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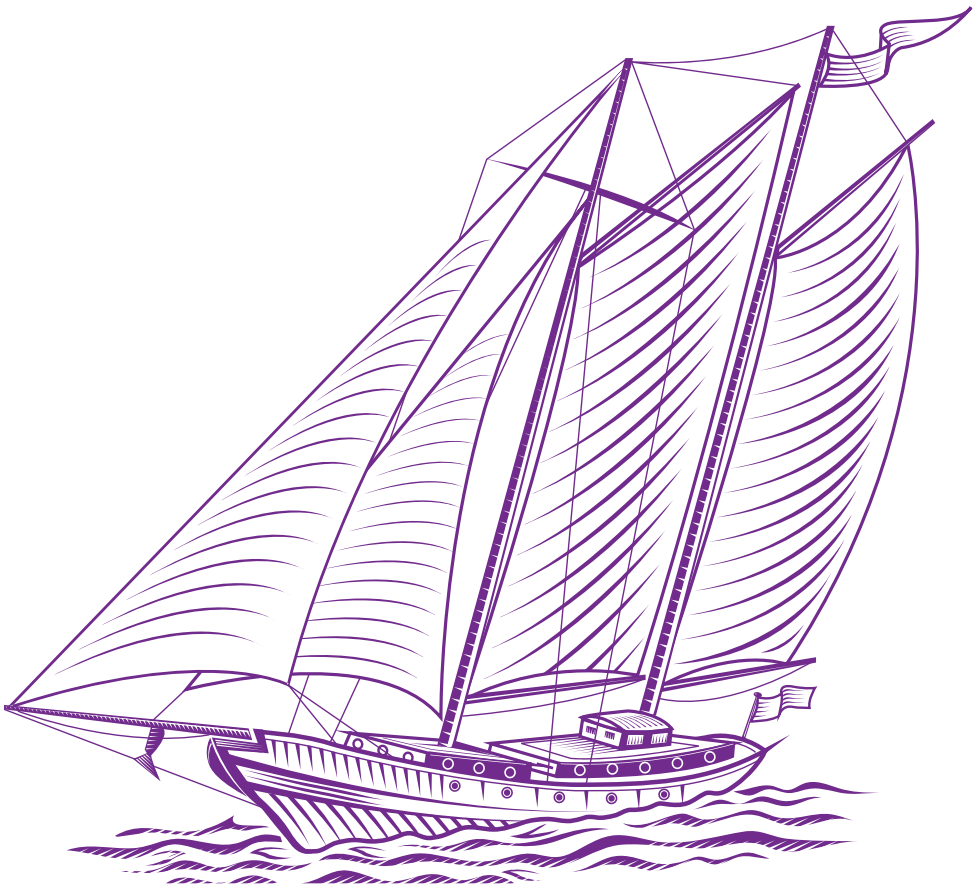

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SYNERGY EFFECT: HOW TO CAPTURE VALUE IN THE BUSINESS STRATEGY? A CASE OF IT BUSINESSES IN NORTH MACEDONIA

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Snezhana HRISTOVA[1], Ivona MILEVA[2], Elena BUNDALESKA[3]

ABSTRACT. Nowadays, businesses are required to create added value and difference. In recent years, the synergy perspective grew into one of the main concerns of corporate and strategic management. It creates a new path for change in the way of designing the business strategy, characterized by the collaboration mindset embedded in the overall strategic thinking context.

This paper investigates the perceptions and practices of the IT managers with regards to the potential of synergy strategies. It aims to explore the growing importance of synergies between all elements, stakeholders, and processes in the organization, with a particular emphasis on the connections which include cooperation, interaction and working together to realize accepted purposes and strategic goals.

The primary data were obtained through a survey carried out in the IT businesses in North Macedonia and evaluated by using the descriptive statistics. The key findings indicate that synergy strategies can create added value on the company's sustained competitive advantage. The results showed that the synergy strategy appears to be a good managerial practice to be fostered on the organizational level to produce greater results.

As the synergy effects seem to be a widespread practice, but rarely discussed topic within the IT sector in North Macedonia, the research will attempt to provide a theoretical contribution to the academic community,

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but also to help local managers to *identify and coordinate opportunities for integrating the sinergy in their business strategy. Apart* from the main research focus, our aim expands further to making a broader contribution to the theories of strategy and organization.

Keywords: synergy, business strategy, inter-organizational relations, competitive advantage.

JEL codes: L19, M10

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Introduction and Review of Literature

In recent years, the link between synergy and strategy stands out to be a considerable topic in many theoretical and practice- based debates in the field of strategic management. Companies operating in various industries are exploring the ways to benefit from the synergy effect in their businesses. In an attempt to boost their innovation and increase performance, managers attempt to put together skilled individuals which are requested to interact, collaborate and perform together within a system so that a common goal can be achieved. Goold and Campbell (1998) state that "*executives can obtain additional value with existing capabilities and resources if they understand how to manage synergies*". Kaplan and Norton (2006) explain that "*synergies will not occur unless the corporate level plays an active role to identify and coordinate opportunities for integrating the behavior of its decentralized business units*". Despite the evident benefits derived from the theory, there is still a lack of sufficient empirical research on the topic. There are some studies which are done to investigate further the diversification strategy synergies, but most of the research that has been carried out in regard to people management is indirectly and highly abstract. The theory itself does not provide enough particular insights on how companies can increase their corporate performance through creating inter-organizational synergies.

This paper investigates closely the growing importance of organizational synergies, characterized by the inter-dependencies and synergetic connections between all elements, stakeholders, and processes within the organization. It is expected that findings will contribute to describe the ways through which organizational development is related to creating distinctive capabilities and to confirm that the greater the interplay of factors, the greater the competitive positioning and sustainability of an organization.

In today's globalized context, the working environment faces many challenges. Competition in a global dimension creates new systems of connections, as well as a new dimension of the quality of technological progress and new methods of obtaining competitive advantage in this complexity, the organizational efforts should be directed towards creating synergies, an environment in which everything is linked to everything, interacts with each other, and in which every person can contribute to the organization's success. The process of value creation is therefore focused on the best use of the company's resources and skills in this constrained environment.

The term synergy comes from the word "*synergos*" in Greek, meaning "*to work together*." The concept of synergy refers to the combined effort of resources to produce results greater than the individual resources' impact. The outcome of producing greater impact than the individual effort is the result of business interactions in which the *combined resources* enhance each other to achieve *organizational objectives*. For the first, the concept of synergy was introduced by Ansoff (1965) in which the synergy was defined as "2+2=5" effect "*something which can produce a combined return on the firm's resources greater than the sum of its parts*". Looking further into the concept and according to the great master Porter (1987), the corporate strategy creates value *only in situations where the interrelationships (synergies) are exploited to the fullest*. He sees the synergy as a source of *competitive advantage in situations where primary (human resources, teamwork, technological resources and innovative systems) and supportive activities (organizational setting and environment) meet*.

Going through the evolution of thought, authors such as Griffith et al. (2003), Potter and Balthazard (2004) state that the interaction between individuals in a team may lead to the creation and enhancement of group knowledge which theoretically goes beyond the knowledge initially held by the individual members of the team.

Later Witcher and Chau (2010) clarify that synergy is a challenge in any large organization where the main issue is to ensure that each community *collaborates effectively* to achieve *strategically important objectives*. As it can be seen in many perspectives, synergy is perceived as the net effect between the total potential for synergetic interaction and the potential for the realization of synergies.

In practice, several empirical studies have proven that a consistent trend between the strategy and the synergetic business activities represents a foundation for a company's success. In this context, synergies, although a widely unexplored topic, gain importance, especially concerning *the importance of the human potential and teamwork in realizing successful strategies*. To emphasize the opportunities and mitigate the risks, the empirical findings focus more on the so-called, *innovative synergies* produced in a *collaborative teamwork that leads to increased performance and mitigated risks*. Although they seem to deviate from the traditional synergies, the literature suggests that entrepreneurship and human capital, combined with the corporate head's abilities, knowledge, and experience are proven to be the strongest synergies.

In general context, the practice has evidenced that there is a positive correlation between synergies, strategies and operational performance that leads to a competitive advantage. The competitiveness of the company is generated not only by appropriate and successful strategic moves on the market but also by people who are inside the internal organizational environment. If synergy is well handled, it can create added value and lead to a sustained competitive advantage.

The inter-organizational connections include cooperation, interaction and working together to realize accepted purposes, including joint goals. These connections arise from undertaken activities which are the outcome of many factors which complement one another. The general rationale lies in the premise that there is a purpose for these activities based on mutual benefits and beyond that. According to Tršková and Holubčík (2016), there are so-called critical success factors (CSF) that create synergies within an organization and in most of the cases, they are developed through the inter-organizational connections. In their research, it is argued that in the process of creating synergies, teamwork, collaboration, and development of knowledge and innovative solutions appear to be the most crucial factors.

As regards to above-mentioned framework, collaboration is number one essential in achieving synergies. Bititci, U. et all (2007) note that in today's global environment, companies are trying to re-invent their businesses and gain a competitive edge through collaboration. They observe that by putting together the right combination of competencies and establishing a critical mass, collaboration allows risks to be shared (and therefore minimized) and opportunities to be maximized, while making the collaborative teams a source of competitive advantage. In their work, Weiss, Anderson, and Lasker (2010) have studied the relationship between collaboration and synergy and they noticed that little is known about how collaboration works, and how the collaborative processes enable partnerships that produce bigger outcomes than the individuals or organizations themselves. To start filling in the gaps in understanding, they suggest that partnerships gain an advantage over single agents by forming "partnership synergy" which has been described as a key feature of an effective collaborative process. They observe that synergy is created when different partners' backgrounds, expertise, and skills are combined in such a way that the partnership can (1) think about new and better ways to accomplish its goals; (2) prepare more detailed, coordinated programs; and (3) improve its relationship with their communities. When partners successfully combine their experiences, experience, and abilities to create synergy, they create something unique and valuable—a whole that is greater than its parts. In addition, they hypothesized that a lack of collaboration and confidence in the group will reduce synergy because partners' ability to work together effectively is hampered.

Moreover, according to Altay and Kayakutlu (2016), the synergy was measured in relation to the sustainability of the collaborative enterprise, and it was shown that companies are forced to innovate, and that they are willing to collaborate and reach synergetic sustainability to develop a new product/service that will give them a competitive edge. Their study shows that when internal and external influencers understand both innovation strengths and threats it results in achieving a failure-preventing synergy. Few studies performed for tech and IT companies (IBM, Digital Pulse survey, etc.) reveal that innovative business collaboration techniques can improve company's productivity by 20-30% which- in a competitive industry such as the IT one- can mean the difference between success and failure.

Continuous learning as a next critical factor has become a must. In response to these circumstances, technology, particularly information and communication technology (ICT), offers both a push and a pull in enabling solutions through knowledge management. According to Eriksson and Dickson, (2000), knowledge sharing gratifies the results when organizational policies create stimulative environment for exchange of information and collaboration. Moreover, more balanced collaboration between the team members leads to richer knowledge sharing.

Zack et al. (2009) argue that knowledge management refers to a collection of actions, programs, and techniques used by the organization to develop, store, pass, and implement knowledge in order to improve organizational performance. Companies adopt strategies to stimulate collaboration and knowledge sharing convinced that the transfer of knowledge and skills will be mutually beneficial.

A study conducted by Ruan and Han (2012) suggests that the network organization's nodes should actively engage in knowledge sharing and develop their synergy learning abilities which could increase the overall efficiency of the network organization by improving connectivity and reducing the complexity of knowledge sharing. To support this, Du, Zhou, Yuan, and Liu (2019) argue that mutually benefiting relationships, external motivation, work efficiency, organizational learning and innovation are positively impacted by knowledge-sharing which increases the organization's intangible resources and strengthens its competitive positioning.

Number three factor for synergy is innovation. An extensive study performed by Arthur D. Little in 2005 in over 800 high-tech organizations suggests that companies outperform their rivals in terms of growth and profitability only when the organizational strategy is linked to innovation objectives, technology and resource management. The same study suggests that innovative organizations are value creators and they break through to the next level because they constantly redefine their values through synergistic interaction. What is more, they understand that it is the sum of people who have created networks through their competencies to support innovative behaviors. Alternatively, study results showed that internal company problems such as a lack of funding, a lack of business knowledge, an unsuitable organizational culture, inadequate rewards, and a poorly developed innovation plan are the most frequent obstacles to innovation.

Turban et al (2006) discuss the reasons that drive companies to employ IT for competitive advantage as a result of IT's position in strategic management. Some of the motivations for leveraging IT for strategic advantage, according to Turban, include innovation and competitive intelligence.

According to Daneshvar and Ramesh (2012), a company that adopts IT benefits from innovation, growth, cost reduction, alliances, and distinctiveness. IT, on the other side, improves information processing, communication, and alliance patterns.

Finally, workplace teamwork is an essential feature of any business. It enhances team success by teaching workers how to handle conflict, respond to change, and interact more effectively. Every team member may contribute unique strengths and values. It is not as easy as it can seem to achieve workplace synergy. In a study conducted by Jasińska (2019), synergy is defined as feature of well-functioning and continuously learning teams who strive to develop innovative solutions which improve the quality of work, and trigger new potential. According to team research, a key leadership skill is not just the ability to build teamwork, but also the ability to strategically use the group's powerful combined effect to achieve the goals. The same study suggests that working together for a common goal, instead of competing, leads to greater achievements. Finally, teamwork represents a source of synergy because it promotes problem-solving, increases work speed and improves communication of ideas, while enhancing the feeling of belonging and brining out new learning moments.

Material and Methods

As a research methodology, a quantitative technique was used. A closed-ended questionnaire with 33 questions has been prepared on google forms and distributed online to 150 Macedonian employees working in the ICT sector (computer programming and computer consultancy services sub-segment). The respondents have been working at various managerial levels and participated voluntarily being aware that the questionnaire is anonymous, confidential, and that the obtained results will be used for academic purposes only. The respondents were asked to

evaluate the synergy creation in their organizations and its relationship in regards to the four critical success factors: teamwork, collaboration, innovation, and knowledge-sharing. The response rate was 43%.

Given that the statistical sample for the entire country of North Macedonia (population: 2,083,459 (The World Bank, 2019) is 1000 respondents (0.047%), 63 respondents for the ICT sector (Information and Communication Technology) in North Macedonia (employees: 5.286) is relevant (1.19%). The companies that took part in the research were not limited when it comes to their size or company ownership. The results were analyzed using SPSS Software. The analyses combined numerical and graphical methods of descriptive statistics and analyses. Google Forms also makes the basic calculations and offers excel sheets from the results.

Research Results and Discussion

According to the MASIT General Mapping Report "*ICT industry in North Macedonia*" published in June 2020, there are 1.957 economically active companies in North Macedonia operating in the ICT sector and divided into 5 subsegments or Software and IT Services, Telecommunication, ICT Manufacturing, ICT Trade, and Other IT Services. 56.5% of these companies operate in the "software and IT services" subsegment while 27% belong to the ICT trade and manufacturing subsegment. Our research focus has been narrowed to the companies focused on computer programming activities (27.2% out of 56.5%), and computer consultancy services (8.4% out of 56.5%). From an employee standpoint, their total number in the "Software and IT Services" subsegment is 8,409 in, 2019 and is expected to grow up to 10,738 by the end of 2021. The "*Computer Programming Activities*" sub-segment employs the most people, with 5,286 people, or 62% of the overall workforce in this sub-segment.

In the following part, the demographic variables are presented. They indicate that 100% of survey participants are citizens of the Republic of North Macedonia. Further, 35 out of 63 respondents, or 55.6% were female which indicates a little predominance of the females in this sector. At the same time, 27, or 42.9% were male, while 1 or 1.6% of the respondents preferred not to say their gender.

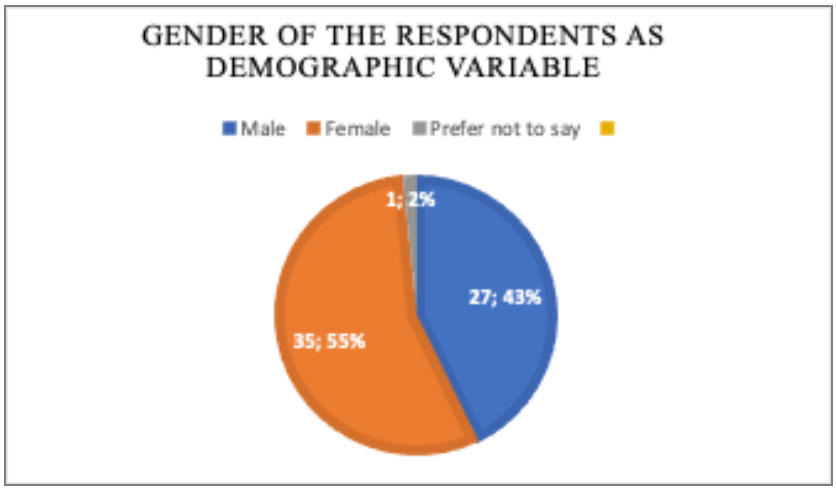

Figure 1. Gender as Demographic Variable
Source: authors' compilation

When it comes to age as a demographic variable, 58.7% of the respondents fall under the 21-30 years old category, which shows that the presence of the generation Y (the millennials) is strong in the Macedonian IT community, 27% fall under the 31-40 years old category, 11.1% under the 41-50 years old category, and only 3.2% under the +50 years old category. A large portion of the respondents, 61.9% holds a Bachelor's degree as the highest degree of completed education, followed by 17.5% who have acquired a master's degree. Only 4.8% of the respondents hold a Ph.D. or higher degree, while 12.7% have finished only high school. Most of the companies are 51-250 employees' size, 27% are 11-50 employees, followed by equal distribution of 11.1% between +250 and 1-10 employees.

Table 1. Company Profile and Demographic Characteristics of the Respondents

Variables	Percentages
Gender	
Male	55.6%
Female	42.9%
Prefer not to say	1.6%
Age	
‹ 21	/

Variables	Percentages
21- 30	58.7%
31- 40	27%
41 – 50	11.1%
+50 years old	3.2%
Education level	
Less than High School	0%
High School	12.7%
Bachelor	61.9%
Master's Degree	17.5%
Ph.D. or higher	4.8%
Professional Academy	1.6%
Prefer not to say/Other	1.6%
Position	
Top management	9.5%
Executive representative (Implementations)	15.6%
First-line managers (Team leads)	20.6%
non-managerial level/Employee/Implementations	49.2%
Intern	1.6%
Other	3.2%
Num.of employee	
0-10	11.1%
11 - 50	27%
51 - 250	11.1%
+ 250	50.8%

Source: authors' compilation

According to descriptive statistics, the average respondent is female, aged 21-30, and holds a Bachelor`s degree.

Descriptive Analysis of the Questionnaire Data

One of the main prerequisites for achieving results that are greater than the individual ones is teamwork and collaboration. The obtained results suggest that in 85.7% of the cases, the IT companies have permanent workgroups which in 79.4% of the cases collaborate from different locations/buildings while using chat (87.3%), email (82.5%), and video conferencing (69.8%) as most common tools for interaction.

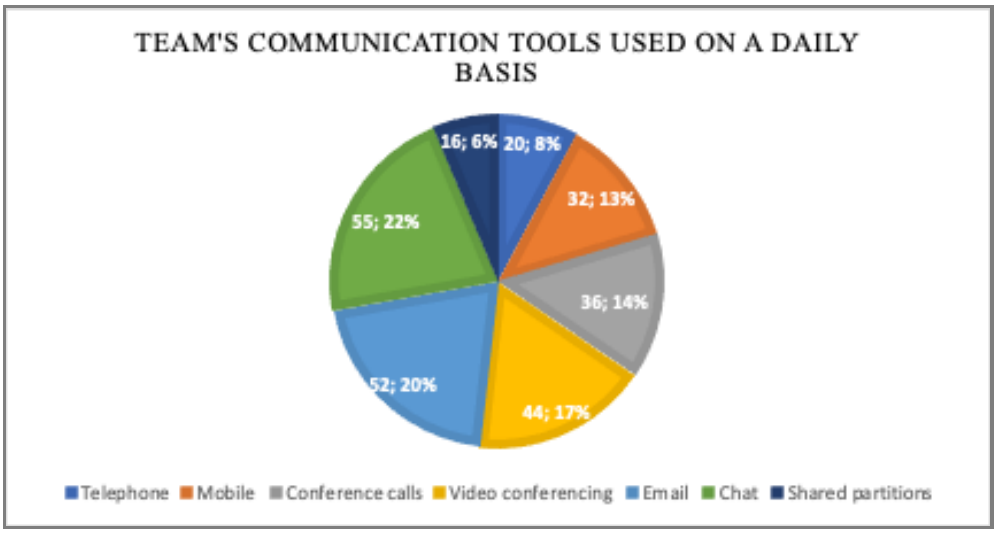

Figure 2. Communication Tools used on a daily basis
Source: authors' compilation

When evaluating the type of team which is most likely to lead to a synergetic interaction, the majority of the respondents (31.7%) answered that flexible teams using member rotation or that are set up for individual projects or problems are the most common form of organizing the work and at the same time 47.6% of the respondents confirm that flexible teams are most likely to lead to a synergetic interaction followed by 36.5% who think that regularly cooperative team are very likely to produce higher teamwork result over the ones obtained individually.

A six-degree Likert scale was used to evaluate the teamwork regarding the alignment with company mission, vision, and long-term strategy and strategic communication between partners. It is very interesting to see that the majority of the respondents, 58.73% agree that teamwork is aligned to the company's objectives, whereas 42.85% have stated the company has set a clearly defined continuous process that facilitates the strategic conversation between partners. A bit less than 50% or 46.03% have stated that the team collaboration leverages their strengths.

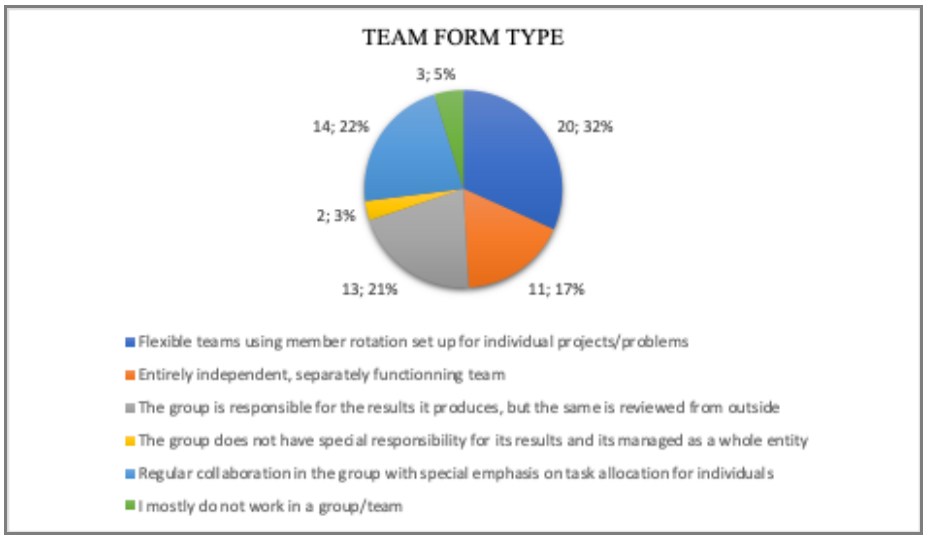

Figure 3. Team Form Type
Source: authors' compilation

According to the results obtained by the survey, collaboration seems to be one of the main drivers of creating positive results for the company. Namely, 36.50% have stated that they somewhat agree that collaboration combines expertise, skills, and knowledge in a symbiotic union, while 34.92% are strongly convinced that collaboration leads to synergy and results which are greater than the individually created ones. 71.42% agree (somewhat or strongly) that collaboration leads to better and more creative ways for accomplishing common goals. At the same time, 66.66% agree (somewhat or strongly) that collaboration has a positive impact on employee's leadership and efficiency. Then 69.84% agree (somewhat or strongly) that their company's organizational structure fosters collaboration as a source of competitive advantage. It's very favorable to see that 71.42% of the respondents claim that shared purpose, complementary strengths, and mutual agreement are the basis for a successful collaboration. A high number of the respondents, 76.19% agree (somewhat or strongly) that leadership style is a very important factor stimulating collaboration between the teams. The results can be observed in the below graph.

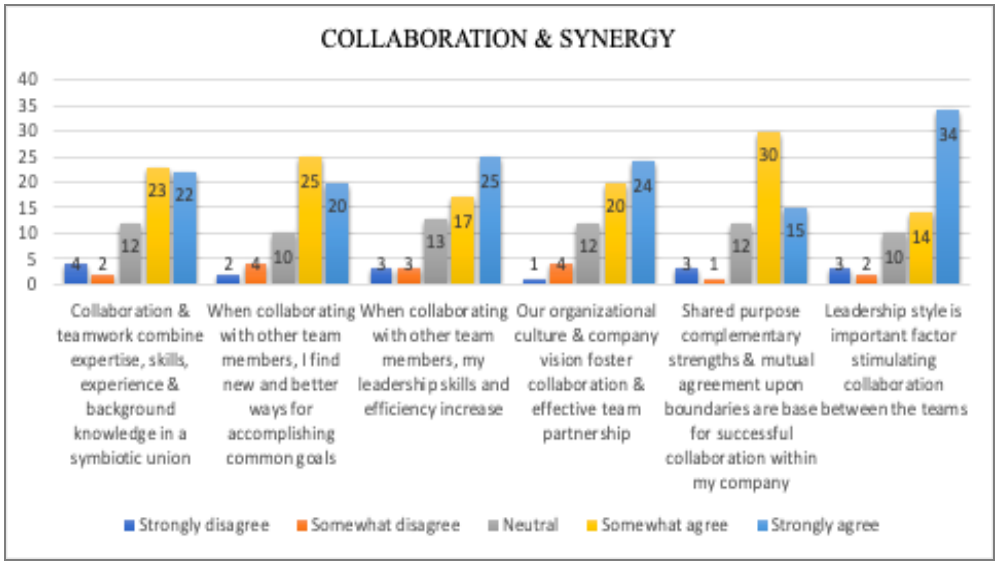

Figure 4. Collaboration and Synergy
Source: authors' compilation

Positive trends are also noticed when it comes to employee's awareness of the value that is being generated through collaboration, and the competencies and capabilities that are put together to achieve more in less time.

The results from the questionnaire denote a profile of a knowledge-driven culture when it comes to the ICT community in North Macedonia. Namely, 77.77% agree (somewhat or strongly) that their company has set a culture of knowledge-sharing across the organization against 12.69% of the respondents who did not share this opinion. It's interesting to note that somehow the results are split when it comes to the organization using motivators such as acknowledgment and gratitude to further stimulate knowledge-sharing and synergetic interaction. Namely, 52.38% of the respondents think that their company uses these tools to foster knowledge-sharing and achieve more through these sessions on a company level. At the same time, 22.22% of the respondents don't share this opinion against the other 22.22% who declared themselves as neutral. This tells us that there is room for improvement when it comes

to the organization's awareness of using these simple techniques to create an environment based on knowledge-sharing, leading to achieving more in less time. More than 80% of the respondents have stated that trust, bonding, and communication appear to be essential in letting the employees feel free to share their knowledge, thus easily integrating it as part of the company's strategic orientation. The below graph summarizes their responses.

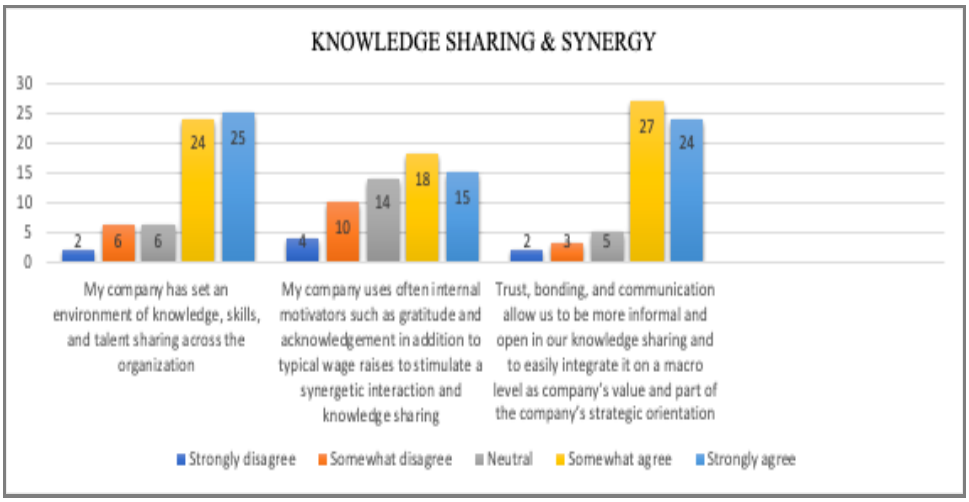

Figure 5. Knowledge Sharing and Synergy
Source: authors' compilation

Going further, it was wished to assess the innovation readiness and application in the Macedonian ICT sector. It is good to note that more than half of the respondents (66.66%) have stated that innovation is one of the main pillars of the company's strategy. The same number of respondents (66.66%) have stated that innovation based on the synergies between people and the tech potential leads to a competitive edge. It's very surprising to see that the same number of respondents (66.66%) is convinced that their company creates value through human-based synergistic interaction. Favorable results are also noticeable when it comes to the company leveraging employee's competencies to support innovation and achieve better results.

On the other hand, interesting results have been produced on the obstacles preventing the company to be innovative. Namely, it's high the number of respondents who associate the lack of innovation in their organization with lack of funding or poorly developed innovation plan. The results are summarized in the graphs, below.

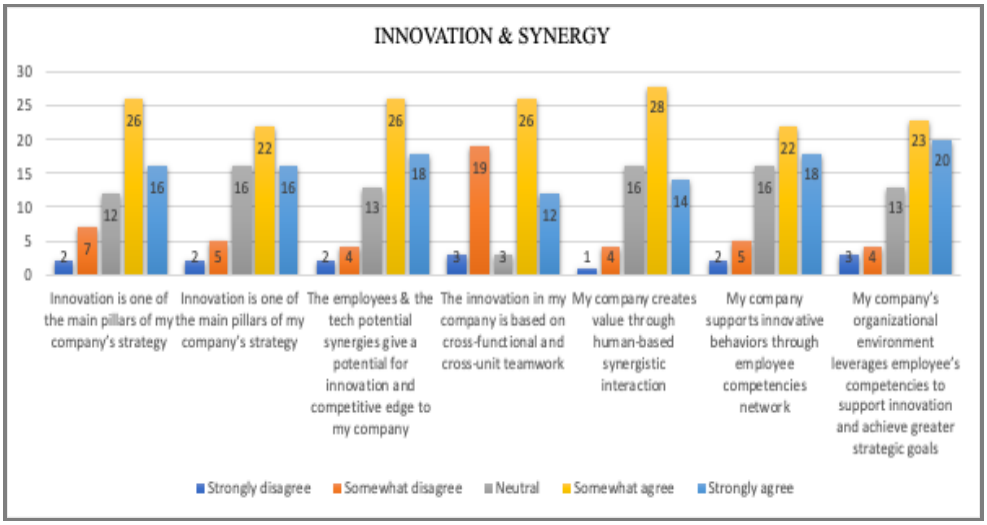

Figure 6. Innovation and Synergy
Source: authors' compilation

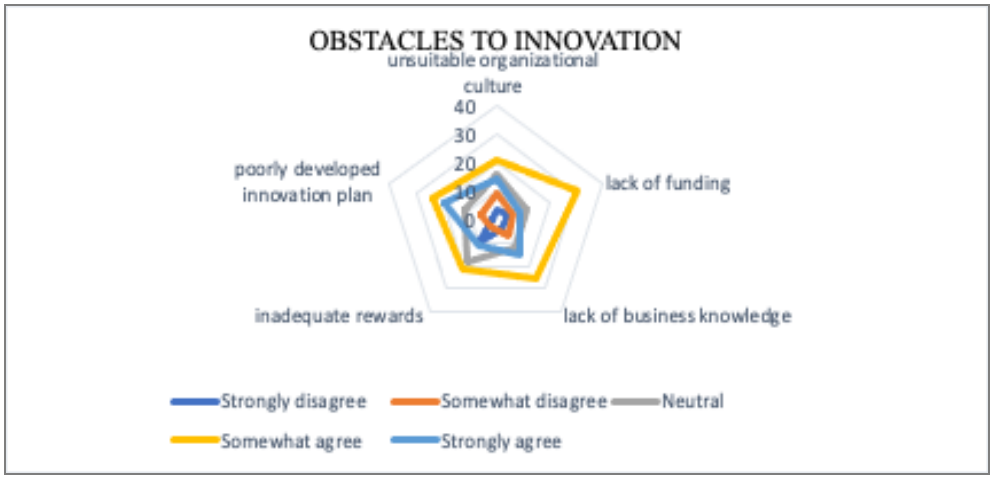

Figure 7. Obstacles to Innovation
Source: authors' compilation

One of the main objectives of the study was assessing the relationship between synergy and strategy. According to the obtained results, 73% of the respondents think that their company is using tools to foster the synergetic interaction. High 92.1% are convinced that what they do as a team reflects their company's organizational goals and long-term objectives. In most companies, the balanced scorecard is a method used to assess the employee's performance concerning the company's objectives and goals. Almost half of the respondents (47.61%) feel like the company's partner in many processes within the organization, against 17.46% that don't share the same opinion while the others seem to be neutral in regard to this question. A positive trend (58.73%) is noted in ICT companies obtaining support from their employees when it comes to the development of their strategic goal. Finally, 58.73% of the respondents believe that their company bases its strategy on synergies between multiple systems, programs, processes, and employees.

