defined in their strategic documents and/or business plans. Dogan (2017) points out that successful companies are characterized by a holistic and systematic approach to innovation by developing a fully integrated innovation strategy with its mission and objectives and by making organizational culture and organizational systems compatible with the strategy. The question remains to what extent the defined strategic and business plans are implemented in practice by the Serbian enterprises.

Given that innovation often has different interpretations, the survey intended to answer the question on how familiar the Serbian enterprises are with the concept of innovation. The results show that 66.7% and 33.3% of large companies and 46.7% and 30% of SMEs are generally and completely familiar with the concept of innovation, respectively. Partially familiar and unfamiliar are 16.7% of SMEs each, while mostly unfamiliar and completely unfamiliar are 3.3% of SMEs each.

The presented research results related to the innovation development goals and familiarity with the concept of innovation confirm the first hypothesis:

- H1: Large companies have a more pronounced strategic approach in the process of innovation development and are more familiar with the concept of innovation.

Within the discussion on the innovation capacity, it is necessary to look at the degree to which individual enterprises use the benefits of the innovation system of Serbia. Concerning the familiarity with the current national regulations on innovative activities, 66.7% of large companies is generally familiar and 33.3% is generally unfamiliar with the national regulations. Only 6.5% of SMEs is completely familiar with the national regulations, while generally familiar and partially familiar are 29% of SMEs each, 22.6% are completely unfamiliar and 12.9% are generally unfamiliar. As regards the services of organizations providing infrastructural support to innovation activity, majority of large companies (66.7%) are only partially familiar, while 33.3% are generally unfamiliar. Only 9.7% of SMEs are completely familiar with the available supporting services, while generally familiar and partially familiar are 22.6% of SMEs each. Slightly less than one third of SMEs are not familiar at all with the role that these organizations play in the national innovation system, and around 16% of SMEs are generally unfamiliar. Many large companies and SMEs stated that when doing business, they cooperate with a higher education institution and/or scientific research institution. Such cooperation is recorded by as far as 66.7% of large companies and 58.1% of SMEs. Regarding the terms, measures, and support programs of the government in the field of innovative activity, per third of the surveyed large companies are generally unfamiliar, partially familiar, and

generally familiar. As for SMEs, 29%, 22.6% and 9.7 are partially, generally, and completely familiar with the government support, respectively (Table 2).

Table 2. Key factors for assessment of opportunities and conditions for innovative activities and innovation development in the Republic of Serbia (ranking on a scale from 1 to 10)

Offered answers	SME	Large enterprises
Macroeconomic environment	5.6	8.3
Lack and inadequacy of financial resources	7.7	6.7
Inadequate support of the government and governmental institutions	6.5	6.3
Insufficient familiarity with the relevant regulations	6.0	4.3
Lack of relevant regulations and procedures	4.4	4.3
Inadequate promotion of actors in the innovation system	4.8	4.3
Insufficient number of promising innovative business ideas	4.2	2.0
Inefficient system of scientific knowledge and new technology transfer	5.8	8.7
Administrative barriers	6.6	6.7
Incompetence of employees	5.0	7.3

Source: Field research results

The survey questionnaire also addressed the assessment of the opportunities and conditions for innovative activities and innovation development. All large companies and over half of SMEs rated these opportunity and conditions as solid, while they are rated as good and very bad by 6.7% and 10% of SMEs, respectively. SMEs stated the lack and inadequacy of financial resources as the key factor for such assessment, while large enterprises emphasized the inefficient system of knowledge and technology transfer. Both large companies and SMEs perceive the insufficient number of promising innovative business ideas as the least important factor for their assessment. The difficulty in securing financial resources is often exacerbated for unknown and unproven prerevenue micro-ventures, as these are less attractive to potential investors (Chan & Parhankangas, 2016; Sohl, 2003). As a nation's economy becomes more knowledge-intensive, an increasing number of players – in the private sector, public sector, and academia – are involved in the production and diffusion of innovation, and the effectiveness in gathering and utilizing knowledge from these institutions becomes an essential determinant of a country's competitiveness (Seidl & Pinheiro, 2018). Consequently, science, technology and innovation financing also grew in complexity and scope, incorporating new concepts to leverage innovative performance, recognizing regional, national, and international

interactivity and cooperation among actors, as well as the economic importance of knowledge and knowledge flows, and such mechanisms include (Ibid.):

- formal measures such as tax policies and government subsidies,
- long-term funding commitments by government and industry organizations,
- government budget allocation to universities, research institutes, libraries, and other organizations involved in learning and innovation,
- funding programs managed by international and regional organizations,
- target funding managed by specialized institutions, such as Science and Technology Councils and Foundations, and
- single-project funding via Project Finance.

