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Conference Paper — Published Version

Innovation Stimulation Mechanisms through Internal Processes and External Collaboration

Suggested Citation: Hadžić, Faruk; Burić, Ema; Čavalić, Admir (2025) : Innovation Stimulation Mechanisms through Internal Processes and External Collaboration, 9th Scientific Conference with International Participation "Economy of Integration" (ICEI 2025), In: Gadžo, Amra Klapić, Hidajet (Ed.): Regenerative and Digital Economy: Southeastern Europe's Path to Sustainable Competitiveness, University of Tuzla Faculty of Economics, Tuzla, pp. 403-414, <http://icei.ba/zbornik-radova/>

This Version is available at:

<https://hdl.handle.net/10419/343372>

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INNOVATION STIMULATION MECHANISMS THROUGH INTERNAL PROCESSES AND EXTERNAL COLLABORATION

ABSTRACT

In the growing and complex modern business environment, the importance of innovation is increasingly coming to the fore, as a key driver and factor that leads to competitiveness, but also to long-term growth of companies. As part of this paper, the mechanism that leads to incentives for innovation through internal organizational processes, as well as external cooperation of companies in Bosnia and Herzegovina, is examined. The paper relies on theoretical frameworks such as resource-based approaches and the ability of companies to be open to innovation, in order to investigate how internal factors and capacities such as research and development functions, knowledge management and external cooperation contribute to innovation results. As part of the research, 304 responses were collected from companies of different sizes and from different sectors. For the statistical analysis of the collected data, regressions, t-tests and correlation were used, which were necessary to test the hypotheses set. The results show that the existence of a research and development department has a significant positive impact on innovation results, especially in small companies, while external cooperation proved to be the most beneficial for medium-sized companies. Internal mechanisms alone have not shown a significant direct effect on innovation, but are suggested to act as complementary factors within broader innovation systems. The findings highlight the existence of different innovation pathways among firms of different sizes, underscoring the need for differentiated strategies and policies. For small firms, strengthening internal R&D capacities appears to be a priority, while medium-sized firms benefit more from external networks and knowledge flows. Large firms, in contrast, require an integrated approach of complex internal and external resources.

Keywords: *Innovation stimulation mechanisms, Internal processes, External collaboration, SMEs.*

JEL: O31, O32, L26

1. INTRODUCTION

Innovations today represent one of the key factors and drivers of competitiveness and long-term development of companies, regardless of the size of the company or the sector from which they come. In an era marked by accelerated technological progress, but also by growing consumer demands, there is a growing need for constant adaptation and improvement of products, services and processes. In this context, understanding the processes and methods that lead to the stimulation of innovation within the company, but also through cooperation with external partners, becomes necessary for the formation of business strategies. It is particularly important to investigate how internal processes and resources, together with external sources of knowledge and networks of cooperation, can contribute to a greater innovative ability of the company.

Although there is a large amount of research today related to the field of innovation research, in practice there is often an insufficient connection between theoretical models and the actual situation on the market.

This problem is particularly visible in developing economies, such as Bosnia and Herzegovina, where companies operate in an environment characterized by limited financial and human resources, various institutional barriers and changing market conditions. For this reason, it is necessary to take a closer look at how different forms of innovation stimulation, starting from internal knowledge management, then employee training and creating an innovation culture, to networking with various partners, academic institutions and research centers, affect innovative activities.

Previous research has mainly focused on individual dimensions of innovation, ignoring the interdependence of internal capacities, external resources, and the different needs of companies according to their size. In the case of Bosnia and Herzegovina, the research gap is further accentuated by the lack of empirical work based on primary data.

This paper seeks to address this very gap and offer a systematic analysis of the combined effects of internal and external factors of innovation. The results obtained from this paper aim to offer practical and useful recommendations to managers and policymakers, all with the aim of improving the existing way in which support for the emergence of innovations is provided.

