

Research article

Spa Center as the Economic Engine of the Municipal Business Ecosystem: Case of Banja Koviljača Organizational Network

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Abstract: This paper addresses the role of the Spa Health Resort as the Economic Engine of the Municipal Business Ecosystem. Usually a single larger enterprise drives the local economy at the municipal level, and in the case of Serbia that company has often been from heavy industries. For many transitional economies, local communities have been supported by the main municipal organization, identified in the literature under the terms economic engine, anchor, driver, powerhouse, catalyst, hub or lifeline. Most literature defines it as a company that plays a pivotal role in propelling municipal economic growth and development, acting as the source of economic stability and resilience within the municipality. Our research is based on dataset gathered from the Serbian Chamber of Commerce, extracted from the annual financial and business reports of 80,737 companies and sole entrepreneurs in Serbia from 2013 to 2022 and supplemented by detailed insights into business reports of hypothesized economic engine. Our findings support the hypothesis that Specialized Rehabilitation Hospital Banja Koviljaca's acts as economic engine for the region. Conclusion is that investment in balneo industry returns multifold benefits of different categories to the community and the state.

Keywords: spa center, economic anchor, economic engine, spa tourism, spa economy, business ecosystem, organizational network, municipal economy

1. Introduction

This research is focused on the role of the Spa Health Resort as the Economic Engine of the Municipal Business Ecosystem. While some studies discuss this role of the Spa industry directly [1] [2] or as a part of the healthcare system [3] the topic remains insufficiently covered. Literature review, as well as quantitative data analysis in this article are aimed at the proposed research question – what factors can explain dynamics of economic growth in the municipality of Loznica, home municipality to the Banja Koviljača SPA? Banja Koviljača spa is specific as a winner of numerous awards and largely deemed as the most progressive and the best spa in the Republic of Serbia. Further, it remained as the main factor of growth in Loznica municipality, where main large companies in the heavy industry went bankrupt. Contrasting the mainly heavy industry common economic engines in Serbian municipalities, results of this study can be generalized and applied to other underdeveloped municipalities with spa centres and without a strong municipal economic anchor in Serbia, as well as in the neighbouring countries. For many transitional economies, local communities have been supported by the main municipal organization, identified in the literature under the terms economic engine [4], anchor [5], driver [6], powerhouse [7], catalyst [8], hub [9] or lifeline [10]. Most literature defines it as a company that plays a pivotal role in propelling municipal economic growth and development, acting as the source of economic stability and resilience

within the municipality. While that role is often filled by large organizations in heavy industries, this article discusses the case of a spa health resort, which does not only heal and reinvigorate individual patients but also the local economy. Our research will list empirical evidence of Specialized Rehabilitation Hospital Banja Koviljaca's relations with the local municipal economy and show the differences in local growth.

2. Materials and Methods

The main source for our research is secondary data. The first dataset is gathered from the Serbian Chamber of Commerce. Data about revenue, profits, number of employees, salary costs, assets, liabilities, regional location, municipality, and main business area have been extracted from the annual financial and business reports of 80,737 companies and sole entrepreneurs in Serbia from 2013 to 2022. Criteria for companies that were included were the companies that submitted required annual financial and business reports to the state bodies and to the chamber of commerce, qualifying them as legitimate businesses. The data has been supplemented by detailed insights into business reports from Specialized Rehabilitation Hospital Banja Koviljaca and its municipal organizational network members. Semi-structured interviews were conducted with employees, partners, related experts, and local community representatives. Quantitative data has been processed using the SPSS 26 software. Analysis included data aggregation to see the trends regarding related municipalities and the t-test as inferential statistics to see the differences between projected and actual growth rates. Qualitative data was integrated to illustrate the observed quantitative trends. The main finding of our research is that the growth of business revenues within the Loznica municipality, to which Specialized Rehabilitation Hospital Banja Koviljaca belongs and is geographically closest, cannot be explained only by the compound economic growth of the Republic of Serbia. In line with that, we have proposed hypothesis in line with the literature identifying role of healthcare [3], or even spas in specific [11] in economic landscape and with the roles economic engine can take to contribute the local environment [9] our H0 hypothesis states:

H0: The economic growth dynamics in the Municipality of Loznica can be sufficiently explained by the economic growth of the Republic of Serbia

In contrast with that neutral claim, we aim to prove our H1 hypothesis:

