

5th INTERNACIONAL SCIENTIFIC CONFERENCE

VILLAGE AND AGRICULTURE

30. SEPTEMBER AND 1.OCTOBER 2022.
BIHELJINA- REPUBLIC OF SRPSKA, BIH



***5th International
Scientific
Conference
"Village and Agriculture"***

***30/09-01/10/2022
Bijeljina, B&H***

BOOK OF PROCEEDINGS

Editors:

Boro Krstić, Miroslav Nedeljković, Milivoje Ćosić

Publisher:

Bijeljina University, Bijeljina, Republic of Srpska, BiH

Print run: 100

ISBN: 978-99976-956-7-3

CIP - Каталогизација у публикацији
Народна и универзитетска библиотека
Републике Српске, Бања Лука

63(082)

INTERNATIONAL Scientific Conference "Village and Agriculture" (5 ; 2022 ; Bijeljina)

Village and Agriculture : [Book of Proceedings] / 5th
International Scientific Conference, 30. September and 1. October,
Bijeljina ; [Editors Boro Krstić, Miroslav Nedeljković, Milivoje
Ćosić]. - Bijeljina : Bijeljina University, 2022 ([S. l. : s. n.]). - 324
стр. : илустр. ; 25 cm

Тираж 100.- Библиографија уз радове.

ISBN 978-99976-956-7-3

Project number: 609755-EPP-1-2019-1-BA-EPPKA2-CBHE-JP

Project name: Vitalising ICT Relevance in Agricultural Learning

Disclaimer: The European Commission support for the production of this presentation does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Co-funded by the
Erasmus+ Programme
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<http://viralerasmus.org/>

The City of Bijeljina

<https://www.gradbijeljina.org/en/>

Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina

Administration of Bosnia and Herzegovina for Plant Health Protection

<https://uzzb.gov.ba>

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PREFACE

“Village and agriculture“ proceedings include selected scientific articles that were entirely presented at the International scientific conference „Village and agriculture“ held from September 30 until October 1 2022 at the Faculty of Agriculture of Bijeljina University.

Papers of the authors from the Republic of Srpska, Bosnia and Herzegovina, neighbouring countries as well as closer and wider surroundings that Faculty of agriculture has achieved scientific, professional and technical cooperation are presented in the proceedings.

Through two sections and an introductory panel lecture, the proceedings address a wide scientific and professional audience and are actually aimed at all segments of agricultural production, agricultural economics and rural development as life in the countryside today.

The publisher and editors are not responsible for the content of the published articles and the opinions expressed in them, because they represent the point of view of the paper's author. The editorial office owes a special thank to the organizing committee of the conference, as well as to all participants from the country and abroad.

A number of scientific and teaching institutions from the country and abroad participated in the coorganization of the conference, and its realization was carried out in cooperation with the project VIRAL - Vitalization of the importance of information and communication technology in agricultural education, reference number 609755-EPP-1-2019-1-BAEPPKA2-CBHE-JP.

In Bijeljina,
November, 2022

Editors:
Prof. dr Boro Krstić
Doc. dr Miroslav Nedeljković
Prof. dr Milivoje Ćosić

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INTRAPRENEURSHIP AS A PROXY FOR THE IMPROVEMENT OF EXISTING AND INTRODUCTION OF NEW TECHNOLOGIES