Based on this, the research problem and objectives of the paper are defined. The research problem is defined as follows:

- Lack of empirical data on the effects of internal and external mechanisms of innovation stimulation on firm performance in Bosnia and Herzegovina
- Lack of clear insight into which mechanisms have the greatest impact depending on firm size
- Limited connection of theoretical frameworks with local market conditions and practice

The specific objectives of the research are defined as follows:

- Identify key internal and external mechanisms of innovation stimulation
- Examine the connection of these mechanisms with innovative outcomes through statistical analysis
- Analyze differences in the effectiveness of mechanisms by firm size
- Formulate recommendations for improving innovation policy and practice in the private sector

2. REVIEW OF PREVIOUS RESEARCH

The ability of firms to innovate has long been the subject of research through various theoretical frameworks. The resource base of the firm argues that competitive advantage arises from valuable, rare internal resources and capabilities of the firm (Barney, 1991, p. 99-120). According to this theory, innovation occurs when a firm can effectively use its internal resources, such as knowledge, technology, and human capital, in a unique way, creating new products and processes that competitors cannot easily copy (Cohen & Levinthal, 1990, p.128-152).

In parallel, dynamic capabilities build on this model and focus on the capacity of the firm to continuously adapt and transform its resources in a constantly changing environment (Teece, Pisano, & Shuen, 1997, p. 509-533). Dynamic capabilities, such as the ability to spot opportunities, learn quickly, and adapt internal competencies, are crucial for the continued innovation of a firm. It is these capabilities that explain why some companies succeed in innovating under the pressure of change, e.g. The ability to rapidly recombine knowledge and processes allows a firm to stay one step ahead of its competition through innovation (Eisenhardt & Martin, 2000, 1105-1121).

The concept of open innovation considers that companies should not rely only on internal ideas and resources, but should systematically include external actors in their innovation process (Chesbrough, 2003). In his work, Chesbrough showed that companies can achieve greater innovation performance if they combine internal R&D activities with external ones. Open innovation actually implies a two-way flow of knowledge: “inside”, through the exploitation of external ideas within the company, and “outside” through the commercialization of internal ideas with the help of external partners (West & Bogers, 2014, p. 814-831). This paradigm is particularly important for small and medium-sized enterprises that often do not have all the necessary resources internally (van de Vrande et al., 2009, p. 423-437).

Human resource management practices also strongly influence a company’s innovativeness. HRM practices such as continuous training, employee skill development, teamwork, participatory decision-making, and rewarding creative ideas create an environment conducive to innovation (Laursen & Foss, 2003, p 243-263). High-quality human capital and a learning culture within a company often drive innovation from the bottom up, where employees themselves suggest improvements to products or processes.

An equally important factor is knowledge management and learning within the company, since companies that actively collect, share and apply knowledge are better at ultimately innovating. Setting up internal “knowledge banks”, databases with best practices, and encouraging informal knowledge exchange, through mentoring and brainstorming, lead to strengthening the innovation capacity of the company. Darroch (2005) finds in his work that effective knowledge management is directly related to a higher number of patents and new products filed. Companies that have an established culture of organizational learning, where mistakes are used as lessons for progress, create fertile ground and a basis for creativity (Skerlavaj, Song, & Lee, 2010). Especially in the context of the countries of the Western Balkans, it has been observed that many SMEs have limited internal resources primarily through the lack of a formal R&D department, which can reduce their innovation performance and requires a focus on strengthening internal capacities (Fedajev, Panić, & Živković, 2024, p. 447-475).

In addition to internal factors, companies can significantly stimulate innovation through cooperation with external partners and inclusion in wider knowledge networks. One of the most prominent forms of external cooperation is cooperation with universities and research institutes. Universities should be sources of the latest knowledge and a place where it is possible to access talent selection. In this context, connecting industry with academia brings a double benefit as companies gain access to new knowledge and technologies, while researchers can commercialize their ideas (Perkmann et al., 2013, p. 423-442). Successful examples include technology clusters and joint R&D centres where universities and companies work on projects, from pharmaceutical consortia to IT start-up incubators in cooperation with technical faculties. The Western Balkans are also moving towards this model, although the intensity of this type of cooperation is still lower than in the rest of Europe, initiatives such as technology parks in Slovenia or university-business cooperation in Serbia show the potential for enhancing regional innovation through closer links between science and business (Fedajev et al., 2024, p. 447-475).

It is important to emphasize that internal and external mechanisms act complementary. Contemporary literature speaks of ambidexterity in innovation in the sense that successful companies are able to simultaneously use internal resources and explore external opportunities for innovation. For example, research conducted in small and medium-sized enterprises in China (Zeng, Xie, & Tam, 2010, p. 181-194) showed that the combination of strong internal, technical competencies and intensive external cooperation in networks brings the best innovation performance. Companies that had only internal focus, or only external dependence, lagged behind those that balanced both dimensions, which is consistent with the concept of absorptive capacity, which indicates that for external cooperation to yield results, the firm must have sufficient knowledge and processes internally to absorb new information (Cohen & Levinthal, 1990, p. 128-152).