H1: The economic advent of the Specialized Rehabilitation Hospital Banja Koviljaca's is a factor that additionally explains the economic growth dynamics in the Municipality of Loznica

3. Results

Following our available data, we have compared economic growth arrays in the Republic of Serbia and the Municipality of Loznica. The following figures graphically show growth in the Republic of Serbia (figure 1) and in the Municipality of Loznica (figure 2). While the positive trend can be observed on both graphs, the influence of the catastrophic local floods that hindered the economy of Loznica in 2014 and the COVID-19 lockdown is more emphasized at the municipal level. The reasons are that the floods were mostly local, in the region of Loznica and the neighbouring regions, and that the COVID-19 lockdown hindered SPA as the hypothesized economic engine of the municipality.

Using the statistical analysis, we modelled the Loznica Municipality's growth, starting from 2013, according to the growth rate of Republic of Serbia's economy. Then, we compared the yearly differences between the projected and the real growth of the municipality. On the basis of that, we found that the proportion of business revenue

growth, explained by the Republic of Serbia's economic growth, is 58.9814%. If the business revenue growth of the observed companies in Loznica municipality would follow the calculated annual growth rates, only 58.9814% of the increase would be achieved. On the other hand, the 41.0186% of the revenue growth needs to be explained by different factors. These findings direct us to reject the H0 and search for other factors which explain the economic growth, elaborated in the discussion section.

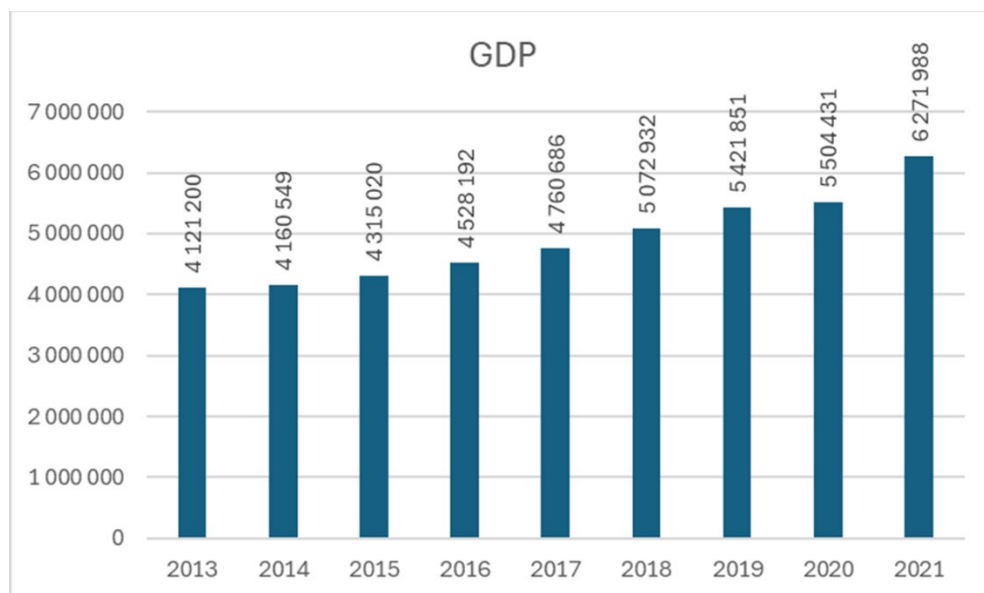


Figure 1 GDP growth in Serbia in actual prices, 000 000 of RSD. Source: Statistical Office of the Republic of Serbia official reports

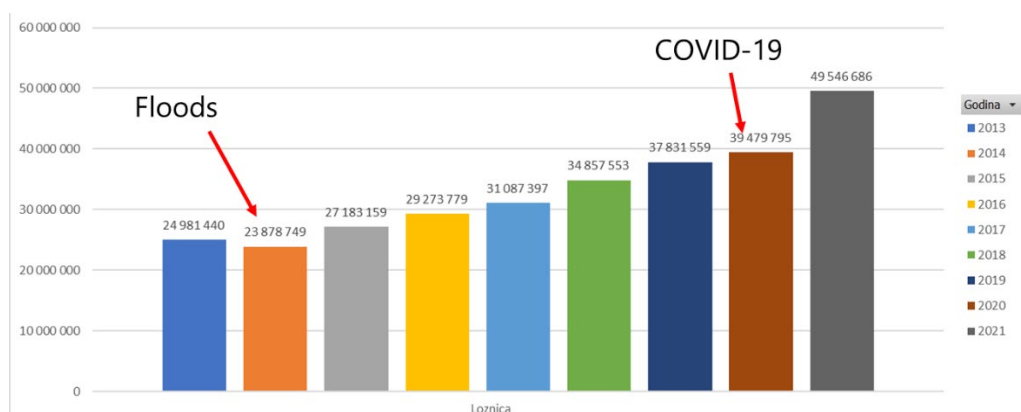


Figure 2 Business revenue growth in the Municipality of Loznica, in 000 of RSD. Source: Author's calculations based on the Chamber of commerce data