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Abstract

Intrapreneurship is based on Pinchot's perspective which implies principles of a conservation ethic guided by several simple slogans, like: "get the farmers out of the mud", "greatest good for the greatest number in the long run", and "the art of producing from the forest whatever it can yield for the service of man". Intrapreneurship is based on a commitment to public goods, nature and the environment and disagreement with the concentration of wealth and power. It is rather consistent for over one century with the main aim to introduce innovations. In this research, we used a systematic literature review as a methodological framework. It provides us analyze of the intrapreneurial topic within scientific papers published in open access written in the English language. In this research we found that 40% of papers with intrapreneurial thematic belong to a scientific area of Business and Management, 15% to Social Sciences, 12% to Economics, Econometrics and Finance and 0,2% to Agricultural and Biological Sciences. Results reveal the long tradition of the intrapreneurial concept which can be traced from the beginning of the XX century. This first concept was based on the aspiration to improve the prosperity of the nation from natural resources. It includes better management of the farms, conservation of nature, problems of waterways and business issues. Big companies and corporations recognize this specific concept and now Intrapreneurship is better known as Corporate Entrepreneurship. It was found that a favorable intrapreneurial climate influences the innovativeness of employees. There are several intrapreneurial models the application of which creates a suitable intrapreneurial climate. Intrapreneurial models mainly consist of management support, work autonomy, professional training of employees, business environment, rewarding system, and entrepreneurial attitudes. The application of the intrapreneurial model can contribute to the improvement of existing and introduction of new technologies, processes and services. Besides the big companies and corporations, it applies to small and middle enterprises too in all business fields.

Key words: Intrapreneurship, entrepreneurship, new technologies, models

Introduction

Intrapreneurship is considered a subdiscipline of entrepreneurship (Antoncic, Hisrich, 2003). Terminologically, it was first introduced by Pincho (1985), by modifying the term intra-corporate entrepreneurship (Pinchot, Pinchot, 1978). Pinchot's perspective has been rather consistent for several generations, building a new class of employee entrepreneurs who were initially called intracorporate entrepreneurs or "intrapreneurs" (Pinchot III and Pinchot, 1978). The main idea around the conceptualization of intrapreneurs assumes that the employee does not have to leave the enterprise to become an entrepreneur (Pinchot, 1985). The characteristics of such employees are: they have a risk minimization strategy, they make decisions related to analysis, they are not guided only by money as a driving force, and they have integrity; as such, by proposing new ideas, they will be dedicated to their job, use available resources to increase productivity, be motivated by success, and be loyal to long-term business goals (Pinchot, 1985). In 1992, the term intrapreneurship¹⁶ was introduced into the dictionary of American heritage and tradition. Intrapreneurship is defined as entrepreneurship in existing companies (Pinchot, 1985). This is the basic definition of intrapreneurship. It is widely accepted despite its simplicity, because it indicates that the employee does not have to leave the existing company in order to realize his business ideas and/or to realize himself as an entrepreneur (Pinchot, 1985). A more comprehensive definition of intrapreneurship indicates that it is a process that takes place within an existing company, regardless of size, and affects not only the emergence of new business activities and activities, but also the improvement of existing products and services, technologies and organizational processes and administrative procedures, as well as business strategies and competitive position of companies within the economic branch (Antoncic, 2001). This definition reveals the essence of intrapreneurship, which is no longer only related to individuals (small business owners), but concerns the company as a whole. The definition of intrapreneurship also contains contradictions because it seems that entrepreneurs and large companies do not go together, but that they need each other (Pinchot, 1985). The reasons for this are that entrepreneurs need resources owned by large companies, and large companies need their business ideas, but still the entrepreneur seeks freedom in work, which is in contrast to the organization of large companies that usually give little room to work autonomy (Pinchot, 1985). It has been established that employees can individually contribute to the development and prestige of the company, to increase earnings even though they are not in management positions (Audretsch, 2003). From the perspective of theory, intrapreneurship is based on the protection of nature and the provision of public goods for the whole society. This principle is contained in the utilitarian theory. Utilitarian theory is a family of normative ethical theories that prescribe actions that maximize happiness and

¹⁶ A person within a large corporation who takes direct responsibility for turning an idea into a profitable finished product through assertive risk taking and innovation (<https://ahdictionary.com/word/search.html?q=intrapreneur>, accessed 02.06.2019)

well-being for all affected individuals. According to Pinchot, conservation ethics is the art of producing from the forest whatever it can yield for the service of man. If the utilitarian theory is applied to companies, it implies that every employee has a certain creativity, which needs to be encouraged in order for the company to benefit from new business activities (2016). Similar perspective can be found in conceptualizing the intrapreneurship in companies. From that strategic perspective intrapreneurship is an innovative strategy determining the orientation of the enterprise, and the expected result is the offering of new or improved existing products and services, administrative procedures and organizational methods (Ireland et al., 2009).