3. METHODOLOGY

This research is based on a quantitative approach, with a focus on empirically testing the relationship between internal processes, external cooperation mechanisms and innovative results of enterprises in Bosnia and Herzegovina. The main goal of the research is to gain insights that would explain how different forms of internal activities, such as human resource development, formalization of innovation procedures and knowledge management, and external activities, such as cooperation with various partners from industry and academia, contribute to the emergence of innovations. The research was conducted using a survey questionnaire that was prepared to cover all essential and significant dimensions of internal and external stimulation of innovations. The questions were prepared in accordance with the standards of similar research, and the measurement scale was a five-point Likert scale, where 1 indicated complete disagreement or minimal presence of the factor, and 5 complete agreement or maximum presence. The sample included micro, small, medium and large enterprises from different industries, which also enabled a separate analysis according to the size of the enterprise, with the aim of identifying possible structural differences.

The data were collected using a purposive sampling method to ensure representativeness of the companies by size and the sectors they come from. After collection, they were first processed using descriptive statistics to obtain a clear picture of the basic distributions of responses. Inferential analyses, including Pearson correlation and multiple regression, were then conducted to determine the strength and direction of the relationship between the observed variables. In addition, tests were conducted separately by company size. Python was used for statistical processing, while visual displays of the results were created in Excel. The statistical significance threshold was set at $p < 0.05$, with additional marking of results that move towards the significance limit to avoid exaggerating the effects.

3.1. Research questions or hypotheses

This research assumes that innovations arise from a combination of internal processes, such as human capital development, organizational culture and knowledge management, and external forms of cooperation with partners, suppliers, clients and research institutions. In addition, it is expected that the size of the company can significantly affect the intensity and efficiency of these mechanisms.

The formulated research questions and hypotheses are designed to enable testing of these relationships and provide empirical evidence relevant to theory and practice. In accordance with the above, the following research questions were formulated:

- Which internal mechanisms contribute most to the stimulation of innovation in companies in Bosnia and Herzegovina?
- Which external cooperation and partnerships have the greatest impact on innovative results?
- Are there significant differences in the effects of innovation stimulation mechanisms depending on the size of the company?

In addition to the defined research questions, the following hypotheses were also defined:

- **H1** - There is a statistically significant relationship between internal processes and innovative results of the company.
- **H2** - External collaboration with partners positively affects innovation outcomes.
- **H3** - The effects of internal and external innovation stimulation mechanisms vary depending on the size of the company.

4. RESULTS AND ANALYSIS

For the purpose of testing the hypotheses, different statistical methods were used, depending on the type of variables and the hypothesis being tested. Hypothesis 1 was tested using regression analysis, which assessed the impact of selected independent variables, such as internal processes and mechanisms) on innovative results. Hypothesis 2 was analyzed using the independent samples t-test, by comparing the

mean values between groups with a high and low level of involvement in external cooperation. Hypothesis 3 was tested using Pearson correlation, with the aim of examining the relationship between the intensity of cooperation and innovation results. The analyses were first conducted on the total sample, and then separately by company size (micro, small, medium, large), in order to identify possible differences between different companies.

The results obtained indicate certain differences in significance between hypotheses and groups. In the total sample, only hypothesis H1 was confirmed, while H2 and H3 did not show statistical significance. However, a more detailed analysis by company size shows additional connections. For small companies, H1 was confirmed, while for medium-sized companies, significance is evident for H2, which indicates that in these companies external cooperation mechanisms may play a greater role than in other categories. In the case of micro and large companies, none of the hypotheses was confirmed, which may suggest that in these companies other factors, not included in the models, have a stronger impact on innovation results. Therefore, the results indicate the heterogeneity of innovation mechanisms, depending on the size of the company, which is an important finding of the research.