For the 811 companies and sole entrepreneurs in the Loznica municipality, we have performed the one-sample t-test, hypothesizing that the sum of estimated differences between growth in revenue expected according to the growth of the Serbian economy and the real revenue growth is zero. After the elimination of suggested outliers, the t-test showed a statistically reliable difference between the observed variable ($M = 289.9\%$, $s = 892.2\%$) and 0, $t(774) = 9.045$, $p < 0.01$, $\alpha = 0.05$. In practical terms, this means that differences between expected and actual growth exist, that they are statistically significant and practically considerable, leading us to reject H0 and confirm H1 – there are other factors, not directly related to strong national economy influence. Percentage of difference illustrate how much the other factors contributed to the municipal economic growth. While we were open to considering other factors, like IT companies, digital transformation, organic agriculture, etc., the local spa's influence

as the leading national spa and most successful local company was identified as the most acceptable rational explanation according to the available data. While the causality cannot be implied by the applied statistical method, it occurs as a logical explanation of the trend.

Table 1 One sample t-test for the differences in economic growth between average growth in the Republic of Serbia and growth of the observed Loznica municipality companies

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Differences 2014-2021	9.045	774	.000	289.87%	226.9547%	352.7803%

While the influence on Loznica municipality is the most obvious, positive influence can be observed on other nearby municipalities, as the Specialized Rehabilitation Hospital Banja Koviljaca can be hypothesized as the broker of the organizational network of companies within the several local municipalities. To compare the influence, we have used inductive and deductive reasoning and performed a comparative analysis of the municipalities relatively close to the Specialized Rehabilitation Hospital Banja Koviljaca – Loznica, Mali Zvornik, Ljubovija, Vladimirci and Krupanj.

To further explore our hypothesis, we have analysed the municipalities in relative proximity to Banja Koviljača, presenting the findings in further figures.

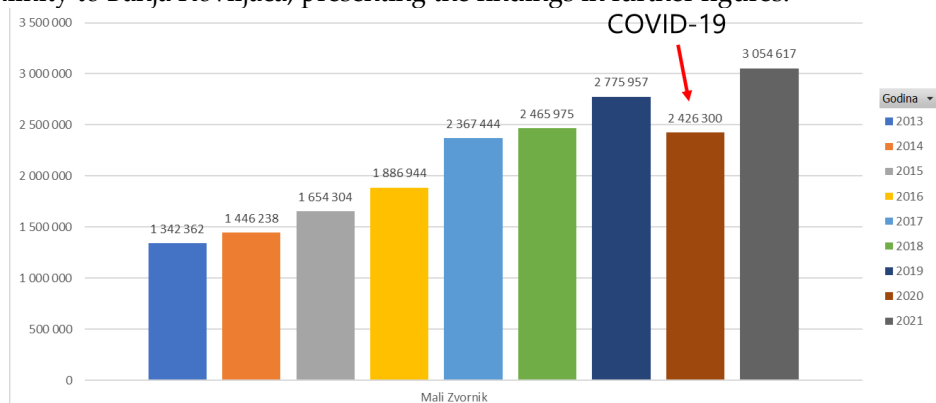


Figure 3 Business revenue growth in the Municipality of Mali Zvornik, in 000 of RSD. Source: Author's calculations based on the Chamber of commerce data

The figure 3 above shows Mali Zvornik Municipality, second near the Banja Koviljača. While the the initial starting was very modest, around 20 times less than Loznica, this municipality also established a above-average compound growth rate of 125.56%. A similar situation is presented in Figure 4, which presents the underdeveloped municipality of Krupanj. Like the Mali Zvornik, Krupanj lacked an economic engine after the bankruptcy of a major factory in the region. It started from a modest amount, also around 20 times less than the municipality of Loznica, but gained an impressive compound growth of 344.88%, presented in the Figure 4.

