



UNIVERSITY OF PÉCS
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Faculty of Business and Economics

Zef Dedaj

Doctoral Dissertation
Thesis summary

Innovation Policy and Practice:
Special focus on Kosovo
Why Kosovo is in a “trailing edge” position?

Dissertation supervisor:

Prof. Dr. Csaba Makó,

University of Public Service, Budapest, Hungary

Hungary, Pécs

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Introduction

Innovation has a crucial role in firms' performance and plays a vital role in the competitiveness productivity of the firm level and national economy. Many authors have recognized the importance of innovation and its role both at the firm and economic level. Schumpeter (1934), as the pioneering scholar researcher on innovation, has highlighted the importance of innovation in economic development and he was the first scholar who defined innovation as an introduction of new product or services, new production methods, new markets, new sources of supply of raw materials and new organization of any industry.

The aim and research questions of the doctoral dissertation

This dissertation aims to contribute to the under-researched area of innovation in Kosovo. The main objective of this study is to answer the following research questions:

1. How has the business service firm undertaken innovation efforts to implement open innovation and enhance its market participation in the global value chain (GVC)?
1. How does the university contribute to the process of knowledge creation through R&D and transferring knowledge to the innovation ecosystem actors in Kosovo?

2. How manufacturing company establishes relationships with knowledge transfer institutions such as the university, consulting firms like 3CIS, or other research institutes, and how it evaluates the role of the knowledge-suppliers?

Methodology and research questions

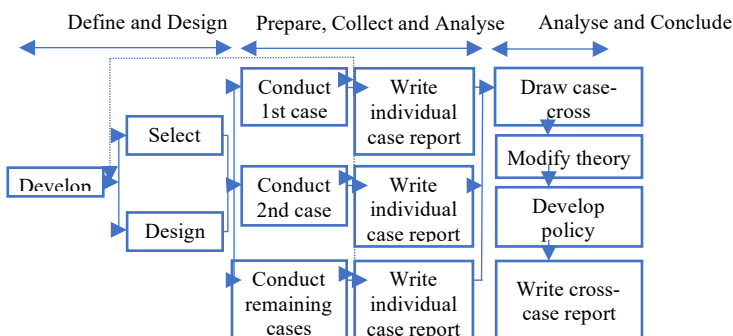
The general problems of the lack of data on innovation in Kosovo are evident; therefore, this research uses a qualitative research technique instead of a quantitative method. The core research tool is the so-called “multi-case study” method carrying out at the key organizations of the Kosovo innovation ecosystem. The approach of the case study is an important qualitative technique. It is a commonly used study tool, along with narrative analysis of phenomenology, ethnography, and grounded theory, and conducts an in-depth analysis that can be defined as a particularistic, heuristic, or descriptive (Merriam, 2009). In this connection, as elaborated in Schumpeter's early writings, the work focused on "Schumpeter Mark I" who, sadly failed in this approach, although in his later work (Schumpeter 1943), the so-called "Schumpeter Mark II" was more directed towards qualitative analysis, primarily through case studies, which was seen as a valuable and useful method of research (cited in Fagerberg, 2003). This was a great inspiration and justification for pursuing a similar methodology by applying the multi-case study method in Kosovo, as this approach has been validated

by Schumpeter, a pioneering scholar in the field of innovation. A core objective of the research was to pick up key players in the innovation ecosystem in Kosovo and to use a multi-case study approach to identify their policies, drivers, and networks on how to enhance the company's innovation performance.

Various essential steps are taken to design an interview guide for this study with in-depth interviews. For instance, (Malhotra, 2010) explains some of the required steps that need to be taken to implement the case study process, e.g., in-depth interviews are perceived to be an unstructured and straightforward method of collecting information and are mainly conducted on a 'one-on-one' basis where respondents should be examined by a skilled professional. The most important step in formulating the approach is to classify and define the fundamental research questions to be addressed while using the case study method. As a result, questions starting with "how and why" catch what the research, in particular, is interested in addressing, leading to an accurate case study method. The key feature of the case study is the ability to understand the profound socio-cultural and economic mechanism, enablers, and inhibitors of firm innovation, using it as a document, interviews, and observation of participants (Yin, 2018). Given this, the dissertation follows all Yin requirements for multiple case studies in the field of the innovation ecosystem in Kosovo and the following model has been adapted and applied.

Figure 1 illustrates the processes of conducting case studies and data collection.

Figure 1: Multiple case study procedures



Sources: Adapted from Yin, (2018, p. 95).