Table 1. Summary of statistical testing

Hypothesis	Method	Group	N	Model/Effect	Statistic(s)	Significant?
H1	OLS	All	304	$R^2=0.018$	$\beta(Q5)=0.127$, $p=0.0210$; $\beta(Q6)=-0.021$, $p=0.7710$; $\beta(IM)=0.003$, $p=0.9589$	Yes
H1	OLS	Small	88	$R^2=0.076$	$\beta(Q5)=0.223$, $p=0.0436$; $\beta(Q6)=0.136$, $p=0.2902$; $\beta(IM)=-0.091$, $p=0.3812$	Yes
H2	t-test	Medium	51	Means: high=4.09, low=3.67	$t=2.113$, $p=0.0421$	Yes

Source: Author's creation based on primary research

Table 1. presents a summary of the statistical analyses conducted, grouped by hypotheses, applied methods and sample size distribution. For each hypothesis, the appropriate statistical technique was used. The "Model/Effect" column shows the main effects and the obtained coefficients, while the "Statistic(s)" column shows key indicators such as p-values, t-values, correlation coefficients, which allow for the assessment of statistical significance. It is important to emphasize that the results vary depending on the observed group of companies.

Hypothesis 1 was based on the assumption that the existence and strength of a research and development department in a company positively affects the level of innovation. To test this hypothesis, regression analysis was used, where the key independent variables were indicators of the connection with the research and development functions, as well as the innovation mechanisms index. The results on the total sample of 304 companies showed that there is a statistically significant relationship between the existence of a research and development department and the innovation index ($\beta=0.127$, $p=0.021$), indicating that organizations that have an established research and development function achieve higher innovation performance compared to those that do not.

The visualization shown in Figure 1. further confirms these results. The graph shows the distribution of the innovation index according to different categories of R&D departments, so that 1 is defined as the lack of a formal department, 2 as partial or limited capacity of the R&D department, and 3 as a developed and active department. It can be seen that companies with developed R&D departments have a higher median of the innovation index and a wider range of values, which indicates that this group of

companies generates a greater number of innovations, but also greater variability in the success of innovations. When the results are analyzed by company size, additional clarifications and insights are obtained. Namely, a significant positive effect of the R&D department was confirmed only in small companies ($\beta=0.223$, $p=0.044$), while in micro, medium and large companies the effect was not statistically significant. This finding can be interpreted as meaning that small companies benefit the most from introducing R&D departments, as this allows them to manage innovation more systematically compared to the ad-hoc solutions typical of micro-firms. In large and medium-sized companies, it is possible that the complexity of the structure and the different sources that lead to the emergence of innovations reduce the relative importance of the R&D department itself.

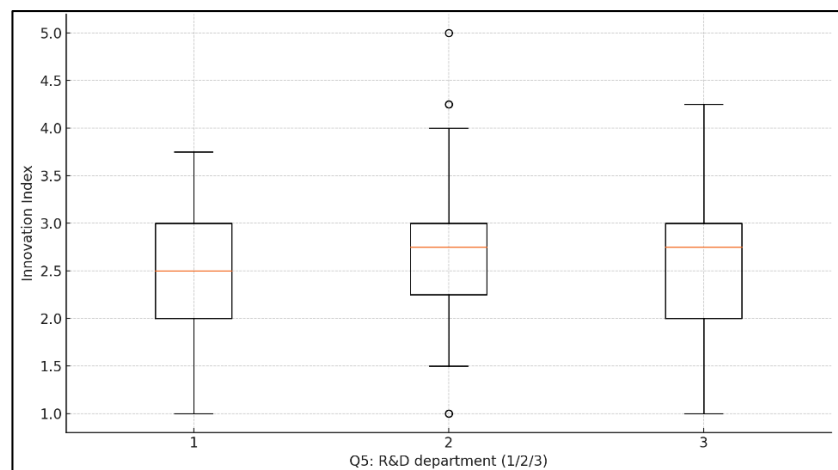


Fig. 1. Innovation by R&D Department (All Companies)

Source: Author's creation based on primary research

The second hypothesis was based on the assumption that a higher degree of reliance on external sources of knowledge and cooperation has a positive effect on the innovative performance of a company. To test this assumption, an independent samples t-test was used, comparing companies with high and low intensity of external cooperation. When observed on the total sample, the results did not show a statistically significant difference ($t=0.910$, $p=0.364$), indicating that, in general, reliance on external sources alone does not guarantee a higher innovation index. In other words, companies that cooperate intensively with external actors are not necessarily more innovative than those that rely more on internal resources.