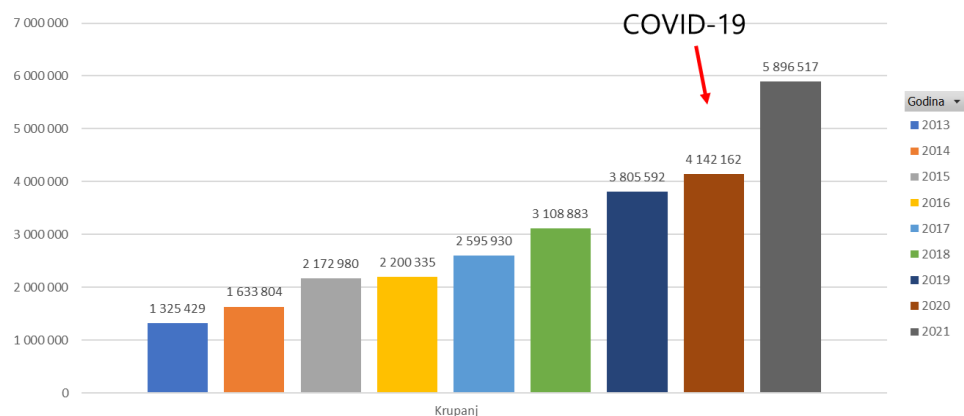


Figure 4 Business revenue growth in the Municipality of Krupanj, in 000 of RSD. Source: Author's calculations based on the Chamber of commerce data

Next, we have two municipalities relatively far from the Banja Koviljača. While the Ljubovija is not much further than the Krupanj, road infrastructure makes it impractical to commute to Banja Koviljača, or to develop tourism offers, which could include Krupanj lodging and daily visit to the Spa. Other factors are very similar to those in the previous two municipalities. Still, the lesser influence of Spa economy engine is visible in the growth rate of 59.48%, similar to the Republic of Serbia's economic growth.

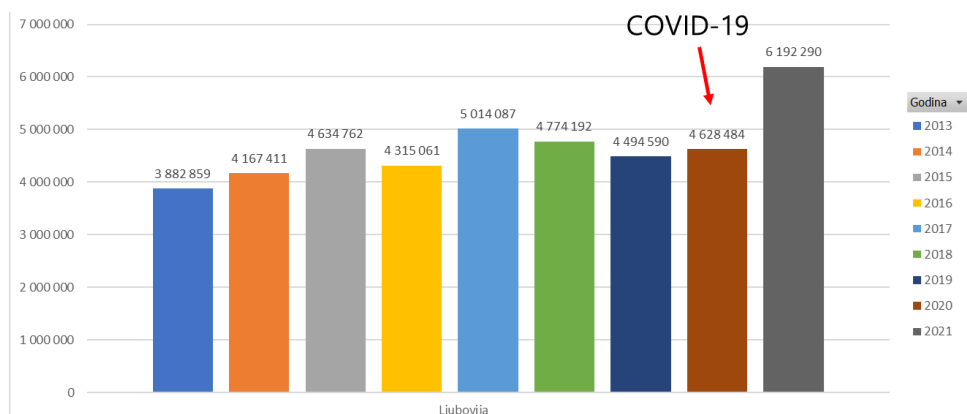


Figure 5 Business revenue growth in the Municipality of Krupanj, in 000 of RSD. Source: Author's calculations based on the Chamber of commerce data

An even more drastic example is the Municipality of Vladimirci. While Vladimirci have some developed industry, and mid-sized companies which could serve as the centres for the municipal economy, the municipality is also out of the scope of a positive influence of SPA on the local economy – it is not practical to commute nor to develop tourist offers related to the nearby spa. Furthermore, in a nearby growing industrial centre of Šabac, the developing chemical industry is not having a complementary, but competitive influence to the economy of Vladimirci – taking in educated and skilled workforce from Vladimirci to larger companies in Šabac. All that, combined with the disastrous influence of Floods and COVID, resulted in the observed companies in Vladimirci failing to achieve average growth in the Republic of Serbia and declining by -7.86% in total revenues.