Following the multiple case study model described above and in order to make the study more convincing in our research, a multi-case study method has been applied, and the following three different case studies have been examined:

1. The Carriers Class Consulting & Integration Services Joint Stock Company (3CIS J.S.C), or shortly 3CIS, business service firm integrated into the global networks of knowledge intensive business service sector.
2. The state University of Prishtina as a key knowledge creation and transferring institution in the country.

3. Pharmaceutical manufacturing as a knowledge intensive sector: the case of Tre Pharm Company.

The reasoning behind the three case studies is to map the factors that shape innovation in the institution of knowledge creation or knowledge developing and transferring institution, such as the university, the business service firm, and the manufacturing company, within the innovation ecosystem in Kosovo. Hence the main objective of this study is to answer the following research questions:

1. How has the business service firm undertaken innovation efforts to implement open innovation and enhance its market participation in the global value chain (GVC)?
2. How does the university contribute to the process of knowledge creation through R&D and transferring knowledge to the innovation ecosystem actors in Kosovo?
3. How manufacturing company establishes relationships with knowledge transfer institutions such as the university, consulting firms like 3CIS or other research institutes and how it evaluates the role of the knowledge suppliers?

Designing fieldwork: why selecting case studies?

Though ingredients and all relevant actors of the innovation ecosystem in Kosovo are present, a systematic approach towards linking such components together is not satisfactory. Unfortunately, there is a lack of official statistics on research and innovation activities, and data are not readily available. As a result, there is a scarcity of information about the innovation system and its constituent institutions of Kosovo, resulting in limited progress in innovation. The EU report on Kosovo (2019) reveals that R&D activities and innovation statistics are not produced regularly, so systematic, and chronological analysis is nearly impossible. Kosovo continues to face many obstacles such as limited absorption capacity in the private sector, general lack of resources, financial resources, human resources, and infrastructure on both sides of industry and academia, and lack of innovative ventures that need 'state of the art' scientific support (Kačaniku, et al., 2018). In addition, the lack of finance, funding, technical resources, R&D cooperation, the lack of adequate equipment and a reliable database of accurate data remains a challenge. The existing data on R&D expenditure are not readily accessible, making it impossible to assess the current level of research spending. Additionally, STI statistics are not collected in Kosovo (Correa, et al., 2013). Finally, the development of open innovation among economic actors is a challenge facing the innovation ecosystem in Kosovo, and firms are unaware of how to implement the mechanism and its benefits. Given these shortfalls, the design of the empirical part of the dissertation forced us to rely on the

qualitative research, applying the multi-case study method. Hence, the present study was conducted to provide a clear picture of the processes, requirements, and benefits of implementing open innovation, in the innovation ecosystem in Kosovo. Table 1 displays the five major sub-dimensions and 19 indicators under the STI evaluation framework, where each of these sub-dimensions is measured and evaluated using relevant qualitative indicators.

Table 1: Science, technology and innovation assessment framework based on qualitative indicators

Sub dimension 1	Sub dimension 2	Sub dimension 3	Sub dimension 4	Sub dimension 5
Governance of STI policies	Policy research system	Innovation in firms	Public-private knowledge transfer	HR for innovation
National STI plan or strategy Horizontal policy coordination Implementation of STI policies International STI policy strategy and framework	Funding of public research, institutions, and universities Public research institutional arrangements	Innovation promotion Financial supports: competitive grants for research and innovation in businesses Fiscal incentives for R&D&I Institutional support: incubators and accelerators Institutional support: technology extension services Public procurement	Innovation voucher schemes Competitive co-operative grants Innovative clusters Technology institutes, competence centres, and science and technology parks (STPs)	Mobility between academia and industry Research evaluation in favour of business – academia co-operation Intellectual property rights for business – academia co-operation

Source: Adapted from OECD, (2018, p. 347).

The framework conditions for qualitative variables helped us design a guiding concept for the multi-case study method, where out of 19, we found almost all the indicators compelling variables. However, few variables are critical for Kosovo but more challenging to measure due to lack of knowledge of the in-depth method and

processes or factors that shape innovation at the firm or institutional level.