The presented mechanism clearly gives importance to the efficiently established system of scientific knowledge and new technology transfer, i.e., cooperation between science and business. The need for technology commercialization in developed countries has resulted in the adoption of special laws that, within the university, have led to the establishment of technology transfer offices. In this way, universities are enabled to fully manage the intellectual property resulting from research. As a result, the commercialization of new technologies has accelerated, which has had a positive impact on economic development and entrepreneurial activity (Siegel et al., 2004).

Although the lack of financial resources is usually considered as one of the main obstacles to innovative activities, the research shows insufficient awareness of enterprises about the available opportunities. As far as 66.7% of large enterprises are generally not familiar with the available sources of financing for innovative activity of enterprises, while 29% and 25.8% of SMEs are generally familiar and partially familiar, respectively. Only 9.7% of SMEs are completely familiar with the available financing sources, and around 16% are completely unfamiliar.

Another aspect of the research is to assess the quality and importance of activity performed by various actors in the innovation system (Table 3). According to large companies, activities performed by science and academia, i.e., institutes, faculties, universities, and centres of exceptional value are of the highest quality. Regarding the importance of activity, large companies attach equal and greatest importance to science and academia, large enterprises, start-up companies, and ICT companies. According to SMEs, the highest quality of activity is performed by start-ups, while the ministry in charge of innovation stands out as the most important actor in the innovation system.

Table 3. Assessment of quality and importance of activity of each actor in the innovation system? (1 to 5 scale)

Actors in the innovation system	Quality		Importance	
	Large enterprises	SMEs	Large enterprises	SMEs
Government departments	3.7	2.8	4.7	4.0
Ministry in charge of innovation	3.7	3.0	4.7	4.3
Science and academia (Research Institutes, Faculties, Universities, Centres of Excellence)	4.7	3.4	5.0	4.1
Actors for promotion and enhancement of innovation	3.5	3.1	3.5	4.2
Organizations providing infrastructural support to innovation activity	3.5	3.1	4.5	4.0
Organizations performing innovation activity	3.0	3.1	4.0	3.6
Large companies (domestic and foreign)	4.0	3.5	5.0	4.0
SME sector	3.5	3.3	4.5	3.8
Start-up companies	4.0	3.6	5.0	3.8
ICT companies	4.0	3.7	5.0	3.8

Source: Field research results

The structure of answers to questions about the perception of the innovative environment, the importance and quality of activity of individual actors in the innovation system generally differs between large companies and SMEs. The analysis of the research results shows that SMEs give more specific and large companies more general answers to questions which, from the aspect of gradation offered on the Likert scale, makes them very different in terms of perception of the innovation environment, importance, and quality of work of individual actors in innovation system. Accordingly, the authors conclude that the above research results confirm the second hypothesis:

- H2: SMEs and large companies generally perceive the innovation environment, the importance and quality of work of individual actors in the innovation system differently.