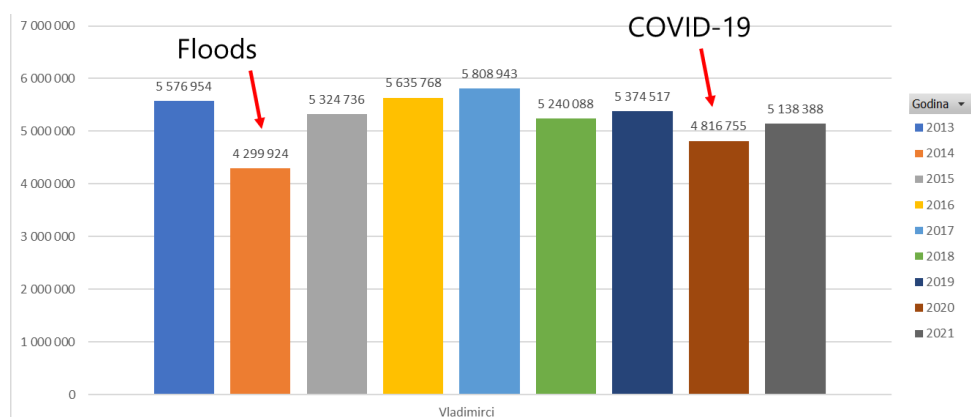


Figure 6 Business revenue growth in the Municipality of Vladimirci, in 000 of RSD. Source: Author's calculations based on the Chamber of commerce data

The geographical location of these municipalities is presented in the Figure below. All close municipalities in the region were analysed except for Koceljeva, which is neither connected by direct roads nor by strong economic ties with Banja Koviljača.

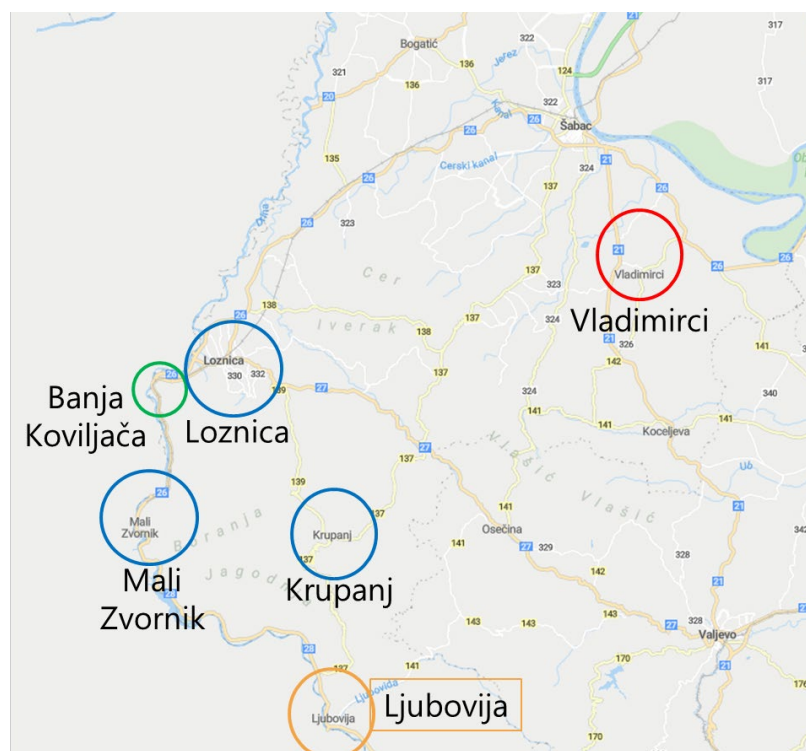


Figure 7 Geographical location of municipalities analyzed for the economic engine influence of Banja Koviljača

4. Discussion

We have interviewed prominent managers from the Loznica in order to find focus on the main factors influencing the economy of Loznica and the neighbouring municipalities. The main economic scenario is the municipality which failed to achieve all the goals during the economic transition, and lost main companies which directed the economic dynamics. Based on the interviews and the analysis of literature, main identified factors are:

- Natural disaster floods in 2014,

- Bankruptcy of the previous local economic engine – Visokoza Loznica factory of cellulose, cellophane and artificial silk,
- Specific COVID-19 municipal effect,
- Advent of the Specialized Rehabilitation Hospital Banja Koviljaca,

The first factor bears negative influence. It has been estimated that the total damage of the May 2014 disaster floods in Serbia was 2.04 billion USD, and Loznica was among the most endangered municipalities [11]. The floods impacted the economy, also social and other impacts [12] Resources were focused on preventing the critical infrastructure and the economy had to suffer during that year, which was illustrated on the graph above. Our findings indicated negative influence, as presented in the Figure 2 and Figure 6.