Data collection

As knowledge creation and transfer, representatives of three organisations, in specific sectors in the goods and services industry and the university, played an important role in the innovation ecosystem. The 24 interviewees consisted of people from the two companies and the university and interviews with public bodies and agencies, thus analysing a classic triple helix model or cluster system. Interviews from the public bodies and agencies included people from the Innovation Department, Science and Technology Department and the Intellectual Property Agency under the Ministry of Education Science and Technology, and Ministry of Trade and Industry. More precisely, out of 24 respondents, five were interviewed for the business service firm 3CIS; 14 interviewees from the university staff, including the government institutions, private sector industries, I.C.T., and the incubation centre in the university case study, and five relevant employees were interviewed in the manufacturing case study firm. The collection of primary data for case studies is carried out in three phases. The first stage of the interviews was conducted with only one participant from each case study, and to validate the content, a simplified version of the framework conditions was discussed with them in terms of how they think about it and whether those frameworks conditions are applicable to their organizations to set up case studies. In order to get accurate responses, the second phase of the interviews was conducted with managerial

and non-managerial people who were most important to the subject. While the third phase was repeated with selected interviews in case, additional data were required to complete the case study. Targeted people were informed on time by email, and one-on-one interviews were held as recommended by (Malhotra & Dash, 2016) and in many cases, conversations for each interview were recorded with the approval of the respondent. Given that innovation issues are a sensitive topic, in many situations, compared to the university's case, businesses are unwilling to provide detailed information, principally through a quantitative questionnaire, so data collection through interviews for this dissertation is considered very useful. Most of the interviews were done in English. It is worth noting that the 3CIS business service firm and the bulk of interviews for the State University of Prishtina were conducted before the COVID-19 situation. Whereas the few university interviews and the entire third case study of pharmaceutical manufacturing as knowledge-intensive sector-related interviews were conducted during the pandemic situation in most cases using the CATI method. Finally, besides the primary data collocation, reports related to innovation activity were also analyzed in the context of innovation in the analysis of three case studies. Furthermore, in the way of data collection to improve the trustworthiness or reliability of the innovation study, we have assessed reliability through the application of several factors. The following Table 2 offers more detailed information on the reliability analysis of the case study data collection methodology.

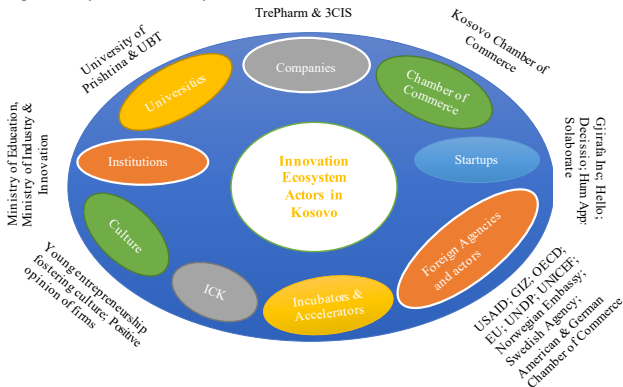
Table 2: Trustworthiness of the case studies method

The criteria for trustworthiness	Methods applied in the case studies research
Credibility	Due to the pandemic situation with the COVID-19, it took us 12 months to conduct interviews with the three case studies. After completing the preliminary work of each case study to obtain the final results of the reliability, the case studies were distributed to the interviewed respondents to obtain some new knowledge from them.
Transferability	The transferability was supported by two firms and the university.
Dependability	Due to the sensitive issue, the bulk of the respondents who engaged in the interview were senior management while the rest were non-management level positions; thus, to gain the correct findings from them.
Confirmability	The final dissertation work, in particular the fieldwork of case studies, is circulated for further analysis to a range of professional experts who have already carried out such research.
Integrity	Innovation is a sensitive issue, participants have been assured of confidentiality, that the data and information are only used for research purposes.
Fit criteria	Having respect to the procedures and steps referred to above, which have been carefully applied, then; as a result, we have a final acceptable 'fit criterion.'
Understanding	For the sake of transparency, the final output is sent to them to show if their inputs are accurately reflected in the research.
Generality	Environment or atmosphere, and the time of the interview with the participants is appreciated.
Control	The inputs provided have a controlling function, as the findings can affect them either positively or negatively.

Source: Author's compilation based on criteria suggested by (Flint, et al., 2002).

The main leading players involved in Kosovo's innovation ecosystem are presented in Figure 2, including the foreign agencies and actors contributing to innovation ecosystem development, as these are powerful organisations bringing not only financial capital, greenfield investments but also crucial know-how on a variety of fields from policymaking to concrete business development.