Intrapreneurship depends on organizational elements, and takes place in a favorable organizational climate. The following organizational elements were analyzed in intrapreneurial studies (Hornsby *et al.*, 1999);

- Managerial support;
- Work autonomy;
- Rewards system;
- Working time availability;
- Flow of information;
- Professional training;
- Entrepreneurial attitudes and motives/ Risk taking;
- Business environment;
- Organizational structure and boundaries.

Management support is critical to intrapreneurship (Hornsby et al., 1999). Traditional hierarchical organizational structures are unsuitable for the development of intrapreneurship, because entrepreneurial ventures are started by individuals (employees). By establishing a management support system, it is possible for employees to independently recognize prospective business opportunities, which would otherwise be missed (Hornsby et al., 2002).

Working autonomy establishes a relationship between management's willingness to tolerate failure, show flexibility and free employees from excessive control, and delegate authority and responsibility to lower managers and employees (Hornsby et al., 1999).

Reward system is a motivation for employees to take an extra step and make an additional effort at work. Employee satisfaction is an indicator of the functioning of the motivation and reward system. Rewarding reinforces productive behavior, because employees become aware that behavior has consequences. If entrepreneurial behavior results in an appropriate reward, it means that it is desirable (Hornsby et al., 1999).

Working time availability represents the design of work tasks so that employees have enough time to express their own ideas, and develop new or improve

existing business activities in order to achieve the business strategy (Hornsby et al., 1999). Time is a necessary resource for generating and manifesting your own ideas. More available time has a positive effect on the intrapreneurship of employees (Hornsby et al, 2002).

Flow of information is significant in business environment characterized by instant information and the advancement of technology. The primary role of management, but also of employees, is access, systematization and use of information (Kuratko, 2009). The exchange of information through the hierarchical structure of the company is important for decision-making (Hornsby et al., 2002).

Professional training belongs to domain of personal knowledge and education. It is related with the probability of becoming an intrapreneur. Martiarena (2013) found that employees with intrapreneurial characteristics have a higher educational level in comparison to other employees. Similar to that intrapreneurial characteristics have been recognized if employee have participated in training activities (Urbano, Turro 2013).

Entrepreneurial attitudes or risk tacking is willingness to participate in new jobs and projects. It is also willingness to assume the calculated business risk and the ability to recognize business opportunities. The possession and ability to express such traits is considered a positive intrapreneurial characteristic (Covin, Slevin, 1991; Morris, Sexton, 1996; Hisrich *et al.*, 2011)

Influence from the business environment can be summarized in several factors (Sathe, 2003; Schmithüsen *et al.*, 2006). Such influencing factors are:

- consumer requirements;
- subsidies;
- competition;
- legislative and regulatory influences.

Miller, Friesen (1978) indicated that companies with the strongest entrepreneurial orientation are adaptable companies operating in a business environment with moderate changes.

The organizational structure dimension refers to the flexibility of the organization and the centralization of the decision-making. Organizational structure includes supportive organizational structure and organizational boundaries (Knight, 1989; Jones, Butler, 1992).

In addition to intrapreneurship, terms such as: intra-corporate entrepreneurship (Pinchot, Pinchot, 1978), internal corporate entrepreneurship (Jones, Butler, 1992), as well as corporate entrepreneurship have been used (Burgelman, 1983; Guth, Ginsberg, 1990; Hornsby *et al.*, 1999).

This paper aims to analyze academic, empirical literature about perspective of intrapreneurship as a proxy for new technologies with specific attention to subject area of Agriculture and Biology.

Method

In this research we used systematic literature review as a methodological framework. The systematic literature review provides us analyze of the intrapreneurial topic within scientific papers published in open access written in the English language. From SCOPUS data base we search for term “intrapreneurship” in title, abstract and key words. The logic of research is presented in Figure 1. The search results present according to county of origin of the document, type of document, subject area. The results are present in tables and graphs and analyzed form perspective of Agricultural and Biological Sciences subject area.