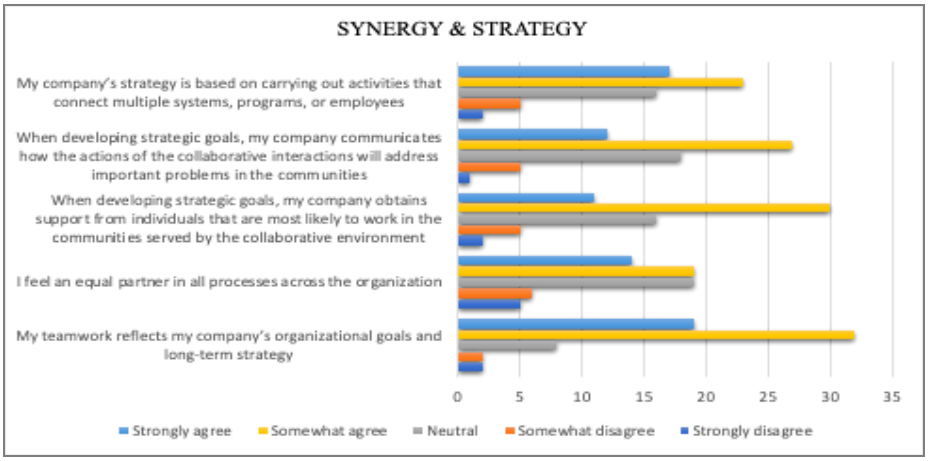

Figure 8. Synergy and Strategy
Source: authors' compilation

Conclusion

The research suggests that there is a trend towards growing understanding of the importance of synergy strategy through fostering the inter-organizational relations of IT companies. This is leading to greater relevance for managers in competitive contexts in which teamwork, collaboration, innovation and knowledge sharing is the basis for a competitive advantage.

The primary contribution of the paper is to bring new insights into the nature of synergy and strategic decision making, with a special emphasis on the ways through which the synergetic approaches in the IT industry can contribute to value creation at a corporate level. In this way, the paper itself presents a food for thought in order to create an urge for a synergy and the need for a comprehensive understanding of the managers how to change the way in which the strategy is practiced.

As discussed above, teamwork collaboration, innovation, and knowledge sharing, are values that need to be cultivated and represent an important factor for a synergetic strategy, so that employees can identify with the company's organizational culture. To remain competitive, companies must deploy synergy practices. When the potential of these synergies was tapped, its interface will result to industry leading performance. Apart from the main research focus, the aim of the paper expands further to making a broader contribution to the theories of strategy and organization.

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PERSPECTIVES ON WORKFORCE AGE DIVERSITY IN NOWADAYS TEAMS

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ABSTRACT. The diversity of employees, in general, respectively age diversity is a reality at the level of the current organizational environment, knowing that currently there are five generations in the labor market. The added value brought by this research is the proposed case study, which has in its center six different teams, at age level (age diverse teams) but not only, which are part of the administrative part of a company, present in Romania. The aim of the research is to identify the dimensions of diversity at the team level, according to the perception of the team leaders and team members, the emphasis being on age diversity. The desired research objectives to be achieved are: (1) identifying the types of workforce diversity perceived by managers and their team members. (2) identifying how the age diversity of team members is managed by managers. The proposed case study is based on a documentary and a primary research. A series of internal documents of the company are analyzed. The qualitative research carried out at the team level of the leaders of the six administrative teams is complemented by a quantitative research. The survey conducted has as target population the employees of the teams that are led by the interviewed managers. A conclusion of this research is that at the level of the interviewed managers and members of their teams there is a medium to low level of awareness of the

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aspects involved in the diversity of the workforce. Another conclusion is that the age diversity of the members of the analyzed teams is associated by the managers with the different characteristics of the employees belonging to different age generations. The aspects mentioned to differentiate the members of the teams that are part of different age generations are in terms of skills and behaviors in the workplace.

Keywords: workforce diversity, workforce age diversity, team diversity, team age diversity, case study.

JEL Classification: O39, M14

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Introduction and review of literature

Diversity is a topic of interest in the field of organizational management, the human resource management and follows an upward trend in terms of its awareness in contemporary companies. There have been more than 30 years since the term workforce diversity was coined, with Roberson (2019) noting the context of the 1990s which was characterized by a series of socio-economic trends that changed the number and type of people who made up the workforce in organizations. According to Jones & George (2011, p. 165) diversity in the workplace is related to a number of visible and less visible personal traits (such as age, gender, ethnicity, religion, sexual orientation, education, professional experience, physical appearance, socio-economic past, personal abilities) or any other characteristic that may represent a difference between individuals. So, "workforce diversity has characterized most contemporary organizations in recent times with its attendant challenges and increasing complexity" (Inegbedion et al., 2020, p.2). The workforce diversity, in itself, does not bring value to the organization. The way diversity is managed at the level of organizations and implicitly by teams, leads to a series of benefits but also challenges for companies characterized by a

diverse workforce. In fact, "any type of diversity can have both positive and negative consequences, depending on contextual and moderating variables" (Meyer, 2017, p. 153). Moreover, van Knippenberg et al (2020) underline that the benefits of workforce diversity do not arise automatically, they require systematic and integrated interventions. According to the aforementioned source, the effects of diversity at the team level on the performance of the team can be seen from two perspectives, namely the perspective of the information resource respectively that of the intergroup tension. In this context, van Knippenberg et al (2020) propose the theory that the existence of synergy as a result of team diversity occurs when managers minimize the tensions that may arise as a result of diversity, respectively to encourage the integration of divergent perspectives. Basically, it is about diversity management, defined by Barak (2017, p. 9) as confronting differences and capitalizing on them, in order to be able to achieve positive results both for the individual and for the team and the organization as a whole. The implementation of this process involves many challenges, which can be answered by following the next actions: "to identify all potential challenges and take corrective actions either to remove them, to diminish their negative effects, or to turn these obstacles into organizational advantages" (Irini, 2021b, p.1185).

There are studies with an applied component on the diversity of the workforce and its management that have as their subject companies located in countries of South-Eastern Europe. The main topics analysed in these studies are extremely diverse, as can be seen below. Lančarič et al (2015) study the effect of the size, legal form and share of foreign capital as corporate ownership on the level of implementation of diversity management in companies located in Slovakia. Gross-Gołacka (2017) researches the level of implementation of the concept of diversity management in companies as well as the benefits (if any) brought to the level of firms in The Czech Republic, Poland, Slovakia and Hungary. The I.D.E.A.S project team (2018) produces a report on the actions on workforce diversity adopted in different companies in Croatia, Romania, and Slovenia. The document refers to the adoption of the so-called Diversity Charter for the three countries, on September 4, 2017 in Croatia, on November 14, 2017 in Slovenia and on April 18, 2018 in Romania (I.D.E.A.S., 2018, pp. 5,8,10) respectively presents a series of good practices

from the level of different companies present in the three countries. Mateescu (2020) studies the management of cultural diversity, proposing three case studies at the level of SMEs with foreign capital in Romania, working in the field of production and operating in a lohn system. Michalicka et al. (2021) analyse the factors influencing the process of implementing diversity management in companies in Slovakia. Irini (2021a) researches the discourse on diversity, equality and inclusion communicated on the websites of the first 20 companies in Romania, according to the annual net turnover criterion. Mihail et al. (2022) examines the impact of diversity at the management level of the firm, CEOs and management committees on the financial performance of companies listed on the Bucharest Stock Exchange (BSE).

The above studies are complemented by research on team diversity and diversity management at team level. The topics covered are diverse, as presented below. Dahlin et al. (2005) study the impact of diversity on the way information is communicated in firms. van Knippenberg (2004) researches the impact of diversity on team performance and Fay & Guillame (2007) refers to the effects of team diversity, in terms of cohesion, performance and member satisfaction. van Knippenberg et al. (2020) propose a set of actions that should be taken by team leaders in order for the diversity of the team to lead to synergy. Lurdes & Franco (2022) identifies 3 thematic clusters of articles on the topic of team diversity, following the analysis of 80 articles (from 1996 to 2020). The identified clusters are called "Team Knowledge Diversity, Diversity Effects and Desirable Outcomes of Diversity" (Lurdes & Franco, 2022, p. 6). Homberg & Bui (2013) studies the diversity of top management teams, the literature review leading to the conclusion that "diversity variables do not have a meaningful influence on the performance measures" (p. 470). Nearly ten years later, a new literature review supports "the inconsistent nature in which board member age diversity predicts financial and non-financial outcomes" (Gardiner, 2022, p. 23).

The age diversity of the workforce is a reality at the level of today's firms, knowing that there are currently five generations in the labour market. This reality is a real challenge for HR specialists and managers, respectively, because of the challenges they have regarding "retaining experienced and highly skilled older workers, maintaining

the work motivation for middle-aged workers, and recruiting high-potential younger workers" (Gordon, 2018, p. 38). In fact, all employees find themselves facing a challenge, namely to learn "how to collaborate with and appreciate the unique preferences, habits, and behaviours of colleagues who grew up in different times than ourselves" (Waldman, 2021).

According to the research conducted by MKOR (2020), at the level of 77 companies in Romania, the benefits brought by diversity and inclusion management are "increasing the well-being of employees, due to the creation of a collaborative climate; ... a direct impact in increasing motivation and satisfaction at work" (p. 7). According to that source, for nearly a third of the study participants, "diverse teams mean a greater diversity of ideas, thus representing a potential for growth for organizations." (p. 7)

According to human resources specialists, generation Z employees in Romania are "dynamic, transparent, creative, innovative, involved, tolerant, socially responsible, emotional, knowledgeable and individualistic" (Racolţa-Paina & Irini, 2021, p. 83). According to the aforementioned source, in order to adapt to this generation of employees, in the processes of attracting, motivating and keeping, companies have adopted transparency, "both in terms of communication and the way in which activities are carried out" (p. 83). Another conclusion of the mentioned research refers to a set of factors that motivate generation Z employees, namely "power of example, mainly of the leader (in terms of qualities and behaviours), public recognition, tolerance of failure of the leader, involvement in challenging projects, the delegation of activities, a personalized career plan, salary, and a flexible work schedule" (p. 83).

This research, through the case study carried out, analyses the diversity of the workforce as it is perceived by the employees from the administrative part of a production company (herein after referred to as Company A, for confidentiality reasons), located in Romania. We opted for this approach knowing that "attitudes of employees in relation to workplace diversity is a relatively new focus in the diversity management discourse" (Irini & Borza, 2020, p. 754). The proposed case study consists of analysing the situation at the level of six diverse teams from the administrative part of Company A. The aspects pursued in the proposed case study are the perception of how diverse the team

they lead/to which they belong is, the dimensions of the diversity of the team, the importance of the diversity of the team, the management of the age diversity of the team.

Material and Method(s)

As a research methodology, we chose the case study, conducted at the level of a company located in Romania. The case study involves "one case (single case study) or a small number of cases (comparative case study) in their real life context are selected, and (b) scores obtained from these case are analyzed in a qualitative manner" (Dul & Hak, 2008, p. 4). The proposed case study is a descriptive one (Yin, 2009) with a research question defined by the type "how?", the central theme analyzed being diversity at team level. As mentioned earlier (see Introduction and Literature Review), the research question of this study is "How is the diversity of the workforce perceived by team leaders and team members respectively?". The desired research objectives to be achieved are: (1) identifying the types of workforce diversity perceived by managers and their team members. (2) identifying how the age diversity of team members is managed by managers.

The proposed case study is based on desk research and field research. We analyzed a number of internal documents belonging to Company A, one of the authors being an employee of the organization. The primary research consisted of a qualitative research complemented by a quantitative one. This approach is recommended by Irini & Borza (2020), who appreciates that in this way access to complete information from the research environment is ensured. The qualitative research involved interviewing (by the author of this study who is an employee of Company A) six team leaders, in fact middle managers, all from the administrative side of Company A. Data collected was supplemented by data obtained from participatory observation, conducted by the author of this study, who works in Company A.

The proposed case study focuses on six teams from the administrative part of Company A, which has as its main activity the production. Company A is located in Romania and has a history of 60 years, over time going through several changes, especially related to the

shareholders. Company A has around 1100 employees, of which less than 100 people are part of the teams of the administrative departments, the rest being part of the production, engineering and logistics teams. Although the company's profile is specific to the production activity, the present study focuses on the analysis of the teams in the administrative area of the company, due to time and data volume constraints, but also because we expect a more pronounced diversity in these departments, compared to those directly involved in the production activity.

An interview guide (which included 12 open questions) was prepared and used to provide a structure so that the information obtained from the interviews could be compared and so that the interview remained focused. The selection of the middle managers interviewed was made based on three criteria, namely, to be part of one of the administrative departments of the company, the number of members of the team led to be at least 5 and his/her willingness to respond to the interview. The interviews with the six middle managers were taken face-to-face, between the 5th and the 9th of June, 2022, within Company A, by the author of this study who is an employee of Company A. Interviews were recorded with the consent of the interviewees and subsequently transcribed, so that they can be analyzed and compared. Each interview lasted about 20-25 minutes. The interviews were conducted in a pleasant and professional way, which allowed the researcher to know the perspective of the interviewed managers and to collect information on the diversity of the teams led. The profile of the interviewees as well as some data on the composition of the teams led are presented below (see Table 1).

It can be noted (see Table 1) that the six interviewed middle managers are diverse in terms of gender, seniority in the company and seniority on the job. In terms of age, they are homogeneous, 5 of the 6 being between 41 and 50 years old. Regarding the seniority of the managers in Company A, it can be noted that most of the respondents have a considerable number of years spent, namely more than 15 (three of the six managers). According to the interviews' responses, for three of the six managers interviewed, Company A is the only one they have worked for so far. This can be both an advantage, through the accumulation of experience and specialization in the field and activity they carry out, and a disadvantage through the lack of exposure to other visions, ways of working or mentalities. For most interviewees (four out of six) seniority

in their current role is 5 years or more. According to some internal company documents, to which we had access, all the interviewed persons advanced within the company to the role of middle manager, currently occupied. As a result of this situation, it can be appreciated that they had experience in the department they are currently coordinating, they knew the activities and the way people work, but also the organization and its objectives. The number of subordinates of the interviewed middle-managers varies between 5 and 14 employees, and their age ranges are quite extensive, the most homogeneous team in terms of age being that of the respondent A.C. (see Table 1). Based on the responses that were summarized in Tabel 1, there is age diversity within the teams of the interviewed managers, respectively in each team there is a dominant gender. There are two teams where there is only one gender in the team, including the manager. As a result, it can be mentioned that the teams led by the interviewed managers are poorly diversified according to gender, although the organization is diverse from this perspective, something mentioned by L.H. during the given interview.

Table 1. Profile of the middle managers interviewed and their teams

	Characteristics of middle managers				**Characteristics of the members of the teams led by middle managers**				
Initials of the name and surname of the middle manager	Gender	Age (years)	Seniority in Company A (years)	Seniority in the current position (years)	Number of team members	Minimum age	Maximum age	Number of female employees	Number of male employees
P.M.	F	41-50	26	5	12	23	60	10	2
A.C.	M	41-50	14	5	7	32	50+	0	7
R.N.	M	41-50	7	2	9	27	67	1	8
M.O.	F	31-50	12	4 1/2	14	23	60+	13	1
L.H.	F	41-50	28	11	5	30	55	5	0
S.M.	M	41-50	17	14	7	20+	50+	6	1

Source: authors' work

Quantitative analysis was used to find out the perception of the members of the teams led by the six middle managers interviewed regarding the diversity of the workforce in their team. We opted for an opinion poll, because we wanted to collect measurable data, given the large number of team members (54 people). We chose to use the questionnaire as a data collection tool for quantitative research because it is an efficient way to collect data, it is useful for collecting sensitive information and it does not involve high costs (Patten, 2016). According to the cited source, this data collection tool has the disadvantage of usually having a low response rate and not providing in-depth information. The questionnaire included 18 questions, their type being as follows. The first question was an open, introductory question. There were 6 closed Likert questions, one open question and the last 8 closed questions, to establish the profile of the respondents (see Table 2) The questionnaire was voluntary and anonymous, and the respondents could choose whether to fill in the proposed fields. To maintain the confidentiality of the data, not to be in a situation where people do not answer truthfully for reasons of further identification, and not to risk that there are people who do not want to answer because they can be identified by their answer, we chose not to use any question related to the department or team the respondents belong to. To achieve a good response rate, the questionnaire was distributed both online and physically in June 2022. The responses received were collected and centralized in a single database in excel. All 54 employees in the teams led by the interviewed managers received the prepared questionnaire. In the end, 32 valid questionnaires were received, resulting in a response rate of 60%. The profile of the employees participating in the opinion poll is presented below (see Table 2).

By analyzing the profile of the participants in the study (see Table 2), one can notice the diversity of the respondents, in terms of gender, age, level of education and seniority in Company A, seniority in the current department and seniority in the current position.

Table 2. Characteristics of survey participants (sample volume = 32 employees)

Criterion	**Sample profile**
1. Gender	• female (56.25%) • male (37.50%) • people who preferred not to answer (6.25%)
2. Age	• 31-40 years (28.125%) • 41-50 years (28.125%) • 51-60 years (25%) • 26-30 years (15.625%) • 21 – 25 years (3.125%)
3. Most recent level of education completed	• higher education – undergraduate level (50%) • high school (25%) • higher education – master level (18.75%) • post-secondary education (6.25%)
4. Work experience in other companies	• yes (65.60%) • no (34.40%)
5. Seniority in Company A	• 1 – 3 years (28.10%) • over 20 years (25%) • 11-15 years (18.80%) • 4 - 6 years (9.40%) • 16-20 years (9.40%) • 7 – 10 years (6.175%) • less than one year (3.125%)
6. Experience in other departments of Company A than the current one	• no (53.10%) • yes, in 1-2 departments (37.5%) • yes, in 3-4 departments (9.4%)
7. Seniority in the current department	• over 6 years (43.80%) • 1-3 years (37.4%) • under 1 year (9.40%) • 4 - 6 years (9.40%)
8. Seniority in the current post	• 1-3 years (46.9%) • over 6 years (34.40%) • under 1 year (9.40%) • 4 - 6 years (9.40%)

Source: authors' work

Results and Discussions

According to the data collected through participatory observation (conducted by the author of this study who is an employee of Company A), the Analyzed Company has as its main characteristics tradition, competence, and experience. The values of Company A are passion, trust, responsibility, and excellence. As an observation, we mention that the organization must increase the efforts to instill in its employees these values and make them ambassadors in relation to individuals not linked to the company. Within Company A there are professional training programs for technical positions, training programs for employees, internship or recent college graduate programs, through which people are encouraged to experience new things, to accumulate new knowledge and skills, to interact with new people. There are partnerships with educational institutions and promotional campaigns among pupils and students to attract young people to the team. Company A participates in career fairs in various cities of the country to attract new talented people.

The human resource is diversified. First, there is a balanced proportion between women and men. Secondly, the age of the employees starts from 19-20 years (students participating in internship programs) and reaches until after the age of retirement (there are also re-employed pensioners). Thirdly, the area in which Company A operates is characterized by an ethnically mixed community. Thus, cultural aspects complement the idea of diversity (language, religion). Fourthly, education differs (from employees who have minimal education to employees who have completed the master's level of higher education). The personal experience gained both within the company and outside it is another form of diversity of employees. There are employees who have moved from other counties or countries to work at Company A, who have worked for several companies or industries, who have faced situations that marked or changed their course of life and thinking.

The diversity at the team level is studied from the two perspectives, one of the middle managers and the other one of the respective managers' team members. The primary data collected refer to the perception of the study participants regarding the diversity of the team (the aspects pursued being dimensions of the diversity of the team,

the importance of the diversity of the team, the level of appreciation of the diversity of the team) respectively the way of managing the diversity of the team, a great attention being paid to the diversity of age.

A) The diversity of the team he/she is a part of

For the six middle managers interviewed, diversity, both at the firm level and at the team level has multiple meanings. Three of the respondents (specifically A.C., R.N., and M.O.) see diversity as a way to have everything and to be able to choose from, P.M. associates it with openness to anything, and L.H. and S.M. have mentioned types of diversity. None of the respondents associated age with diversity at first contact with this topic, instead, P.M., R.N. and S.M. referred to diversity at the level of character, thinking, and personality when they answered the question of diversity in their team. The gender has also been mentioned as a diversity criteria by A.C., R.N., and M.O.

It is worth noting that four of the six middle managers interviewed asked for clarification when asked what diversity means to them. The uncertain way of approaching these initial and general questions, may also indicate that diversity is not a topic discussed and analyzed at the company level, therefore the level of familiarity with this topic is low. The moments of thought or hesitation of managers before answering these questions can also be an indicator of the low level of awareness of diversity within the organization. This result is in line with a research carried out at the level of 77 companies in Romania, the result indicating that "45% of the organizations participating in the study adopt an informal, punctual approach to diversity and inclusion practices" (MKOR, 2020, p. 4).

With the question *Do you think you have a diverse team?* addressed to the six middle managers, the attributes of diversity began to be better highlighted. Except for M.O., all other interviewees consider that they have different teams, the most common attributes mentioned being the age and personality / character of the employees. M.O. believes that his team is not diverse because apart from age, no other attribute is met. During the interviews, ethnicity, training, thinking/ideas, education, culture, way of working or sexual orientation were also mentioned as existing or awareness-raising types of diversity. The situation described

by the interviewed managers is consistent with the responses of the participants in the survey, all members of the teams led by the interviewed middle managers. Thus, almost 70% of respondents (22 people) considered to a large and very large extent that they were part of a diverse team (see Table 3).

Table 3. Distribution of survey participants after the answer to the question "To what extent do you consider yourself part of a diverse team?"

	Response scale				
	1 (not at all)	2 (small)	3 (average)	4 (large)	5 (very large)
Number of responses received (% of the sample given by 32 employees)	2 (6.3%)	3 (9.4%)	5 (15.6%)	11 (34.4%)	11 (34.4%)

Source: authors' work

One aspect to keep in mind is S.M.'s opinion, namely "that he does not believe that people intuitively think that they are part of a diverse team or of the degree of diversity existing in the team to which they belong". As a result, although most of the employees participating in the study consider that they are part of a diverse team (see Table 3), it is not certain how much they were thinking or were aware of this before completing the questionnaire used in the conducted survey.

Regarding the forms of diversity in the team to which they belong, at the level of the studied sample, the answers were in terms of seniority (87.5% of respondents), age (84.4% of participants), gender and level of education (both with 53.1%), respectively, culture, ethnicity, and religion (each with a percentage of over 30% of the participants). Other dimensions of diversity in their team, mentioned by the survey participants were, in terms of ideas, personalities, level of involvement, responsibilities (the data being collected with the help of two open questions). So, age and ethnicity are dimensions of the diversity of the teams analyzed, mentioned by both team leaders and employees.

In terms of the level of appreciation of the team diversity, the situation is described a little differently by the employees compared to their managers. Thus, to the question of whether diversity is appreciated by their team members, managers' responses were unanimously affirmative,

but focused on the diversity of ideas and the fact that team members appreciate the experience, knowledge, and different ways to approach a situation. It is worth mentioning that this type of diversity has not been mentioned from the beginning by managers in response to the question about the degree of diversity of the teams they coordinate, which may indicate a limited exposure to the subject of diversity at the level of managers. In terms of employees, 46.875% considered that diversity is appreciated in the team to a large and very large extent while 34.375% chose the middle variant (i.e., to an average extent).

B) Managing the age diversity of employees at the level of the team led / of which he is a member

Managing diversity from the perspective of the age of employees, involves the awareness of different skills at the level of generations. On this issue, all six middle managers interviewed said that young people have obvious skills on the technology side and that it is easier and faster for them to adapt to new systems. A.C. stated that "More mature generations have not benefited from the same exposure to technology and some tasks are being carried out at a slower pace." Also, four of the six managers said that the older generation has the advantage of the experience accumulated over time and the knowledge they can share with the younger ones. In addition, P.M. pointed out that young employees lack patience and quickly get bored at a job, and R.N. appreciated that more mature employees have a greater leaning towards humans, compared to young ones who have a more technical approach. None of the six middle managers interviewed said they felt less comfortable talking to subordinates who are younger or older than him/her. Instead, R.N. and S.M. referred to the differences in the way of communication at the generational level, namely that those with experience first analyze and only then respond or are more reluctant, and the younger ones are more impulsive, more open. Related to this topic, A.C. mentioned that he sometimes adapts his discourse to the characteristic (from the perspective of age) of the interlocutor.

To the open question *How do you collaborate with younger/older colleagues?* addressed to the participants in the survey, no answer was received that included negative aspects (the sample was 31 employees,

one employee did not answer the question). All the responses received were between the 'good' and 'very good' responses. One of the respondents added that he sometimes gets along with the younger or older ones better than with those similar in age. This can also be explained by the competitive relationship you can feel towards a colleague similar in age, if you want to prove that you are better and you deserve to get promoted.

When asked if they are doing anything to manage the relationship between the generations within the led team, the six managers participating in the study unanimously responded that they do not do anything special, but only communicate or try to communicate with all subordinates in the same way (the exception being A.C.). The majority also stated that they do not consider that they need to do anything specific to lead diverse teams from an age perspective and that in general things happen by themselves. Waldman (2021) appreciates that to reduce the differences between employees given by belonging to different generations, there are several ways, namely permanent communication, humility and a real curiosity about the strengths and limits of personal and colleagues in the team. This does not happen at the level of the studied teams, although at the level of the company there was interest and action for a better self-knowledge at the employee level, the information being then transmitted to the managers. According to internal data at the Company A level, personality tests, called Predictive Index, have been conducted to identify the personality and working style of employees. But the data collected as a result of participatory observation (conducted by the author of this study who is an employee of the studied firm) and based on the responses of the interviewed managers, show that not all employees benefited from this test, nor did all the teams in the area of Administration of Company A performed this test. Moreover, when asked to the managers participating in this study whether they performed this test with their team members and whether they implemented the test results, they vaguely remembered the test.

Survey participants' responses are diverse about the need to see managers do more for team diversity management (see Table 4). It can be noted that team members believe that more needs to be done for diversity management (62.5% of the sample considering "to an average and large extent"). The response of employees indicates that in the short or at least medium term, their managers must adopt to a greater extent practices related to diversity management.

Table 4. Distribution of survey participants after answering the question "To what extent do you think more should be done for diversity management in the team?".

	Response scale				
	1 (not at all)	2 (small)	3 (average)	4 (large)	5 (very large)
Number of responses received (% of the sample given)	3 (9.4%)	6 (18.8%)	8 (25%)	12 (37.5%)	3 (9.4%)

Source: authors' work

Conclusions

Diversity in organizations is a current and complex topic. Society being a diverse one, diversity in organizations is a reality, regardless of whether it is perceived or not, respectively if policies and strategies regarding the diversity of the workforce are defined and implicitly implemented. Diversity at team level is a very topical topic, the analyzed aspects referring to a wide range of aspects, such as the impact of diversity on team performance (van Knippenberg et al., 2004), the impact of diversity on the way information is transmitted in companies (Dahlin et al., 2005), effects of team diversity, in terms of cohesion, performance and satisfaction of members (Fay & Guillaume, 2007) actions that should be taken by team leaders in order for team diversity to lead to synergy (van Knippenberg et al., 2020).

This research, through the case study carried out, analyzes the diversity of the workforce as it is perceived by the employees of the administrative part of Company A, located in Romania. The value of this research emerges knowing that the analysis of employee attitudes regarding workforce diversity is a relatively new topic in the framework of studies on diversity management (Irini & Borza, 2020). The proposed case study includes the analysis of the situation regarding the diversity of the workforce, with a focus on the age diversity and its management by the manager, at the level of six diverse teams from the administrative part of Company A.

We mention that the research question of this study is "How is diversity perceived by team leaders and team members respectively?". As a result, the desired research objectives to be achieved are: (1) identifying the types of diversity perceived by managers and their team members. (2) identifying how age diversity in teams is managed by managers.

The proposed case study is based on desk research and field research. Having access to data, one of the authors being an employee of Company A, the secondary research was carried out by analyzing some series of internal documents of the analyzed company. The primary research consisted of a qualitative research complemented by a quantitative one, in fact an approach recommended by Irini & Borza (2020), who appreciate that in this way access to complete information from the research environment is ensured.

Analysis of the primary data collected at the level of the six studied teams, teams from the administrative area of the Company A, lead us to achieve the two research objectives of the present study.

Thus, in the case of the first research objective, namely (1) the identification of the types of workforce diversity perceived by managers and their team members, the following can be mentioned. At the level of the interviewed middle managers there is a medium to low level of awareness of the issues involved in the diversity of the workforce. The arguments are that these managers asked for clarifications when asked what diversity means to them, respectively they had moments of thought and hesitation during the given interview. The situation identified is consistent with what is specific to Company A, namely that diversity is not a topic discussed and analyzed at the company level, therefore the level of familiarity with this topic is low. At the level of led teams, an answer stands out, according to which no other attribute of diversity except age is present in his team. Two other middle managers interviewed mentioned the personality of the individuals as an aspect of the diversity of the team being led. During the interviews, ethnicity, training, thinking/ideas, education, culture, way of working or sexual orientation were also mentioned as existing or awareness types of diversity. It is worth noting the response received from five of the six managers interviewed, namely that they have diverse teams. The

situation described by the interviewed managers is consistent with the responses of the participants in the survey, all members of the teams led by the interviewed middle managers. Thus, almost 70% of respondents (22 people) considered to a large and very large extent that they were part of a diverse team (see Table 3).

Regarding the second research objective, namely (2) identifying how the age diversity of team members is managed by managers, the situation identified is as follows. At the level of the six middle managers interviewed, there is a high level of awareness of different skills at the generational level, in terms of relationship with technology, accumulated experience, behavior at work (level of attention, orientation towards the human versus technology, etc.), mode of communication, etc. From the perspective of managing age diversity at the team level, the six managers participating in the study mentioned that they do not do anything special, but only communicate or try to communicate with all subordinates the same (there is an exception to this aspect). Moreover, the middle managers interviewed mentioned that they do not consider that they need to do anything specific to lead diverse teams from an age perspective and that in general things happen by themselves. The situation is different from the one recommended by Waldman (2021), according to whom, in order to reduce the differences between employees given by belonging to different generations, there are several ways, namely permanent communication, humility and a real curiosity about the strengths and limits of personal and colleagues in the team.

Considering the above mentioned in relation to the research objectives assumed, the answer to the research question "How is the diversity of the workforce perceived by the team leaders respectively by the team members?" is as follows. According to the secondary and primary data collected, at the level of the six teams in the administrative area of Company A, the diversity of the workforce is made aware at a medium to low level by the managers respectively at a good level by the team members (here it is necessary to note that probably the answer was influenced by the fact that a closed question was used, the dimensions of workforce diversity being practically listed and the participants in the survey had to choose from these variants). As for the age diversity at the level of the six teams studied, it is associated by managers with the different characteristics of employees belonging to different generations.

The issues mentioned are in terms of skills and behaviors in the workplace. It can be mentioned that most of the middle managers interviewed do not do something specific, nor do they consider that they would need to do anything to manage various teams. This is confirmed by the opinion of the team members, who mentioned that more needs to be done for diversity management (62.5% of the sample considering "to an average and large extent"). The response of employees indicates that in the short or at least medium term, their managers must adopt to a greater extent practices related to diversity management.

Another conclusion of this research is that the importance of workforce diversity and the benefits it brings is recognised by middle managers. This conclusion should be remembered in the context of general and slightly uncertain answers of them, at the beginning of the interviews, which indicates a low level of approach to the subject of diversity both at team and organizational level. According to the participatory observation, these managers are not involved in actions to promote or manage diversity in teams.

The theme of workforce diversity at the level of teams and age diversity of team members is an up-to-date one that involves a sustained and constant research effort. As a result, this research is intended to be a "window of opportunity" for new research, carried out by teams of researchers and employees of contemporary firms.

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AN ENTREPRENEURIAL PERSPECTIVE ON HOW THE PANDEMIC AFFECTED THE ROMANIAN SMEs

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ABSTRACT. The Pandemic affected significantly the economies worldwide. The SMEs represent the backbone of all economies as they are the main source of added-value, innovation/progress, development and they also generate a significant number of jobs. Besides this, it is a known fact that they are very vulnerable to the environment in which they operate as they do not possess enough resources and power to face the important threats such as those caused by the COVID-19. Thus, the main purpose of this paper is to present some insight on how the Romanian entrepreneurs were affected by the crisis caused by Covid-19. Through interviews we collected data concerning the main problems they faced, the changes that have made on their business model and how their business were affected in terms of number of employees, turnover, product/service portfolios or investments.

Keywords: COVID-19 pandemic, entrepreneurs, SMEs, impact, crisis.