Figure 2: Key innovation ecosystem actors in Kosovo
TrePharm & 3CIS



Sources: Author's compilation based on Ecosystems, (2019)

Results and future challenges

Findings and scientific research indicate that as young companies, 3CIS and Tre Pharm play a unique role in Kosovo's innovation ecosystem and can be considered success stories for a decade on the market. 3CIS has succeeded in becoming well integrated into the GVC in the KIBS sector, hitting exports with a total of EUR 5.87 million in 2019, focusing solely on offering a wide range of services on the international market. The United States, the United Kingdom, the Middle East, Europe, and Africa

are its main markets. Tre Pharm, on the other hand, is focused on the national market, fluctuating between EUR 1.7 million of national sales while at the same time steadily raising its penetration into the GVC, reaching a peak of 87.80 percent of the country's total exports in 2018. The exported markets were Albania, Macedonia, Libya, and Turkey recently. What is vital for Tre Pharm is that it is approaching the completion of the process accredited by CPGP, which will allow the business to have a quality system recognised by the EU authority and apply for Good Manufacturing Practices (GMP) and improve integration into GVC. However, entry into the EU market remains currently a challenge. Maintaining and improving the position of the GVC in KIBS and the pharmaceutical manufacturing company requires continuous monitoring, learning and renewal of the techno-organisational and knowledge infrastructure. As a result, 3CIS has been forced to invest heavily in knowledge: thus, it spends 18 percent of its turnover annually in R&D, while Tre Pharm officially organised the R&D department in 2020 and plans to spend up to 13 percent of its turnover.

As far as R&D is concerned, since Tre Pharm was founded, the part of the research activities has been completely non-existent, while Tre Pharm has performed well in adopting 140 pharmaceutical products from the British Pharmacopoeia operating in the United Kingdom. To equip the R&D department, Tre Pharm must focus on raising equipment and the number of workers who must carry out research activities, which remains a challenge for the company. Tre Pharm registered 50 products as

trademarks but unfortunately did not apply for patents and industrial designs. In this connection, the study shows that even the university's efforts are questionable in knowledge creation. Unfortunately, we only have aggregated statistics on university professors' publication activity, so we do not know the structure of publications according to quality indicators (e.g., the impact factor, Q1, Q2). However, the analysis shows that the university does not perform well in creating knowledge due to the low average of the scientific papers published by all faculties, which reflects the total involvement of the university with only 34 percent in R&D, meaning that the most significant 66 percent of the academic staff does not justify the academic title or ranking of the university. Findings show that certain faculties are performing well in related R&D activities, but the majority are underperforming. Nevertheless, from 1,320 papers in 2017 to 2,481 papers in 2019, it shows an increased number, but what remains challenging is that out of EUR 34,78 million budget of the university, which is the same over the years, 70 percent of it goes to salaries. Besides, the analysis reveals that no money has been allocated to R&D.

Mixing OJT and Off-JT is successfully combined by both firms; however, 3CIS is a step ahead in the application of Off-JT than Tre Pharm, since it has managed to send its workers abroad and train them in the US and EU countries while Tre Pharm has brought experts to the factory to train employers. Hence the case study suggests that Tre Pharm should follow the same practice as 3CIS. In both cases, this increased organizational innovation's role in enhancing knowledge creation and transfer within firms.

For Tre Pharm, technological and marketing innovations are seen as the driving force behind innovation. Furthermore, it demonstrates skills in using the various managerial technicians in the production chain that help the production method. For example, many types of ISO standards are in force, along with specific characteristics of the JIT, and a quality circle is also a tool that is frequently implemented and considered to be very useful and works based on the PBL. Therefore, enhancing knowledge creation and knowledge transfer within 3CIS and Tre Pharm in a quality circle and PBL (e.g., regular use of project type interdisciplinary work organization) is perceived as a beneficial non-technological form innovation.

Moreover, both companies have in place the automation and IT systems at an advanced level. In the case of Tre Pharm, it is linked to all equipment in the laboratory and manufacturing system, which takes care of all and controls all processes, ranging from raw materials to the selling of finished goods. As a result, while the automation performance in 3CIS is higher than ever, senior engineers are adequately trained and qualified in their use and functions. In addition, the automation system is often designed in partnership with projects, and the automation system's application varies from project to project. However, apart from many internal successes and challenges, two firms have to cope with some external challenges. Due to low interest and willingness from the government to support private companies in R&D, 3CIS has not been inspired to design or propose a new incentive scheme to improve its current investment in R&D. In