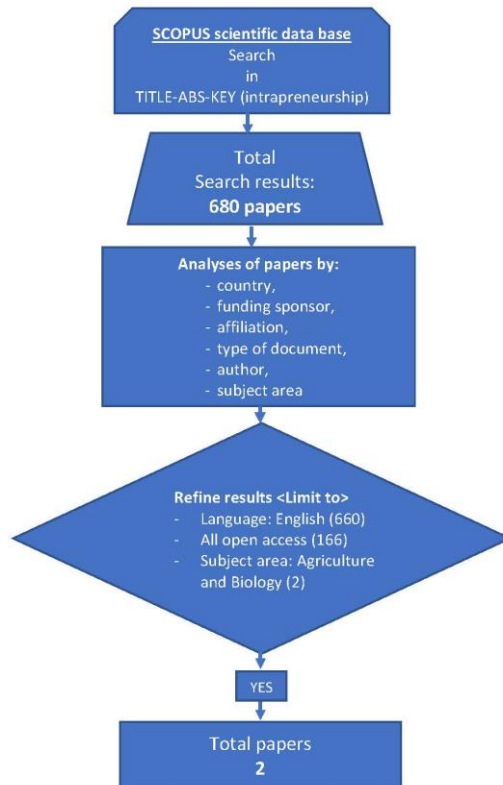


Figure 1. Systematic literature review

Results

The results are presented based on a search of the SCOPUS scientific database. Documents with the topic of intrapreneurship according is shown by territorial distribution, by funding sponsor, by affiliation, by type of document and by subject area. Figure 2 shows Intrapreneurship documents by country.

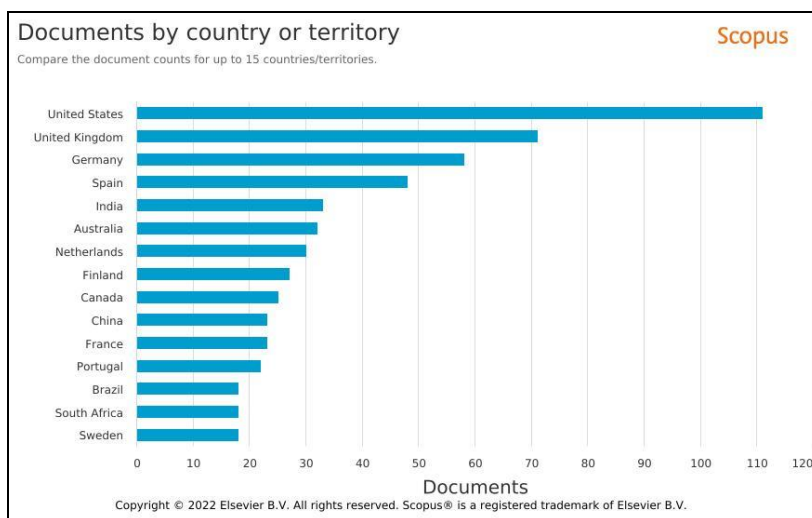


Figure 2. Intrapreneurship in scientific papers by country

The largest number of documents with intrapreneurial topic were published on the territory of the US. This is expected because the phenomenon of intrapreneurship has its origins in the US. They are followed by the UK, Germany, and Spain. The results indicate a wide distribution of research on intrapreneurship.

Funding sponsors indicate the need for research intrapreneurship from a scientific aspect. Funds from Portugal, European Commission and China are leading in this. "Fundação para a Ciência e a Tecnologia" is the Portuguese public agency that supports science, technology and innovation, in all scientific domains, under the responsibility of the Ministry for Science, Technology and Higher Education¹⁷. European Commission European Social Fund is Europe's main instrument for supporting jobs, helping people get better jobs and ensuring fairer job opportunities for all EU citizens¹⁸. National Natural Science Foundation of China established in the early 1980s, in order to promote science and technology system reform in our country, the transformation of scientific research¹⁹. Figure 3 shows documents with intrapreneurial thematic by funding sponsor.