JEL Classification:M20, L26

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Introduction and a brief review of the literature

COVID-19 pandemic has had a significant impact on the social and economic activity (ILO-OECD, 2020). There has been a decrease in economic activity (McKibbin & Fernando, 2020) that resulted in high unemployment rates which in turn negatively affected consumer spending (Sigala, 2020). Overall, global trade declined by about 9 percent in 2020 compared with 2019 due to the generalized decline in global demand, to the enhanced cross-border restrictions and to port closures and other logistical disruptions. This decline was close to that during the global financial crisis of 2008-2009, but significantly worse than that during the recession in 2015 (UNCTAD, 2022).

ACCA (2020) has conducted a global research with over 10,000 organizations and concluded that the COVID-19 crisis has affected all organisations irrespective of size, sector or country of operation. Their survey revealed that majority of businesses were confronted with supply chain disruptions and a fall in customer demand. As a response, businesses have deferred launches of new products and services, and ceased capital investment.

SMEs are vital for the economy, but they are fragile and deeply affected by economic events such as crises (Çollaku et al., 2021). Since SMEs are financially fragile and possess limited resources, and have also limited access to capital markets, and limited management expertise, they are more vulnerable to environmental crises than larger companies (Eggers, 2020; Asgary et al., 2020, Kottika et al., 2020, Kukanja et al., 2022). As a consequence, their recovery takes longer if it is even possible (Juergensen et al., 2020). The crisis generated by COVID-19 has severely restricted SMEs' operations, due to their dependency on the daily sales, which have been adversely affected by the pandemic (Shafi et al., 2020).

Although SMEs are the business entities most affected by the crisis, they are also important stimulants for future economic recovery (Portuguez & Gómez, 2021), as they possess characteristics that might help them overcome crisis such as flexibility and innovative capabilities or flat organizational structures (Eggers, 2020).

In this circumstances studies have been conducted in different areas of the Globe to identify how SMEs were impacted by this crisis which was considered the most horrible crises since Second World War due to the distractions it has caused to life and livelihoods and to the social and economic systems around the world (Engidaw, 2022).

Shafi (2020) studied the impact of the pandemic on Pakistan's SMEs and stated that businesses have faced various difficulties such as financial problems, supply chain disruption, a decrease in demand and sales and profit reduction.

There were several studies investigating the impact of the Pandemics on Nigerian SMEs. The finding showed that the majority of the businesses were negatively affected, reporting reduction in sales, production and number of employees (Aladejebi, 2020; Abayomi et al., 2021; Enemona et al., 2020), an increase of the price of raw materials (Enemona et al., 2020).

A study conducted by the Albanian Investment Council (2020) revealed that the majority of SMEs were affected negatively by the pandemic and faced various issues, such as falling customer demand, lack of liquidity, difficulties in paying salaries, their liabilities and the taxes.

Çollaku et al. (2021) identified that the COVID-19 outbreak influenced the stability and operation of SMEs in Kosovo, the main obstacles that SMEs have faced were turnover reduction, restriction measures, and liquidity problems.

Juergensen et al. (2020) have conducted a study on European Manufacturing SMEs and argued that these companies suffered demand and supply shock. On the supply side they faced logistical problems while on the demand side, they faced a significant decline in demand both from individual and business customers. All these problems generated liquidity issues, while coping with government restrictions requiring further financial investment by the SMEs. In this uncertain environment and due the financial risks, many potential entrepreneurs postponed investments. Other studies that have identified financial

problems are the research conducted by Senz (2020), on US SMEs reporting that 65% of them had financial resources only for up to four months and Cowling et al. (2020) on UK SMEs showing that more than 60% of them had not retained any cash holdings for times of crisis.

Thorgren & Williams (2020) studied Swedish SMEs and have found that managers were reluctant to make investments that could make their firms more financially vulnerable early in the crisis and therefore favoured saving expenses and avoiding significant investments.

Some studies concentrated on the changes SMEs have implemented to their business models to deal with changes in their operating environment. Guckenbiehl & Corral de Zubielqui (2022) found that larger start-ups engaged in business model innovation, while smaller start-ups performed adaptions of their business models. Kuckertz et al. (2020) reported that German start-ups appealed to business model adaptation and Manolova et al. (2020) identified that women entrepreneurs have adjusted their business models to reduce risk, but also to exploit new business opportunities.

In this context, the purpose of this study was to identify how the Pandemics influenced Romanian SMEs and if the impact differs depending on company age, size and industry. The main aspects investigated were the perception of entrepreneurs' on this crisis being a source of opportunities or threats, the impact of the Pandemics on turnover, investments, number of employees, product portfolio and business model and eventually the main difficulties faced by these companies during this period.

The remainder of the paper is structured as follows: the second section formulates the research hypotheses and provides details about the applied research methodology. Hereinafter research results are presented and analyzed and finally the main findings are highlighted and research limitations and future research directions are identified.

Research methodology

The SMEs dominate in the global business environment thus it is important to understand how the Covid-19 crisis has impacted the economy (Foss, 2020). Depending on how they are perceived, crises can

bring about both opportunities and threats (Doern, 2016). Opportunities can manifest in the form of knowledge creation, identification of new markets and innovation (Ratten, 2021) while threats can impact existing structures necessitating spending on new resources (Eggers, 2020). Thus, businesses need to find innovative ways of dealing with the crisis by applying creativity to problems to obtain opportunities (Ratten, 2021). In this context, it was considered important to identify entrepreneurs' perspective regarding the crisis generated by COVID-19 and whether it has represented a source of opportunities and/or threats for their businesses.

The direct impact of a crisis and the response to crisis are dependent on particular firm characteristics, such as sector, age and size (Cowling et al., 2015; Juergensen et al., 2020; Haneberg, 2021). Juergensen et al. (2020) argue that the pandemics has impacted differently the various types of SMEs active in different industries. Kukanja et al. (2020) identified differences in SMEs' response to the crisis. Alves et al. (2020) conducted a qualitative analysis of Chinese SMEs and found that the crisis had the strongest effect on the smallest businesses. Portuguez & Gómez (2021) have reached also, the same conclusion. Given these findings, it was considered that the field, size and age of the company would have influenced the impact of Pandemics, hence the following hypotheses have been formulated:

H1. The Pandemics affected differently the companies depending in their field of activity.

H2. The Pandemics affected differently the companies depending on company experience.

H3. The Pandemics affected differently the companies depending on their size.

The main purpose of this paper is to present some insight on how the Romanian entrepreneurs were affected by the crisis caused by Covid-19. To attain this objective, structured interviews with Romanian entrepreneurs were conducted in 2021 and 2022. Due to the restrictions generated by the Pandemics the interviews were conducted online or on the phone. The interview questions concerned the main problems they faced, how their business have been affected in terms of the

number of employees, the turnover, the product/service portfolios or their investments. For data analysis, it has been employed IBM SPSS 24 software and the Chi Square test has been used to test the hypotheses.

Sample characteristics

The interviews were conducted with 112 entrepreneurs, the majority of them being female (66.1%). With respect to study level, the majority of the interviewed entrepreneurs poses bachelor studies (57.3%), followed by high school degree (24.1%) and master degree (18.8%). The largest share of the entrepreneurs (42.9%) had work experience in the same field before starting their businesses and have started the business by themselves (42.9%). Most of the business are active in the hospitality services field (42.9%), have an experience of more than 10 years (40.2%) and are micro-companies, employing fewer than 10 persons (59.8%). Table 1 shows more details about the characteristics of the entrepreneurs and their companies.

Table 1. Sample characteristics

Entrepreneurs' characteristics			**Businesses' characteristics**		
Age of the entrepreneur when starting the business	***Freq.***	***%***	***Company experience***	***Freq.***	***%***
18-25 years	36	32.1	less than 3 years	32	28.6
26-35 years	55	49.1	3-10 years	35	31.3
36-45 years	17	15.2	over 10 years	45	40.2
46-55 years	3	2.7	***Number of employees***		
over 55 years	1	0.9	0-9	67	59.8
Gender			10-49	29	25.9
male	74	66.1	50-249	11	9.8
female	38	33.9	over 250	5	4.5
Level of study			***Field of activity***		
primary school	1	.9	production	20	17.9
secondary school	1	.9	hospitality services	48	42.9
vocational school	1	.9	other services	44	39.3
high school	27	24.1			
associate degree	3	2.7			
bachelor studies	53	47.3			
postgraduate studies	4	3.6			
master studies	21	18.8			
doctoral studies	1	0.9			

Entrepreneurs' characteristics			Businesses' characteristics
Previous work experience			
none	24	21.4	
yes, in the same field of activity	48	42.9	
yes, in a different field of activity	40	35.7	
Business partners			
sole proprietorship	48	42.9	
business partner outside the family	38	33.9	
business partner inside the family	22	19.6	
partners both from inside and outside the family	4	3.6	

Source: Authors' own elaboration

Results and discussions

Crises, in general, irrespective of the factors that determine them, can present opportunities and/or threats, depending on the perspective of the entrepreneur. Thus, it was first investigated the perception of the entrepreneurs with respect to the overall impact of the Pandemic. As figure 1 shows, over 50% of the interviewed entrepreneurs stated that the crisis presented both opportunities and threats and for over 19% the crisis presented only opportunities. This indicates a rather positive perspective of the future existence and development of their businesses.

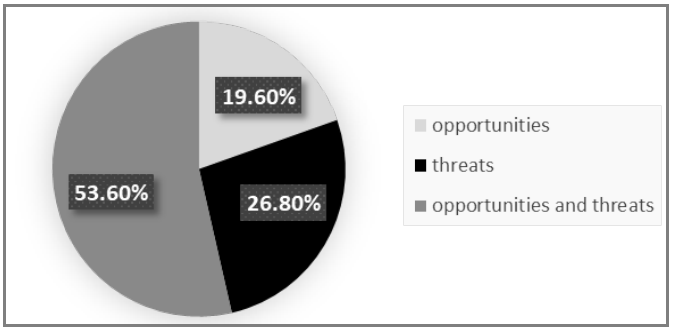

Figure 1. The overall impact of the Pandemics
Source: Authors' own elaboration

The entrepreneurs were further asked to identify more specifically the impact of the Pandemics on their businesses. Over 57% declared they experienced a change of the business model, followed by 54.4% of the entrepreneurs stating that they have expanded their product portfolio. With regard to the impact on investments, 37.5% of the entrepreneurs had to drop the scheduled investments, while 33.9% had to make unscheduled investments. The share of companies that were confronted with a decrease of turnover was higher than that of the companies that marked an increase of sales. An almost equal share of companies recorded a decrease of the number of employees compared to an increase in this respect.

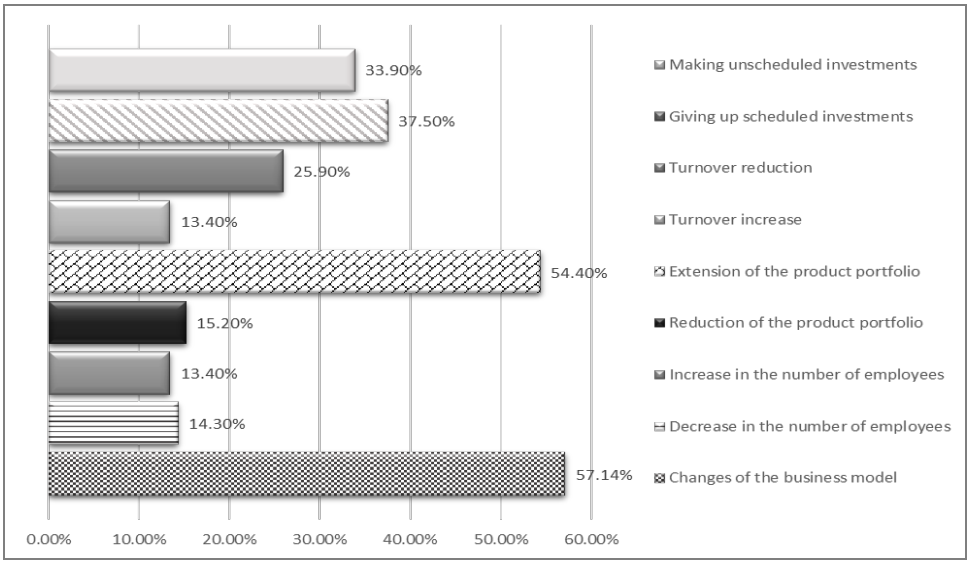

Figure 2. The impact of the Pandemics
Source: Authors' own elaboration

The identification of the main problems that the entrepreneurs faced due to the Pandemics has also been explored. The majority (over 85%) of the investigated SMEs declared they have face difficulties due to the Pandemics. The most frequent difficulties were: the decrease of the number of clients (30.4%), the restrictions (22.3%) and the changes of consumer behavior (17%). The problems experienced by the fewest entrepreneurs were transportation problems (3.6%), delays in delivering the products and problems with payments of rents and salaries (4.5%).

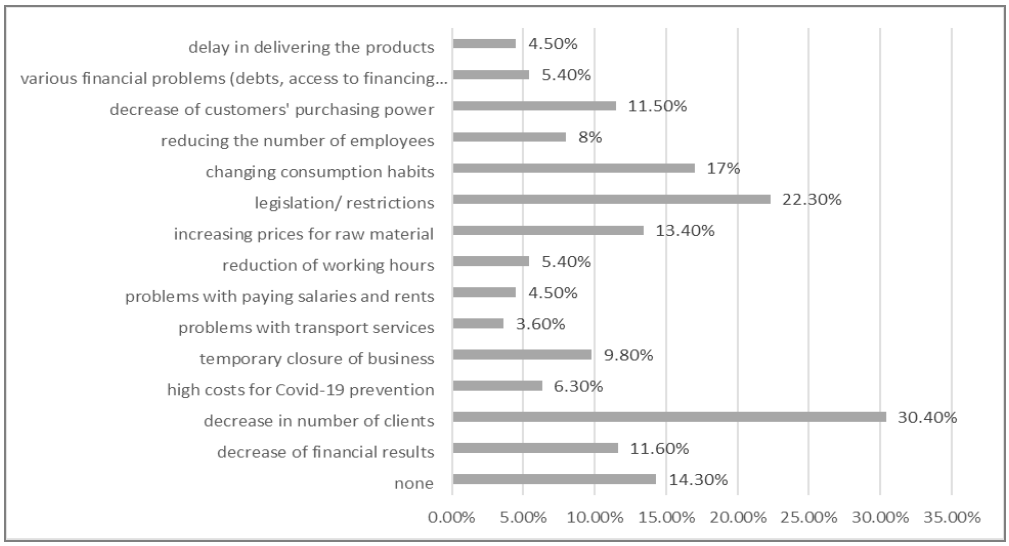

Figure 3. Main problems faced during the Pandemics
Source: Authors' own elaboration

H1. The Pandemics affected differently the companies depending in their field of activity

There were not significant differences depending on the field of activity with respect to the perspective on the external environment. Over 50% of the entrepreneurs considered that the pandemics brought both opportunities and threats. In the field of hospitality entrepreneurs considered that the environment presented threats to a greater extent than in the other fields, while in service sectors were the most entrepreneurs (27.3%) that considered that the pandemics presented them opportunities.

Table 2. The overall impact of Pandemics depending on the field of activity

	Field of activity			**Chi square**	**P value**
	Production	*Hospitality services*	*Other services*		
Opportunities	25.0%	10.4%	27.3%	6.310	.177
Threats	25.0%	35.4%	18.2%		
Both opportunities and threats	50.0%	54.2%	54.5%		

Source: Authors' own elaboration

We used the Chi square test to assess if there are differences with respect to the type of impact the pandemics generated, depending on the field of activity. Significant differences were identified in the case of a decrease in the number of employees (not surprisingly the hospitality industry was the most affected by this) and in the case of the turnover growth (the entrepreneurs in the services sector were the most that declared that the pandemics has led to an increase in their turnover- again the result is not a surprise as these entrepreneurs declared that the pandemics brought opportunities for their businesses).

Table 3. The impact of Pandemics depending on the field of activity

Type of influence	**Field of activity**			***Chi square***	***P value***
	Production	***Hospitality services***	***Other services***		
	Yes	*Yes*	*Yes*		
Changes of the business model	55.0%	66.0%	50.0%	2.441	.295
Decrease in the number of employees	0.0%	25.0%	9.1%	8.803	.012
Increase in the number of employees	10.0%	10.4%	18.2%	1.435	.488
Reduction of the product portfolio	15.0%	18.8%	11.4%	.973	.615
Extension of the product portfolio	40.0%	64.6%	50.0%	4.023	.134
Turnover increase	5.0%	6.3%	25.0%	8.437	.015
Turnover reduction	10.0%	35.4%	22.7%	5.131	.077
Giving up scheduled investments	15.0%	54.2%	29.5%	11.197	.004
Making unscheduled investments	45.0%	27.1%	36.4%	2.213	.331

Source: Authors' own elaboration

Significant differences in terms of problems faced during this crisis depending on the field of activity were identified only for two types of problems: delays in delivering the products and no problem occurred. The largest share of companies that had problems with delivering the products on time were the production companies, while the smallest share of companies that declared that they didn't experience any problems caused by the Pandemics were the hospitality businesses, as expected since this industry was one of most severely affected by the health crisis.

Table 4. Main problems faced during the Pandemics depending on the field of activity

Type of problem	**Field of activity**			*Chi square*	*P value*
	Production	*Hospitality services*	*Other services*		
	Yes	*Yes*	*Yes*		
Delay in delivering the products	15.0%	2.1%	2.3%	6.339	.042
Various financial problems (debts, access to financing resources, state incentives)	5.0%	4.2%	6.8%	.324	.850
Decrease of customers' purchasing power	15.0%	4.2%	18.2%	4.668	.970
Reducing the number of employees	10.0%	10.4%	4.5%	1.198	.549
Changing consumer habits	15.0%	14.6%	20.5%	.628	.730
Legislation/restriction	5.0%	29.2%	22.7%	4.762	.092
Increasing prices of raw materials	20.0%	8.3%	15.9%	2.052	.358
Reduction of working hours	5.0%	4.2%	6.8%	.324	.850
Problems with paying salaries and rents		8.3%	2.3%	3.115	.211
Problems with transport services	5.0%		6.8%	3.243	.198
Temporary closure of business	5.0%	14.6%	6.8%	2.202	.333
High costs for Covid-19 prevention	10.0%	4.2%	6.8%	.860	.651
Decrease in number of clients	30.0%	37.5%	22.7%	2.371	.306
Decrease of financial results		16.7%	11.4%	3.826	.148
None	20.0%	4.2%	22.7%	7.108	.029

Source: Authors' own elaboration

H2. The Pandemics affected differently the companies depending on company experience

We have identified a difference on the perception of the overall impact of the pandemics depending on businesses' years of experience.

While the young companies considered the pandemics brought opportunities, the mature ones considered that the pandemic is a crisis bringing only threats for their operations.

Table 5. The overall impact of Pandemics depending company experience

	Company experience			**Chi square**	**P value**
	1-3 years	***3-10 years***	***over 10 years***		
Opportunities	37.5%	20.0%	6.7%	12.128	.016
Threats	18.8%	22.9%	35.6%		
Both opportunities and threats	43.8%	57.1%	57.8%		

Source: Authors' own elaboration

The only significant difference in terms of impact depending on company experience was identified for giving up scheduled investments (the companies in the growth stages being in such a position the most).

Table 6. The impact of Pandemics depending company experience

Type of influence	**Company experience**			***Chi square***	***P value***
	1-3 years	***3-10 years***	***over 10 years***		
	Yes	*Yes*	*Yes*		
Changes of the business model	48.4%	62.9%	60.0%	1.580	.454
Decrease in the number of employees	6.3%	11.4%	22.2%	4.236	.120
Increase in the number of employees	18.8%	8.6%	13.3%	1.493	.474
Reduction of the product portfolio	9.4%	17.1%	17.8%	1.178	.555
Extension of the product portfolio	65.6%	54.3%	46.7%	2.711	.258
Turnover increase	25.0%	5.7%	11.1%	5.698	.058
Turnover reduction	15.6%	22.9%	35.6%	4.116	.128
Giving up scheduled investments	18.8%	48.6%	42.2%	7.059	.029
Making unscheduled investments	31.3%	40.0%	31.1%	.837	.658

Source: Authors' own elaboration

As the table below shows (Table 7), there were no significant differences regarding the difficulties companies experienced because of the Covid -19.

Table 7. Main problems faced during the Pandemics depending on company experience

Type of problem	**Company experience**			***Chi square***	***P value***
	1-3 years	***3-10 years***	***over 10 years***		
	Yes	*Yes*	*Yes*		
Delay in delivering the products	3.1%	2.9%	6.7%	.858	.651
Various financial problems (debts, access to financing resources, state incentives)	6.3%		8.9%	3.139	.208
Decrease of customers' purchasing power	15.6%	14.3%	6.7%	1.819	.403
Reducing the number of employees	3.1%	8.6%	11.1%	1.634	.442
Changing consumer habits	12.5%	22.9%	15.6%	1.379	.502
Legislation/restrictions	12.5%	34.3%	20.0%	4.810	.090
Increasing prices of raw materials	9.4%	5.7%	22.2%	5.249	.072
Reduction of working hours	6.3%	8.6%	2.2%	1.636	.441
Problems with paying salaries and rents		2.9%	8.9%	3.773	.152
Problems with transport services	3.1%	2.9%	4.4%	.170	.919
Temporary closure of business	6.3%	8.6%	13.3%	1.149	.563
High costs for Covid-19 prevention	3.1%	5.7%	8.9%	1.085	.581
Decrease in number of clients	31.3%	28.6%	31.1%	.077	.962
Decrease of financial results	3.1%	8.6%	20.0%	5.648	.059
None	25.0%	14.3%	6.7%	5.133	.077

Source: Authors' own elaboration

H3. The Pandemics affected differently the companies depending on their size

The Chi-square test results indicate that there was not a statistically significant influence of the pandemic on the different company size categories.

Table 8. The overall impact of Pandemics depending company size

	Company size *(no. of employees)*				***Chi square***	***P value***
	0-9	*10-49*	*50-249*	*over 250*		
Opportunities	22.4%	13.8%	18.2%	20.0%	1.492	.960
Threats	25.4%	27.6%	27.3%	40.0%		
Both opportunities and threats	52.2%	58.6%	54.5%	40.0%		

Source: Authors' own elaboration

The only significant difference in terms of impact depending on company size was identified for changing the business model (the micro-companies declared that they have changed their business model to a much less extent than the other categories).

Table 9. The impact of Pandemics depending company size

Type of influence	**Company size (no. of employees)**				**Chi square**	**P value**
	0-9	*10-49*	*50-249*	*over 250*		
	Yes	*Yes*	*Yes*	*Yes*		
Changes of the business model	45.5%	75.9%	72.7%	80.0%	10.008	.018
Decrease in the number of employees	9.0%	24.1%	18.2%	20.0%	4.123	.248
Increase in the number of employees	9.0%	17.2%	36.4%	0.0%	7.285	.063
Reduction of the product portfolio	16.4%	10.3%	9.1%	40.0%	3.316	.345
Extension of the product portfolio	53.7%	58.6%	54.5%	40.0%	.638	.888
Turnover increase	14.9%	13.8%	9.1%	0.0%	1.088	.780
Turnover reduction	19.4%	37.9%	45.5%	0.0%	7.601	.055
Giving up scheduled investments	32.8%	51.7%	36.4%	20.0%	3.785	.286
Making unscheduled investments	34.3%	27.6%	45.5%	40.0%	1.259	.739

Source: Authors' own elaboration

The Chi-square test results reveal that there is no significant difference with respect to problems faced during the Pandemics depending on company size.

Table 11. Main problems faced during the Pandemics depending on company size

Type of problem	**Company size (no. of employees)**				***Chi square***	***P value***
	0-9	*10-49*	*50-249*	*over 250*		
	Yes	*Yes*	*Yes*	*Yes*		
Delay in delivering the products	4.5%		18.2%		6.442	.092
Various financial problems (debts, access to financing resources, state incentives)	4.5%	3.4%	18.2%		4.162	.244
Decrease of customers' purchasing power	16.4%	6.9%			4.240	.237
Reducing the number of employees	4.5%	10.3%	27.3%		7.302	.063
Changing consumer habits	13.4%	20.7%	27.3%	20.0%	1.741	.628
Legislation/restrictions	19.4%	31.0%	18.2%	20.0%	1.723	.632
Increasing prices of raw materials	13.4%	13.8%	9.1%	20.0%	.368	.947
Reduction of working hours	4.5%	6.9%	9.1%		.823	.844
Problems with paying salaries and rents	4.5%	6.9%			1.150	.765
Problems with transport services	6.0%				2.786	.426
Temporary closure of business	11.9%	3.4%	9.1%	20.0%	2.261	.520
High costs for Covid-19 prevention	4.5%	10.3%	9.1%		1.674	.643
Decrease in number of clients	35.8%	31.0%	9.1%	35.8%	5.485	.140
Decrease of financial results	10.4%	17.2%		20.0%	2.773	.428
None	19.4%	6.9%	9.1%		3.802	.284

Source: Authors' own elaboration

Conclusions

The purpose of this research was to identify the perception of the Romanian entrepreneurs regarding the Pandemics and whether this crisis was considered a source of opportunities or threats. Another

objective was to test whether the impact of COVID-19 and the problems faced during this crisis were different depending on company size, years of experience, or field of activity. The results showed a balanced perspective of the entrepreneurs, more that 50% considering that the Pandemics presented both opportunities and threats for their businesses. No significant difference was found in terms of overall impact depending on company size, or field of activity, but a difference was detected considering company experience, the SMEs in the first years of activity perceiving the Pandemics as o source of opportunities to a larger extent. Young companies are more oriented to find and exploit opportunities for development, are more flexible and have the capacity to adapt quicker to changing environments. Apparently, the Pandemics did not change significantly the conditions in which young companies were used to operate. In terms of specific impacts of the Pandemics, the findings indicate that hospitality businesses experienced a decrease in the number of employees to a larger extent, while service companies experienced to a greater extend an increase of the turnover. The companies in the growth and maturity stages of their life cycle were the most affected in what concerns dropping scheduled investments due to the uncertainty that COVID-19 generated, and also due to all the containment measures taken by the majority of countries around the world. The micro-companies were the least impacted with regards to changing their business model due to the Pandemics. This may be due to the fact that these companies are in the first stage of their life cycle, so the business model was not fully established, or due to the fact that these companies are flexible and looking for opportunities to innovate. The problems companies faced during this crisis didn't differ significantly depending on company size or years of experience, and only two significant differences were found between companies involved in distinct fields of activity.

The main limitations of the present study consist in the small number of interviews conducted and in the relevance of the results outside Romania. Despite these issues we consider this research to be an important starting point for future studies that would include larger samples and that will investigate in more depth the impact of COVID-19 on entrepreneurial activity. Given the fact that the findings of this research show only a few significant differences regarding the impact and the main problems faced during the Pandemics depending on the company field of activity, age and size, future studies should investigate the influence of the

entrepreneur's characteristics, experience and managerial capabilities. Since this crisis had a significant impact on the economic environment and since other crisis are expected in the future, it will be important to investigate the measures taken to overcome the Pandemics, and whether the support provided by the Governments was enough or used effectively by entrepreneurs to survive such a severe crisis.

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TELEWORKERS' PERCEPTION OF WELL-BEING AND WORK-LIFE BALANCE

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ABSTRACT. Few Romanian companies implemented remote work before the pandemic breakdown. The employees' experience with telecommuting started or for some increased suddenly in 2020 due to the lockdown restrictions. Therefore, the focus of this study was to examine the perception of employees from the perspective of well-being and work-life balance during telework. The quantitative approach was applied in the case of two companies and data was collected through a survey. The findings identified the influence of isolation from colleagues and friends on the state of loneliness which could lead to depression or tension, additionally affecting anxiety. These than are linked to the well-being and work-life balance of teleworkers. In reverse the state of calm and relaxation, and the condition of being active and energetic boost the employees' well-being. Also, the relaxed home working environment that could also include pets and time spent on personal activities enhance the work-life balance. Thus, the results emphasize the respondents' preference for telecommuting is the outcome of their awareness of work-life balance and well-being.

Keywords: work-life balance, well-being, remote work, anxiety, depression, WHO-5, Covid-19 pandemic.

JEL Classification: M100, M150, M540

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Introduction and literature review

One of the changes with a major impact on the lives of employees, caused by the Covid-19 pandemic which hit Europe in March 2020, was the enforced remote work. It influenced everyone, not only those who never experienced telecommuting before the pandemic wave (Kramer & Kramer, 2020). The measured implemented in Romania required employers to adapt to remote work where it was possible. Thus, with or without experiencing telework before, employees had to adjust and perform their tasks telecommuting and using information and communication technologies (ICTs).

As the technological explosion that has helped mankind in the past decades has brought about the greatest changes and advancements at all levels. Cutting-edge technologies have gradually been included in various sectors, such as health, communications, production at all industrial levels, economy, and finance, but also education and leisure, appearing then the remote work (Adhanom-Ghebreyesus, 2020).

In Europe the framework agreement on teleworking was given in 2002 and the first implementation report was presented in 2006. This agreement imposes the main conditions for employees to be able to work remotely, namely: the obligation of the employment contract, practicing telework regularly one day a week or 5 days a week, and the possibility of practicing it from several places, alternatives, compared to the space offered by the employer (ETUC, 2006). Romania regulated the term telework through Law 81/2018, as the way of organizing work, which gives the employee the opportunity to perform the work tasks using ICT, in a place different from the one provided by the employer (Legea, 2018). For telecommuting to be carried out, the company profile must allow it, as not all fields are suitable for telecommuting (Phillips, 2020).

According to Baruch (2002) through telecommuting, work autonomy increases, which ultimately leads to increased work performance (Gajendran, 2019). At the same time, Dima, Tuclea, Vranceanu, and Tigu (2019) state that this work at home benefits the employees, giving them the opportunity to spend more time with their families, thus finding a balance between family/personal life and work. Furthermore, work autonomy means that the employee obtains independence and flexibility in working from home (Gajendran & David, 2007). Also, the working time flexibility reduces the conflicts between work and personal live (Negruța & Butoi, 2021).

Well-being is subjective as it can only be measured from people's self-ratings of their happiness and is typically assessed as the experience of positive affect, the absence of negative affect and life satisfaction (Dolan et al., 2011). Well-being research provides empirical evidence that happy people are more productive (Zelenski et al., 2008). One study observed that happy people feel less preoccupied with negative threats in everyday life, receive more support from superiors and especially from colleagues, therefore they feel they have more control on events in their lives (Wright & Cropanzano, 2007).

Research focused on work life and personal life emphasizes that finding and maintaining a balance between work schedule and other aspects of daily life is essential for people who tend to lead active lives. It also points out that a better work-life balance is also an indicator of good quality of life and general well-being, which would allow workers to lead a healthy lifestyle and live happier lives (Byron, 2005). Various researchers have suggested that only when work is designed to reflect certain characteristics it can generate employees' well-being, job satisfaction, performance, and other positive outcomes. The identified characteristics are motivational, social, knowledge (Humphrey et al., 2007) tasks interdependency, and work autonomy (Perry et al., 2018). Other dedicated studies have associated remote work with higher levels of well-being (Anderson et al., 2015) and with much lower levels of stress (Bentley, et al., 2016). The research in this area has focused mainly on comparing benefits for telecommuters and office workers (Fonner & Roloff, 2010).

One study considers that telecommuting is a disadvantage for employees because there is not so much interaction between the teleworker and colleagues and between the teleworker and supervisors. The longer telework is practiced the more it can lead to professional isolation and increased stress, being associated with poorer performance of teleworkers (Golden et al., 2008). Grant-Valone and Donaldson, in the study carried out in 2001, consider that telecommuting will ultimately affect well-being and health, because telecommuters do not manage to fulfill their family responsibilities, being overwhelmed by the workload. They also emphasize the fact that more and more employees are interested in how they can change professional and personal roles, in order to avoid conflict between the two (Grant-Valone & Donaldson, 2001).

The World Health Organization uses a short index, the WHO-5, to measure the mental health status of populations. This index is widely used to asses psychological well-being (Topp et al., 2015). Subjects have to rate how they felt during the last 2 weeks using 5 items: whether they felt cheerful and in a good mood, calm and relaxed, active and energetic, whether they wake up like new and rested, and if their daily life was full of things that interest them. The score result is between 0-100, and for interpretation it is considered that a score bellow 50 indicates poor health with a high risk of depression and of diseases that affect memory, behavior and thinking such as Alzheimer's. A score above 50 indicates good mental health, and one very close to 100 indicates that subjects have very good mental health (Pop, 2010). The results of a study carried out at European level, to determine the state of mental health of Europeans in time of pandemic, indicated that Romania's score is below 50. Thus, in April and May 2020 the score was only 44.6, June and July 2020 recorded a very small increase reaching 47.2 and in 2021 during February and March it did not exceed the threshold of 50, Romania having a score of only 49.3. This result places the population in the risk segment for mental illnesses (Eurofound, 2021).