addition, the grant structure is not appropriate and well suited to meet the needs of firms in the ICT sector including 3CIS. Thus, it has never earned any government grants to finance innovation activities. Complaints to the government are also not absent from Tre Pharm, which confirms that no grant has ever been obtained in the form of government funding. Moreover, it complains that even during the pandemic situation with COVID-19, as a leading manufacturer of pharmaceutical goods, the government has not even been contacted the firm to discuss the possibility of supplying any essential products or kind of collaboration. In terms of collaboration with the university, as one of the main components examined in the case studies, it should be noted that the role of invention and innovation is becoming significant. Especially when it relates to the university's role as knowledge-creation and suppliers to Kosovo's innovation ecosystem actors, the importance of the university in the conduct of inventions and the role of firms in innovation. Unfortunately, the three case studies indicate that cooperation between the university and industry is slow and lacks dynamics; even the university admits this. Close cooperation with high value-added partnerships between universities and companies is a prerequisite for significant innovations, most of which are characterized by reciprocity. There are, however, several developments, but few challenges remain. For example, 3CIS was invited to be a member of the university's board of directors to make recommendations on new technology and adapt it to the curricula of studies as the new semester or academic year starts. However, sadly just a few suggestions provided by the company were incorporated into the

curricula. The results indicate that the university should provide graduates with skills and a professional workforce in the labour market. To fast changing the knowledge sector, such as ICT through technology support, the university should increase the number of higher education students in STEM and produce students who can join various projects, not particular innovation, and technology projects.

Moreover, be able to compete in the job market after graduation, even though the university has established an advisory board to create a better link with firms. Yet, the concept and initiative to establish greater collaboration with companies are absent from the university, as it tends to change relatively slowly. Unfortunately, the university continues to produce students who do not have practical knowledge and practical experience and critical thinking since the university does not provide laboratories to allow students to acquire practical knowledge. However, though there is a good indication that in 2019 the university invested EUR 2.1 million in the development of institutions, laboratories, and facilities, which is not enough. As far as the STI mode is concerned, there is no evidence in Kosovo of the inventions or patents that have been issued to the industry, while as far as the DUI mode is concerned, only the internship scheme, along with the formation of clusters, can be seen to have led to some degree of graduate recruitment. For example, the programme of internships with students between Tre Pharm and the university in medicine and pharmacy, the so-called 3+3 programme, and the internship scheme between 3CIS and the Faculty of Electrical and Computer Engineering leads to the recruitment of new staff. This

achievement consists of the DUI mode, but not at a satisfactory level. However, there is a complete lack of dual training between Tre Pharm and the university that would comply with STI, but dual training between 3CIS and ICK and the Faculty of Electrical and Computer Engineering is present. As a result, many students have participated in the internship scheme, developed network links between the industry, and 12 university students become fully employed in domestic and foreign companies responsible for developing software on the German and national market between 2019 and 2020. Furthermore, as a success story in collaboration between the university and industry, the cluster is created for the first time in 2017 by the Kosovo Metal Industry and Renewable Energy initiative and the university, with a focus on encouraging industry and university to work closely together. The cluster concept was designed to bring development and innovation together, and this was seen as a positive start, but unfortunately, this partnership did not continue on the university side. However, besides the lack of the university, the cluster continued to operate, and 800 participants were trained, 70 completed the internship scheme, and about 100 young people were employed in cluster companies. Therefore, employing university graduates is an important step in the process-creating as a prerequisite for STI knowledge clutches. Similarly, developing high value-added or strategic cooperation between the university and industry can significantly enhance the university's knowledge creation role and can also help boost the position of the country's firms in the GVC. Finally, though some progress has recently been made in creating knowledge, the university

is, unfortunately, well behind its possibilities in the area of knowledge transfer. Despite the lack of systematically collected data, the results suggest that knowledge creation and transfer are not well balanced, and the university has acknowledged this weakness. Knowledge transfer to the ecosystem's innovation stakeholders, specifically to the industry, is relatively slow or even – in some areas – totally absent, and the industry has also confirmed this. Technological developments have rapidly taken place in the last decade; thus, transferring knowledge from university to industry is a permanent requirement. However, few faculties offer specialized professional services to public and private businesses or individuals, e.g., in telecommunications, construction, architecture, health and agriculture, to some degree could be considered a form of knowledge transfer but still is not enough. A summary of how 3CIS and Tre Pharm implements innovation is given in Figure 3 & 4.