¹⁷ <https://www.fct.pt/fct>

¹⁸ <https://ec.europa.eu/esf/main.jsp?catId=35&langId=en>

¹⁹ https://www.nsfc.gov.cn/english/site_1/index.html

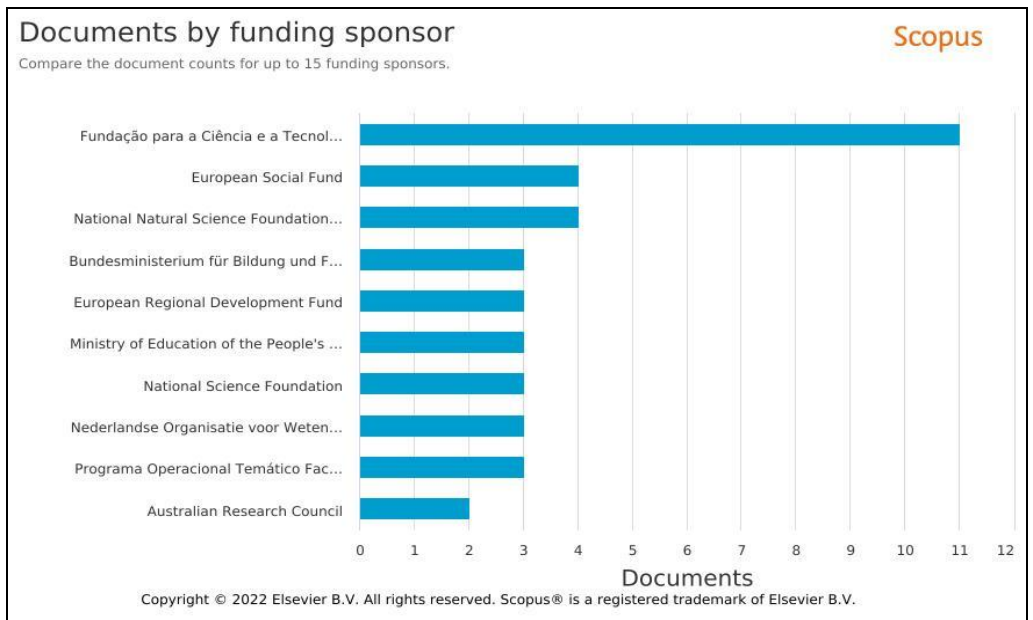


Figure 3. Intrapreneurship in scientific papers by funding sponsor

Regarding documents by affiliation, it is clear that leading institutions from the Spanish-speaking region. The University of Sydney is in 7th place. Among universities from the Balkans, the University of Ljubljana takes a high place. The phenomenon of intrapreneurship is being researched on all continents.