Anxiety is a normal emotion that fulfills an adaptive function in most situations, it is the body's surveillance part. On the other hand, it is considered that anxiety is a state of apprehension, of restlessness in anticipation of a danger whose source is mostly unknown (Neffa, 2015). Jeske (2022) emphasizes in the study how important it is for employees and

employers to be aware of the state of mental health, because teleworkers can feel isolated, they can lose the support of colleagues, telecommuting could cause them tension, negative emotions and attitudes, aslo anxiety. These all can lead to poor performance through the multitude of errors they can make due to their mental exhaustion, and this level of stress and anxiety cannot be easily noticed by superiors if employees work remotely (Jeske, 2022). Burnout is the type of stress conceptualized as work-related exhaustion (Halbesleben & Bowler, 2007). Employees tend to work too much overtime to prove themself, and if they don't feel appreciated for their efforts, they become frustrated. Therefore, they are prone to get angry very easily causing work conflicts, a fact due to physical and emotional exhaustion. This condition can cause them to have an emotional breakdown that prompts them to stop making any effort to accomplish their tasks, or to quit their job (UGT, 2006).

From another perspective, Delanoeije (2020) points out that telecommuters who own pets have an important support in preventing loneliness and depression, especially in the case of those who live alone. In addition to improving their mood, considering the mental and emotional benefits, pets also provide physical benefits by getting telecommuters to exercise (Delanoeije, 2020). According to another study, telecommuters who own pets spend more quality time with their family, have a well-established physical exercise routine, and their degree of socialization is higher than those without pets (Hoffman, 2021).

The several studies carried out during and post the pandemic highlighted various factors that influence remote work, the studies having different perspectives and approaches. Under these circumstances, the inquiry into the supportive and damaging elements of telecommuting is a useful research opportunity considering the reduce experience of Romanian employees in this type of work.

Research Methodology

The research was conducted using quantitative methodology to explore the well-being and work-live balance of teleworkers, and as well their preference for remote work. The data was gathered in May 2022 through the questionnaire research instrument. The questionnaire was

applied in the financial department of two companies from Cluj-Napoca. The sample consists of 205 subjects, 102 from the first company and 103 respondents from the second company. The quiz form was distributed online to the members of the two companies' departments. The questionnaire contained structured questions using the Likert scale and nominal-multidimensional scale.

Sample characteristics

The study sample includes 205 employees, with a little higher percentage of females than males. More than half of respondents from each company have the age between 26 and 35 years old. The majority, above 60%, of respondents from each company have at least a bachelor's degree. As seen in table 1 most of the respondents don't have a leading position in the company.

Table 1. Demographic characteristics of the respondents (n=205)

Dimension	Item	Percentage company A	Percentage company B
Gender	Masculine	46	42
	Feminine	58	54
Age	above 55 years	0	1
	46-55 years	4	0
	36-45 years	28	24
	26-35 years	54	62
	18-25 years	14	13
Study level	PhD degree	3	0
	Master's degree	27	17
	Bachelor's degree	60	66
	College degree	1	2
	High school degree	9	15
Position in the organization	Leading	20	28
	Non-Leading	80	72

Source: Authors' processing based on research data

Results

The analysis focuses on several hypotheses presented below. The linear and multiple linear regression are applied, and the following coefficients considered in the data interpretation: the beta coefficient indicating the positive or negative link between variables, the correlation coefficient representing the intensity of the correlation, the coefficient of determination (R^2) signifying the percentage in which the variation in the independent variable is explaining the variation in the dependent variable, and p-values<0.05 of accepted hypotheses. To identify statistically significant differences between groups, is used the analysis of variance, including post-hoc test (George & Mallery, 2002). The data was analyzed using the free statistical software PSPP.

Hypothesis 1. Loneliness is influenced by colleagues and friends' isolation.

Analyzing the link between the variables using multiple linear regression, a strong positive ((the beta coefficient being positive) direct link is observed given by the linear correlation coefficient (R=0.79>0.7). The coefficient of determination (R^2=62%) shows the percentage in which the variation of loneliness is explained by the variation of isolation from friends and from colleagues' variables. The most influential factor is the isolation from friends (Beta=0.59), while isolation from colleagues is less prominent (Beta=0.26; p<0.001).

Hypothesis 2. The state of depression and disappointment of teleworkers is induced by loneliness.

The linear regression shows there is a strong direct relationship (R=0.72>0.7) between the two variables. The coefficient of determination shows that the variation in the state of loneliness explains the variation in the state of depression and disappointment in proportion to 51% (p<0.001).

Hypothesis 3. There is a correlation between the state of loneliness and the tense emotional state.

The linear regression indicates a direct link of average intensity (0.3<R=0.48<0.7) between the two variables. The coefficient of determination shows that the variation in the tense state explains in proportion of 23% the variation in the loneliness state of teleworkers (p<0.001).

Hypothesis 4. There is a correlation between the state of tension and the state of relaxation and calmness.

The linear regression identifies an inverse relationship of average intensity (beta=-0.49) between the tense state and the relaxed and calm state of the respondents. The variation in the state of tension is explained by the variation in the state of calmness and relaxation to the extent of 24% ($p<0.001$).

Hypothesis 5. Between the state of tension and the state of being active and energetic is a reverse correlation.

An inverse relation of medium intensity (beta=-0.44) is observed between the tense state and the active and energetic state of the respondents. The variation of the tension state is explained in proportion of 21% by the variation of the active and energetic state ($p<0.001$).

Hypothesis 6. The state of disappointment and depression is affected by owning or not pets.

The analysis of variance (one-way Anova) identifies a statistically significant differences between the groups of pets' owners ($p=0.001<0.05$) in terms of the state of disappointment and depression. Furthermore, the post-hoc test (LCD) shows the statistically significant difference between the owners of no pet and the owners of one pet ($p=0.004<0.05$), also between those having no pet and the owners of two pets ($p=0.007<0.05$). The difference is not significant between those having no pet and the owners of three pets, as this group was not well represented, having just 7 respondents ($p=0.092>0.05$).

Hypothesis 7. The WHO-5 score is significantly influenced by owning or not pets.

The one-way Anova identifies a statistically significant differences between the groups of pets' owners ($p=0.022<0.05$) in terms of the WHO-5 score. Fisher's Least Significant Difference test (LCD) shows the statistically significant difference between the owners of no pet and the owners of one pet ($p=0.01<0.05$), also between those having no pet and the owners of two pets ($p=0.008<0.05$).

Hypothesis 8. The spending of more quality time with family is related to owning pets.

The one-way Anova identifies a statistically significant differences between the groups of pets' owners ($p=0.018<0.05$) concerning the quality time spent with family. Fisher's Least Significant Difference test (LCD) shows the statistically significant difference between the owners of no pet and the owners of one pet ($p=0.028<0.05$), also between those having no pet and the owners of two pets ($p=0.003<0.05$).

Hypothesis 9. The state of anxiety while teleworking is influenced by the difficulty in concentrating, by the state of isolation and tension, also by the feeling the work done is useless.

The multiple linear regression shows a strong direct relationship ($R=0.78>0.7$) between the dependent variable and the independent variables. The variation in the state of anxiety is explained in proportion of 30% by the variation in the capacity to concentrate, in proportion of 28% by the variation in the state of isolation, in proportion of 17%, by the variation in the state of tension, and in proportion of 25% by the feeling the work done is useless ($p<0.05$).

Hypothesis 10. The work-life balance during telecommuting is negatively influenced by the state of anxiety and depression.

The multiple linear regression shows there is a medium inverse direct relationship ($0.3<R=0.51<0.7$) between the dependent variable and the independent variables. The variation in the work-life balance is explained in proportion of 31% by the variation in the state of depression, and in proportion of 25% by the variation in the state of anxiety ($p<0.05$).

Hypothesis 11. The work-life balance during teleworking is influenced by the more relaxed home environment and the more time spent on personal activities.

The multiple linear regression identifies a medium positive direct relationship ($0.3<R=0.65<0.7$) between the dependent variable and the independent variables. The variation in the work-life balance is explained in proportion of 37% by the variation in the comfortable home environment, and in proportion of 35% by the variation in spending more time doing personal activities ($p<0.001$).

Hypothesis 12. The work-life balance influences the teleworkers' preference for continuing in the telecommuting system.

The linear regression shows a direct link of average intensity ($0.3<R=0.65<0.7$) between the two variables. The variation in the work-life balance explains in proportion of 42% the variation in the preference for remote work ($p<0.001$).

Discussions and Conclusions

The results of this study highlight the positive or negative effects of some factors on the well-being and work-life balance of employees in the case of the two companies investigated.

Isolation from colleagues and friends affects the state of loneliness, which in turn can lead to depression or a state of agitation. On the other hand, this state of tension is inversely correlated with the state of calm and relaxation as well as with the state of being active and energetic. The isolation in time of pandemic was forced, thus it was highly affected by lack of social interaction. As in normal conditions isolation from colleagues could lead to positive effects, like lacking interruptions and work satisfaction (Fonner & Roloff, 2010).

The state of anxiety is influenced by the difficulty of concentration, the state of isolation, the tense state, and the feeling that the work done is useless. On the other hand, states of anxiety and depression negatively influence the balance between professional and private life. The states of frustration and anxiety should be more closely followed by employers in teleworkers, but also that the latter should express them, because in addition to the state of anxiety due to isolation from other people, telecommuters can still be frustrated because they don't consider themselves eligible for this type of work (Nagata, et al., 2021). But also the fact that telecommuters are prone to working overtime makes them likely to be stressed, more tired than normal, to have sleep problems, thus increasing the level of anxiety (Tavares, 2017).

An interesting result is the one related to people who own pets and their positive effect on the quality time spent with the family, a result also mentioned by Hoffman (2021). Moreover, the presence of pets has a positive effect on mental states (WHO-5), an effect considered preventive in terms of depression and loneliness (Delanoeije, 2020). There is a

difference between those having no pet and those having one or two in terms of WHO-5 score. The risk of depression and anxiety is lower among pets' lovers.

The mean WHO-5 score of the sample is 76.49 and there were just 18 out of 205 persons having the WHO-5 score below 50. This indicates the risk of anxiety and depression is low among the respondents. However, the respondents with a score below 50 are subject to mental health issues. In the case of persons with a score below 28 the situation is more urgent and requests further investigations (Pop, 2010). Because prevention is essential in the management of human resources, every result of the current research that indicates a risk with repercussions on the health of the employees should be taken into account.

Work-life balance is positively affected by a relaxed home environment and the time spent on personal activities. In addition, the employees' preference to continue in the telecommuting system is due to the work-life balance they perceived in the time of remote work experience.

Due to the sample size of this study, also the unnormal time of telecommuting experience, the study requires to be performed in normal conditions of remote work and after a period. This study also enquired items concerning the ergonomic environment of teleworkers, but significant correlations were not identified. Probably the short experience of working in different conditions didn't affect their physical health in a significant way. Therefore, a later redo of the study would be essential for long term experience of telecommuting to support employees' well-being and health. Nevertheless, the study provides valuable insights into the supportive and damaging elements of telecommuting that could improve employers' approach.

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THE DRIVERS OF RURAL ACCOMMODATION DEVELOPMENT IN ROMANIA: PART 3 (FINAL PART)

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ABSTRACT. The current paper continues the work of Pop et al. (2019) and Pop & Georgescu (2020) concerning the drivers (factors) that might influence the rural accommodation development in Romania. The present study introduced 13 new factors/drivers. The research question remains the same as formulated in the previous study: ***which are the drivers of the accommodation development in rural areas in Romania?*** The findings of the present analysis are in line with the findings of Pop & Georgescu (2020), which show that lodging development in rural areas is related to a certain extent to tourist attractions, while the 2008 rank and 2012 rank have a rather mediating influence. The newly added endogenous factors/drivers Romanian rural localities add relative little to the explanatory power of models used to assess the rural lodgings development. While in some cases (see Table 1) R squared doubles its value compared with the findings of Pop & Georgescu (2020), the relationship among the dependent variable and the selected factors, though significant, remains weak.

Key words: rural, tourism, accommodation, drivers, Romania.

JEL Classification: L83, Z30, Z32

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Introduction

The current paper continues the work of Pop et al. (2019) and Pop & Georgescu (2020) concerning the drivers (factors) that might influence the rural accommodation development in Romania. Similar to the previous two studies, this paper also covers the 2,861 communes and the period 2005 to 2019. In order to allow comparisons, the analysis is performed on two data sets regarding the rural accommodations: the one provided by the National Institute of Statistics (NIS) and the other one provided by the Ministry of Tourism (MoT)[3]. The differences between these two data sets are presented by Pop & Georgescu (2020). Furthermore, the analysis takes into consideration the two category of communes as proposed by the previous papers: the 948 communes which received a rank in 2012 and the 1,913 communes without the 2012 rank.

To the factors/drivers presented by Pop & Georgescu (2020), the present paper introduces 13 new factors/drivers, as follow: one factor is '20 km to county residence', completing the factor 'road access'; a group of 3 factors deals with the population and population structure ('population' of each commune, the percentage of 'women' in the population, and the percentage of 'Romanian' population); a second group of 3 factors deals with economic status of the respective commune and includes the number of 'employees', the 'unemployment rate', and the number of 'active firms'; a third group concerns the availability of various utilities and includes also 3 factors ('drinking water (pipe) network', 'sewage (pipe) network', and 'natural gas pipe network'); the fourth group includes 3 other factors

[3] The name of the institution and the abbreviation (MoT) is a generic one for all the central authorities in charge with Romanian tourism between 2005 and 2019. This situation is generated by the fact that tourism sometimes has a stand- alone, dedicated ministry, while other times tourism is included in other (various) ministries, depending on the respective government visions and priorities.

related to other facilities (the number of 'schools', the 'bed places (available) in hospitals', and the number of 'dwellings'); these fourth group being complementary to the second group of factors. These factors were included based on the suggestion formulated at the end of Pop & Georgescu (2020) study. These factors/drivers were chosen because the data were available at each commune level.

Since the study of Pop & Georgescu (2020), to the best of authors' knowledge, no academic study, investigating in-depth the factors/drivers for the development of rural accommodations in Romania, was published.

Nonetheless, for the current study, similar to the study of Pop & Georgescu (2020), the ideas formulated by Pop et al. (2019) remain significant: a) tourism might bring diversification to the rural economy (Panyik et al., 2011), complementing the existing economic activities (Hall 2004; Tao & Wall 2009) and potentially giving rise to other tourism-related economic activities; b) the impulse that might be given to the economic activity also can have a positive impact on the poverty reduction (Ruiz-Real et al., 2020) and on the social rebirth of rural areas (Iorio & Corsale 2013); c) rural tourism is often seen as a solution to the many and complex rural problems due to the fact that it allows the integration and the preservation of local culture, history, and heritage, while protecting the local environment (Bianchi, 2018); d) furthermore, rural tourism has the advantage to rely on local initiatives and local management (Okech et al., 2012), bringing forth the local natural and anthropic factors, and the intangible heritage, creating various forms of recreation (Banski & Bednarek-Szczepanska 2013).

Recent studies regarding Romanian (rural) tourism continue to highlight the important potential for this economic sector (Cehan et al., 2019; Avram, 2020; Coros, 2020), some of the studies revealing the uneven territorial distribution of (rural) tourism accommodations (Constantin & Reveiu, 2018; Cehan et al., 2019) and therefore the uneven influence of rural tourism, triggered by the accessibility of the respective rural localities, on the economy and demography of the respective rural areas (Ibanescu et al., 2020). Nonetheless, rural tourism development in Romania should navigate the numerous and interconnected problems of rural areas as highlighted by Calina et al. (2017) and Davidescu et al. (2018), among others being mentioned the decline of population, poverty, the

problem of basic services, and including the problems and effects of various financing resources, mainly provided via European Union schemes (Galluzzo, 2021). It is interesting to mention that the topic of rural tourism and the related complex problems ranks Romania as the second most studied country with 76 papers related to rural tourism in Web of Science Core Collection for the period 2004-2019, according to Ruiz-Real et al. (2020).

The research question remains the same as formulated in the previous study: ***which are the drivers of the accommodation development in rural areas in Romania?***

The findings of the present analysis are in line with the findings of Pop & Gerorgescu (2020), which show that lodging development in rural areas is related to a certain extent to tourist attractions, while the 2008 rank and 2012 rank have a rather mediating influence. The newly added endogenous factors/drivers Romanian rural localities add relative little to the explanatory power of models used to assess the rural lodgings development. While in some cases (see Table 1) R squared doubles its value compared with the findings of Pop & Georgescu (2020), the relationship among the dependent variable and the selected factors, though significant, remains weak.

Material and methods

Similar to the previous two studies, all the 2,861 communes were included in the analysis.

Points 1 to 11 from Pop & Georgescu (2020, pp.96-97) remain unchanged for the present paper and will not be reproduced due to reasons concerning the length of the study. For the 13 new series of data extracted for the current study, the details are presented below, starting with point 12, continuing the list from Pop & Georgescu (2020), as follow:

12. the data for the factor/driver '20 km to county residence' were extracted using Google maps; the distance was measured by road; the information was transformed in a dummy variable with 1 for the communes within the above mentioned distance; this factor was introduced to see if the proximity of a commune to the most important urban center of

a county has an influence on the number of lodgings; this factor also complete the information provided by the factor 'roads' ('road access' in the current paper) introduced by Pop & Georgescu (2020) study;

13. the factor called percentage of 'Romanian' population (or 'Romanians') was extracted using the results of 2011 census; the data are available at: https://www.recensamantromania.ro/rpl-2011/rezultate-2011/, Table 8[4];

14. the following 9 new factors ('population' of each commune, the number of 'employees', the 'unemployment rate', the 'drinking water (pipe) network', the 'sewage (pipe) network', the 'natural gas pipe network', the number of 'schools', the 'bed places (available) in hospitals', and the number of 'dwellings') were extracted from NIS data using Tempo-online; as for the previous studies the data were extracted for 2005, 2010, 2015, and 2019 and the average for these observations was further calculated, using the same procedure described by Pop & Georgescu (2020) for NIS lodgings and MoT lodgings in page 98.

15. the factor the percentage of 'women' in the population was calculated based on NIS data regarding the communes' total population and communes' women population; as presented in point 14, above, the data were extracted for 2005, 2010, 2015, and 2019; the percentage of women was calculated in each case and an average for the four observations was computed;

16. the factor 'active firms' was extracted using the data provided by https://www.listafirme.ro/ at commune level; the data were extracted for 2005, 2010, 2015, and 2019 and the average was computed.

As mentioned in Introduction, the same categorization, proposed by Pop et al. (2019) and utilized in Pop & Georgescu (2020), is applied in the present study, as follow: a) the first category includes all the 2,861 communes; b) the second cluster contains the 1,913 communes with no ranking in 2012; c) the third cluster comprised the 948 communes which received a ranking in 2012, communes considered to be better situated

[4] The title of Table 8 is (in Romanian): *Populatia stabila dupa etnie – judete, municipii, orase, commune.*

from tourist attraction viewpoint and, therefore, having more appeal for developing tourist accommodations.

There is necessary of a brief remainder regarding the 2008 rank(ing) and 2012 rank(ing) since they appear frequently in the study. Both rankings were established by central authorities through NRDP (National Rural Development Program), though no details could be found on the respective rankings were based. The study of Pop et al. (2019) suggested that 2008 rank(ing) was mainly based on the existing lodgings, while the 2012 rank(ing) was strongly influenced by the 2008 rank(ing). While the 2008 rank(ing) included almost all the communes (excepting 28 rural localities with the status of 'resort' on national or local interest and other 10 communes located in 7 counties), the 2012 was provided for only 948 communes considered to have high or very high tourist potential. Some more details regarding these two ranks can be found in Pop et al. (2019).

The descriptive statistics for the selected factors/drivers are presented in Annex 7 for all the 3 groups of communes, while the correlation matrices are presented in Annex 8.

The hypotheses formulated in Pop & Georgescu (2020, pp.99-100) were altered to include the new 13 factors added by the present study. More details about the list of factors and their grouping are provided in Annex 6 and Annex 9.

H1 (for all communes): 2008 rank is influenced by the tourist resources, roads access, info population, economic status, utilities, and other facilities.

H1.1 (for the 1,913 communes): 2008 rank is influenced by the tourist resources, roads access, info population, economic status, utilities, and other facilities.

H1.2 (for the 948 communes): 2008 rank is influenced by the tourist resources, roads access, info population, economic status, utilities, and other facilities.

H2 (for the 948 communes): 2012 rank is influenced by the tourist resources, roads access, info population, economic status, utilities, and other facilities.

H2.1 (for the 948 communes): 2012 rank is influenced by the tourist resources, roads access, info population, economic status, utilities, other facilities, and the 2008 rank.

H3 (for all communes): NIS lodgings are influenced by the tourist resources, roads access, info population, economic status, utilities, other facilities, and the 2008 rank.

H3bis (for all communes): MoT lodgings are influenced by the tourist resources, roads access, info population, economic status, utilities, other facilities, and the 2008 rank.

H3.1 (for the 1,913 communes): NIS lodgings are influenced by the tourist resources, roads access, info population, economic status, utilities, other facilities, and the 2008 rank.

H3.1bis (for the 1,913 communes): MoT lodgings are influenced by the tourist resources, roads access, info population, economic status, utilities, other facilities, and the 2008 rank.

H3.2 (for the 948 communes): NIS lodgings are influenced by the tourist resources, roads access, info population, economic status, utilities, other facilities, and the 2008 rank.

H3.2bis (for the 948 communes): MoT lodgings are influenced by the tourist resources, roads access, info population, economic status, utilities, other facilities, and the 2008 rank.

H3.2a (for the 948 communes): NIS lodgings are influenced by the tourist resources, roads access, info population, economic status, utilities, other facilities, the 2008 rank, and the 2012 rank.

H3.2a-bis (for the 948 communes): MoT lodgings are influenced by the tourist resources, roads access, info population, economic status, utilities, other facilities, the 2008 rank, and the 2012 rank.

For testing the above formulated hypotheses, two methods were used: OLS (ordinary least square) multiple regression and PLS-SEM (partial least squares-structural equation modeling) were used, PLS-SEM allowing for more complex associations between investigated factors/drivers. Within PLS-SEM, the formative-reflective high-order components approach was

used, comprising 21 dimensions containing 21 indicators. The latent variables and their components/dimensions are presented in Annex 6, while the results of PLS-SEM are presented in Annexes 10 to 13. The results for OLS multiple regression are presented in Annex 9.

Selected results regarding the newly introduced factors/drivers of rural accommodation development

Regarding the accessibility of communes via roads, according to Pop & Georgescu (2020), only 24 communes do not have direct access from national or county roads. The present study determined that 552 communes (19.29% of the total) are located within 20 km distance from the county residence, as Annex 3 shows. Macro-region 2 is in top with 164 communes, followed by Macro-region 1 with 142 communes. At regional level, South-Muntenia region is leading with 114 communes. In Annex 4 and Annex 5 more detail information is given for the categories of 1,913 communes (without 2012 rank) and 948 communes (with 2012 rank). Overall, 333 communes, within 20 km distance from the county residence, report lodgings; 184 of these communes are in the group of 1,913 communes without 2012 rank, while 149 are included in the group of 948 communes with 2012 rank. While, at a first glance, the situation seems to indicate a certain correlation between the proximity to a county residence and the presence of lodgings in the respective communes, the data in Annex 8A and 8B show that the relationship is either not significant for when all the communes and the 948 communes are considered, or significant but weak (0.161 for NIS lodgings and 0.182 for MoT lodgings) in the 1,913 communes group. Furthermore, the regression and PLS-SEM results confirm these weak relationship, most of the time the 20 km distance to the county residence being irrelevant and often negative, suggesting that the rural lodgings are more likely to be developed farther away from the great urban center of the respective county, which is not surprising given the characteristics of rural tourism. Though one most mention that, given the current conditions of Romanian rural areas, at 20 km from the county residence one might find remote and beautiful rural areas, while at the other end of the spectrum, one

might find communes where a lot of urban population is migrating (e.g. Floresti commune of Cluj county is growing rapidly due to the proximity to Cluj-Napoca).

Information concerning the structure of population, the percentage of women in total population, and the percentage of Romanian population is presented in Annex 1. The majority of communes (2,377, representing 83.1% of the total) have a population of less than 5,000 inhabitants. Only 35 communes have a population higher that 10,000 people and of these 35 communes, 19 (54.3%) are located within 20 km distance from the county residence. It is worth noting that 792 communes (27.7% of the total) registered an increase in the number of inhabitants, Macro-region 1 leading with 274 such communes, followed by Macro-region 2 with 241 communes having an increase in population. Of these 792 communes, 340 (42.9%) are located in the proximity of their respective county residences (at maximum 20 km distance). It is interesting to mention that of the 792 communes only 131 have an increase of 1,000 people (or more) and 100 of these communes are within 20 km distance from the respective county residence. This situation suggests that the largest urban settlement within a county is likely to influence the level of population in the surrounding areas.

The percentage of women in total population show a relative balance in the number of communes dominated by male population (1,466 communes), respectively female population (1,395 communes) as Annex 1 shows. However, imbalances exist at Macro-region level (e.g. Macro-region 2 where male dominated communes prevail, while within Macro-region 3, the female dominated communes predominate). Interesting to note that the data in Annex 8A and 8B show an insignificant relation between the percentage of women and the rural lodgings in the case of all communes and for the 948 communes with 2012 rank, while for the 1,913 communes without 2012 rank there is a significant but very weak correlation (0.059 for NIS lodgings, respectively 0.061 for MoT lodgings). This suggest that in this last case, there is a (very) small chance that lodgings might be developed rather in communes dominated by female population.

The majority of communes (2,148 or 75.1%) have more than 90% Romanian population. The ethnic diversity is higher in Macro-region 1, mainly in Center region, due to the presence of Hungarian population.

For the other three Macro-regions, the number of communes where the Romanian population is less than 50% is very small. It is worth noting that, as data in Annex 8A and 8B show, that for all the communes and for the category of 1,913 communes without 2012 ranking, there are significant but very weak, and respectively significant and weak negative relations between the dominance of Romanian population and NIS lodgings, respectively MoT lodgings[5]. This situation suggests that there is more likely (however a low likeliness) that lodgings are developed rather in communes where the percentage of Romanian population is lower. Up to a point, this result is partly confirmed by the high number of communes with lodgings in Covasna county (more than 50% in 2019) and Harghita county (about 70% in 2019)[6], two of the county with a significant Hungarian population. However, the significance of this negative correlation between the Romanian population and the presence of rural lodgings is completely lost when the group of 948 with 2012 rank is considered.

Annex 2 presents the situation of communes when some aspects related to the economic situation (the number of employees, the unemployment rate, and the number of active firms) are taken into consideration. The majority of communes, 1,727 (60.4%) have between 100 and 499 employees, and these communes are relatively evenly distributed among the four Macro-regions. It is interesting to note that of the 297 communes whit 500 employees or more, only 97 have more than 1,000 employees. Within these 97 communes, 74 are located within 20 km distance from the county residence, 89 communes have an unemployment rate less than 5%, and 93 communes have more than 50 active firms. This indicates clearly that the proximity to the most important urban center of a county increase the economic status of the surrounding rural localities.

Also, when the unemployment rate is considered, most part of the communes, 1,707 (about 60%), have registered an unemployment rate

[5] The significant correlations are the following:
a) in the case of all communes: -0.042 for NIS lodgings and -0.051 for MoT lodgings;
b) in the case of 1,913 communes with 2012 rank: -0.117 for NIS lodgings and -0.155 for MoT lodgings.

[6] Based on the data provided by Annex 3 from Pop & Georgescu (2020).

of less than 5%[7]. Macro-region 2 and Macro-region 1 lead in this respect with about 500 communes each. At the other end of the spectrum are the communes with 10% or more unemployment rate (379). Macro-region 2 leads the way in this respect with 144 communes in this category, followed by Macro-region 4 with 96 communes. It must be mentioned that Macro-region 4 includes the extremes: West region with the lowest number of communes (4) with over 10% unemployment rate, and South-West region with the highest number of communes (92) with over 10% unemployment rate.

The data in Annex 3 (last column) show that at least one active firm exists in the 2,861 rural localities. Additionall,y to the information above, preponderantly the rural localities have less than 50 active firms, respectively 2,105 communes (73.6%). Macro-region 2 leads in this respect with 646 communes in this situation, while Macro-region 3 is at the other end of the spectrum with 380 communes. The number of communes with 100 or more active firms is only 251, with Macro-regions 1 to 3 having an almost equal number of communes in this situation. At regional level, North-West region (Macro-region 1) and South-Muntenia region (Macro-region 3) are in the leading position, both with 42 communes with at least 100 active firms. It is interesting to note that of these 251 communes, only 63 have more than 250 active firms; all these 63 communes report at least 500 employees, and unemployment rate of less than 5% and 58 of these communes are located within 20 km distance from the county residence, supporting the idea that a more intense economic activity is taking place around the most important urban centers of each county.

Annex 8A and 8B show all these 3 factors have a weak to very weak (mainly in the case of unemployment rate), though significant, relation with NIS lodgings and MoT lodgings for all communes and for the categories of 1,913 communes (without 2012 rank) and 948 communes (with 2012 rank), suggesting that the development of lodgings it is likely to occur in rural localities with a more intense economic activity. Nonetheless, adding the information regarding the factor '20 km distance

[7] One must note that this situation is a little bit surprising since, for the same period and calculates in the same way describes in point 14 of ***Material and methods*** section, the unemployment rate at national level was 5.2%.

from the county residence' it must be added that the rural localities where tourist lodgings are developed have to be farther from the county residence than 20 km and to have at least a moderately economic activity, which is not always easy to achieve, according to the presented data.

Annex 3 shows that, of the utilities for which NIS data were available at commune level, the widest spread within rural localities is the drinking water (pipes) network, available in 2,324 communes (81.2%). The sewage (pipes) network ranks second, being available for 1,088 communes (38.0%), while the natural gas (pipes) network is available for only 694 communes (24.3%); of these 694 communes, 311 are located in Macro-region 1, where the most important natural gas deposits of Romania are situated. The distribution of communes with the 3 types of utilities mentioned above can be followed in detail in Annex 3.

Annex 4 and Annex 5 give information about the number of communes with all the utilities, with no utilities, and with a combination of one or two utilities; in this last group falls the majority of Romanian communes (2,275, representing 79.5% of the total). More interesting is to mention that only 324 communes (11.3%) have all the three utilities; of these 324 communes, only 157 communes (48.5%) are located within 20 km distance from the county residence. Also of these 324 communes, 252 communes (77.8%) report lodgings. This seems to indicate that the combined presence of the three types of utilities is important for the development of lodgings. However, when considering the other end of the spectrum, the communes without any utilities, their number is 262 (9.2%); of these, only 55 communes (21.0%) are located within 20 km distance from the county residence. Also of these 262 communes, 133 communes (50.8%) report lodgings. This result seems to indicate that the lodgings can be developed despite the presence of utilities as long as tourist attractions are present.

The data in Annex 8A and 8B show the following: for all the communes, the relation between lodgings and the utilities is significant, though weak to very weak (for natural gas network); for the 1,913 communes without 2012 rank, the relationship continues to be significant and being from weak to moderate; for the 948 communes with 2012 ranking (considered more attractive for tourism development) the

relation is significant but weak in the cases of drinking water and sewage networks, while becoming insignificant for the natural gas network. The results in Annex 8A and 8B confirm the suggestion resulting from Annex 4 and 5, that the presence of utilities is more important in the case of less tourist attractions, while these utilities become less relevant where tourist attractions exist.

Annex 3 also contains information about the presence of schools and the availability of hospital bed places in rural localities. When schools are concerned, only 4 communes[8] do not registered schools for the period under investigation. The majority of communes (2,612, representing 91.3% of total) have between 1 and 2 schools, while the remaining 245 communes have between 3 and 6 schools. While for the purpose of this paper the data regarding the types of schools were not extracted, the schools in rural localities mostly cover the early childhood education level, primary level, and lower secondary education level[9] in the communes where 1 or 2 schools exists. Where at least 3 schools exist, usually the upper secondary education level is also covered, while sometimes post-secondary non-tertiary education is available. This factor ('schools') was introduced in order to see if it represent an incentive for economic activity diversification via tourist lodging development. Annex 8A and 8B show either a very weak (but significant) relation with lodgings for all communes and the 1,913 communes without 2012 rank, or there is no relation for the 948 communes with 2012 rank.

Only 158 communes have beds in hospitals available at rural level. For the purpose of this paper the information was not detailed further for providing details regarding the type of hospitals. The beds in hospitals were considered just as 'other facilities'. Since the number of communes with this facility is low, there is no surprise that Annex 8A and 8B show a very weak (but significant) relation in the case of all communes, an insignificant relation in the case of 1,913 communes

[8] These 4 communes are: Brebu Nou (Caras-Severin county), Batrana and Bunila (Hunedoara county), and Ciocarlia (Ialomita county).

[9] The level of education are presented based on the classification provided by the European Commission within the material available at the following link: https://yourterm.eu/wp-content/uploads/2020/01/the_structure_of_the_european_education_systems_2018_19.pdf

without 2012 rank, and a significant but weak relation in the case of 948 communes with 2012 ranking, probably due to the fact that in the case of some communes having the status of resort and spa facilities where also (in some cases) medical assistance in hospitals is provided.