Figure 3. 3CIS Case Study Output

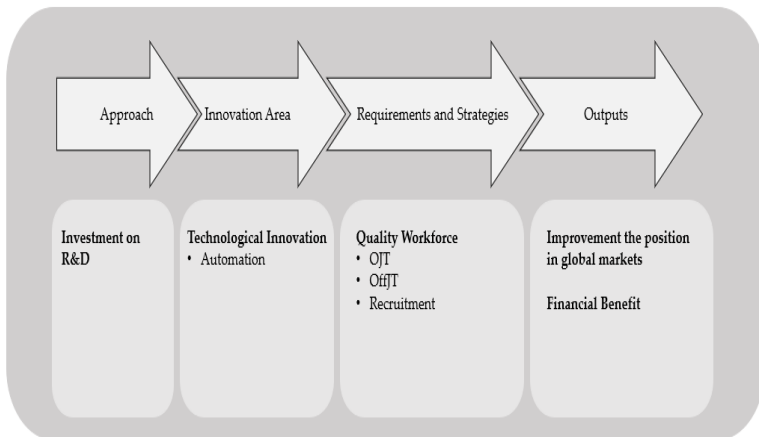
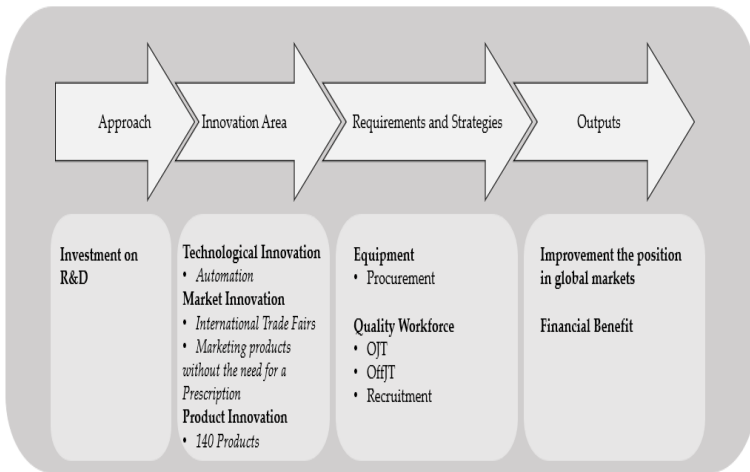


Figure 4. Tre Pham Case Study Output



Limits of the research and future recommendations

Despite many developments, the research shows that there are many difficulties in Kosovo's innovation ecosystem. Furthermore, some future challenges faced in this research remain evident. The last part of the conclusions classifies the research's challenges and makes recommendations on which further research should focus.

Lack of innovation statistics

While there are few entrepreneurship statistics, unfortunately, official statistics on research and innovation is not readily available, government statistical institutions in Kosovo does not produce any statistic on innovation, resulting in a lack of systematic quantitative data collection and evaluation and no systematic and

chronological analysis on innovation making the evidence-based evaluation. Likewise, the limited absorption ability and lack of STI statistics are also missing at the level of firms. Due to these weaknesses, we were forced to apply the qualitative case study method at the firms and the university level. Therefore, to enable future research scholars, conduct quantitative research in the innovation activities, the following recommendation arises:

- It is necessary that government statistical institutions in Kosovo initiate the data collection process on innovation activities, make the data readily available for future research scholars, enable conduct research on innovation activities, and measure statistical indicators of input and output innovation performance in the country and firm-level.

The role of government

Unfortunately, we have not grasped the Government's role in fostering innovation and innovation policies. One of the NDS priorities (2016-2021) aimed to improve ties between education and the labour market, sadly it failed, and industry confirmed this. Besides, the NSIE (2019-2023) at the micro-stage aims to enhance and improve industry and academia's active involvement and cooperation in R&D activities. Unfortunately, the empirical work shows that there is a total lack of collaboration between them. A positive move was taken in 2017 with the establishment of NCIE. However, the Council met only three times and is no longer operational

due to frequent political shifts and government changes. Moreover, the Government's money on R&D has risen marginally to reach EUR 1.2 million, from 0.1 percent to 0.7 percent of the state budget, as envisaged by the R&D legislation, this is a positive move, but unlikely this small sum is not being spent adequately on "state-of-the-art" research activities. Furthermore, the analysis shows that no money has been allocated to R&D by the university. Finally, companies argue that the grant structure is inappropriate and not well-tailored to meet innovative needs, including 3CIS and Tre Pharm. Given the Government's shortcomings in the role of innovation, the study provides the following recommendations:

- To understand the importance of innovation and boost innovation policies and strengthen the role of the innovation ecosystem, the government needs to redesign and reactivate the NIC and increase the number of stakeholders from the university staff, business communities and related government ministries. Moreover, listening to the voice of businesses and considering the interests of companies is crucial. Again, Sweden can be followed as a good example, a pioneering country in the EU that formed such a council in 2015, led directly by the Prime Minister, making it a 'leading edge country' in governance innovation, shifting from a linear innovation policy model to a holistic approach to innovation policy.
- Since the university does not allocate money to R&D, and the R&D law administered by the Ministry of Education has not produced the expected results, the

research recommends that the R&D fund be allocated to faculties and make it possible for the university staff to be more responsible and to invest the proper amount of money on research activities in a more appropriate manner. This, however, requires a shift from the centralised structure to the decentralised system of the university. This will facilitate and substantially increase the university role in the monitoring faculties, report the results to the Ministry of Education, and then increase 0.7 percent of the R&D fund.