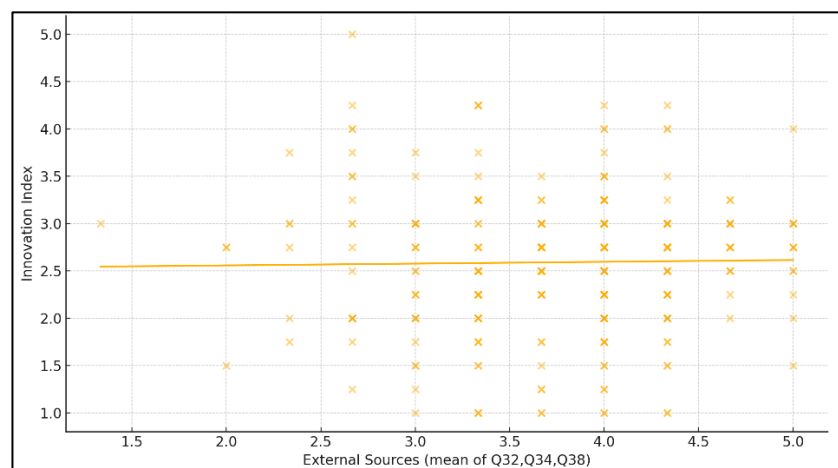


Fig. 2. External Sources vs Innovation (All Companies)

Source: Author's creation based on primary research

Figure 2 shows the relationship between external sources and innovation. Although a certain dispersion of the data can be visually observed, the trend line remains almost horizontal, confirming that there is

no clear linear relationship between these two dimensions. When the results are analyzed by company size, heterogeneity is additionally observed. In medium-sized enterprises, a statistically significant difference between the groups was found ($t=2.113$, $p=0.042$), indicating that it is in this category that external sources play a key role in strengthening innovation. In contrast, in micro, small and large firms the effect was not significant. This finding can be interpreted as the fact that medium-sized enterprises, although they have certain internal resources, still have insufficiently developed own capacities for research and development, and rely more on external partners to compensate for these shortcomings.

The third hypothesis was aimed at examining the relationship between the intensity of use of internal mechanisms, such as various training programs, employee incentives, or formalized procedures, and the innovation performance of the company. It was expected that a stronger orientation to internal processes would positively correlate with a higher innovation index. For this analysis, the Pearson correlation coefficient was used, which showed a value of $r=-0.011$ with $p=0.849$ on the total sample of 304 companies. It can be seen that these results clearly indicate that no statistically significant linear relationship was found between these variables, which means that a more intensive use of internal mechanisms, at least in this sample, is not directly related to higher innovation results.

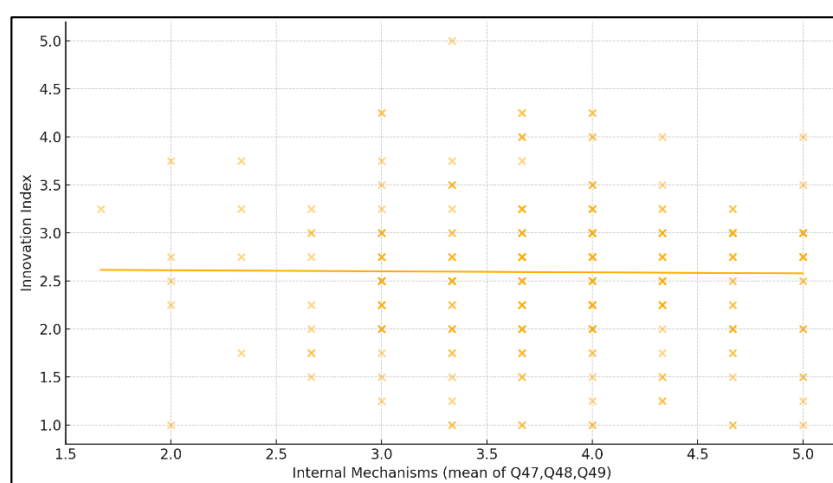


Figure 3. Internal Mechanisms vs Innovation (All Companies)

Source: Author's creation based on primary research

Figure 3 shows the relationship between the average intensity of internal mechanisms and the innovation index. The dotted distribution indicates a relatively even and scattered sample, without a clear trend. The regression line is almost horizontal, which further confirms the absence of a linear relationship. In practice, this means that firms that invest more in formal internal procedures do not necessarily innovate more. However, a deeper analysis by company size shows different results. Although none of the groups (micro, small, medium, large) showed a statistically significant correlation, in some cases a trend of weak positive or negative relationships can be observed, which may mean that the effects of internal mechanisms also depend on other factors such as managerial approach, organizational culture or the ability to connect knowledge acquired within the company with external sources. In other words, internal mechanisms alone are not sufficient to stimulate innovation, but in combination with other factors they can have a direct impact.