The descriptive statistics in Annex 7 (A and B) are provided for all the considered factors/drivers. Therefore, there is nothing to be added to Pop & Georgescu (2020) comments regarding the tourist attractions, road accessibility, and the lodgings. For the new 13 factors/drivers included in the present analysis, the differences for mean, median, and third quartile within all the 3 groups under scrutiny are not all important. Some exceptions (slightly higher differences) can be observed in the case of employees, the number of active firms, sewage network, and beds in hospitals, while for natural gas pipe network the exception occurs only for the 3rd quartile. The information provided in Annex 7 combined with the correlation results from Annex 8 anticipate the results presented below, within the next section of this paper.

Multiple regression results, PLS-SEM results and discussions

The detailed results for the multiple regression can be found in Annex 9 (A and B) where there were included the tested hypotheses. Also, to allow the comparisons with the results of Pop et al. (2019) and Pop & Georgescu (2020), the final results for the multiple regression were include in Table 1, below.

The results of multiple regression can be discussed at length, which the space of this paper does not allow it. However, the general outcome shows that the newly added factors/drivers either do have a low influence on the lodging development or do not have any influence. These findings are in line with the selected results, based on correlation coefficients, presented in the section above.

Table 1 shows better that the introduction of the new factors/ drivers add some explanatory power to the model. Compared with the results of Pop & Georgescu (2020), this explanatory power is very weak in the cases of H1, H1.1, and H1.2, is weak in the cases of H2 and H2.1, is weak to moderate in the case of H3 group of hypotheses (in some cases

the explanatory power is almost double). Nonetheless, except of H2 and H2.1 where R squared shows a weak to moderate relationship between the dependent variable and the selected factors, for the H1 and H3 group of hypotheses R squared shows weak to very weak relationships.

The results obtained through multiple regression are confirmed by the results obtained through PLS-SEM. The PLS-SEM results are presented in Annexes 10 to 14 and Table 1. Similar to the multiple regression results, the newly added factor do increase the explanatory power of the model, but not in a significant manner. R squared shows almost similar results with the multiple regression results for the present study and similar increases compared with Pop & Georgescu (2020) study.

The figures in Annex 14 confirm the findings mentioned above. As found by Pop & Georgescu (2008), the 2008 rank, for which no clear information was provided by the authorities, is influenced mainly by tourist attractions (monuments, protected areas, extra points/resources), while the influence is different in all the three groups of communes considered. The other latent variables have a negligible influence, though the accessibility via roads seems to be more important that the 20km distance to the county residence, while the presence of active firms seems to play a minor role.

Similar to Pop & Georgescu (2020) results, the 2012 rank is mainly influenced by 2008 rank, and therefore, indirectly by tourist attractions. Nonetheless, 2012 rank has is also directly influenced (though the influence is weak) by the access via roads (the proximity to county residence being irrelevant) and by the presence of various utilities.

When the factors/drivers impacting the development of lodgings (for both NIS and MoT data), the results are showing similar influences, with some slight variations: the main influence (direct and indirect) comes from tourist attractions, followed by the economic status (mainly under the influence of active firms). For the 1,913 communes without 2012 rank, therefore considered less attractive for tourism, to the two group of factors mentioned previously, the road access has a weak to moderate direct influence, though the proximity to the county residence has a lower importance. The situation remains almost the same when for the 948 communes with 2012 rank; the 2012 rank is included as factor/driver. The

slight differences show that road access has a weak to moderate direct influence, while the 20 km distance to the county residence is unimportant. In the case of economic status, the active firms lose their dominance, the number of employees seeming to increase in importance. For the same group of 948 communes, of interest is the negative weak direct effect of latent variable 'info population' on lodgings, suggesting that lodgings might be developed in smaller rural localities.

Table 1. Hypotheses confirmation

Hypotheses formulated by Pop et al. (2019)			**Hypotheses formulated by Pop & Georgescu (2020)**			**Hypotheses formulated for the present study**		
Hypotheses	Multiple regression results	PLS-SEM results	Hypotheses	Multiple regression results	PLS-SEM results	Hypotheses	Multiple regression results	PLS-SEM results
H1 (for all communes): 2008 rank is influenced by the tourist resources	Confirmed. R^2 = 18.8%; p-value < 0.001	Confirmed R^2 = 18.5%; p-value = 0.0000	**H1 (for all communes): 2008 rank is influenced by the tourist resources and roads (accessibility)**	Confirmed. R^2 = 19.0%; p-value < 0.001	Confirmed R^2 = 18.6%; p-value = 0.0000	**H1 (for all communes): 2008 rank is influenced by the variables/factors in Annex 9A**	Confirmed. R^2 = 20.2%; p-value < 0.001	Confirmed R^2 = 19.4%; p-value = 0.0000
H1.1 (for the 1,913 communes): 2008 rank is influenced by the tourist resources	Confirmed. R^2 = 5.4%; p-value < 0.001	Confirmed R^2 = 5.4%; p-value = 0.0000	H1.1 (for the 1,913 communes): 2008 rank is influenced by the tourist resources and roads (accessibility)	Confirmed. R^2 = 5.7%; p-value < 0.001	Confirmed R^2 = 5.6%; p-value = 0.0000	H1.1 (for the 1,913 communes): 2008 rank is influenced by the variables/ factors in Annex 9A	Confirmed. R^2 = 7.2%; p-value < 0.001	Confirmed R^2 = 6.6%; p-value = 0.0000

Hypotheses formulated by Pop et al. (2019)			Hypotheses formulated by Pop & Georgescu (2020)			Hypotheses formulated for the present study		
H3 (for all communes): lodgings are influenced by the tourist resources and the 2008 rank	H2a (for the 948 communes): 2012 rank is influenced by the tourist resources and the 2008 rank	**H2 (for the 948 communes): 2012 rank is influenced by the tourist resources**		H1.2 (for the 948 communes): 2008 rank is influenced by the tourist resources				
Confirmed. R^2 = 7.3%; p-value < 0.001	Confirmed. R^2 = 36.8%; p-value < 0.001	Confirmed. R^2 = 11.5%; p-value < 0.001		Confirmed. R^2 = 7.3%; p-value < 0.001				
Confirmed R^2 = 6.5%; p-value = 0.0000	Confirmed R^2 = 36.1%; p-value = 0.0000	Not investigated.		Confirmed R^2 = 7.1%; p-value = 0.0000				
H3 (for all communes): NIS lodgings are influenced by the tourist resources, the 2008 rank, and roads (accessibility)	H2.1 (for the 948 communes): 2012 rank is influenced by the tourist resources, the 2008 rank, and roads (accessibility)	**H2 (for the 948 communes): 2012 rank is influenced by the tourist resources and roads (accessibility)**		H1.2 (for the 948 communes): 2008 rank is influenced by the tourist resources and roads (accessibility)				
Confirmed. R^2 = 7.6%; p-value < 0.001	Confirmed. R^2 = 45.1%; p-value < 0.001	Confirmed. R^2 = 18.5%; p-value < 0.001		Confirmed. R^2 = 7.5%; p-value < 0.001				
Confirmed R^2 = 6.8%; p-value = 0.0000	Confirmed R^2 = 44.7%; p-value = 0.0000	Not investigated.		Confirmed R^2 = 7.3%; p-value = 0.0000				
H3 (for all communes): NIS lodgings are influenced by 2008 rank and the other variables/factors in	H2.1 (for the 948 communes): 2012 rank is influenced by 2008 rank and the other variables/factors in Annex 9B	**H2 (for the 948 communes): 2012 rank is influenced by the variables/factors in Annex 9B**		H1.2 (for the 948 communes): 2008 rank is influenced by the variables/ factors in Annex 9B				
Confirmed. R^2 = 11.0%; p-value < 0.001	Confirmed. R^2 = 52.2%; p-value < 0.001	Confirmed. R^2 = 26.9%; p-value < 0.001		Confirmed. R^2 = 8.5%; p-value < 0.001				
Confirmed R^2 = 9.1%; p-value = 0.0000	Confirmed R^2 = 52.1%; p-value = 0.0000	Not investigated.		Confirmed R^2 = 8.6%; p-value = 0.0000				

Hypotheses formulated by Pop et al. (2019)		Hypotheses formulated by Pop & Georgescu (2020)		Hypotheses formulated for the present study	
H3.2 (for the 948 communes): lodgings are influenced by the tourist resources and the 2008 rank	-	H3.1 (for the 1,913 communes): lodgings are influenced by the tourist resources and the 2008 rank	-		
Confirmed. R^2 = 6.4%; p-value < 0.001	-	Confirmed. R^2 = 3.3%; p-value < 0.001	-		
Confirmed R^2 = 6.2%; p-value = 0.0000	-	Confirmed R^2 = 3.2%; p-value = 0.0000	-		
H3.2 (for the 948 communes): NIS lodgings are influenced by the tourist resources, the 2008 rank, and roads (accessibility)	*H3.1bis (for the 1,913 communes): MoT lodgings are influenced by the tourist resources, the 2008 rank, and roads (accessibility)*	H3.1 (for the 1,913 communes): NIS lodgings are influenced by the tourist resources, the 2008 rank, and roads (accessibility)	***H3bis (for all communes): MoT lodgings are influenced by the tourist resources, the 2008 rank, and roads (accessibility)***		
Confirmed. R^2 = 6.7%; p-value < 0.001	Confirmed. R^2 = 8.1%; p-value < 0.001	Confirmed. R^2 = 6.5%; p-value < 0.001	Confirmed. R^2 = 8.6%; p-value < 0.001		
Confirmed R^2 = 6.5%; p-value = 0.0000	Confirmed R^2 = 8.0%; p-value = 0.0000	Confirmed R^2 = 6.4%; p-value = 0.0000	Confirmed R^2 = 7.9%; p-value = 0.0000		
H3.2 (for the 948 communes): NIS lodgings are influenced by 2008 rank and the other variables/factors in Annex 9B	*H3.1bis (for the 1,913 communes): MoT lodgings are influenced by 2008 rank and the other variables/ factors in Annex 9A*	H3.1 (for the 1,913 communes): NIS lodgings are influenced by 2008 rank and the other variables/factors in Annex 9A	***H3bis (for all communes): MoT lodgings are influenced by 2008 rank and the other variables/factors in Annex 9A***		
Confirmed. R^2 = 13.1%; p-value < 0.001	Confirmed. R^2 = 19.4%; p-value < 0.001	Confirmed. R^2 = 15.2%; p-value < 0.001	Confirmed. R^2 = 12.9%; p-value < 0.001		
Confirmed R^2 = 11.5%; p-value = 0.0000	Confirmed R^2 = 17.3%; p-value = 0.0000	Confirmed R^2 13.6%; p-value = 0.0000	Confirmed R^2 = 10.9%; p-value = 0.0000		

Hypotheses formulated by Pop et al. (2019)			**Hypotheses formulated by Pop & Georgescu (2020)**			**Hypotheses formulated for the present study**		
-	H3.2a (for the 948 communes): lodgings are influenced by the tourist resources and the 2008 rank and the 2012 rank	-	-	*H3.2bis (for the 948 communes): MoT lodgings are influenced by the tourist resources, the 2008 rank, and roads (accessibility)*		*H3.2bis (for the 948 communes): MoT lodgings are influenced by 2008 rank and the other variables/ factors in Annex 9B*		
-	Confirmed. R^2 = 8.0%; p-value < 0.001	-	Confirmed. R^2 = 7.1%; p-value < 0.001			Confirmed. R^2 = 15.8%; p-value < 0.001		
-	Confirmed R^2 = 7.0%; p-value = 0.0000	-	Confirmed R^2 = 6.9%; p-value = 0.0000			Confirmed R^2 = 14.3%; p-value = 0.0000		
H3.2a-bis (for the 948 communes): MoT lodgings are influenced by the tourist resources, the 2008 rank, the 2012 rank, and roads (accessibility)		H3.2a (for the 948 communes): NIS lodgings are influenced by the tourist resources, the 2008 rank, the 2012 rank, and roads (accessibility)				H3.2a (for the 948 communes): NIS lodgings are influenced by 2008 rank, 2012 rank and the other variables/factors in Annex 9B		
Confirmed. R^2 = 9.0%; p-value < 0.001		Confirmed. R^2 = 8.0%; p-value < 0.001				Confirmed. R^2 = 13.5%; p-value < 0.001		
Confirmed R^2 = 8.2%; p-value = 0.0000		Confirmed R^2 = 7.0%; p-value = 0.0000				Confirmed R^2 = 9.7%; p-value = 0.0000		
H3.2a-bis (for the 948 communes): MoT lodgings are influenced by 2008 rank, 2012 rank and the other variables/factors in Annex 9B								
Confirmed. R^2 = 16.5%; p-value < 0.001								
Confirmed R^2 = 12.2%; p-value = 0.0000								

Source: Pop et al. (2019) for the first three columns, Pop & Georgescu (2020) for the columns four to six and authors' calculations for the last three columns.

Conclusions

The findings of the present paper are in line with the previous findings of Pop et al. (2019) and Pop & Georgescu (2020). Of importance for rural lodgings' development is the latent variable 'tourist attractions' which has mainly an indirect effect via 2008 rank and in the case of 948 communes group, via 2012 rank; both ranks playing a mediating role, as PLS-SEM figures in Annex 14 show. However, the direct effect of latent variable tourist attraction can be considered weak, concurring with the idea expressed by Pop et al. (2019), that the high number of communes with 0 lodgings and just 1 lodging might impact on this relation[10]. Other studies of Constantin & Reveiu (2018), Cehan et al. (2019), Pop & Balint (2020) support the findings regarding tourist attractions by highlighting the uneven distribution of rural accommodations in relation with the locations of tourist attractions.

The latent variable 'road access' seems to play a lesser role, excepting the case of 1,913 communes considered less attractive from tourism-related attractions viewpoint; though, the proximity to the county residence is of lower importance. Though it must be highlighted that a more intense economic activity takes place in the communes closer to the county residence, as highlighted in the section *Selected results,* a situation confirmed by Ibanescu et al. (2020) from economic and demographic viewpoints.

As mentioned in the previous section, while for all communes and 1,913 communes without 2012 rank the direct influence of population (latent variable 'info population') is very weak, for the 948 communes with 2012 rank the direct influence of population is a bit higher and negative, though it remains weak. These results suggest there is a low likeliness that rural lodgings might be developed in smaller (from population viewpoint) rural localities. This negative direct influence is confirmed by Galluzzo (2021) who showed that agritourism is indirectly related to population density, therefore suggesting a growth of agritourism in less populated areas.

[10] It is interesting to note that Pop et al. (2019) also mention that even within the 948 communes with 2012 rank, therefore the communes with higher tourist potential, 39% of these communes have 0 lodgings, while other 33% have just 1 lodging.

The latent variable 'economic status' is also influencing the development of lodgings in rural areas mainly via of the component 'active firms', though, within the group of 948 communes with 2012 rank, the component 'active firms' loses some ground in favor of 'employees'. This result is partly confirmed by the findings of Ibanescu et al. (2020). Nonetheless, further investigations of the influence of this variable on rural lodgings' development are needed via Granger causality.

The latent variables 'utilities' and 'other facilities' seem to have no important effects on rural lodgings development, a situation which raise questions regarding the local solutions for current water, sewage, and heating and their impact on the respective accommodation services' quality.

The findings of the present analysis are in line with the findings of Pop & Georgescu (2020) and suggest that the selected endogenous factors for rural localities have a relative low explanatory power for lodgings development. These findings are supported also by Galluzzo (2021) who suggest that agritourism growth in Romania has been correlated with exogenous factors, like the availability of financial resources and other causes that drove the inhabitants of rural areas to pursue the development of tourism facilities. This idea seems to be supported by the recent growth registered by rural pensions (the most frequent form of lodgings in rural areas, as shown by Pop et al. (2017)) between 2019 and 2021 of 23.6%, as reported by NIS, under the influence of Sars-cov-2 pandemic on tourism.

Indirectly, and cumulated with the findings of Constantin & Reveiu (2018) regarding the relative low of correlation between rural lodgings and the location of tourist attractions, the results of the present paper point toward the little awareness of rural population regarding existence and value of local tourist attractions, as also highlighted by Pop & Georgescu (2020). Also indirectly the present analysis points toward the reduced alternatives of entertainment facilities as mentioned by Porutiu et al. (2021), given the low number of rural localities with the status of 'resort' (see Annex 1 of Pop & Georgescu, 2020)

As suggested by Figueiredo et al. (2013), one of the best path to follow for Romanian rural tourism offer development is represented by the model of community-based tourism, though this concept is not very

well understood and barely applied as shown by (Havadi Nagy & Espinosa Segui, 2020), though some exceptions exist, like the case of Viscri, Barsov county, as highlighted by Iorio & Corsale (2013). Nonetheless, the development of lodgings in Romania's rural areas, in order create the base for rural tourism growth, remains a complex problem which needs continues adjustments (like the recent case of decentralization and fragmentation trends as mentioned by Ruiz-Real et al. (2020) and further enhanced by the recent pandemic of Sars-cov-2), to the adaptation of tourist offer to the available resources for the segmentation of this offer, as suggested by Coros (2020) and Nistoreanu (2018), to the willingness of rural inhabitants to alter their lifestyles to rural tourism as a new livelihood, and to assess the positive and negative aspects of tourism impacts.

To the various limitations of this study as already mentioned by Pop et al. (2019) and Pop & Georgescu (2020) one must add the grouping of communes based on the availability of 2008 rank and 2012 rank. Another classification might generate different results.

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Annex 1: The situation of communes considering the population, the percentage of women, and the percentage of Romanian population

County / region / macro-region	***Population***			***With population increase (2019 to 2005)***	***Women (%)***		***Romanians (%)***		
	100 to 4,999	***5,000 to 9,999***	***≥ 10,000***		***35.00 to 49.99***	***50.00 to 59.99***	***0.00 to 49.99***	***50.00 to 89.99***	***90.00 to 99.99***
Bihor	80	10	1	30	42	49	20	43	28
Bistrita-Nasaud	46	12	0	14	36	22	1	14	43
Cluj	67	5	3	12	32	43	7	43	25
Maramures	55	7	1	17	29	34	9	7	47
Satu-Mare	49	10	0	27	23	36	28	18	13
Salaj	55	2	0	12	13	44	14	20	23
North-West	**352**	**46**	**5**	**112**	**175**	**228**	**79**	**145**	**179**
Alba	62	5	0	9	54	13	2	13	52
Brasov	40	8	0	42	36	12	2	19	27
Covasna	37	3	0	16	27	13	33	3	4
Harghita	48	10	0	30	33	25	51	5	2
Mures	75	16	0	33	52	39	39	29	23
Sibiu	50	3	0	32	37	16	0	14	39
Center	**312**	**45**	**0**	**162**	**239**	**118**	**127**	**83**	**147**
Macro-1	***664***	***91***	***5***	***274***	***414***	***346***	***206***	***228***	***326***
Bacau	52	31	2	25	71	14	1	11	73
Botosani	58	13	0	11	49	22	0	2	69
Iasi	55	32	6	41	86	7	0	8	85
Neamt	52	25	1	18	50	28	0	3	75
Suceava	68	28	2	53	60	38	3	6	89
Vaslui	74	7	0	12	76	5	0	3	78
North-East	**359**	**136**	**11**	**160**	**392**	**114**	**4**	**33**	**469**
Braila	37	3	0	4	20	20	0	2	38
Buzau	70	12	0	9	24	58	0	3	79
Constanta	41	14	3	27	49	9	2	19	37
Galati	40	17	4	14	50	11	1	5	55
Tulcea	43	3	0	4	38	8	2	8	36
Vrancea	58	10	0	23	32	36	1	1	66
South-East	**289**	**59**	**7**	**81**	**213**	**142**	**6**	**38**	**311**
Macro-2	***648***	***195***	***18***	***241***	***605***	***256***	***10***	***71***	***780***

County / region / macro-region	*Population*			*With population increase (2019 to 2005)*	*Women (%)*		*Romanians (%)*		
	100 to 4,999	*5,000 to 9,999*	*≥ 10,000*		*35.00 to 49.99*	*50.00 to 59.99*	*0.00 to 49.99*	*50.00 to 89.99*	*90.00 to 99.99*
Arges	77	16	2	21	28	67	0	0	95
Calarasi	40	9	1	8	15	35	0	6	44
Dambovita	55	27	0	20	22	60	0	5	77
Giurgiu	39	12	0	10	9	42	0	4	47
Ialomita	56	3	0	8	23	36	1	5	53
Prahova	57	29	4	17	39	51	0	1	89
Teleorman	86	6	0	0	33	59	0	10	82
South-Muntenia	**410**	**102**	**7**	**84**	**169**	**350**	**1**	**31**	**487**
Ilfov	9	22	1	31	3	29	0	7	25
Macro-3	***419***	***124***	***8***	***115***	***172***	***379***	***1***	***38***	***512***
Arad	62	5	1	28	14	54	4	24	40
Caras-Severin	69	0	0	13	25	44	5	21	43
Hunedoara	55	0	0	13	12	43	0	3	52
Timis	75	13	1	60	40	49	2	58	29
West	**261**	**18**	**2**	**114**	**91**	**190**	**11**	**106**	**164**
Dolj	93	10	1	18	27	77	0	24	80
Gorj	54	7	0	7	39	22	0	2	59
Mehedinti	59	1	1	7	31	30	1	10	50
Olt	104	0	0	5	49	55	0	2	102
Valcea	75	3	0	11	38	40	0	3	75
South-West	**385**	**21**	**2**	**48**	**184**	**224**	**1**	**41**	**366**
Macro-4	***646***	***39***	***4***	***162***	***275***	***414***	***12***	***147***	***530***
National level	2,377	449	35	792	1,466	1,395	229	484	2,148

Note: only one commune (Floresti, Cluj county) has a population of over 22,000 people.
Source: authors' calculations based on NIS data and https://www.recensamantromania.ro/rpl-2011/rezultate-2011/

Annex 2: The situation of communes considering the number of employees, unemployment, and number of active firms

County / region / macro-region	*Employees (number)*			*Unemployment (%)*			*Active firms (number)*		
	< 100	*100 to 499*	*≥ 500*	*< 5%*	*5% to 9.99%*	*≥ 10%*	*< 50*	*50 to 99*	*≥ 100*
Bihor	13	59	19	65	23	3	48	30	13
Bistrita-Nasaud	16	37	5	56	2	0	38	15	5
Cluj	29	37	9	54	18	3	44	20	11
Maramures	8	49	6	55	8	0	48	12	3
Satu-Mare	19	36	4	43	11	5	44	10	5
Salaj	18	32	7	27	25	5	47	5	5
North-West	**103**	**250**	**50**	**300**	**87**	**16**	**269**	**92**	**42**
Alba	33	28	6	25	31	11	54	10	3
Brasov	12	26	10	24	6	18	27	10	11
Covasna	11	29	0	26	10	4	32	8	0
Harghita	15	42	1	36	14	8	32	19	7
Mures	26	53	12	55	23	13	64	18	9
Sibiu	21	29	3	32	16	5	40	9	4
Center	**118**	**207**	**32**	**198**	**100**	**59**	**249**	**74**	**34**
Macro-1	***221***	***457***	***82***	***498***	***187***	***75***	***518***	***166***	***76***
Bacau	17	57	11	54	22	9	62	15	8
Botosani	29	40	2	57	11	3	69	1	1
Iasi	16	68	9	62	20	11	76	8	9
Neamt	17	54	7	58	16	4	47	23	8
Suceava	18	75	5	79	14	5	65	26	7
Vaslui	19	62	0	26	27	28	79	2	0
North-East	**116**	**356**	**34**	**336**	**110**	**60**	**398**	**75**	**33**
Braila	11	26	3	16	12	12	36	3	1
Buzau	23	52	7	17	32	33	57	18	7
Constanta	9	43	6	44	10	4	42	6	10
Galati	24	32	5	15	20	26	43	11	7
Tulcea	10	34	2	35	9	2	31	12	3
Vrancea	30	37	1	45	16	7	39	22	7
South-East	**107**	**224**	**24**	**172**	**99**	**84**	**248**	**72**	**35**
Macro-2	***223***	***580***	***58***	***508***	***209***	***144***	***646***	***147***	***68***
Arges	25	60	10	57	27	11	60	26	9

County / region / macro-region	*Employees (number)*			*Unemployment (%)*			*Active firms (number)*		
	< 100	*100 to 499*	*≥ 500*	*< 5%*	*5% to 9.99%*	*≥ 10%*	*< 50*	*50 to 99*	*≥ 100*
Calarasi	6	40	4	36	12	2	40	9	1
Dambovita	27	47	8	57	20	5	56	21	5
Giurgiu	2	43	6	37	11	3	34	10	7
Ialomita	21	38	0	30	24	5	55	4	0
Prahova	18	51	21	66	21	3	50	20	20
Teleorman	51	38	3	18	39	35	84	8	0
South-Muntenia	**150**	**317**	**52**	**301**	**154**	**64**	**379**	**98**	**42**
Ilfov	0	8	24	32	0	0	1	4	27
Macro-3	***150***	***325***	***76***	***333***	***154***	***64***	***380***	***102***	***69***
Arad	6	49	13	60	8	0	42	20	6
Caras-Severin	38	29	2	47	19	3	64	5	0
Hunedoara	25	25	5	25	29	1	45	9	1
Timis	3	45	41	87	2	0	53	23	13
West	**72**	**148**	**61**	**219**	**58**	**4**	**204**	**57**	**20**
Dolj	60	38	6	24	35	45	88	9	7
Gorj	10	42	9	24	36	1	47	10	4
Mehedinti	37	22	2	7	27	27	59	1	1
Olt	58	46	0	44	42	18	97	6	1
Valcea	6	69	3	50	27	1	66	7	5
South-West	**171**	**217**	**20**	**149**	**167**	**92**	**357**	**33**	**18**
Macro-4	***243***	***365***	***81***	***368***	***225***	***96***	***561***	***90***	***38***
National level	837	1,727	297	1,707	775	379	2,105	505	251

Note: only one commune (Chiajna, Ilfov county) has over 6,000 employees; commune Floresti (Cluj county) has the highest number of active firms (1,817), while commune Chiajna (Ilfov county) is in the second position with 1,276 active firms.
Source: authors' calculations based on NIS data and https://www.listafirme.ro/

Annex 3: The situation of communes considering the proximity to the county residence, the availability of utilities, the existence of schools and hospital beds and the presence of active firms

County / region/ macro-region	Number of communes	Number of communes at max.20 km around the county residence	Number of communes with drinking water network	Number of communes with sewage network	Number of communes with natural gas network	Number of communes with schools	Number of communes with hospital bed places	Number of communes with active firms
Bihor	91	16	81	36	15	91	3	91
Bistrita-Nasaud	58	12	51	32	15	58	3	58
Cluj	75	11	74	51	36	75	7	75
Maramures	63	10	59	34	18	63	3	63
Satu-Mare	59	13	56	34	20	59	1	59
Salaj	57	11	50	14	12	57	2	57
North-West	**403**	**73**	**371**	**201**	**116**	**403**	**19**	**403**
Alba	67	8	63	28	24	67	0	67
Brasov	48	8	43	21	32	48	3	48
Covasna	40	12	28	26	9	40	2	40
Harghita	58	15	51	40	20	58	3	58
Mures	91	15	70	41	72	91	3	91
Sibiu	53	11	37	25	38	53	1	53
Center	**357**	**69**	**292**	**181**	**195**	**357**	**12**	**357**
Macro-1	***760***	***142***	***663***	***382***	***311***	***760***	***31***	***760***
Bacau	85	21	74	59	21	85	2	85
Botosani	71	17	47	12	4	71	7	71
Iasi	93	18	71	45	20	93	8	93
Neamt	78	14	54	24	12	78	5	78
Suceava	98	18	46	38	4	98	7	98
Vaslui	81	16	66	23	9	81	4	81
North-East	**506**	**104**	**358**	**201**	**70**	**506**	**33**	**506**
Braila	40	6	39	8	7	40	2	40
Buzau	82	18	77	16	15	82	7	82
Constanta	58	3	57	25	10	58	4	58
Galati	61	6	57	26	7	61	3	61
Tulcea	46	5	46	22	1	46	0	46

County / region/ macro-region	Number of communes	Number of communes at max.20 km around the county residence	Number of communes with drinking water network	Number of communes with sewage network	Number of communes with natural gas network	Number of communes with schools	Number of communes with hospital bed places	Number of communes with active firms
Vrancea	68	22	58	12	5	68	3	68
South-East	**355**	**60**	**334**	**109**	**45**	**355**	**19**	**355**
Macro-2	***861***	***164***	***692***	***310***	***115***	***861***	***52***	***861***
Arges	95	17	88	31	29	95	10	95
Calarasi	50	9	47	9	7	50	1	50
Dambovita	82	24	70	20	44	82	5	82
Giurgiu	51	11	20	6	7	51	7	51
Ialomita	59	12	53	7	5	58	0	59
Prahova	90	24	81	30	41	90	7	90
Teleorman	92	17	46	9	2	92	5	92
South-Muntenia	**519**	**114**	**405**	**112**	**135**	**518**	**35**	**519**
Ilfov	32	20	27	22	29	32	5	32
Macro-3	***551***	***134***	***432***	***134***	***164***	***550***	***40***	***551***
Arad	68	11	60	34	13	68	8	68
Caras-Severin	69	5	57	41	5	68	1	69
Hunedoara	55	10	41	25	9	53	2	55
Timis	89	16	88	40	27	89	4	89
West	**281**	**42**	**246**	**140**	**54**	**278**	**15**	**281**
Dolj	104	21	67	19	11	104	9	104
Gorj	61	14	46	16	22	61	4	61
Mehedinti	61	7	45	21	0	61	2	61
Olt	104	17	66	28	7	104	1	104
Valcea	78	11	67	38	10	78	4	78
South-West	**408**	**70**	**291**	**122**	**50**	**408**	**20**	**408**
Macro-4	***689***	***112***	***537***	***262***	***104***	***686***	***35***	***689***
National level	2,861	552	2,324	1,088	694	2,857	158	2,861

Source: authors' calculations based on NIS data

Annex 4: The situation of the 1,913 communes without 2012 rank considering the presence of utilities (drinking water network; sewage network and natural gas network)

County / region/ macro-region	Number of communes	Number of communes **with** lodgings (568)						Number of communes **without** lodgings (1,345)					
		With all utilities and at max 20 km around the county residence	With all utilities and farther than 20 km from the county residence	No utilities and at max 20 km around the county residence	No utilities and farther than 20 km from the county residence	One or two types of utilities at max 20 km around the county residence	One or two types of utilities farther than 20 km from the county residence	With all utilities and at max 20 km around the county residence	With all utilities and farther than 20 km from the county residence	No utilities and at max 20 km around the county residence	No utilities and farther than 20 km from the county residence	One or two types of utilities at max 20 km around the county residence	One or two types of utilities farther than 20 km from the county residence
Bihor	91	2	2	0	2	8	17	0	0	1	5	2	26
Bistrita-N	58	0	0	0	0	4	3	0	1	1	0	0	12
Cluj	75	2	9	0	1	1	13	0	7	0	0	1	14
Maramures	63	2	1	0	1	0	1	0	2	0	0	1	1
Satu-Mare	59	3	0	0	0	4	7	1	5	0	3	4	22
Salaj	57	0	0	0	0	2	9	0	0	0	2	2	11
North-West	**403**	**9**	**12**	**0**	**4**	**19**	**50**	**1**	**15**	**2**	**10**	**10**	**86**
Alba	67	0	0	0	1	0	5	0	4	0	1	1	10
Brasov	48	1	2	0	1	1	5	0	0	0	0	0	5
Covasna	40	0	2	1	2	2	3	0	0	0	3	0	0
Harghita	58	1	1	0	0	4	10	0	2	0	0	0	4
Mures	91	3	4	0	1	0	3	1	6	0	0	2	12
Sibiu	53	3	3	0	0	1	2	0	4	0	2	0	3
Center	**357**	**8**	**12**	**1**	**5**	**8**	**28**	**1**	**16**	**0**	**6**	**3**	**34**
Macro-1	***760***	***17***	***24***	***1***	***9***	***27***	***78***	***2***	***31***	***2***	***16***	***13***	***120***
Bacau	85	6	2	1	0	5	7	0	6	2	6	6	30
Botosani	71	0	0	0	0	4	4	0	0	6	13	5	31
Iasi	93	4	3	0	6	3	8	0	1	0	13	6	35