The second factor also bears negative influence. Visokoza, a factory for production of synthetic filaments was founded in 1957th and was the largest European producer and one of the of the largest producers in the world [13]. Chemical fibres were exported in more than 30 countries. While employing more than 10,000 people at its peak, the factory was bankrupted during the 1990ies, and the production stopped in 2005, gradually leaving thousands of people in the municipality unemployed and damaging the economy. While our dataset does not include the relevant data, underdevelopment of the local environment was attributed by the interviewed managers to this factor.

The third factor was negative due to the post-transition composition of the municipality economy, which relied mostly on balneo industry and tourism. The COVID-19 pandemic in 2020 forced the majority of the population in lockdown and ceased non-essential travels [14] [15], it had a negative impact on the tourism industry and economy worldwide [16] [17], and had negative influence, causing the shutdown of wellness centres and spa's worldwide [18]. However, resilient SPA's reacted quickly and applied all the protection rules, returning to some form of business as soon as it was legally permitted. That helped them use the gap between the supply and demand for wellness. After the COVID-19 pandemics, demand increased, so the pandemic did not only have negative influence but also provided some opportunities [19]. We can count Specialized Rehabilitation Hospital Banja Koviljaca among the resilient organization which adopted quickly to the changes, because during the COVID-19 pandemic, the hospital was compelled to temporarily suspend its regular operations on two occasions, in 2020 and 2021, to serve as a dedicated COVID-19 facility. Following these periods, the entire hospital was meticulously disinfected in record time, ensuring a safe and sterile environment for patients and staff. Thanks to the hospital's adherence to rigorous international standards and the staff's comprehensive training in work procedures, the transition back to normal operations was seamless, with no significant disruptions or challenges. Our study indicates negative influence of this factor in figures 2 to 6,

The fourth factor is the only which can be described as the positive. Spa therapy has long been discussed for its health benefits [20] [21]. Literature identifies positive impact of SPA on local economy:

Direct and indirect tourist revenues [22] [23]. While the spa may not directly receive the revenues, visitors often pay the costs of external accommodation, dining, transportation, and shopping to other unrelated companies. Those revenues are mostly in the municipality, and foreign tourist may generate increased revenues. Neighbouring countries, like Austria, cooperate with the Banja Koviljača Spa and they are proudly the only hospital outside the European Union to have secured a contract with the Austrian Pension Insurance (PV) for the specialized treatment of their policyholders in the fields of orthopaedics and rheumatology. Achieving this partnership required meeting the stringent standards set by the Austrian authorities, ensuring the highest quality of care and service. The contract, signed in June 2021, has already successfully treated over 400 Austrian patients, underscoring their

commitment to excellence and international collaboration. As the foreign tourism sector opens, some new opportunities, like cooperation with the far East [24] can offer even wider revenues.

Direct and indirect job creation [25]. There is an obvious benefit of direct employees in the hospitality – roomkeepers, service staff, therapists, doctors, nurses, wellness specialists, administrative staff. All of these factors positively influence the municipal economy because those people spend their salaries or invest further. Besides that, a spa acting as the broker in the municipal corporate network demands other services, as does visiting tourists. That creates benefits of indirectly employed in agriculture, external services, furniture, maintenance, and entertainment – all contributing positively to the municipal outlook.

Increased property values [26]: SPAS increase the quality of living and demand for accommodation, thus also the attractiveness of a municipality as a tourist destination and a place to live, so the average price of the property rises – the prices of square meter nearly doubled in value in this period in the observed municipality.

Supporting Local Businesses [27]: Spa tourists often seek local experiences, such as dining at nearby restaurants, purchasing souvenirs, or exploring attractions. This increased foot traffic benefits local businesses, including restaurants, shops, and tour operators, leading to higher revenues and potential expansion opportunities.

Investment and Development [28]: The success of spa tourism can attract investment in infrastructure and hospitality services within the municipality. Investors may be more inclined to develop hotels, resorts, and other amenities to cater to the needs of spa tourists, leading to further economic growth and development.

Besides the economic, we can also discuss the social benefits of the SPA tourism. A spa in the municipality has positive externalities, and literature has found that it generally lowers occupational absenteeism and hospitalization [29]. Also, it is found to provide wider social value to the local community [30]. The presence of advances management practices, standards, helping the local community accept new values, education, plans and goals in transit from the domestic therapeutic medical baths to international wellness spas [31].