Weak industry and university collaboration

The collaboration between industry and the university remains weak and lacks dynamic. There is asymmetric progress in comparing knowledge creation and its transfer; while little progress has been made in creating knowledge, knowledge transfer to the industry is almost non-existent. The advisory board remains just an advisor and not so much active; besides, the two parties have not been able to develop ties between the STI and the DUI modes; hence the following recommendations derive:

- Collaboration with the industry must become compulsory for the university because it is mainly characterised by reciprocity. The university has to improve student's critical thinking, increase the number of STEM students, and create tools to measure critical thinking. This allows students to transfer new knowledge and ideas from the university to the industry and join various projects, not particular innovation, and technology projects, and efficiently

exploit the significant R&D investment of the innovative firms. Besides, increasing the academic staff's participation in the R&D is necessary for the university staff to produce a mandatory article per year; presently, this is missing. Updating the university's curricula more frequently is crucial and incorporating the industry's suggestions that emerge from the market needs. Kosovo can adapt an excellent example followed by the Aalborg University in Denmark. Thanks to its cooperation with the industry, it enables students to take an internship as a curriculum opportunity before the graduate dissertation project is written and help create trust relationships and work on development projects before they graduate. So that graduates can transfer new knowledge and ideas from the university to the industry. Firms that have collaborated with universities (building STI and DUI relations) showed much higher innovation performance of product or service (a novelty in product or service innovation) than firms that have not collaborated with the university in Denmark.

- The Metal Industry and Renewable Energy Cluster, formed for the first time in 2017, focused on encouraging industry and universities to work closely together. Unfortunately, it failed from the university side; nevertheless, boosting the triple helix or clusters' role in Kosovo is essential. Hungary has recently created the Cooperative Doctoral Program to increase the number of workers employed in research, development, and innovation. Doctoral students are participating in this program work on their subject in

collaboration within the institutional framework of higher education doctoral schools operated by the Ministry of Innovation and Technology. The program shall provide doctoral students with up to EUR 1,124.73 per month for a period of up to 48 months.

Lack or research activities

To retain and improve the position of GVC, 3CIS invest 18 percent of its annual turnover in R&D and on the OJT programme; 3CIS also provides training in R&D on emerging technologies. While Tre Pharm organised the R&D department by 2020 and aims to spend 13 percent of its annual turnover. However, the analysis shows that both cases lack research activities compared to the significantly advanced development component. Hence, considering findings and scientific results, the following steps are recommended:

- 3CIS continue to invest in R&D, focusing more on research activities, as it allows it to grow by developing new services and pursuing global technological changes because technological developments are so rapid that they may emerge as a result of the advancement of networking technologies that affect the business process automation system.
- Tre Pharm to focus more on setting up the necessary equipment and increasing the number of employees in the R&D Department. In addition, these people need to benefit from the Off-JT and build skills to carry out research activities. Therefore, investing in R&D is a

strong indication of the strengthening of the role of STI.

- The scientific research analysis identified that both firms lack an innovation strategy, so developing an innovation strategy and translating it into concrete operational effectiveness would help both companies competing in the international market and enhancing integration into the GVC.

Conclusions

According to the findings and scientific results of the research, the fundamental objective of the study has been considerably fulfilled. The findings of this study contribute to the innovation and open innovation literature by depicting for the first time how to implement innovation in companies operating in Kosovo. Of course, since the present study examined only two companies and a state university, the findings cannot be generalized to all businesses and universities in the Kosovo innovation ecosystem. In addition, due to various reasons, such as Kosovo's economic, political, and geographical location, generalization of the results to other countries, especially developed countries, is not feasible. Therefore, the present study suggests that a similar study be conducted in developed countries and compare its findings with the present study.