County / region/ macro-region	Number of communes	Number of communes **with** lodgings (568)						Number of communes **without** lodgings (1,345)					
		With all utilities and at max 20 km around the county residence	With all utilities and farther than 20 km from the county residence	No utilities and at max 20 km around the county residence	No utilities and farther than 20 km from the county residence	One or two types of utilities at max 20 km around the county residence	One or two types of utilities farther than 20 km from the county residence	With all utilities and at max 20 km around the county residence	With all utilities and farther than 20 km from the county residence	No utilities and at max 20 km around the county residence	No utilities and farther than 20 km from the county residence	One or two types of utilities at max 20 km around the county residence	One or two types of utilities farther than 20 km from the county residence
Neamt	78	1	2	0	1	3	3	0	0	0	14	1	10
Suceava	98	2	0	1	14	2	15	1	0	2	10	1	9
Vaslui	81	1	3	0	0	2	3	1	1	3	10	5	42
North-East	**506**	**14**	**10**	**2**	**21**	**19**	**40**	**2**	**8**	**13**	**66**	**24**	**157**
Braila	40	1	0	0	1	1	2	0	0	0	0	1	20
Buzau	82	0	2	0	1	5	10	0	1	0	3	11	33
Constanta	58	1	2	0	0	0	4	0	2	0	0	0	24
Galati	61	0	0	0	0	1	6	1	2	0	3	2	31
Tulcea	46	0	0	0	0	0	5	0	0	0	0	1	16
Vrancea	68	2	0	2	2	10	9	0	0	0	4	6	14
South-East	**355**	**4**	**4**	**2**	**4**	**17**	**36**	**1**	**5**	**0**	**10**	**21**	**138**
Macro-2	***861***	***18***	***14***	***4***	***25***	***36***	***76***	***3***	***13***	***13***	***76***	***45***	***295***
Arges	95	2	2	1	0	4	8	0	1	0	1	3	23
Calarasi	50	1	1	0	0	3	9	0	0	0	2	5	28
Dambovita	82	4	2	0	3	2	7	3	4	0	6	5	27
Giurgiu	51	0	1	0	5	1	1	0	0	4	16	6	13
Ialomita	59	0	0	0	0	2	4	1	0	0	6	9	33
Prahova	90	7	3	0	2	2	8	1	3	0	4	12	30
Teleorman	92	0	0	1	1	1	6	0	0	8	35	7	31
South-Munt	**519**	**14**	**9**	**2**	**11**	**15**	**43**	**5**	**8**	**12**	**70**	**47**	**185**
Ilfov	32	5	3	0	1	1	1	6	1	0	0	5	4
Macro-3	***551***	***19***	***12***	***2***	***12***	***16***	***44***	***11***	***9***	***12***	***70***	***52***	***189***

County / region/ macro-region	Number of communes	Number of communes **with** lodgings (568)						Number of communes **without** lodgings (1,345)					
		With all utilities and at max 20 km around the county residence	With all utilities and farther than 20 km from the county residence	No utilities and at max 20 km around the county residence	No utilities and farther than 20 km from the county residence	One or two types of utilities at max 20 km around the county residence	One or two types of utilities farther than 20 km from the county residence	With all utilities and at max 20 km around the county residence	With all utilities and farther than 20 km from the county residence	No utilities and at max 20 km around the county residence	No utilities and farther than 20 km from the county residence	One or two types of utilities at max 20 km around the county residence	One or two types of utilities farther than 20 km from the county residence
Arad	68	2	2	0	3	3	8	3	1	0	3	2	27
Caras-S	69	0	2	0	3	0	11	0	0	1	4	2	15
Hunedoara	55	1	1	0	1	3	4	0	0	0	3	0	4
Timis	89	6	4	0	0	8	16	1	3	0	1	1	40
West	**281**	**9**	**9**	**0**	**7**	**14**	**39**	**4**	**4**	**1**	**11**	**5**	**86**
Dolj	104	2	0	0	5	7	5	1	0	1	27	9	38
Gorj	61	2	1	0	1	1	5	0	2	0	9	1	9
Mehedinti	61	0	0	0	2	2	4	0	0	0	11	2	23
Olt	104	1	0	2	1	1	3	2	0	4	26	6	53
Valcea	78	0	1	0	2	3	5	0	2	0	8	2	26
South-West	**408**	**5**	**2**	**2**	**11**	**14**	**22**	**3**	**4**	**5**	**81**	**20**	**149**
Macro-4	***689***	***14***	***11***	***2***	***18***	***28***	***61***	***7***	***8***	***6***	***92***	***25***	***235***
National level	2,861	68	61	9	64	107	259	23	61	33	254	135	839

Source: authors' calculations based on NIS data

Annex 5: The situation of the 948 communes with 2012 rank considering the presence of utilities (drinking water network; sewage network and natural gas network)

County / region/ macro-region	Number of communes	Number of communes **with** lodgings (647)						Number of communes **without** lodgings (301)					
		With all utilities and at max 20 km around the county residence	With all utilities and farther than 20 km from the county residence	No utilities and at max 20 km around the county residence	No utilities and farther than 20 km from the county residence	One or two types of utilities at max 20 km around the county residence	One or two types of utilities farther than 20 km from the county residence	With all utilities and at max 20 km around the county residence	With all utilities and farther than 20 km from the county residence	No utilities and at max 20 km around the county residence	No utilities and farther than 20 km from the county residence	One or two types of utilities at max 20 km around the county residence	One or two types of utilities farther than 20 km from the county residence
Bihor	91	0	0	0	2	3	14	0	1	0	0	0	6
Bistrita-N	58	2	3	0	0	4	14	0	0	0	2	1	11
Cluj	75	5	3	0	0	4	14	0	0	0	0	0	1
Maramures	63	4	2	0	2	2	32	1	2	0	1	1	7
Satu-Mare	59	1	2	0	0	0	5	0	0	0	0	0	2
Salaj	57	1	1	0	2	6	9	0	1	0	3	0	8
North-West	**403**	**13**	**11**	**0**	**6**	**19**	**88**	**1**	**4**	**0**	**6**	**2**	**35**
Alba	67	5	4	0	2	2	20	0	2	0	1	0	9
Brasov	48	4	11	0	1	1	10	0	1	0	1	1	3
Covasna	40	1	3	1	1	7	12	0	0	0	0	0	2
Harghita	58	4	4	0	3	6	19	0	0	0	0	0	0
Mures	91	6	8	0	1	0	19	1	6	0	4	2	12
Sibiu	53	5	4	0	2	2	13	0	1	0	2	0	6
Center	**357**	**25**	**34**	**1**	**10**	**18**	**93**	**1**	**10**	**0**	**8**	**3**	**32**
Macro-1	***760***	***38***	***45***	***1***	***16***	***37***	***181***	***2***	***14***	***0***	***14***	***5***	***67***
Bacau	85	0	1	0	0	1	7	0	0	0	0	0	5
Botosani	71	1	0	1	1	0	0	0	0	0	2	0	3
Iasi	93	2	2	1	1	1	2	1	1	0	1	0	2
Neamt	78	2	1	1	2	5	20	0	0	0	4	1	7

County / region/ macro-region	Number of communes	Number of communes **with** lodgings (647)						Number of communes **without** lodgings (301)					
		With all utilities and at max 20 km around the county residence	With all utilities and farther than 20 km from the county residence	No utilities and at max 20 km around the county residence	No utilities and farther than 20 km from the county residence	One or two types of utilities at max 20 km around the county residence	One or two types of utilities farther than 20 km from the county residence	With all utilities and at max 20 km around the county residence	With all utilities and farther than 20 km from the county residence	No utilities and at max 20 km around the county residence	No utilities and farther than 20 km from the county residence	One or two types of utilities at max 20 km around the county residence	One or two types of utilities farther than 20 km from the county residence
Suceava	98	1	0	4	14	2	12	0	0	1	3	1	3
Vaslui	81	0	0	0	0	2	0	0	0	0	2	2	4
North-East	**506**	**6**	**4**	**7**	**18**	**11**	**41**	**1**	**1**	**1**	**12**	**4**	**24**
Braila	40	1	0	0	0	1	2	0	1	0	0	1	8
Buzau	82	1	1	0	0	1	9	0	0	0	0	0	4
Constanta	58	2	2	0	0	0	9	0	0	0	1	0	11
Galati	61	1	0	0	1	0	2	0	0	0	0	1	10
Tulcea	46	0	0	0	0	3	15	0	0	0	0	1	5
Vrancea	68	0	0	0	0	1	8	0	0	0	2	1	7
South-East	**355**	**5**	**3**	**0**	**1**	**6**	**45**	**0**	**1**	**0**	**3**	**4**	**45**
Macro-2	***861***	***11***	***7***	***7***	***19***	***17***	***86***	***1***	***2***	***1***	***15***	***8***	***69***
Arges	95	2	2	0	3	4	23	0	3	0	1	1	11
Calarasi	50	0	0	0	0	0	0	0	0	0	0	0	1
Dambovita	82	2	1	0	0	2	5	0	0	0	0	6	3
Giurgiu	51	0	0	0	1	0	2	0	0	0	0	0	1
Ialomita	59	0	0	0	0	0	0	0	0	0	0	0	4
Prahova	90	2	2	0	0	0	10	0	0	0	1	0	3
Teleorman	92	0	0	0	1	0	1	0	0	0	0	0	0
South-Munt	**519**	**6**	**5**	**0**	**5**	**6**	**41**	**0**	**3**	**0**	**2**	**7**	**23**
Ilfov	32	2	1	0	0	1	1	0	0	0	0	0	0

County / region/ macro-region	Number of communes	Number of communes **with** lodgings (647)						Number of communes **without** lodgings (301)					
		With all utilities and at max 20 km around the county residence	With all utilities and farther than 20 km from the county residence	No utilities and at max 20 km around the county residence	No utilities and farther than 20 km from the county residence	One or two types of utilities at max 20 km around the county residence	One or two types of utilities farther than 20 km from the county residence	With all utilities and at max 20 km around the county residence	With all utilities and farther than 20 km from the county residence	No utilities and at max 20 km around the county residence	No utilities and farther than 20 km from the county residence	One or two types of utilities at max 20 km around the county residence	One or two types of utilities farther than 20 km from the county residence
Macro-3	***551***	***8***	***6***	***0***	***5***	***7***	***42***	***0***	***3***	***0***	***2***	***7***	***23***
Arad	68	0	1	0	0	1	11	0	0	0	0	0	1
Caras-S	69	0	0	0	1	2	16	0	0	0	2	0	10
Hunedoara	55	2	2	2	2	1	17	0	1	1	5	0	5
Timis	89	0	0	0	0	0	5	0	1	0	0	0	3
West	**281**	**2**	**3**	**2**	**3**	**4**	**49**	**0**	**2**	**1**	**7**	**0**	**19**
Dolj	104	0	0	0	0	1	1	0	0	0	2	0	5
Gorj	61	0	1	0	2	7	7	1	1	0	1	2	8
Mehedinti	61	0	0	0	3	3	7	0	0	0	0	0	4
Olt	104	0	0	0	1	0	0	0	0	1	1	0	2
Valcea	78	2	0	0	1	2	13	1	1	0	0	1	8
South-West	**408**	**2**	**1**	**0**	**7**	**13**	**28**	**2**	**2**	**1**	**4**	**3**	**27**
Macro-4	***689***	***4***	***4***	***2***	***10***	***17***	***77***	***2***	***4***	***2***	***11***	***3***	***46***
National level	2,861	61	62	10	50	78	386	5	23	3	42	23	205

Source: authors' calculations based on NIS data

Annex 6: The list of variables, their units of measurement, and the components of latent variables used in PLS-SEM

Latent variable	*Variables*	*Units of measurement*	*Latent variable*	*Variables*	*Units of measurement*
rank 2008	Rank 2008	points	**NIS lodgings**	NIS lodgings	number
rank 2012	Rank 2012	points	**MoT lodgings**	MoT lodgings	number
tourist attractions	extra points (resources)	points	**economic status**	employees	number
	Monuments	number		% unemployment	percentage
	Protected areas	number		active firms	number
road access	20 km to county residence	dummy	**utilities**	drinking water network	kilometers
	road access	points		sewage network	kilometers
info population	women	coefficient		natural gas pipes network	kilometers
	Romanians	coefficient	**other facilities**	schools	number
	population	number		beds in hospitals	number
				dwellings	number

Source: authors' work

Annex 7: Descriptive statistics

Annex 7A: Descriptive statistics for 2,861 communes and 1,913 communes without 2012 ranking

All 2,861 communes								
Descriptive statistics	*Mean*	*Median*	*St.dev*	*Min*	*Max*	*25th percentile*	*75th percentile*	*Count/ valid*
Rank 2008	3.055	3.000	1.670	0.000	10.000	2.000	4.000	2,861
Monuments	3.437	2.000	3.895	0.000	46.000	1.000	5.000	2,861
Protected areas	1.456	1.000	1.773	0.000	21.000	0.000	2.000	2,861
Extra points (resources)	0.353	0.000	0.528	0.000	3.000	0.000	1.000	2,861
20 km to county residence	0.194	0.000	0.395	0.000	1.000	0.000	0.000	2,861
Roads	1.039	1.000	0.952	0.000	7.000	0.250	1.000	2,861
Population	3,397	2,912	1,990	137	22,975	2,041	4,292	2,861

All 2,861 communes								
Descriptive statistics	*Mean*	*Median*	*St.dev*	*Min*	*Max*	*25th percentile*	*75th percentile*	*Count/ valid*
Women	0.499	0.500	0.014	0.354	0.586	0.492	0.507	2,861
Romanians	0.867	0.957	0.229	0.001	0.995	0.900	0.972	2,861
Employees	259.782	144.750	400.533	10.250	6,700.250	90.250	264.000	2,861
% unemployment	5.437	4.067	4.258	0.100	35.167	2.533	7.000	2,861
Active firms	48.777	28.000	80.861	1.333	1,817.000	16.250	51.500	2,861
Drinking water network	16.224	14.550	14.033	0.000	120.400	5.000	23.500	2,861
Sewage network	4.184	0.000	7.857	0.000	85.800	0.000	6.000	2,861
Natural gas pipes network	5.807	0.000	13.341	0.000	107.000	0.000	0.000	2,861
Schools	1.445	1.250	0.638	0.000	6.000	1.000	1.667	2,861
Beds in hospitals	5.261	0.000	32.600	0.000	543.250	0.000	0.000	2,861
Dwellings	1,379	1,239	712	123	14,765	905	1,692	2,861
NIS lodgings	1.025	0.000	5.236	0.000	173.000	0.000	1.000	2,861
MoT lodgings	1.556	0.000	7.606	0.000	224.000	0.000	1.000	2,861
1,913 communes without 2012 ranking								
Descriptive statistics	*Mean*	*Median*	*St.dev*	*Min*	*Max*	*25th percentile*	*75th percentile*	*Count/valid*
Rank 2008	2.251	2.000	1.019	0.000	7.000	2.000	3.000	1,913
Monuments	2.751	2.000	3.176	0.000	28.000	1.000	4.000	1,913
Protected areas	1.033	1.000	1.198	0.000	9.000	0.000	2.000	1,913
Extra points (resources)	0.316	0.000	0.477	0.000	2.000	0.000	1.000	1,913
20 km to county residence	0.196	0.000	0.397	0.000	1.000	0.000	0.000	1,913
Roads	1.014	1.000	0.929	0.000	7.000	0.250	1.000	1,913
Population	3,298	2,830	1,897	278	15,783	2,017	4,131	1,913
Women	0.499	0.500	0.015	0.354	0.542	0.492	0.508	1,913
Romanians	0.890	0.958	0.188	0.001	0.995	0.915	0.972	1,913
Employees	242.369	133.250	386.638	16.000	6,700.250	84.000	234.000	1,913
% unemployment	5.613	4.200	4.462	0.100	35.167	2.467	7.433	1,913
Active firms	44.767	24.500	77.379	1.333	1,276.000	14.750	44.500	1,913

All 2,861 communes								
Descriptive statistics	*Mean*	*Median*	*St.dev*	*Min*	*Max*	*25th percentile*	*75th percentile*	*Count/ valid*
Drinking water network	15.410	13.900	13.696	0.000	120.400	3.700	22.600	1,913
Sewage network	3.764	0.000	7.746	0.000	85.800	0.000	4.000	1,913
Natural gas pipes network	5.241	0.000	13.070	0.000	107.000	0.000	0.000	1,913
Schools	1.412	1.250	0.592	0.000	5.750	1.000	1.500	1,913
Beds in hospitals	4.216	0.000	30.486	0.000	543.250	0.000	0.000	1,913
Dwellings	1,340	1,209	639	158	5,467	895	1,639	1,913
NIS lodgings	0.317	0.000	0.909	0.000	23.000	0.000	0.000	1,913
MoT lodgings	0.452	0.000	1.198	0.000	24.000	0.000	1.000	1,913

Source: authors' calculations

Annex 7B: Descriptive statistics for 948 communes with 2012 ranking

948 communes with 2012 ranking								
Descriptive statistics	*Mean*	*Median*	*St.dev*	*Min*	*Max*	*25th percentile*	*75th percentile*	*Count/ valid*
Rank 2008	4.678	4.000	1.542	1.000	10.000	4.000	6.000	948
Rank 2012	27.172	26.500	7.812	1.000	56.400	21.508	32.000	948
Monuments	4.823	4.000	4.751	0.000	46.000	2.000	6.250	948
Protected areas	2.309	2.000	2.347	0.000	21.000	1.000	3.000	948
Extra points (resources)	0.428	0.000	0.612	0.000	3.000	0.000	1.000	948
20 km to county residence	0.190	0.000	0.392	0.000	1.000	0.000	0.000	948
Roads	1.088	1.000	0.994	0.000	6.000	0.500	1.000	948
Population	3,596	3,120	2,152	137	22,975	2,112	4,653	948
Women	0.499	0.499	0.013	0.425	0.586	0.491	0.506	948
Romanians	0.820	0.955	0.288	0.001	0.993	0.860	0.972	948
Employees	294.921	178.250	425.242	10.250	4,587.000	109.500	317.688	948
% unemployment	5.083	3.900	3.789	0.633	29.233	2.600	6.267	948
Active firms	56.869	36.750	86.947	1.500	1,817.000	21.000	64.063	948

948 communes with 2012 ranking								
Descriptive statistics	*Mean*	*Median*	*St.dev*	*Min*	*Max*	*25th percentile*	*75th percentile*	*Count/ valid*
Drinking water network	17.867	16.137	14.559	0.000	92.975	7.000	25.425	948
Sewage network	5.031	0.000	8.013	0.000	50.500	0.000	8.000	948
Natural gas pipes network	6.951	0.000	13.809	0.000	100.975	0.000	8.894	948
Schools	1.510	1.250	0.717	0.000	6.000	1.000	1.750	948
Beds in hospitals	7.371	0.000	36.421	0.000	373.333	0.000	0.000	948
Dwellings	1,457	1,298	835	123	14,765	926	1,841	948
NIS lodgings	2.454	1.000	8.836	0.000	173.000	1.000	2.000	948
MoT lodgings	3.785	1.000	12.822	0.000	224.000	1.000	3.000	948

Source: authors' calculations

Annex 8: Correlation matrices

Annex 8A: Correlation matrices for 2,861 communes and 1,913 communes without 2012 ranking

All 2,861 communes																				
	Rank 2008	Monuments	Protected areas	Extra points (resources)	20 km to county residence	Roads	Population	Women	Romanians	Employees	% unemployment	Active firms	Drinking water network	Sewage network	Natural gas pipes network	Schools	Beds in hospitals	Dwellings	NIS lodgings	MoT lodgings
Rank 2008	1																			
Monuments	0.272 *0.001*	1																		
Protected areas	0.355 *0.001*	0.106 *0.001*	1																	
Extra points (resources)	0.139 *0.001*	0.077 *0.001*	0.118 *0.001*	1																

All 2,861 communes																				
	Rank 2008	Monuments	Protected areas	Extra points (resources)	20 km to county residence	Roads	Population	Women	Romanians	Employees	% unemployment	Active firms	Drinking water network	Sewage network	Natural gas pipes network	Schools	Beds in hospitals	Dwellings	NIS lodgings	MoT lodgings
20 km to county residence	-0.099 *0.637*	0.076 *0.001*	-0.053 *0.003*	-0.013 *0.478*	1															
Roads	0.005 *0.774*	0.086 *0.001*	0.061 *0.001*	-0.013 *0.472*	0.177 *0.001*	1														
Population	0.050 *0.007*	0.178 *0.001*	0.007 *0.697*	0.059 *0.002*	0.248 *0.001*	0.248 *0.001*	1													
Women	0.042 *0.026*	0.082 0.001	-0.042 *0.026*	-0.047 *0.011*	0.052 *0.005*	0.145 *0.001*	0.018 *0.325*	1												
Romanians	-0.096 *0.001*	-0.060 *0.001*	-0.090 *0.001*	-0.035 *0.059*	-0.047 *0.011*	0.036 *0.056*	0.008 *0.676*	-0.040 *0.033*	1											
Employees	0.069 *0.001*	0.120 *0.001*	0.005 *0.797*	-0.023 *0.226*	0.319 *0.001*	0.249 *0.001*	0.537 *0.001*	0.125 *0.001*	-0.021 *0.258*	1										
% unemployment	-0.063 *0.001*	-0.036 *0.051*	-0.023 *0.223*	0.073 *0.001*	-0.218 *0.001*	-0.122 *0.001*	-0.210 *0.001*	-0.029 *0.127*	0.016 *0.391*	-0.237 *0.001*	1									
Active firms	0.079 *0.001*	0.138 *0.001*	0.019 *0.316*	-0.014 *0.439*	0.369 *0.001*	0.249 *0.001*	0.622 *0.001*	0.132 *0.001*	-0.030 *0.108*	0.786 *0.001*	-0.244 *0.001*	1								
Drinking water network	0.084 *0.001*	0.167 *0.001*	0.067 *0.001*	0.100 *0.001*	0.167 *0.001*	0.179 *0.001*	0.382 *0.001*	0.113 *0.001*	-0.005 *0.770*	0.341 *0.001*	-0.165 *0.001*	0.384 *0.001*	1							
Sewage network	0.088 *0.001*	0.064 0.001	0.051 *0.006*	0.060 *0.001*	0.173 *0.001*	0.120 *0.001*	0.304 *0.001*	0.077 *0.001*	-0.138 *0.001*	0.389 *0.001*	-0.169 *0.001*	0.449 *0.001*	0.353 *0.001*	1						

All 2,861 communes

	Rank 2008	Monuments	Protected areas	Extra points (resources)	20 km to county residence	Roads	Population	Women	Romanians	Employees	% unemployment	Active firms	Drinking water network	Sewage network	Natural gas pipes network	Schools	Beds in hospitals	Dwellings	NIS lodgings	MoT lodgings
Natural gas pipes network	0.068 *0.001*	0.160 *0.001*	-0.034 *0.073*	0.013 *0.476*	0.235 *0.001*	0.163 *0.001*	0.384 *0.001*	0.098 *0.001*	-0.092 *0.001*	0.496 *0.001*	-0.176 *0.001*	0.529 *0.001*	0.286 *0.001*	0.280 *0.001*	1					
Schools	0.062 *0.001*	0.140 *0.001*	0.002 *0.917*	0.002 *0.905*	0.103 *0.001*	0.110 *0.001*	0.540 *0.001*	0.013 *0.484*	-0.032 *0.090*	0.342 *0.001*	-0.102 *0.001*	0.336 *0.001*	0.244 *0.001*	0.107 *0.001*	0.316 *0.001*	1				
Beds in hospitals	0.048 *0.010*	0.074 *0.001*	0.053 *0.004*	0.033 *0.074*	0.046 *0.014*	0.059 *0.002*	0.153 *0.001*	0.044 *0.018*	0.033 *0.075*	0.163 *0.001*	-0.057 *0.002*	0.134 *0.001*	0.102 *0.001*	0.075 *0.001*	0.073 *0.001*	0.065 *0.001*	1			
Dwellings	0.059 *0.002*	0.246 *0.001*	-0.003 *0.885*	0.057 *0.002*	0.230 *0.001*	0.255 *0.001*	0.913 *0.001*	0.113 *0.001*	0.046 *0.014*	0.538 *0.001*	-0.195 *0.001*	0.687 *0.001*	0.412 *0.001*	0.289 *0.001*	0.388 *0.001*	0.504 *0.001*	0.151 *0.001*	1		
NIS lodgings	0.220 *0.001*	0.071 *0.001*	0.181 *0.001*	0.152 *0.001*	0.013 *0.486*	0.058 *0.002*	0.078 *0.001*	0.025 *0.188*	-0.042 *0.025*	0.113 *0.001*	-0.073 *0.001*	0.173 *0.001*	0.118 *0.001*	0.111 *0.001*	0.066 *0.001*	0.047 *0.012*	0.078 *0.001*	0.115 *0.001*	1	
MoT lodgings	0.240 *0.001*	0.080 *0.001*	0.199 *0.001*	0.146 *0.001*	0.014 *0.467*	0.057 *0.002*	0.088 *0.001*	0.019 *0.312*	-0.051 *0.006*	0.128 *0.001*	-0.078 *0.001*	0.194 *0.001*	0.131 *0.001*	0.125 *0.001*	0.064 *0.001*	0.046 *0.013*	0.090 *0.001*	0.127 *0.001*	0.968 *0.001*	1

1,913 communes without 2012 ranking

	Rank 2008	Monuments	Protected areas	Extra points (resources)	20 km to county residence	Roads	Population	Women	Romanians	Employees	% unemployment	Active firms	Drinking water network	Sewage network	Natural gas pipes network	Schools	Beds in hospitals	Dwellings	NIS lodgings	MoT lodgings
Rank 2008	1																			

1,913 communes without 2012 ranking																				
	Rank 2008	Monuments	Protected areas	Extra points (resources)	20 km to county residence	Roads	Population	Women	Romanians	Employees	% unemployment	Active firms	Drinking water network	Sewage network	Natural gas pipes network	Schools	Beds in hospitals	Dwellings	NIS lodgings	MoT lodgings
Monuments	0.196 *0.001*	1																		
Protected areas	0.134 *0.001*	0.051 *0.025*	1																	
Extra points (resources)	0.026 *0.250*	0.005 *0.814*	0.057 *0.012*	1																
20 km to county residence	0.013 *0.576*	0.031 *0.177*	-0.003 *0.903*	-0.018 *0.440*	1															
Roads	-0.023 *0.310*	0.092 *0.001*	0.063 *0.006*	-0.010 *0.651*	0.201 *0.001*	1														
Population	0.008 *0.730*	0.168 *0.001*	0.050 *0.028*	0.045 *0.047*	0.260 *0.001*	0.258 *0.001*	1													
Women	0.093 *0.001*	0.091 *0.001*	-0.040 *0.080*	0.059 *0.010*	0.056 *0.015*	0.137 *0.001*	0.025 *0.268*	1												
Romanians	-0.028 *0.229*	-0.022 *0.329*	-0.115 *0.001*	-0.019 *0.404*	-0.044 *0.056*	0.001 *0.952*	0.021 *0.363*	-0.044 *0.056*	1											
Employees	0.030 *0.187*	0.102 *0.001*	0.000 *0.989*	-0.061 *0.008*	0.319 *0.001*	0.221 *0.001*	0.546 *0.001*	0.120 *0.001*	-0.050 0.027	1										
% unemployment	-0.032 *0.163*	-0.037 *0.110*	-0.002 *0.330*	0.102 *0.001*	-0.245 *0.001*	-0.131 *0.001*	-0.223 *0.001*	-0.020 *0.385*	0.033 *0.145*	0.251 *0.001*	1									

1,913 communes without 2012 ranking																				
	Rank 2008	Monuments	Protected areas	Extra points (resources)	20 km to county residence	Roads	Population	Women	Romanians	Employees	% unemployment	Active firms	Drinking water network	Sewage network	Natural gas pipes network	Schools	Beds in hospitals	Dwellings	NIS lodgings	MoT lodgings
Active firms	0.052 *0.024*	0.130 *0.001*	0.004 *0.874*	-0.045 *0.047*	0.388 *0.001*	0.236 *0.001*	0.599 *0.001*	0.135 *0.001*	-0.041 *0.070*	0.844 *0.001*	-0.253 *0.001*	1								
Drinking water network	0.055 *0.016*	0.134 *0.001*	0.097 *0.001*	0.092 *0.001*	0.168 *0.001*	0.184 *0.001*	0.375 *0.001*	0.111 *0.001*	-0.015 *0.520*	0.330 *0.001*	-0.171 *0.001*	0.373 *0.001*	1							
Sewage network	0.053 *0.019*	0.057 *0.013*	0.070 *0.002*	0.056 *0.015*	0.171 *0.001*	0.132 *0.001*	0.325 *0.001*	0.064 *0.005*	-0.145 *0.001*	0.374 *0.001*	-0.157 *0.001*	0.492 *0.001*	0.365 *0.001*	1						
Natural gas pipes network	0.070 *0002*	0.141 *0.001*	-0.007 *0.748*	-0.030 *0.189*	0.223 *0.001*	0.140 *0.001*	0.404 *0.001*	0.092 *0.001*	-0.081 *0.001*	0.538 *0.001*	-0.203 *0.001*	0.584 *0.001*	0.286 *0.001*	0.289 *0.001*	1					
Schools	0.041 *0.074*	0.117 *0.001*	0.001 *0.976*	-0.020 *0.384*	0.118 *0.001*	0.110 *0.001*	0.560 *0.001*	0.037 *0.109*	-0.004 *0.856*	0.346 *0.001*	-0.138 *0.001*	0.340 *0.001*	0.264 *0.001*	0.112 *0.001*	0.275 *0.001*	1				
Beds in hospitals	-0.001 *0.949*	0.037 *0.106*	-0.002 *0.942*	0.001 *0.969*	0.011 *0.639*	0.012 *0.588*	0.140 *0.001*	0.044 *0.054*	0.037 *0.109*	0.132 *0.001*	-0.054 *0.019*	0.086 *0.001*	0.083 *0.001*	0.057 *0.001*	0.064 *0.001*	0.073 *0.001*	1			
Dwellings	0.038 *0.095*	0.260 *0.001*	0.018 *0.439*	0.055 *0.016*	0.242 *0.001*	0.268 *0.001*	0.915 *0.001*	0.132 *0.001*	0.075 *0.001*	0.540 *0.001*	-0.198 *0.001*	0.625 *0.001*	0.414 *0.001*	0.309 *0.001*	0.413 *0.001*	0.524 *0.001*	0.130 *0.001*	1		
NIS lodgings	0.160 *0.001*	0.051 *0.026*	0.105 *0.001*	0.037 *0.106*	0.161 *0.001*	0.180 *0.001*	0.176 *0.001*	0.059 *0.010*	-0.117 *0.001*	0.261 *0.001*	-0.131 *0.001*	0.305 *0.001*	0.152 *0.001*	0.217 *0.001*	0.203 *0.001*	0.085 *0.001*	-0.014 *0.543*	0.187 *0.001*	1	
MoT lodgings	0.183 *0.001*	0.073 *0.002*	0.120 *0.001*	0.045 *0.050*	0.182 *0.001*	0.192 *0.001*	0.193 *0.001*	0.061 *0.008*	-0.155 *0.001*	0.298 *0.001*	-0.146 *0.001*	0.337 *0.001*	0.197 *0.001*	0.232 *0.001*	0.225 *0.001*	0.075 *0.001*	-0.014 *0.526*	0.204 *0.001*	0.861 *0.001*	1

Source: authors' calculations

Annex 8B: Correlation matrix for 948 communes with 2012 ranking

	Rank 2008	Rank 2012	Monuments	Protected areas	Extra points (resources)	20 km to county residence	Roads	Population	Women	Romanians	Employees	% unemployment	Active firms	Drinking water network	Sewage network	Natural gas pipes network	Schools	Beds in hospitals	Dwellings	NIS lodgings	MoT lodgings
Rank 2008	1																				
Rank 2012	0.569 *0.001*	1																			
Monuments	0.095 *0.001*	0.228 *0.001*	1																		
Protected areas	0.213 *0.001*	0.188 *0.001*	0.005 *0.889*	1																	
Extra points (resources)	0.172 *0.001*	0.213 *0.001*	0.105 *0.001*	0.120 *0.001*	1																
20 km to county residence	-0.030 *0.359*	0.111 *0.001*	0.152 *0.001*	-0.121 *0.001*	-0.005 *0.883*	1															
Roads	-0.033 *0.311*	0.281 *0.001*	0.066 *0.042*	0.045 *0.163*	-0.028 *0.397*	0.132 *0.001*	1														
Population	-0.003 *0.927*	0.258 *0.001*	0.168 *0.001*	-0.081 *0.013*	0.061 *0.059*	0.232 *0.001*	0.226 *0.001*	1													
Women	0.033 *0.306*	0.137 *0.001*	0.091 *0.005*	-0.049 *0.129*	-0.026 *0.417*	0.044 *0.175*	0.168 *0.001*	0.007 *0.840*	1												
Romanians	0.032 *0.331*	0.036 *0.272*	-0.028 *0.395*	0.002 *0.939*	-0.023 *0.472*	-0.059 *0.071*	0.092 *0.004*	0.016 *0.629*	-0.044 *0.178*	1											
Employees	0.046 *0.154*	0.334 *0.001*	0.118 *0.001*	-0.035 *0.283*	0.016 *0.621*	0.324 *0.001*	0.292 *0.001*	0.518 *0.001*	0.144 *0.001*	0.033 *0.311*	1										