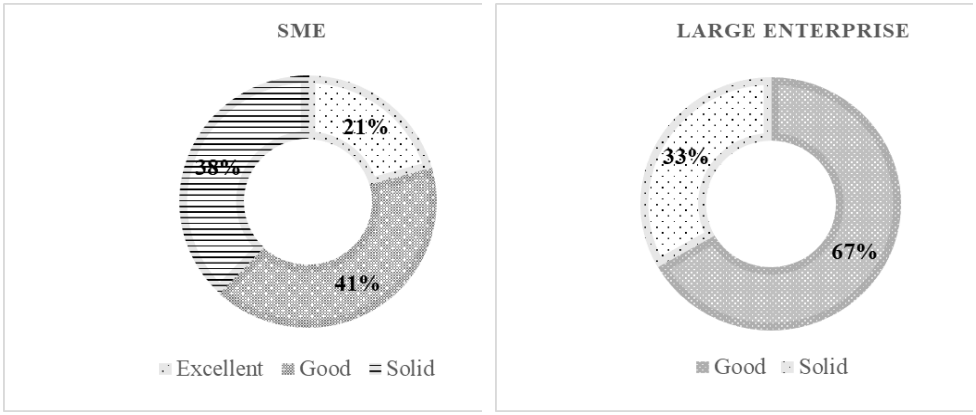
The next analysed aspect is the type of innovative activity performed by large companies and SMEs. In the organizational structure of all large enterprises there are separate units for R&D. Also, they implement innovative activities through the procurement of machinery, equipment and software, as well as through investments in design and marketing development, etc. 66.7% of large companies outsource R&D activities from other companies, institutions, and organizations. On the other hand, 38.7% of SMEs have separate organisational units for R&D. 29% of SMEs realize their innovative activity by outsourcing R&D from other companies, institutions and organizations, 54.8% through the procurement of machinery,

equipment and software, 25.8% by investing in design and marketing development, etc., while 9.7% of SMEs do not realize innovative activities at all. Innovative activities that did not result in innovation due to failure and/or suspension were not recorded in large companies. 66.7% of large enterprises recorded ongoing innovative activities which are expected to result in innovation, while in 33.3% of enterprises, innovative activities have resulted in innovation. Innovative activities did not result in innovation due to failure and/or suspension in 12.9% of SMEs. 41.9% of SMEs recorded ongoing innovative activities, and in 38.7% they have resulted in innovation. 6.5% of SMEs did not know whether innovative activities that did not result in innovation were recorded. The research conducted by Minović, Lazarević Moravčević & Beraha (2016) showed that SMEs in Serbia are actively engaged in the innovative activity, and while small enterprises are mainly focused on product innovation, medium-sized enterprises are focused on process innovation, i.e., on the improvement of technological procedures to reduce costs, and that there is a compatibility between the innovative activities and the competitive advantage strategy of medium-sized enterprises.

Innovative activities in all large companies result in process innovations. Innovative activities result in organizational innovation in 66.7% of companies, while they result in product/service innovation and marketing innovation in 33.3% of enterprises each. In 70% of surveyed SMEs, the result of innovative activities is product/service innovation, in 40% it is process innovation, in 26.7% it is organizational innovation and in 20% it is marketing innovation. Innovations in a form of new product, process or service are an important factor in providing competitive advantage for SMEs (Oksanen & Rilla, 2009). Most studies on SME innovativeness conclude that small firms can keep up with larger firms in the field of innovation and show no difference in the quality and significance of the innovations produced (Hilke, 2010). The question is not whether large companies are more innovative than SMEs. Of more importance is the conclusion that SMEs innovate differently from large companies (Hilke, 2010). The research results confirm the above assertions since all large companies have developed innovations that are new for their company, but not for the market in which they operate. On the contrary, 56.7% of innovations developed by SMEs are new for them, but not for the market, while 43.35% of innovations are new to the market and were developed before the competition. 66.7% of large companies and 43.35% of SMEs independently developed innovations. 33.3% of large companies and 13.3% of SMEs developed innovations in cooperation with other enterprises. Also, 23.3% of SMEs modified innovations initiated by other companies or organizations. The above research results confirm the third hypothesis:

- H3: SMEs innovate differently from large companies.

Figure 1. Innovation applications in existing product solutions



Source: Field research results

Enterprises in Serbia face numerous challenges and limitations when innovating. However, there are examples of good practice which can serve as a model to solve specific problems, develop and improve the innovation capacity of business entities. The number one high tech companies in Serbia which is also among the top 10 world companies in the field of night vision technology was selected for the analysis. It is the Harder Digital Sova company from Nis, which bases its innovative activity on the most modern optoelectronic technologies for viewing at night and in low visibility conditions. This company's success is based on the following factors:

- a good assessment of the availability of a critical mass of resources (people, equipment, space) to enter the privatization process,
- technology development concept implemented,
- stable market provided by a foreign partner,
- significant and continuous investment of a foreign partner (so far approximately 20 million Euros),
- investment in infrastructure as an important prerequisite (6,500 m^2, 800 m^2 of "clean" rooms),
- modern organizational model providing rational use of all available resources,
- extension of the program to civilian applications,
- focus on development projects (Horizon 2020, Innovation Fund, etc.),
- focus on human resources management as the most important factor, etc.