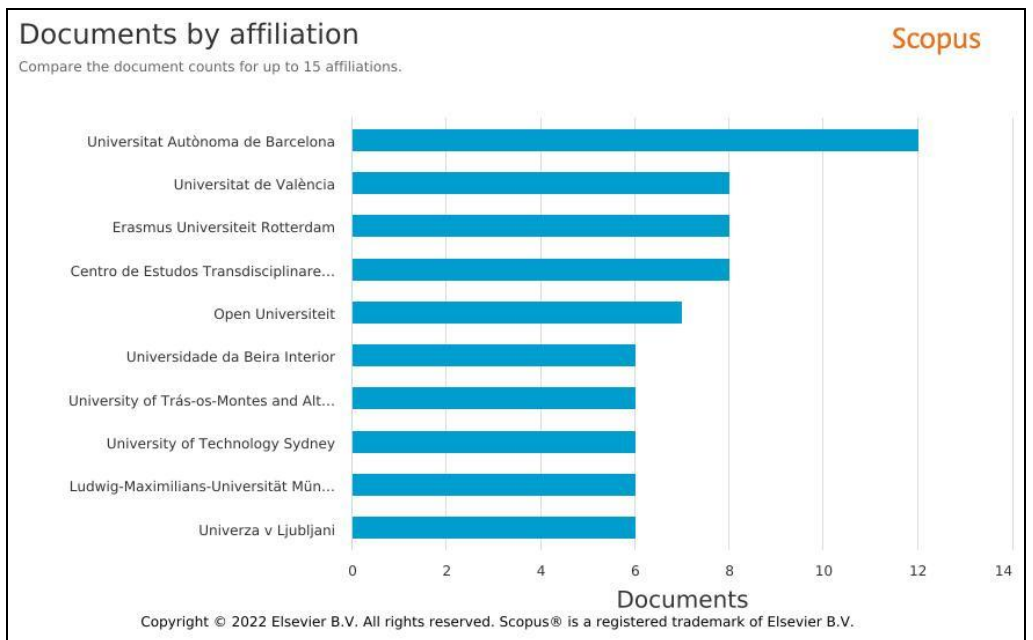


Figure 4. Intrapreneurship in documents by affiliation

Search results of documents by type is presented in Figure 5.

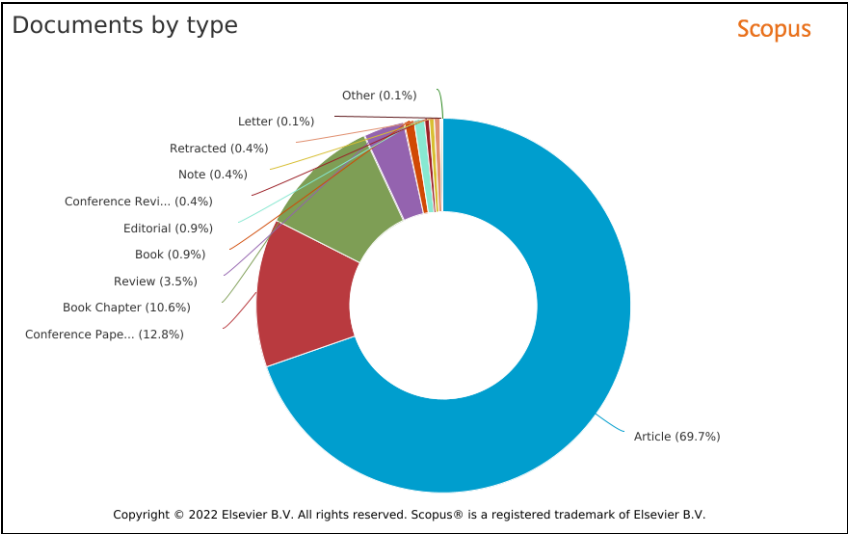


Figure 5. Intrapreneurship in scientific papers by type

Articles in scientific journals have the largest share (69.7%). This is followed by conference proceedings (12.8%) and book chapters (10.6%).

In line with the methodological approach, we started the analysis of the results related to the subject area of Agriculture and Biology.