5. DISCUSSION

The results of the research showed that there is no universal way to stimulate innovation through various mechanisms within the company, but that it also depends on the context, as well as the characteristics of the companies themselves. The empirical analysis confirmed that the existence of a research and development department has a positive and statistically significant impact on innovation when looking at the entire sample, while on the other hand, external sources and internal mechanisms showed much weaker results. These results are largely in line with theoretical assumptions about the dynamic capabilities of companies, which emphasize the importance of organizational resources and capacities

in the process of knowledge accumulation (Cohen & Levinthal, 1990; Teece, 2020). The results obtained clearly show that this dimension is the most important for the companies in the sample, but that its effect is not the same for all categories and sizes of companies.

When it comes to small companies, their R&D capacities have proven to be particularly important, as they allow limited resources to be directed at a targeted level of innovative activities. These conclusions are in line with research showing that small companies often do not have the luxury of relying on a wide range of innovative activities, so that even their modest investment in R&D can significantly increase their competitiveness (Mališić et al., 2025). On the other hand, in medium-sized and large companies, the effect of the existence and activities of a R&D department was not statistically significant. There are works available in the literature indicating that in large companies, innovations increasingly occur through networks and various collaborations, and not exclusively within internal R&D departments (Gooderham et al., 2022).

The second dimension of the research concerned external collaboration, which is often presented in the literature as a key factor for the emergence of innovations within a company (Chesbrough, 2003; Xie et al., 2023). Although the theoretical arguments in the literature are quite strong, the empirical results of this research showed that external sources do not have a universally positive effect on innovation, at least not in the total, analyzed sample. The results of the T-test showed that there are no significant differences in innovation activities between companies with high and low intensity of collaboration, which indicates that the mere fact of collaboration is not enough if the company does not have the capacity to absorb and use externally available knowledge. This conclusion is in line with the theory of absorptive capacities (Cohen & Levinthal, 1990), which emphasizes that the value of external knowledge is conditioned by the company's internal capabilities to apply that knowledge. In other words, these companies have sufficient resources to cooperate with partners, but they do not yet have developed internal mechanisms like large companies, so external actors are crucial for the emergence of innovations. These results fit with empirical studies, which show that medium-sized companies benefit the most from participating in various networks and clusters (Orlić et al., 2019; Rexhepi & Jusufi, 2023).

In this paper, the third hypothesis dealt with internal mechanisms such as training, employee incentives and various formalized procedures. Although the literature often emphasizes the importance of these factors for the emergence and application of innovations (Sarfraz, 2023; Bawa et al., 2023), the results obtained did not show a statistically significant relationship between the intensity of use of internal mechanisms and innovation results. At first glance, this may seem like a contradiction, however, a possible explanation lies in the fact that internal mechanisms do not guarantee innovation by themselves, but their value depends on the connection with other elements in the overall innovation process. In other words, internal mechanisms act more as “support” than as the main drivers of innovation. This result supports theories of the complementarity of innovation mechanisms, according to which the effect of individual factors is not sufficient, but real value is achieved only through their integration.

Micro and small enterprises dominate the structure of the economies in the Western Balkans, while medium and large enterprises make up a smaller but strategically more significant part. The results clearly show that policies and management strategies cannot be unique, but must be adapted to both the size and capacities of the enterprises. For micro enterprises, the key challenge is the lack of resources, so their innovation activity is often driven by improvisation and individual attempts. For small enterprises, investment in research and development plays a crucial role because it introduces systematicity into the innovation processes. Medium-sized enterprises benefit most from external cooperation, while for large enterprises, innovation depends on the mutual coordination of complex internal and external resources. These findings are compatible with the literature that emphasizes that innovation paths differ depending on the context, and that it is necessary to develop different approaches (Stoeber, 2025; Castillo, 2023).