The company's most valuable experience is the process of human resources development in the field of high technology. Aware of the fact that state-of-the-art technology requires a new level of standards in all areas of operation, a special focus is on the development of high-tech staff who will be the bearer of technology and new programs and applications development. The company is maximally oriented towards staff rejuvenation and connection with older experienced workers. Accordingly, workshops that encourage team spirit, support team cohesion, and improve employee engagement are continuously organized. This ensures that the basic personal characteristics and potentials of individuals are recognized at an early stage. A key aspect is the improvement of theoretical knowledge in the field of optoelectronic technology, as it is insufficiently studied at universities. Consequently, a long-term learning process is required. Along with the obligatory mentoring work with every young engineer, there is an increasing collaboration with faculties. Lectures by professors are organized, which has positive effects on the theoretical level of knowledge of employees. Also, foreign experts in certain fields were engaged several times, which had very positive results. Emphasis is on the development of analytical skills and process analysis. These are conducted on a weekly basis, using a database that covers the entire technological production chain. Given the multidisciplinary of technology, this provides an opportunity to improve knowledge in other fields, as well. Engagement in innovative projects is also very important as it allows employees to gain practical experience. Raising the level of skills in nanotechnologies has been finalized by establishing the nano laboratory with the most modern equipment. With the latest CNC machining line and additive technology (3D printing), exceptional conditions are created to apply new technologies. Developing software technologies has been the company's priority from the very beginning. Open Erp software has been developed for complete production monitoring and planning, and material bookkeeping. The emphasis has been on developing software projects for algorithms for image processing and "cleaning" in low visibility conditions, where a major technological breakthrough is expected in the following period.

The illustrated example testifies to a successful experience in the innovative activity. The applied business model and practice of this company have been confirmed to have the potential to improve the results of innovative activities if adopted and implemented by similar companies in Serbia.

5. CONCLUSION

The obtained results confirm the research assumptions. All hypotheses are accepted based on which conclusions are drawn. The research confirms that large companies in the Republic of Serbia have a more pronounced strategic approach to the

innovation development and are more familiar with the innovation concept. The research results show that all large companies and 67.7% of SMEs have innovation development goals defined in their strategic documents and/or business plans. 66.7% and 46.7% of large companies and SMEs are generally familiar with the innovation concept, respectively.

Also, the research results lead to the conclusion that there is a difference in the way the innovation environment, the importance and quality of activity of individual actors in the innovation system is perceived by large companies and SMEs in Serbia. The terms and conditions for innovative activity and innovation development are rated as solid by all large companies. Regarding SMEs, they are rated as solid, good, bad, and very bad by 56.7%, 6.7%, 26.7%, and 10%, respectively. The representatives of large companies consider science and academia to perform their activities best. Also, regarding the importance of different actors in the innovation system, they attach equal and greatest importance to science and academia, large companies, start-up companies and ICT companies. On the contrary, SMEs believe that ICT companies are the best performing, while the Ministry in charge of innovation is the most important actor in the innovation system.

The research has confirmed that SMEs innovate differently from large companies. The innovative activity of large companies results in process innovation. In 66.7% of large companies, it results in organizational innovation, and in per 33.3% in product/service innovation and marketing innovation. The innovative activity results in product/service innovation, process innovation, organizational innovation, and marketing innovation in 70%, 40%, 26.7%, and 20% of SMEs, respectively.

The results of the research show that business entities in the Republic of Serbia have the potential to realize innovative activities and develop innovations. Considering that the national innovation system is still insufficiently developed, and that there are numerous obstacles in doing business, the business entities have solid innovation capacity. Also, the results provide the starting point for future research with an aim to analyse the possibilities to improve and develop innovation capacity. In addition to the results obtained by desk and field research, the presented example of good practise contains valuable data for future research directions.

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