List of publications:

1. Jozsef Pap; [Csaba Mako](#); [Miklos Illessy](#); [Zef Dedaj](#) ; Sina Ardabili ;[Bernat Torok](#);[Amir Mosavi](#) : [Correlation Analysis of Factors Affecting Firm Performance and Employees Wellbeing: Application of Advanced Machine Learning Analysis](#): ALGORITHMS (1999-4893): 15 9 pp 2-19 (2022). Language: English | [DOI](#) [Egyéb URL](#) . Journal subject: Scopus - Computational Mathematics Rank: Q2. Publication: 33067743 | Validated Core | Journal Article | Scientific |.
2. [Zef Dedaj](#) ;Csaba Makó ;Saeed Nosratabadi: [Improving Kosovo Innovation Ecosystem: Exploration Before Exploitation](#). Journal: ACADEMIC AND APPLIED RESEARCH IN MILITARY AND PUBLIC MANAGEMENT SCIENCE (2498-5392 2786-0744): 21 3 12 p. (2022). Language: English. Publication: 33056707 | Published Core | Journal Article | Scientific |.
3. [Zef Dedaj](#): [THE ROLE OF THE UNIVERSITY OF PRISHTINA IN KNOWLEDGE CREATION AND TRANSFER: IS UNIVERSITY-INDUSTRY LINKAGES INCREASING?](#) Journal: EKONOMSKI VJESNIK / ECONVIEWS (0353-359X 1847-2206): 35 2 17 p. (2022). Language: English. Publication: 32930973 | Published Core | Journal Article Scientific.
4. Krasniqi Besnik; Bajcinca Shqipe; Zhushi Genc; Kryeziu Liridon; Mehmet Sakarya; Lajqi Saranda; Zeqiri Besim; [Dedaj Zef. Sports university education and entrepreneurial intentions: an analysis using structural equation modelling](#). Journal: ECONOMIC ALTERNATIVES (1312-7462): 22 p. (2022). Language: English. Publication: 32941510 | Published Core | Journal Article| Scientific |.
5. Armend Muja; [Zef Dedaj](#) ; Kaltrina Bunjaku: [How does market size affect Kosovo economic competitiveness?](#) Conference: Pristina, Kosovo 10.26-2018.10.28.2018.

Language: English. Publication:
32970158 | Published Core Suspect | Conference
proceedings | Scientific |. Comments:

<https://knowledgecenter.ubt-uni.net/conference/2018/all-events/294/.DOI:10.33107/ubt-ic.2018.294>.

6. Zef Dedaj: [THE EFFECT OF TRANSFORMATIONAL LEADERSHIP APPROACH IN ORGANIZATIONS: ECONOMY & BUSINESS: JOURNAL OF INTERNATIONAL SCIENTIFIC PUBLICATIONS \(1314-7242 1314-7242\)](#): 11 1 pp 191-199 (2017). Language: English. Publication: 32941882 | Published Core | Journal Article | Scientific|.
7. Zef Dedaj: [Entrepreneurship Development: the case of Croatia](#). Dorisz Györkő ; Vivien Kleschné Csapi ; Zsolt Bedő (eds.) [ICUBERD 2017: Book of Papers](#) . Conference: Pécs, Hungary 2017.11.30. - 2017.12.01. Pécs: University of Pécs, pp 1-12 (2017). Language: English | Book
link: ISBN: [9789634292128 REAL Teljes dokumentum](#).
Publication: 32959812 | Published Book: 3337126 Book: 3337126 Core | Chapter in Book | Scientific |.
8. Zef Dedaj: [CONNECTING STRATEGY WITH INNOVATION](#). In: [Dobrai Katalin \(Sümeginé Dobrai Katalin Menedzsment\)](#) UP/Faculty of Business and Economics/Department of Leadership and Organizational Sciences ; [László Gyula \(László Gyula Ipargazdaságtan, munkagazdaságtan\)](#) UP/Faculty of Business and Economics/Department of Leadership and Organizational Sciences ; [Sipos Norbert \(Sipos Norbert Menedzsment\)](#) UP/Faculty of Business and Economics/Department of Leadership and Organizational Sciences (eds.). [Ferenc Farkas International Scientific Conference = Farkas Ferenc Nemzetközi Tudományos Konferencia 2018](#) . Conference: Pécs, Hungary 2018.06.07 - 2018.06.08. Pécs: PTE

Közgazdaságtudományi Kar Vezetés- és
Szervezéstudományi Intézet, pp 113-122 (2018).

Language: English | Book

link(s): [Kiadónál](#) ISBN: [9789634292388](#). Publication:
32952185 | Published Book: 3383009 Book: 3383009
| Chapter in Book| Scientific |