6. CONCLUSION

The results of the conducted research clearly show that innovations in companies do not arise from a single universal mechanism, but from a combination of different factors whose effects differ depending on the context. The analyses confirmed that the existence and development of research and development departments have a significant positive impact on innovative activities of companies, especially in smaller ones, while in medium-sized companies the external sources of knowledge and cooperation that these companies have are of the greatest importance. In contrast, internal mechanisms such as training and formalized procedures did not show a direct connection with innovative activities, which indicates that they are not sufficient in themselves to lead to the emergence of new innovations.

These findings confirm theoretical assumptions from the literature that indicate the importance of dynamic capabilities and the interconnection of different sources that lead to the emergence of innovations. It is particularly emphasized that companies, depending on their size and capacity, develop different strategies for which they lead to the stimulation of innovations. Small companies rely on research and development as a key resource, medium-sized companies look for external partners, while micro and large companies show less pronounced and clear patterns in how innovations arise. Such results suggest that universal innovation stimulation policies do not have the same effectiveness on all enterprises, but that support measures must be differentiated and adapted to the specific needs of enterprises.

As part of this research, it is important to emphasize that there are certain limitations that must be taken into account when interpreting the results obtained. First of all, the analysis is based on subjective assessments of the respondents, especially in terms of the perception of innovation and the intensity of cooperation. Second, the research is based on a cross-sectional design, which is why it is not possible to determine causal relationships between the observed variables. Third, the analysis is limited to the area of Bosnia and Herzegovina, which means that the results cannot be generalized to other countries. Finally, the research conducted includes only a certain number of internal and external mechanisms, while other potentially important factors were not the subject of this research, which also leaves room for new research in the future.

In terms of practical implications, the results obtained offer clear guidelines for managers and decision-makers. For small enterprises, the most important thing is the development of basic research capacities, which implies investment in human resources and formalization of the product development process. Medium-sized enterprises should intensify cooperation with academic institutions, suppliers and key customers, in order to benefit from external sources of knowledge. Large companies, as they often face greater organizational complexity, often require an integrated approach, which can combine internal and external resources. For decision-makers, the results indicate the need for differentiated support for innovation according to company size, instead of unified programs, since they often tend to ignore the specificities of the economy in Bosnia and Herzegovina.

In future research, it would be useful to include qualitative methods, such as interviews or case studies, in order to understand in an even deeper way the processes identified through statistical research. Also, expanding the model to additional variables, such as digital transformation, could contribute to a more complete understanding of the causes of innovation, as well as comparative studies between Western Balkan countries.

Overall, the contribution of this research is reflected in the empirical evidence that innovations are not the result of individual factors, but above all a complex and differentiated system. The key is to identify different ways of behaving according to the size of the enterprise, which offers practical guidelines to managers and policymakers on how to target innovation within enterprises. In this way, the work not only confirms the theoretical frameworks from the literature, but also provides very concrete recommendations that are more than significant for the context of developing countries and European integration.

REFERENCE

1. Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120.
2. Chesbrough, H. W. (2003). *Open Innovation: The new imperative for creating and profiting from technology*. Boston: Harvard Business School Press.
3. Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35(1), 128–152.
4. Darroch, J. (2005). Knowledge management, innovation and firm performance. *Journal of Knowledge Management*, 9(3), 101–115.
5. Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: what are they? *Strategic Management Journal*, 21(10–11), 1105–1121.
6. Fedajev, A., Panić, M., & Živković, Ž. (2024). Western Balkan countries' innovation as determinant of their future growth and development. *Innovation: The European Journal of Social Science Research*, 38(1), 447–475.
7. Laursen, K., & Foss, N. J. (2003). New human resource management practices, complementarities and the impact on innovation performance. *Cambridge Journal of Economics*, 27(2), 243–263.
8. Perkmann, M., Tartari, V., McKelvey, M., Autio, E., Broström, A., D'Este, P., ... & Sobrero, M. (2013). Academic engagement and commercialization: A review of the literature on university–industry relations. *Research Policy*, 42(2), 423–442.
9. Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509–533.
10. Van de Vrande, V., de Jong, J. P., Vanhaverbeke, W., & de Rochemont, M. (2009). Open innovation in SMEs: Trends, motives and management challenges. *Technovation*, 29(6), 423–437.
11. West, J., & Bogers, M. (2014). Leveraging external sources of innovation: a review of research on open innovation. *Journal of Product Innovation Management*, 31(4), 814–831.
12. Zeng, S. X., Xie, X. M., & Tam, C. M. (2010). Relationship between cooperation networks and innovation performance of SMEs. *Technovation*, 30(3), 181–194.