	Rank 2008	Rank 2012	Monuments	Protected areas	Extra points (resources)	20 km to county residence	Roads	Population	Women	Romanians	Employees	% unemployment	Active firms	Drinking water network	Sewage network	Natural gas pipes network	Schools	Beds in hospitals	Dwellings	NIS lodgings	MoT lodgings
% unemployment	-0.033 *0.316*	-0.134 *0.001*	-0.002 *0.939*	0.020 *0.547*	0.041 *0.202*	-0.156 *0.001*	-0.099 *0.002*	-0.180 *0.001*	-0.056 *0.085*	-0.031 *0.335*	-0.204 *0.001*	1									
Active firms	0.033 *0.313*	0.290 *0.001*	0.121 *0.001*	-0.014 *0.663*	0.011 *0.724*	0.339 *0.001*	0.268 *0.001*	0.654 *0.001*	0.134 *0.001*	0.004 *0.890*	0.691 *0.001*	-0.221 *0.001*	1								
Drinking water network	0.019 *0.560*	0.257 *0.001*	0.179 *0.001*	-0.007 *0.824*	0.093 *0.004*	0.170 *0.001*	0.163 *0.001*	0.385 *0.001*	0.122 *0.001*	0.033 *0.307*	0.351 *0.001*	-0.141 *0.001*	0.394 *0.001*	1							
Sewage network	0.045 *0.163*	0.196 *0.001*	0.034 *0.300*	-0.014 *0.677*	0.050 *0.124*	0.181 *0.001*	0.091 *0.005*	0.259 *0.001*	0.113 *0.001*	-0.114 *0.001*	0.408 *0.001*	-0.187 *0.001*	0.368 *0.001*	0.321 *0.001*	1						
Natural gas pipes network	-0.005 *0.880*	0.261 *0.001*	0.166 *0.001*	-0.112 *0.001*	0.063 *0.052*	0.262 *0.001*	0.199 *0.001*	0.344 *0.001*	0.116 *0.001*	-0.091 *0.005*	0.417 *0.001*	-0.110 *0.001*	0.431 *0.001*	0.275 *0.001*	0.253 *0.001*	1					
Schools	-0.007 *0.840*	0.175 *0.001*	0.138 *0.001*	-0.046 *0.156*	0.014 *0.659*	0.081 *0.013*	0.104 *0.001*	0.505 *0.001*	-0.031 *0.337*	-0.041 *0.208*	0.328 *0.001*	-0.025 *0.442*	0.321 *0.001*	0.201 *0.001*	0.087 *0.007*	0.375 *0.001*	1				
Beds in hospitals	0.051 *0.119*	0.162 *0.001*	0.096 *0.003*	0.079 *0.015*	0.066 *0.042*	0.107 *0.001*	0.128 *0.001*	0.165 *0.001*	0.048 *0.137*	0.045 *0.164*	0.205 *0.001*	-0.059 *0.070*	0.199 *0.001*	0.124 *0.001*	0.095 *0.003*	0.081 *0.013*	0.045 *0.165*	1			
Dwellings	-0.022 *0.503*	0.236 *0.001*	0.210 *0.001*	-0.070 *0.031*	0.043 0.187	0.222 *0.001*	0.235 *0.001*	0.916 *0.001*	0.089 *0.006*	0.040 *0.215*	0.535 *0.001*	-0.189 *0.001*	0.772 *0.001*	0.404 *0.001*	0.255 *0.001*	0.350 *0.001*	0.473 *0.001*	0.171 *0.001*	1		
NIS lodgings	0.149 *0.001*	0.211 *0.001*	0.026 *0.426*	0.146 *0.001*	0.199 *0.001*	-0.008 *0.810*	0.052 *0.111*	0.074 *0.023*	0.040 *0.221*	-0.004 *0.901*	0.121 *0.001*	-0.091 *0.005*	0.209 *0.001*	0.146 *0.001*	0.125 *0.001*	0.055 *0.093*	0.038 *0.240*	0.114 *0.001*	0.124 *0.001*	1	
MoT lodgings	0.170 *0.001*	0.241 *0.001*	0.033 *0.308*	0.163 *0.001*	0.187 *0.001*	-0.007 *0.820*	0.051 *0.118*	0.090 *0.005*	0.029 *0.366*	-0.011 *0.733*	0.143 *0.001*	-0.101 *0.002*	0.243 *0.001*	0.163 *0.001*	0.149 *0.001*	0.049 *0.133*	0.038 *0.239*	0.131 *0.001*	0.140 *0.001*	0.969 *0.001*	1

Source: authors' calculations

Annex 9: Regression results

Annex 9A: Regression results for 2,861 communes and 1,913 communes without 2012 ranking

All 2,861 communes					
Dependent variable & model results	**Independent variables**	**Estimate**	**T-statistic**	**p-value**	**VIF**
rank2008 **R^2 (%) = 20.2%** **p-value < 0.001** **F = 47.953** **(results for H1)**	b_0 (intercept)	0.502	0.499	0.618	-
	monuments	0.096	12.890	**< 0.001**	1.081
	protect-areas	0.298	18.378	**< 0.001**	1.058
	extra-resources/extra points	0.283	5.215	**< 0.001**	1.051
	20 km to county residence	-0.128	-1.652	**0.099**	1.205
	roads	-0.079	-2.538	**0.011**	1.127
	population	0.000	-2.174	**0.030**	2.198
	women	4.193	2.108	**0.035**	1.062
	Romanians	-0.287	-2.289	**0.022**	1.053
	% unemployment	-0.021	-2.980	**0.003**	1.113
	active firms	0.001	1.794	**0.073**	2.344
	drinking water network	-0.001	-0.351	0.726	1.339
	sewage network	0.007	1.757	**0.079**	1.368
	natural gas pipes network	0.002	0.762	0.446	1.479
	schools	0.098	1.840	**0.066**	1.473
	beds in hospitals	0.000	0.525	0.600	1.036
lodgings NIS **R^2 (%) = 11.0%** **p-value < 0.001** **F = 21.876** **(results for H3)**	b_0 (intercept)	-0.500	-0.150	0.881	-
	monuments	-0.013	-0.518	0.605	1.144
	protect-areas	0.290	5.110	**< 0.001**	1.184
	extra-resources/extra points	1.235	6.833	**< 0.001**	1.061
	20 km to county residence	-0.653	-2.538	**0.011**	1.206
	roads	0.115	1.110	0.267	1.130
	population	0.000	-3.132	**0.002**	2.201
	women	-0.830	-0.126	0.900	1.064

All 2,861 communes					
Dependent variable & model results	**Independent variables**	**Estimate**	**T-statistic**	**p-value**	**VIF**
	Romanians	-0.321	-0.770	0.441	1.055
	% unemployment	-0.050	-2.158	**0.031**	1.116
	active firms	0.014	7.774	**< 0.001**	2.347
	drinking water network	0.014	1.874	**0.061**	1.339
	sewage network	0.005	0.332	0.740	1.369
	natural gas pipes network	-0.016	-1.851	**0.064**	1.480
	schools	0.083	0.472	0.637	1.475
	beds in hospitals	0.007	2.439	**0.015**	1.036
	rank2008	0.469	7.548	**< 0.001**	1.253
lodgings MoT **R^2 (%) = 12.9%** **p-value < 0.001** **F = 26.403** **(results for *H3bis*)**	b_0 (intercept)	1.958	0.409	0.683	
	monuments	-0.010	-0.285	0.776	1.144
	protect-areas	0.460	5.635	**< 0.001**	1.184
	extra-resources/extra points	1.635	6.297	**< 0.001**	1.061
	20 km to county residence	-1.078	-2.197	**0.004**	1.206
	roads	0.127	0.853	0.394	1.130
	population	0.000	-3.154	**0.002**	2.201
	women	-6.371	-0.673	0.501	1.064
	Romanians	-0.751	-1.256	0.209	1.055
	% unemployment	-0.072	-2.171	**0.030**	1.116
	active firms	0.023	9.023	**< 0.001**	2.347
	drinking water network	0.026	2.338	**0.019**	1.339
	sewage network	0.009	0.430	0.667	1.369
	natural gas pipes network	-0.033	-2.744	**0.006**	1.480
	schools	0.015	0.058	0.953	1.475
	beds in hospitals	0.012	2.938	**0.003**	1.036
	rank2008	0.751	8.414	**< 0.001**	1.253

1,913 communes without 2012 ranking					
Dependent variable & model results	**Independent variables**	**Estimate**	**T-statistic**	**p-value**	**VIF**
rank2008 **R^2 (%) = 7.2%** **p-value < 0.001** **F = 9.827** **(results for H1.1)**	b_0 (intercept)	-0.750	-0.974	0.330	-
	monuments	0.060	8.182	**< 0.001**	1.052
	protect-areas	0.113	5.905	**< 0.001**	1.040
	extra-resources/extra points	0.064	1.332	0.183	1.047
	20 km to county residence	0.011	0.169	0.866	1.235
	roads	-0.067	-2.602	**0.009**	1.131
	population	0.000	-2.795	**0.005**	2.197
	women	5.521	3.643	**< 0.001**	1.061
	Romanians	0.048	0.388	0.698	1.054
	% unemployment	-0.006	-1.089	0.276	1.135
	active firms	0.000	0.618	0.536	2.521
	drinking water network	0.000	0.086	0.932	1.343
	sewage network	0.004	1.208	0.227	1.455
	natural gas pipes network	0.003	1.550	0.121	1.566
	schools	0.082	1.764	**0.078**	1.506
	beds in hospitals	0.000	-0.453	0.650	1.027
lodgings NIS **R^2 (%) = 15.2%** **p-value < 0.001** **F = 21.216** **(results for H3.1)**	b_0 (intercept)	0.278	0.423	0.672	-
	monuments	-0.007	-1.098	0.272	1.090
	protect-areas	0.048	2.907	**0.004**	1.059
	extra-resources/extra points	0.081	1.959	**0.050**	1.048
	20 km to county residence	0.063	1.167	0.243	1.235
	roads	0.111	5.021	**< 0.001**	1.036
	population	0.000	-0.808	0.419	2.206
	women	-0.198	-0.153	0.878	1.068
	Romanians	-0.398	-3.795	**< 0.001**	1.054
	% unemployment	-0.009	-1.885	**0.060**	1.136

1,913 communes without 2012 ranking					
Dependent variable & model results	**Independent variables**	**Estimate**	**T-statistic**	**p-value**	**VIF**
	active firms	0.003	6.857	**< 0.001**	2.521
	drinking water network	0.001	0.309	0.758	1.343
	sewage network	0.006	2.153	**0.031**	1.456
	natural gas pipes network	0.002	0.965	0.335	1.568
	schools	-0.024	-0.610	0.542	1.508
	beds in hospitals	-0.001	1.589	0.112	1.027
	rank2008	0.123	6.267	**< 0.001**	1.078
lodgings MoT **R^2 (%) = 19.4%** **p-value < 0.001** **F = 28.608** **(results for *H3.1bis*)**	b_0 (intercept)	0.917	1.087	0.277	-
	monuments	-0.015	-0.562	0.574	1.090
	protect-areas	0.068	3.194	**0.001**	1.059
	extra-resources/extra points	0.116	2.187	**0.029**	1.048
	20 km to county residence	0.099	1.438	0.151	1.235
	roads	0.148	5.231	**< 0.001**	1.136
	population	0.000	-0.661	0.509	2.206
	women	-0.964	-0.579	0.563	1.068
	Romanians	-0.762	-5.657	**< 0.001**	1.054
	% unemployment	-0.012	-2.106	**0.035**	1.136
	active firms	0.004	7.952	**< 0.001**	2.521
	drinking water network	0.005	2.188	**0.029**	1.343
	sewage network	0.005	1.315	0.189	1.456
	natural gas pipes network	0.002	0.957	0.338	1.568
	schools	-0.103	-2.013	**0.044**	1.508
	beds in hospitals	-0.001	-1.756	**0.079**	1.027
	rank2008	0.183	7.289	**< 0.001**	1.078

Note: The variables 'employees' and 'dwellings' were eliminated due to collinearity (VIF > 5)
Source: authors' calculations

Annex 9B: Regression results for 948 communes with 2012 ranking

948 communes with 2012 ranking					
Dependent variable & model results	**Independent variables**	**Estimate**	**T-statistic**	**p-value**	**VIF**
rank 2008 **R^2 (%) = 8.5%** **p-value < 0.001** **F = 5.782** **(results for H1.2)**	b_0 (intercept)	1.571	0.748	0.433	-
	monuments	0.028	2.651	**0.008**	1.096
	protect-areas	0.127	5.966	**< 0.001**	1.073
	extra-resources/extra points	0.360	4.446	**< 0.001**	1.053
	20 km to county residence	-0.112	-0.830	0.407	1.207
	roads	-0.095	-1.830	**0.068**	1.147
	population	0.000	-0.740	0.459	2.264
	women	5.142	1.293	0.196	1.088
	Romanians	0.246	1.427	0.154	1.052
	% unemployment	-0.016	-1.212	0.226	1.089
	active firms	0.001	1.114	0.265	2.243
	drinking water network	-0.003	-0.737	0.461	1.332
	sewage network	0.008	1.133	0.258	1.270
	natural gas pipes network	-0.001	-0.223	0.824	1.451
	schools	0.009	0.115	0.908	1.485
	beds in hospitals	0.001	0.539	0.590	1.072
rank2012 A **R^2 (%) = 26.9%** **p-value < 0.001** **F = 22.858** **(results for H2)**	b_0 (intercept)	-2.298	-0.253	0.800	-
	monuments	0.226	4.691	**< 0.001**	1.096
	protect-areas	0.594	6.149	**< 0.001**	1.073
	extra-resources/extra points	2.095	5.707	**< 0.001**	1.053
	20 km to county residence	-0.235	-0.384	0.701	1.207
	roads	1.357	5.758	**< 0.001**	1.147
	population	0.000	0.899	0.369	2.264
	women	42.908	2.383	**0.017**	1.088
	Romanians	1.122	1.439	0.150	1.052
	% unemployment	-0.134	-2.219	**0.027**	1.089
	active firms	0.005	1.440	0.150	2.243
	drinking water network	0.036	2.089	**0.037**	1.332
	sewage network	0.065	2.116	**0.035**	1.270

948 communes with 2012 ranking					
Dependent variable & model results	**Independent variables**	**Estimate**	**T-statistic**	**p-value**	**VIF**
	natural gas pipes network	0.062	3.232	**0.001**	1.451
	schools	0.500	1.345	0.179	1.485
	beds in hospitals	0.011	1.730	**0.084**	1.072
rank2012 B **R^2 (%) = 52.2%** **p-value < 0.001** **F = 63.604** **(results for H2.1)**	b_0 (intercept)	6.485	-0.883	0.378	-
	monuments	0.151	3.856	**< 0.001**	1.104
	protect-areas	0.255	3.199	**0.001**	1.114
	extra-resources/extra points	1.134	3.781	**< 0.001**	1.075
	20 km to county residence	0.064	0.129	0.898	1.208
	roads	1.611	8.436	**< 0.001**	1.151
	population	0.000	1.650	**0.099**	2.266
	women	29.205	2.044	**0.045**	1.090
	Romanians	0.467	0.740	0.459	1.054
	% unemployment	-0.091	-1.861	**0.063**	1.091
	active firms	0.003	0.969	0.333	2.246
	drinking water network	0.044	3.119	**0.002**	1.333
	sewage network	0.045	1.790	**0.074**	1.272
	natural gas pipes network	0.064	4.158	**< 0.001**	1.451
	schools	0.475	1.580	0.115	1.485
	beds in hospitals	0.009	1.747	**0.081**	1.072
	rank2008	2.665	22.217	**< 0.001**	1.093
lodgings NIS A **R^2 (%) = 13.1%** **p-value < 0.001** **F = 8.792** **(results for H3.2)**	b_0 (intercept)	-1.408	-0.126	0.900	-
	monuments	-0.028	-0.462	0.644	1.104
	protect-areas	0.318	2.622	**0.009**	1.114
	extra-resources/extra points	2.502	5.468	**< 0.001**	1.075
	20 km to county residence	-1.725	-2.282	**0.023**	1.208
	roads	0.046	0.157	0.876	1.151
	population	-0.001	-3.108	**0.002**	2.266
	women	0.804	0.036	0.971	1.090
	Romanians	-0.406	-0.422	0.673	1.054

948 communes with 2012 ranking					
Dependent variable & model results	**Independent variables**	**Estimate**	**T-statistic**	**p-value**	**VIF**
	% unemployment	-0.139	-1.868	**0.062**	1.091
	active firms	0.027	5.893	**< 0.001**	2.246
	drinking water network	0.045	2.085	**0.037**	1.333
	sewage network	0.035	0.934	0.351	1.272
	natural gas pipes network	-0.028	-1.179	0.239	1.451
	schools	0.341	0.744	0.457	1.485
	beds in hospitals	0.014	1.817	**0.069**	1.072
	rank2008	0.482	2.634	**0.009**	1.093
lodgings NIS B **R^2 (%) = 13.5%** **p-value < 0.001** **F = 8.556** **(results for H3.2a)**	b_0 (intercept)	-0.738	-0.066	0.947	-
	monuments	-0.043	-0.719	0.472	1.122
	protect-areas	0.292	2.397	**0.017**	1.127
	extra-resources/extra points	2.385	5.182	**< 0.001**	1.092
	20 km to county residence	-1.732	-2.294	**0.022**	1.208
	roads	-0.121	-0.401	0.689	1.239
	population	-0.001	-3.221	**0.001**	2.272
	women	-2.213	-0.099	0.921	1.094
	Romanians	-0.455	-0.473	0.636	1.055
	% unemployment	-0.130	-1.742	**0.082**	1.095
	active firms	0.027	5.835	**< 0.001**	2.249
	drinking water network	0.040	1.687	**0.062**	1.347
	sewage network	0.031	0.813	0.417	1.276
	natural gas pipes network	-0.034	-1.450	0.147	1.478
	schools	0.292	0.638	0.524	1.489
	beds in hospitals	0.013	1.699	**0.090**	1.076
	rank2008	0.207	0.914	0.361	1.673
	rank2012	0.103	2.071	**0.039**	2.093
lodgings MoT A **R^2 (%) = 15.8%** **p-value < 0.001**	b_0 (intercept)	6.568	0.410	0.682	-
	monuments	-0.019	-0.219	0.827	1.104
	protect-areas	0.515	2.967	**0.013**	1.114

948 communes with 2012 ranking					
Dependent variable & model results	**Independent variables**	**Estimate**	**T-statistic**	**p-value**	**VIF**
F = 10.883 **(results for *H3.2bis*)**	extra-resources/extra points	3.239	4.953	**< 0.001**	1.075
	20 km to county residence	-2.869	-2.655	**0.008**	1.208
	roads	-0.015	-0.037	0.971	1.151
	population	-0.001	-3.284	**< 0.001**	2.226
	women	-16.506	-0.520	0.603	1.090
	Romanians	-1.041	-0.757	0.449	1.054
	% unemployment	-0.204	-1.923	**0.055**	1.091
	active firms	0.046	6.984	**< 0.001**	2.246
	drinking water network	0.071	2.327	**0.020**	1.333
	sewage network	0.074	1.371	0.171	1.272
	natural gas pipes network	-0.060	-1.780	**0.075**	1.451
	schools	0.382	0.583	0.560	1.485
	beds in hospitals	0.027	2.209	**0.027**	1.072
	rank2008	0.851	3.253	**0.001**	1.093
lodgings MoT B **R^2 (%) = 16.5%** **p-value < 0.001** **F = 10.773** **(results for *H3.2a-bis*)**	b_0 (intercept)	7.853	0.492	0.623	-
	monuments	-0.049	-0.567	0.571	1.122
	protect-areas	0.464	2.671	**0.008**	1.127
	extra-resources/extra points	3.014	4.591	**< 0.001**	1.092
	20 km to county residence	-2.881	-2.677	**0.008**	1.208
	roads	-0.334	-0.777	0.437	1.239
	population	-0.001	-3.421	**0.001**	2.272
	women	-22.291	-0.703	0.482	1.094
	Romanians	-1.134	-0.872	0.408	1.055
	% unemployment	-0.187	-1.757	**0.079**	1.095
	active firms	0.046	6.914	**< 0.001**	2.249
	drinking water network	0.062	2.040	**0.042**	1.347
	sewage network	0.066	1.211	0.226	1.276
	natural gas pipes network	-0.073	-2.146	**0.032**	1.478
	schools	0.288	0.441	0.660	1.489
	beds in hospitals	0.022	2.054	**0.040**	1.076

948 communes with 2012 ranking					
Dependent variable & model results	**Independent variables**	**Estimate**	**T-statistic**	**p-value**	**VIF**
	rank2008	0.323	1.001	0.317	1.673
	rank2012	0.198	2.783	**0.005**	2.093

Note: The variables 'employees' and 'dwellings' were eliminated due to collinearity (VIF > 5)
Source: authors' calculations

Annex 10 (Source: authors' calculations)

Annex 10-1: PLS-SEM results for the 2,861 communes considering NIS lodgings (Source: authors' calculations)

Annex 10-1A: Total effects

	NIS lodgings	rank2008	tourist attractions	road access	info population	economic status	utilities	other facilities
NIS lodgings	-							
rank2008	0.149 (inner VIF: 1.242)	-						
tourist attractions	0.197 (inner VIF: 1.268)	0.428 (inner VIF: 1.040)	-					
road access	-0.002 (inner VIF: 1.093)	-0.048 (inner VIF: 1.090)	-	-				
info population	-0.026 (inner VIF: 1.429)	0.050 (inner VIF: 1.426)	-	-	-			
economic status	0.152 (inner VIF: 1.882)	0.059 (inner VIF: 1.877)	-	-	-	-		
utilities	0.033 (inner VIF: 1.541)	0.026 (inner VIF: 1.540)	-	-	-	-	-	
other facilities	0.012 (inner VIF: 1.751)	-0.048 (inner VIF: 1.749)	-	-	-	-	-	-

Annex 10-1B: Construct reliability and validity

	Cronbach's Alpha	rho_A	Composite reliability	Average Variance Extracted (AVE)
NIS lodgings	1.000	1.000	1.000	1.000
rank2008	1.000	1.000	1.000	1.000
tourist attractions	-	1.000	-	-
road access	-	1.000	-	-
info population	-	1.000	-	-
economic status	-	1.000	-	-
utilities	-	1.000	-	-
other facilities	-	1.000	-	-

Annex 10-1C: Discriminant validity: Fornell-Larker Criterion (and Heterotrait-Monotrait Ratio)

	NIS lodgings	rank2008	tourist attractions	road access	info population	economic status	utilities	other facilities
NIS lodgings	1.000	-	-	-	-	-	-	-
rank2008	0.220 (0.220)	1.000	-	-	-	-	-	-
tourist attractions	0.210	0.432	-	-	-	-	-	-
road access	0.058	0.005	0.082	-	-	-	-	-
info population	0.085	0.112	0.139	0.177	-	-	-	-
economic status	0.180	0.085	0.072	0.283	0.428	-	-	-
utilities	0.140	0.109	0.145	0.208	0.392	0.553	-	-
other facilities	0.130	0.073	0.145	0.235	0.496	0.583	0.433	-

Annex 10-1D: Total effects T-statistic and p-values

	T-statistic	P-value
rank2008 → NIS lodgings	6.673	**0.000**
tourist attractions → NIS lodgings	3.743	**0.000**
tourist attractions → rank2008	24.957	**0.000**
road access → NIS lodgings	0.215	**0.830**
road access → rank2008	2.186	**0.029**
info population → NIS lodgings	0.838	**0.402**
info population → rank2008	1.070	**0.285**
economic status → NIS lodgings	3.919	**0.000**
economic status → rank2008	2.323	**0.021**
utilities → NIS lodgings	0.935	**0.350**
utilities → rank2008	1.187	**0.236**
other facilities → NIS lodgings	0.444	**0.657**
other facilities → rank2008	1.579	**0.115**

Annex 10-2: PLS-SEM results for the 2,861 communes considering MoT lodgings (Source: authors' calculations)

Annex 10-2A: Total effects

	MoT lodgings	rank2008	tourist attractions	road access	info population	economic status	utilities	other facilities
MoT lodgings	-							
rank2008	0.165 (inner VIF: 1.242)	-						
tourist attractions	0.210 (inner VIF: 1.268)	0.428 (inner VIF: 1.041)	-					
road access	-0.010	-0.047	-	-				

	MoT lodgings	rank2008	tourist attractions	road access	info population	economic status	utilities	other facilities
	(inner VIF: 1.095)	(inner VIF: 1.092)						
info population	-0.028 (inner VIF: 1.460)	0.048 (inner VIF: 1.457)	-	-	-			
economic status	0.170 (inner VIF: 1.875)	0.059 (inner VIF: 1.871)	-	-	-	-		
utilities	0.040 (inner VIF: 1.504)	0.026 (inner VIF: 1.503)	-	-	-	-	-	
other facilities	0.016 (inner VIF: 1.767)	-0.049 (inner VIF: 1.764)	-	-	-	-	-	-

Annex 10-2B: Construct reliability and validity

	Cronbach's Alpha	rho_A	Composite reliability	Average Variance Extracted (AVE)
MoT lodgings	1.000	1.000	1.000	1.000
rank2008	1.000	1.000	1.000	1.000
tourist attractions	-	1.000	-	-
road access	-	1.000	-	-
info population	-	1.000	-	-
economic status	-	1.000	-	-
utilities	-	1.000	-	-
other facilities	-	1.000	-	-

Annex 10-2C: Discriminant validity: Fornell-Larker Criterion (and Heterotrait-Monotrait Ratio)

	MoT lodgings	rank2008	tourist attractions	road access	info population	economic status	utilities	other facilities
MoT lodgings	1.000	-	-	-	-	-	-	-
rank2008	0.240 (0.240)	1.000	-	-	-	-	-	-
tourist attractions	0.226	0.432	-	-	-	-	-	-
road access	0.057	0.050	0.081	-	-	-	-	-
info population	0.098	0.111	0.142	0.181	-	-	-	-
economic status	0.201	0.085	0.073	0.256	0.443	-	-	-
utilities	0.156	0.108	0.146	0.206	0.392	0.540	-	-
other facilities	0.146	0.074	0.144	0.238	0.510	0.586	0.421	-

Annex 10-2D: Total effects T-statistic and p-values

	T-statistic	P-value
rank2008 → MoT lodgings	6.592	**0.000**
tourist attractions → MoT lodgings	4.663	**0.000**
tourist attractions → rank2008	26.984	**0.000**
road access → MoT lodgings	0.083	**0.934**
road access → rank2008	2.058	**0.040**
info population → MoT lodgings	0.905	**0.366**
info population → rank2008	1.040	**0.299**
economic status → MoT lodgings	4.514	**0.000**
economic status → rank2008	2.409	**0.016**
utilities → MoT lodgings	1.175	**0.241**

	T-statistic	P-value
utilities → rank2008	1.340	**0.181**
other facilities → MoT lodgings	0.506	**0.613**
other facilities → rank2008	1.761	**0.079**

Annex 11 (Source: authors' calculations)

Annex 11-1: PLS-SEM results for the 1,913 communes considering NIS lodgings (Note: from latent variable 'info population' the variable 'employees' was eliminated due to collinearity; Source: authors' calculations)

Annex 11-1A: Total effects

	NIS lodgings	rank2008	tourist attractions	road access	info population	economic status	utilities	other facilities
NIS lodgings	-							
rank2008	0.134 (inner VIF: 1.063)	-						
tourist attractions	0.067 (inner VIF: 1.118)	0.234 (inner VIF: 1.060)	-					
road access	0.106 (inner VIF: 1.230)	-0.047 (inner VIF: 1.227)	-	-				
info population	0.072 (inner VIF: 2.056)	0.009 (inner VIF: 2.005)	-	-	-			
economic status	0.208 (inner VIF: 2.471)	0.045 (inner VIF: 2.469)	-	-	-	-		
utilities	0.086 (inner VIF: 1.939)	0.051 (inner VIF: 1.936)	-	-	-	-	-	
other facilities	-0.075 (inner VIF: 2.295)	-0.053 (inner VIF: 2.292)	-	-	-	-	-	-

Annex 11-1B: Construct reliability and validity

	Cronbach's Alpha	rho_A	Composite reliability	Average Variance Extracted (AVE)
NIS lodgings	1.000	1.000	1.000	1.000
rank2008	1.000	1.000	1.000	1.000
tourist attractions	-	1.000	-	-
road access	-	1.000	-	-
info population	-	1.000	-	-
economic status	-	1.000	-	-
utilities	-	1.000	-	-
other facilities	-	1.000	-	-

Annex 11-1C: Discriminant validity: Fornell-Larker Criterion (and Heterotrait-Monotrait Ratio)

	NIS lodgings	rank2008	tourist attractions	road access	info population	economic status	utilities	other facilities
NIS lodgings	1.000	-	-	-	-	-	-	-
rank2008	0.160 (0.160)	1.000	-	-	-	-	-	-
tourist attractions	0.106	0.232	-	-	-	-	-	-
road access	0.220	-0.009	0.086	-	-	-	-	-
info population	0.218	0.049	0.185	0.312	-	-	-	-
economic status	0.310	0.054	0.094	0.412	0.533	-	-	-
utilities	0.266	0.080	0.142	0.283	0.481	0.678	-	-
other facilities	0.191	0.038	0.209	0.330	0.690	0.607	0.474	-

Annex 11-1D: Total effects T-statistic and p-values

	T-statistic	P-value
rank2008 → NIS lodgings	3.995	**0.000**
tourist attractions → NIS lodgings	1.319	**0.188**
tourist attractions → rank2008	10.795	**0.000**
road access → NIS lodgings	3.458	**0.000**
road access → rank2008	1.713	**0.087**
info population → NIS lodgings	1.609	**0.108**
info population → rank2008	0.176	**0.860**
economic status → NIS lodgings	2.621	**0.009**
economic status → rank2008	1.261	**0.208**
utilities → NIS lodgings	2.126	**0.034**
utilities → rank2008	1.661	**0.097**
other facilities → NIS lodgings	1.973	**0.049**
other facilities → rank2008	1.412	**0.159**

Annex 11-2: PLS-SEM results for the 1,913 communes considering MoT lodgings (Note: from latent variable 'info population' the variable 'employees' was eliminated due to collinearity; Source: authors' calculations)

Annex 11-2A: Total effects

	MoT lodgings	rank2008	tourist attractions	road access	info population	economic status	utilities	other facilities
MoT lodgings	-							
rank2008	0.151 (inner VIF: 1.063)	-						
tourist attractions	0.089 (inner VIF: 1.121)	0.234 (inner VIF: 1.063)	-					

	MoT lodgings	rank2008	tourist attractions	road access	info population	economic status	utilities	other facilities
road access	0.111 (inner VIF: 1.234)	-0.045 (inner VIF: 1.232)	-	-				
info population	0.099 (inner VIF: 1.805)	0.000 (inner VIF: 1.805)	-	-	-			
economic status	0.226 (inner VIF: 2.442)	0.048 (inner VIF: 2.420)	-	-	-	-		
utilities	0.094 (inner VIF: 1.939)	0.051 (inner VIF: 1.936)	-	-	-	-	-	
other facilities	-0.087 (inner VIF: 2.059)	-0.051 (inner VIF: 2.056)	-	-	-	-	-	-

Annex 11-2B: Construct reliability and validity

	Cronbach's Alpha	rho_A	Composite reliability	Average Variance Extracted (AVE)
MoT lodgings	1.000	1.000	1.000	1.000
rank2008	1.000	1.000	1.000	1.000
tourist attractions	-	1.000	-	-
road access	-	1.000	-	-
info population	-	1.000	-	-
economic status	-	1.000	-	-
utilities	-	1.000	-	-
other facilities	-	1.000	-	-

Annex 11-2C: Discriminant validity: Fornell-Larker Criterion (and Heterotrait-Monotrait Ratio)

	MoT lodgings	rank2008	tourist attractions	road access	info population	economic status	utilities	other facilities
MoT lodgings	1.000	-	-	-	-	-	-	-
rank2008	0.183 (0.183)	1.000	-	-	-	-	-	-
tourist attractions	0.133	0.231	-	-	-	-	-	-
road access	0.241	-0.008	0.083	-	-	-	-	-
info population	0.254	0.046	0.184	0.297	-	-	-	-
economic status	0.343	0.054	0.092	0.418	0.510	-	-	-
utilities	0.298	0.081	0.153	0.293	0.473	0.675	-	-
other facilities	0.212	0.036	0.208	0.330	0.632	0.599	0.481	-

Annex 11-2D: Total effects T-statistic and p-values

	T-statistic	P-value
rank2008 → MoT lodgings	5.040	**0.000**
tourist attractions → MoT lodgings	2.200	**0.028**
tourist attractions → rank2008	10.932	**0.000**
road access → MoT lodgings	3.760	**0.000**
road access → rank2008	1.739	**0.087**
info population → MoT lodgings	1.642	**0.101**
info population → rank2008	0.001	**0.999**
economic status → MoT lodgings	3.623	**0.000**
economic status → rank2008	1.505	**0.133**
utilities → MoT lodgings	2.574	**0.010**

	T-statistic	P-value
utilities → rank2008	1.844	**0.066**
other facilities → MoT lodgings	2.242	**0.025**
other facilities → rank2008	1.579	**0.115**

Annex 12 (Source: authors' calculations)

Annex 12-1: PLS-SEM results for the 948 communes without considering rank2012 and considering NIS lodgings

(Source: authors' calculations)

Annex 12-1A: Total effects (and inner VIF)