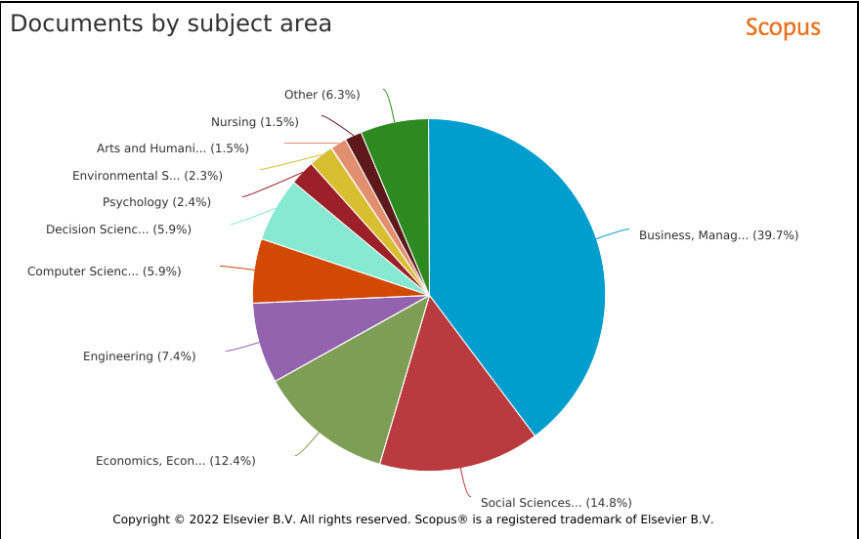


Figure 6. Intrapreneurship in scientific papers by subject area

We have provided this with the command: <Limit to subject area Agriculture and Biology>. We found that there are two documents in the SCOPUS database

that meet the search requirements. Analysis of the articles are shown in Table 1 and Table 2.

Table 1. Intrapreneurship in document by subject area Agriculture and Biology

N ^o	Type of Document	Year	Country	Affiliation	N ^o of References	N ^o of Citation	Journal Impact factor
1	Research article	2011	Iran	<ul style="list-style-type: none"> • Agricultural Extension and Education Department, College of Agricultural Economics and Development, Agricultural and Natural Resources Campus of Tehran University, Karaj, Emamzadeh Hasan Avenue, Iran, • University College of Entrepreneurship, University of Tehran, Tehran, Iran 	26	2	0.517
2	Research article	2020	Serbia	<ul style="list-style-type: none"> • Institute of Forestry, Belgrade, Serbia • University of Belgrade, Faculty of Forestry, Belgrade, Serbia • Institute of Forest, Environmental and Natural Resource Policy, University of Natural Resources and Life Sciences, Vienna (BOKU) and European Forest Institute, Forest Policy Research Network, Vienna, Austria 	90	7	3.673

Table 2. Main factors influencing intrapreneurship found in documents by subject area Agriculture and Biology

N ^o	Year	Country	Main factors influencing intrapreneurship	Reference
1	2011	Iran	Organizational factor, Behavioral factor and Environmental factor	Karimi <i>et al.</i> 2011
2	2020	Serbia	Managerial support, Reward system and Work autonomy	Poduška <i>et al.</i> 2020

According to the results, organizational factor, behavioral factor and environmental factor that are the most important antecedents positively and significantly influence intrapreneurship in the Iranian agricultural extension organizations.

In Serbian State-Owned Forestry Enterprises Managerial support, Reward system and Work autonomy are most influential factors to employee innovativeness.

Discussion and Conclusion

Intrapreneurship present specific approach with “initiative from below” where employees undertake something innovative. This concept implies involvement of workers e.g employees in the process of creation and adoption of innovations. In scientific article belonging to subject areas Agriculture and biology, was found organizational factors that support employee’s effort for entrepreneurial activity and business improvement and innovativeness. In Iranian extension organization those factors are organizational factor, behavioral factor and environmental factor (Karimi *et al.* 2011). In Serbian State-Owned Forest Enterprises those factors are Managerial support, Reward system and Work autonomy (Poduška *et al.* 2020).

According to these results it can be concluded that the role of employees who can express their innovative ideas is becoming more and more important. This proved that entrepreneurship based on the ideas and creativity of individuals is not only related to high tech sectors, but also occurs in agriculture and forestry. Intrapreneurship requires a specific organizational climate that favors the expression of entrepreneurial attitudes and as a result has improved or new products and services. This research confirms strategic importance of intrapreneurship in fostering innovations.

It can be concluded that intrapreneurial climate in agricultural extension organizations and state-owned forest enterprises is defined with different factors. This differentiation could be explained by different business environment. But the main explanation can be found in motives of employees in state-owned forest enterprises. Those employees develop new and improve existing products, services or business processes that do not have a market perspective, which in most cases are offered free of charge in locations where access is free (e.g., nature based recreation, tourism and education, etc.) and the provision of which relies on revenue from wood or state subsidies.

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