The advent of the Specialized Rehabilitation Hospital Banja Koviljaca began as the top management directed the strong emphasis on the service quality [32] and marketing [33].

Since 2015, the spa has embarked on remarkable growth and transformation, marked by continuous development and a focus on enhancing infrastructure and services. This era of expansion has seen a significant increase in the number of guests, reflecting the spa's rising popularity and its growing reputation as a premier destination for wellness and rehabilitation. As a result of this increased demand, the spa has also expanded its workforce, creating numerous job opportunities and contributing positively to the local economy.

The hospital's financial performance has improved steadily during this period, with turnover consistently rising year after year. This financial stability has enabled the spa to invest heavily in renovating its buildings, ensuring that the facilities remain modern, comfortable, and in line with the latest standards in healthcare and hospitality. Each renovation project has been carefully planned to enhance the guest experience, combining the charm of the spa's historic architecture with the conveniences of contemporary design.

In addition to upgrading its physical infrastructure, the spa has also made significant strides in acquiring new equipment, ensuring that it remains at the forefront of medical technology. By rejuvenating its fleet of vehicles and updating its equipment, the spa has enhanced its ability to provide top-tier services, whether for medical treatments, patient transport, or other guest needs. This commitment to maintaining

cutting-edge resources reflects the spa's broader mission to deliver exceptional care and service.

Moreover, the spa has introduced new business standards, adopting best practices that streamline operations and improve efficiency. These new standards are designed not only to optimize the day-to-day functioning of the facility but also to ensure that the spa meets the highest levels of quality and safety. The implementation of these standards has been instrumental in maintaining the spa's reputation for excellence and in preparing the facility to meet the evolving needs of its clientele.

Perhaps one of the most exciting aspects of this period of development has been the spa's successful expansion into new markets. By broadening its reach, the spa has attracted a more diverse clientele, including international guests seeking world-class wellness and rehabilitation services. This expansion has not only increased the spa's visibility on the global stage but has also opened up new opportunities for growth and innovation.

This comprehensive development strategy has positioned the spa as a leader in the wellness industry, ready to confidently meet the challenges and opportunities of the future.

A presence of a professionalized management, as well as strong ethical codex among the leadership, is found to benefit companies in the tourism industries [34]

Obvious benefits from the advent of Specialized Rehabilitation Hospital Banja Koviljaca can be identified as it:

- Directly generates ~2% of income among the observed companies in Loznica
- Directly employs 300+ workforce
- Indirectly generates revenues for the hotels, hostels, privately rented apartments via AirBnB, Booking
- Indirectly generates revenues for the restaurants and food providers
- Indirectly creates demand for the services – agricultural produce, hospitality services, hospitality supplies (cleaning, washing), trade, entertainment industry, cultural events

5. Conclusions

We conclude that the local community spa health resort can be an engine of growth. Further, investment into spa research, infrastructure and promotion would have a multifold return – not only from the direct revenues of the spa but also from the increased revenues of its suppliers, partners, local retailers, and even other hospitality businesses in the area. This offers an option for sustainable economic development of the region, based on the tourism industry [35], that is particularly beneficial for the transitional economies. Especially in the South Eastern Europe, tradition of the SPAs has established a lot of SPAs, most of which have been neglected during the second half of the twentieth century. A lot of physical and intellectual capital has been preserved, so investment does not have to be greenfield. Considering SPAs as local economic engines can lead to investments with lower risk and heterogenous returns. Moreover, it may result in an increased resilience of the business ecosystem, which is indicated by robust business performance even during the COVID-19 period, as well as from externalities such as healthier and more productive citizens and employees, as the health benefits of mineral water spa baths have been largely confirmed in the literature [36]. As increased quality leads to customer loyalty [37]the local community will have another positive factor in the development. We have found that the positive effect on the local municipal economy exists and its positive influence diminishes

relative to the distance between related municipalities and the Specialized Rehabilitation Hospital Banja Koviljaca. The most substantial positive influence is identified in the closest municipalities.

Limitations of this research are focus on the five municipalities and one economic engine, so the results have to be generalized with a lot of caution. Further research can examine other spa examples, other types of economic engines, like clusters of health resorts, healthcare or dental tourism, explore the long-term sustainability of spa-driven economic growth. Also, factors of spa success in becoming economic engine, such as composition of complementary local business ecosystems, roles of spa as the network broker or the management and organizational features needed for success.

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