	NIS lodgings	rank2008	tourist attractions	road access	info population	economic status	utilities	other facilities
NIS lodgings	-							
rank2008	0.089 (inner VIF: 1.082)	-						
tourist attractions	0.215 (inner VIF: 1.101)	0.271 (inner VIF: 1.021)	-					
road access	-0.002 (inner VIF: 1.109)	-0.051 (inner VIF: 1.107)	-	-				
info population	-0.106 (inner VIF: 2.030)	0.027 (inner VIF: 2.029)	-	-	-			
economic status	0.213 (inner VIF: 1.933)	0.051 (inner VIF: 1.930)	-	-	-	-		
utilities	0.085 (inner VIF: 1.307)	0.008 (inner VIF: 1.307)	-	-	-	-	-	
other facilities	0.044 (inner VIF: 2.034)	-0.044 (inner VIF: 2.032)	-	-	-	-	-	-

Annex 12-1B: Construct reliability and validity

	Cronbach's Alpha	rho_A	Composite reliability	Average Variance Extracted (AVE)
NIS lodgings	1.000	1.000	1.000	1.000
rank2008	1.000	1.000	1.000	1.000
tourist attractions	-	1.000	-	-
road access	-	1.000	-	-
info population	-	1.000	-	-
economic status	-	1.000	-	-
utilities	-	1.000	-	-
other facilities	-	1.000	-	-

Annex 12-1C: Discriminant validity: Fornell-Larker Criterion (and Heterotrait-Monotrait Ratio)

	NIS lodgings	rank2008	tourist attractions	road access	info population	economic status	utilities	other facilities
NIS lodgings	1.000	-	-	-	-	-	-	-
rank2008	0.149 (0.149)	1.000	-	-	-	-	-	-
tourist attractions	0.228	0.267	-	-	-	-	-	-
road access	0.051	-0.034	0.022	-	-	-	-	-
info population	0.083	0.016	-0.003	0.288	-	-	-	-
economic status	0.217	0.033	0.010	0.256	0.595	-	-	-
utilities	0.168	0.038	0.076	0.162	0.410	0.442	-	-
other facilities	0.156	0.018	0.086	0.243	0.646	0.615	0.356	-

Annex 12-1D: Total effects T-statistic and p-values

	T-statistic	P-value
rank2008 → NIS lodgings	3.957	**0.000**
tourist attractions → NIS lodgings	6.183	**0.000**
tourist attractions → rank2008	9.413	**0.000**
road access → NIS lodgings	0.043	**0.996**
road access → rank2008	1.417	**0.157**
info population → NIS lodgings	1.308	**0.193**
info population → rank2008	0.376	**0.707**
economic status → NIS lodgings	2.411	**0.016**
economic status → rank2008	1.232	**0.218**
utilities → NIS lodgings	1.798	**0.073**
utilities → rank2008	0.798	**0.846**
other facilities → NIS lodgings	0.663	**0.508**
other facilities → rank2008	0.798	**0.425**

Annex 12-2: PLS-SEM results for the 948 communes without considering rank2012 and considering MoT lodgings (Source: authors' calculations)

Annex 12-2A: Total effects (and inner VIF)

	MoT lodgings	rank2008	tourist attractions	road access	info population	economic status	utilities	other facilities
MoT lodgings	-							
rank2008	0.106 (inner VIF: 1.083)	-						
tourist attractions	0.215 (inner VIF: 1.099)	0.271 (inner VIF: 1.020)	-					

	MoT lodgings	rank2008	tourist attractions	road access	info population	economic status	utilities	other facilities
road access	-0.016 (inner VIF: 1.099)	-0.049 (inner VIF: 1.097)	-	-				
info population	-0.162 (inner VIF: 2.249)	-0.008 (inner VIF: 2.249)	-	-	-			
economic status	0.263 (inner VIF: 1.998)	0.060 (inner VIF: 1.994)	-	-	-	-		
utilities	0.107 (inner VIF: 1.275)	0.015 (inner VIF: 1.274)	-	-	-	-	-	
other facilities	0.075 (inner VIF: 2.146)	-0.030 (inner VIF: 2.145)	-	-	-	-	-	-

Annex 12-2B: Construct reliability and validity

	Cronbach's Alpha	rho_A	Composite reliability	Average Variance Extracted (AVE)
MoT lodgings	1.000	1.000	1.000	1.000
rank2008	1.000	1.000	1.000	1.000
tourist attractions	-	1.000	-	-
road access	-	1.000	-	-
info population	-	1.000	-	-
economic status	-	1.000	-	-
utilities	-	1.000	-	-
other facilities	-	1.000	-	-

Annex 12-2C: Discriminant validity: Fornell-Larker Criterion (and Heterotrait-Monotrait Ratio)

	MoT lodgings	rank2008	tourist attractions	road access	info population	economic status	utilities	other facilities
MoT lodgings	1.000	-	-	-	-	-	-	-
rank2008	0.170 (0.171)	1.000	-	-	-	-	-	-
tourist attractions	0.231	0.269	-	-	-	-	-	-
road access	0.050	-0.034	0.024	-	-	-	-	-
info population	0.096	0.004	0.007	0.265	-	-	-	-
economic status	0.250	0.033	0.012	0.262	0.633	-	-	-
utilities	0.193	0.040	0.075	0.152	0.402	0.424	-	-
other facilities	0.178	0.018	0.087	0.246	0.683	0.621	0.341	-

Annex 12-2D: Total effects T-statistic and p-values

	T-statistic	P-value
rank2008 → MoT lodgings	4.167	**0.000**
tourist attractions → MoT lodgings	6.117	**0.028**
tourist attractions → rank2008	8.669	**0.000**
road access → MoT lodgings	0.131	**0.872**
road access → rank2008	1.246	**0.213**
info population → MoT lodgings	1.777	**0.076**
info population → rank2008	0.106	**0.916**
economic status → MoT lodgings	2.620	**0.009**
economic status → rank2008	1.389	**0.166**
utilities → MoT lodgings	2.381	**0.018**

	T-statistic	P-value
utilities → rank2008	0.417	**0.677**
other facilities → MoT lodgings	0.966	**0.335**
other facilities → rank2008	0.516	**0.606**

Annex 13 (Source: authors' calculations)

Annex 13-1: PLS-SEM results for the 948 communes rank2012 included and considering NIS lodgings (Source: authors' calculations)

Annex 13-1A: Total effects (and inner VIF)

	NIS lodgings	rank 2012	rank 2008	tourist attractions	road access	info population	economic status	utili-ties	other facili-ties
NIS lodgings	-								
rank2012	0.084 (inner VIF: 2.074)	-							
rank2008	0.094 (inner VIF: 1.658)	0.524 (inner VIF: 1.088)	-						
tourist attractions	0.199 (inner VIF: 1.165)	0.306 (inner VIF: 1.111)	0.276 (inner VIF: 1.028)	-					
road access	-0.027 (inner VIF: 1.275)	0.165 (inner VIF: 1.192)	-0.069 (inner VIF: 1.187)	-	-				
info population	-0.110 (inner VIF: 2.478)	0.094 (inner VIF: 2.466)	0.036 (inner VIF: 2.465)	-	-	-			
economic status	0.178 (inner VIF: 2.351)	0.158 (inner VIF: 2.332)	0.117 (inner VIF: 2.317)	-	-	-	-		
utilities	0.050 (inner VIF: 1.641)	0.140 (inner VIF: 1.591)	-0.029 (inner VIF: 1.590)	-	-	-	-	-	
other facilities	0.079 (inner VIF: 2.559)	-0.044 (inner VIF: 2.559)	-0.093 (inner VIF: 2.549)	-	-	-	-	-	-

Annex 13-1B: Construct reliability and validity

	Cronbach's Alpha	rho_A	Composite reliability	Average Variance Extracted (AVE)
NIS lodgings	1.000	1.000	1.000	1.000
rank2012	1.000	1.000	1.000	1.000
rank2008	1.000	1.000	1.000	1.000
tourist attractions	-	1.000	-	-
road access	-	1.000	-	-
info population	-	1.000	-	-
economic status	-	1.000	-	-
utilities	-	1.000	-	-
other facilities	-	1.000	-	-

Annex 13-1C: Discriminant validity: Fornell-Larker Criterion (and Heterotrait-Monotrait Ratio)

	NIS lodgings	rank 2012	rank 2008	tourist attractions	road access	info population	economic status	utilities	other facilities
NIS lodgings	1.000	-	-	-	-	-	-	-	-
rank2012	0.211 (0.211)	1.000	-	-	-	-	-	-	-
rank2008	0.149 (0.149)	0.569 (0569)	1.000	-	-	-	-	-	-
tourist attractions	0.214	0.329	0.266	-	-	-	-	-	-
road access	0.046	0.290	-0.038	0.032	-	-	-	-	-
info population	0.083	0.293	0.017	0.043	0.323	-	-	-	-
economic status	0.186	0.344	0.047	0.036	0.377	0.626	-	-	-
utilities	0.151	0.333	0.024	0.100	0.272	0.474	0.587	-	-
other facilities	0.151	0.273	0.009	0.116	0.282	0.738	0.647	0.453	-

Annex 13-1D: Total effects T-statistic and p-values

	T-statistic	P-value
rank2012 → NIS lodgings	2.060	**0.040**
rank2008 → NIS lodgings	1.810	**0.071**
rank2008 → rank2012	16.898	**0.000**
tourist attractions → NIS lodgings	4.207	**0.000**
tourist attractions → rank2012	5.655	**0.000**
tourist attractions → rank2008	9.291	**0.000**
road access → NIS lodgings	1.001	**0.317**
road access → rank2012	7.724	**0.000**
road access → rank2008	1.891	**0.059**
info population → NIS lodgings	2.019	**0.044**
info population → rank2012	1.906	**0.057**
info population → rank2008	0.567	**0.561**
economic status → NIS lodgings	1.460	**0.145**
economic status → rank2012	2.822	**0.005**
economic status → rank2008	2.498	**0.013**
utilities → NIS lodgings	0.669	**0.504**
utilities → rank2012	5.305	**0.000**
utilities → rank2008	0.811	**0.418**
other facilities → NIS lodgings	1.384	**0.167**
other facilities → rank2012	0.106	**0.916**
other facilities → rank2008	1.495	**0.136**

Annex 13-2: PLS-SEM results for the 948 communes rank2012 included and considering MoT lodgings (Source: authors' calculations)

Annex 13-2A: Total effects (and inner VIF)

	MoT lodgings	rank2012	rank2008	tourist attractions	road access	info population	economic status	utilities	other facilities
MoT lodgings	-								
rank2012	0.110 (inner VIF: 2.069)	-							
rank2008	0.113	0.524	-						

	MoT lodgings	rank2012	rank2008	tourist attractions	road access	info population	economic status	utilities	other facilities
	(inner VIF: 1.657)	(inner VIF: 1.088)							
tourist attractions	0.203 (inner VIF: 1.165)	0.306 (inner VIF: 1.112)	0.277 (inner VIF: 1.028)	-					
road access	-0.042 (inner VIF: 1.274)	0.167 (inner VIF: 1.189)	-0.069 (inner VIF: 1.184)	-	-				
info population	-0.142 (inner VIF: 2.515)	0.096 (inner VIF: 2.502)	0.033 (inner VIF: 2.501)	-	-	-			
economic status	0.230 (inner VIF: 2.397)	0.153 (inner VIF: 2.380)	0.116 (inner VIF: 2.365)	-	-	-	-		
utilities	0.052 (inner VIF: 1.635)	0.141 (inner VIF: 1.585)	-0.027 (inner VIF: 1.584)	-	-	-	-	-	
other facilities	0.092 (inner VIF: 2.592)	-0.045 (inner VIF: 2.592)	-0.092 (inner VIF: 2.583)	-	-	-	-	-	-

Annex 13-2B: Construct reliability and validity

	Cronbach's Alpha	rho_A	Composite reliability	Average Variance Extracted (AVE)
MoT lodgings	1.000	1.000	1.000	1.000
rank2012	1.000	1.000	1.000	1.000
rank2008	1.000	1.000	1.000	1.000
tourist attractions	-	1.000	-	-
road access	-	1.000	-	-
info population	-	1.000	-	-
economic status	-	1.000	-	-
utilities	-	1.000	-	-
other facilities	-	1.000	-	-

Annex 13-2C: Discriminant validity: Fornell-Larker Criterion (and Heterotrait-Monotrait Ratio)

	NIS lodgings	rank 2012	rank 2008	tourist attractions	road access	info population	economic status	utilities	other facilities
NIS lodgings	1.000	-	-	-	-	-	-	-	-
rank2012	0.241 (0.241)	1.000	-	-	-	-	-	-	-
rank2008	0.170 (0.170)	0.569 (0569)	1.000	-	-	-	-	-	-
tourist attractions	0.219	0.329	0.267	-	-	-	-	-	-
road access	0.046	0.290	-0.038	0.033	-	-	-	-	-
info population	0.092	0.293	0.016	0.042	0.322	-	-	-	-
economic status	0.222	0.341	0.046	0.037	0.376	0.635	-	-	-
utilities	0.169	0.331	0.025	0.099	0.269	0.475	0.587	-	-
other facilities	0.172	0.272	0.010	0.117	0.283	0.741	0.655	0.447	-

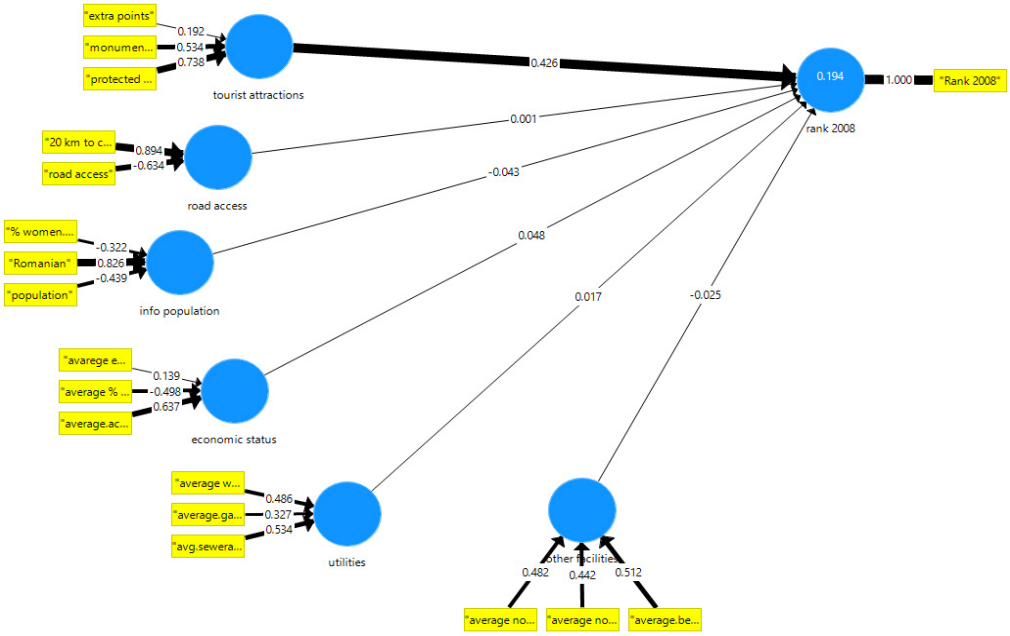
Annex 13-2D: Total effects T-statistic and p-values

	T-statistic	P-value
rank2012 → MoT lodgings	2.730	**0.007**
rank2008 → MoT lodgings	1.667	**0.096**
rank2008 → rank2012	16.257	**0.000**
tourist attractions → MoT lodgings	4.506	**0.000**
tourist attractions → rank2012	5.851	**0.000**
tourist attractions → rank2008	8.742	**0.000**
road access → MoT lodgings	1.289	**0.198**
road access → rank2012	8.156	**0.000**
road access → rank2008	1.934	**0.056**
info population → MoT lodgings	2.345	**0.019**

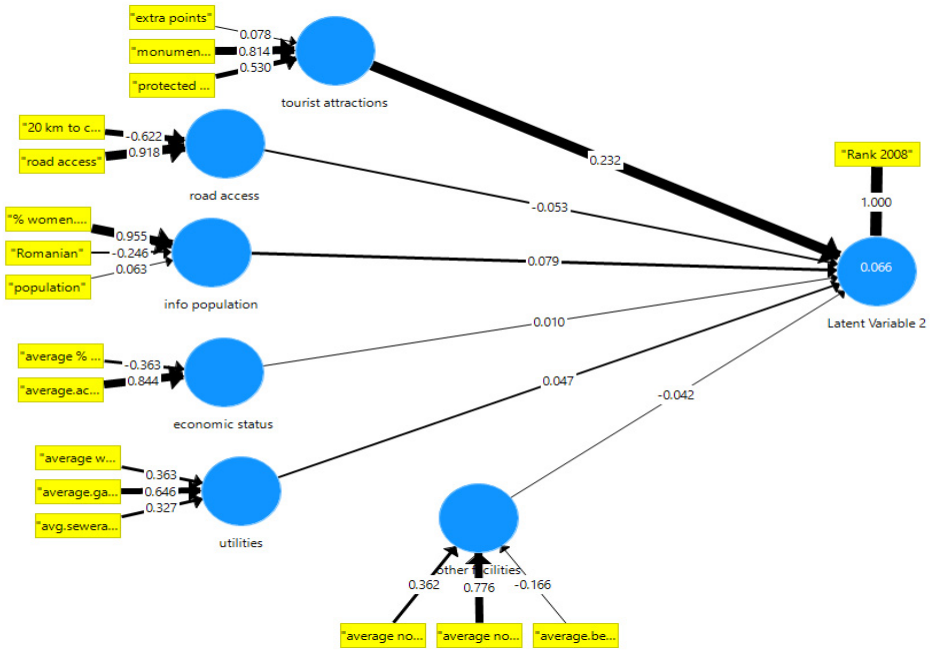
	T-statistic	P-value
info population → rank2012	1.913	**0.056**
info population → rank2008	0.537	**0.592**
economic status → MoT lodgings	1.608	**0.108**
economic status → rank2012	2.576	**0.010**
economic status → rank2008	2.503	**0.013**
utilities → MoT lodgings	0.590	**0.556**
utilities → rank2012	4.990	**0.000**
utilities → rank2008	0.723	**0.470**
other facilities → MoT lodgings	1.512	**0.131**
other facilities → rank2012)	0.076	**0.939**
other facilities → rank2008	0.142	**0.142**

Annex 14: Results of PLS-SEM by hypotheses (Source: authors' compilation)

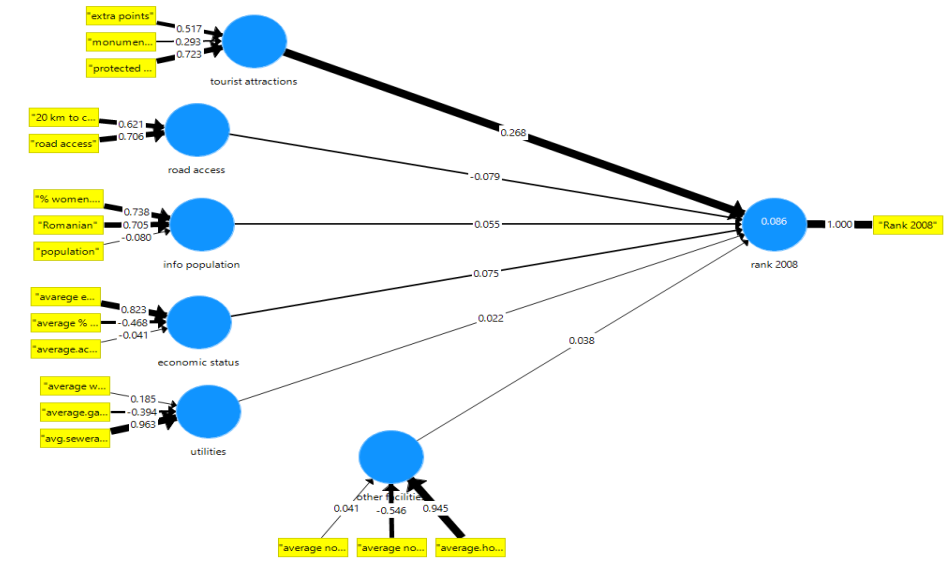
Annex 14.1: Testing 2008 rank for all communes (H1)



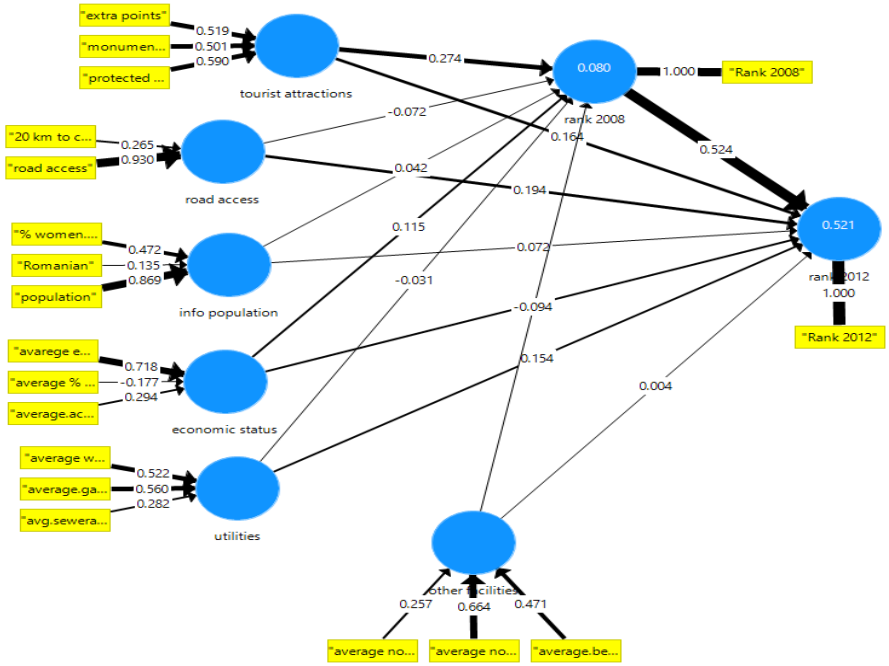
Annex 14.2: Testing 2008 rank for 1,913 communes without 2012 rank (H1.1)



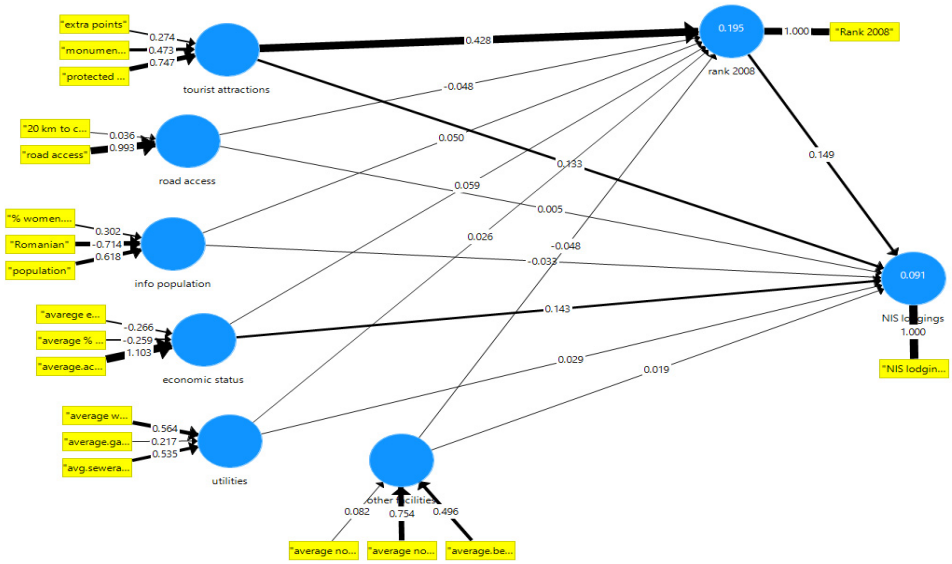
Annex 14.3: Testing 2008 rank for 948 communes with 2012 rank (H1.2)



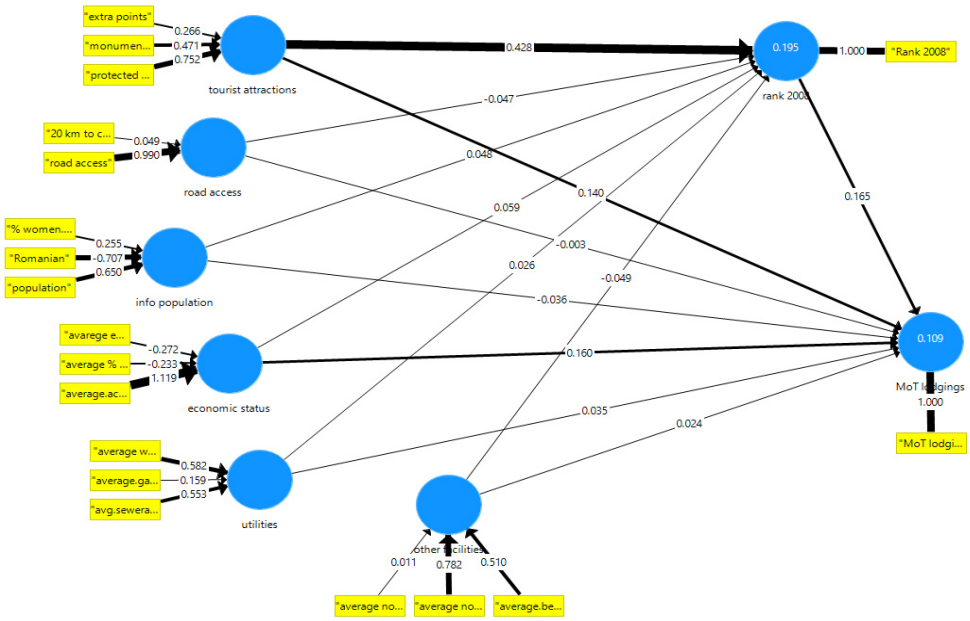
Annex 14.4: Testing 2012 rank for 948 communes with 2012 rank (H2.1)



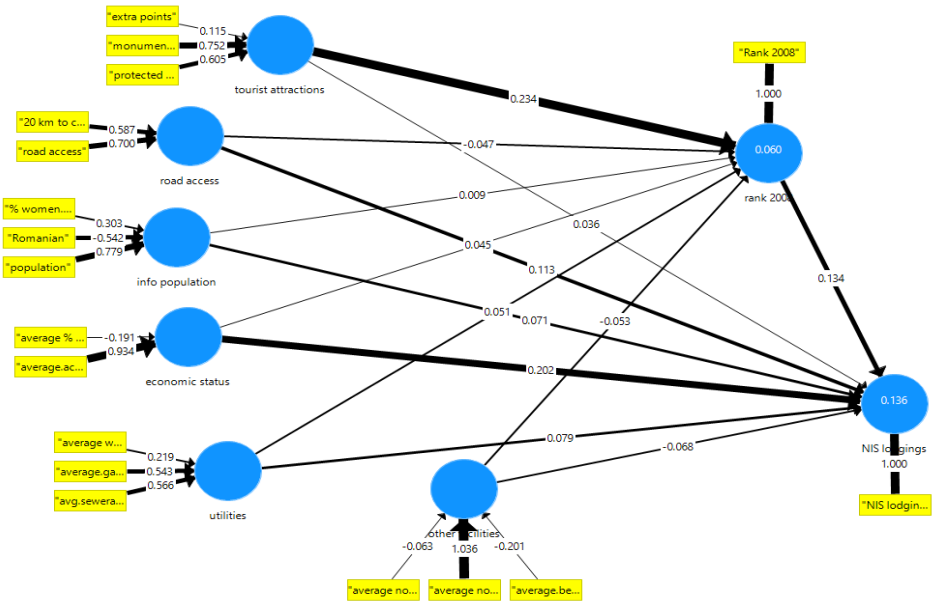
Annex 14.5: Testing NIS lodgings for all communes (H3)



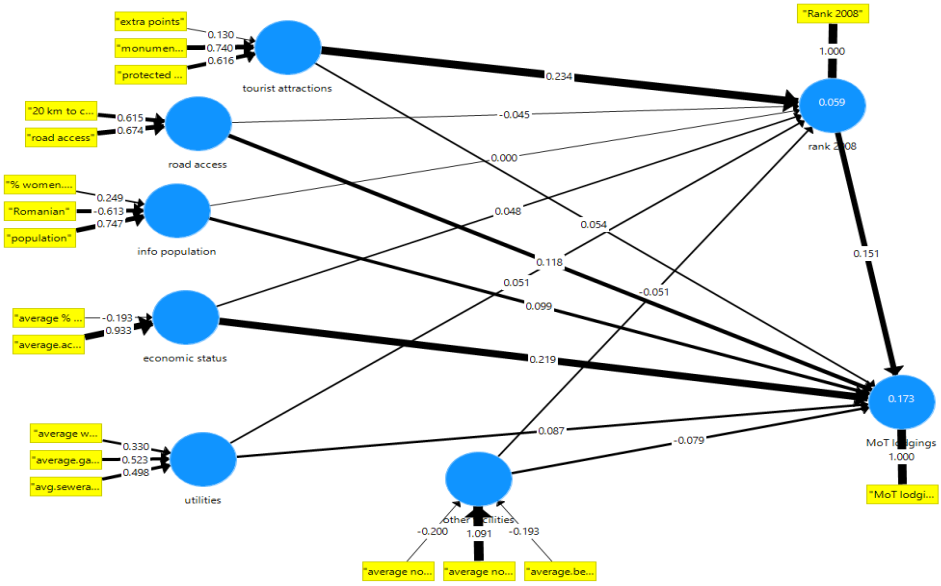
Annex 14.6: Testing MoT lodgings for all communes (H3bis)



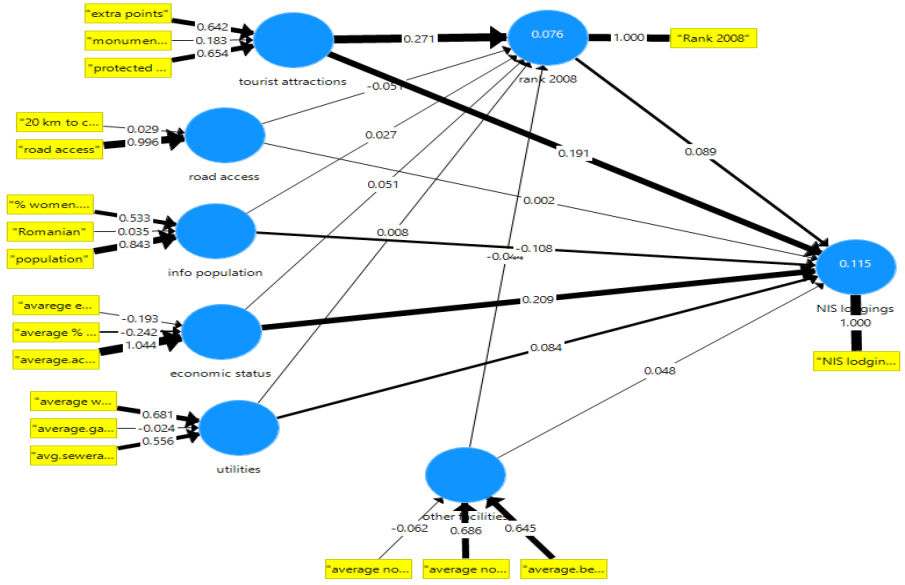
Annex 14.7: Testing NIS lodgings for 1,913 communes without 2012 rank (H3.1)



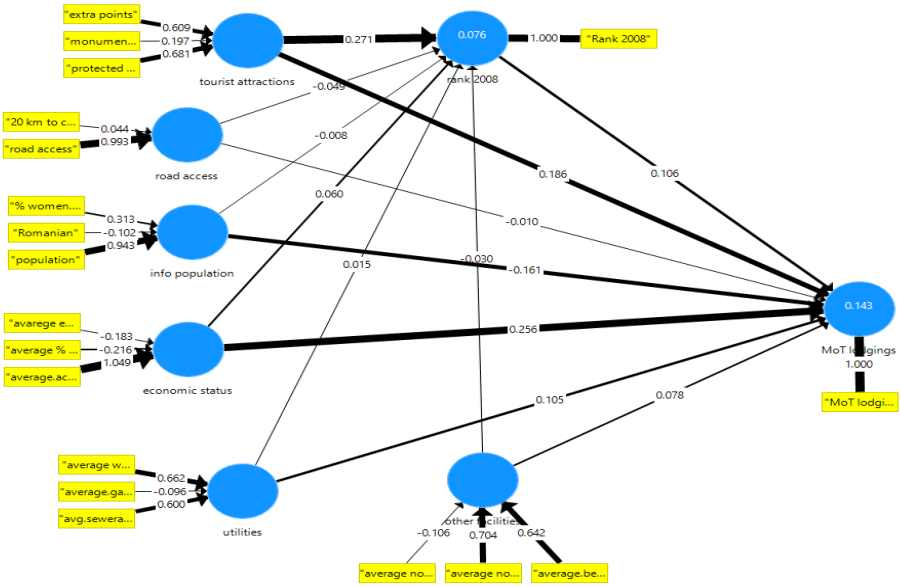
Annex 14.8: Testing MoT lodgings for 1,913 communes without 2012 rank (H3.1bis)



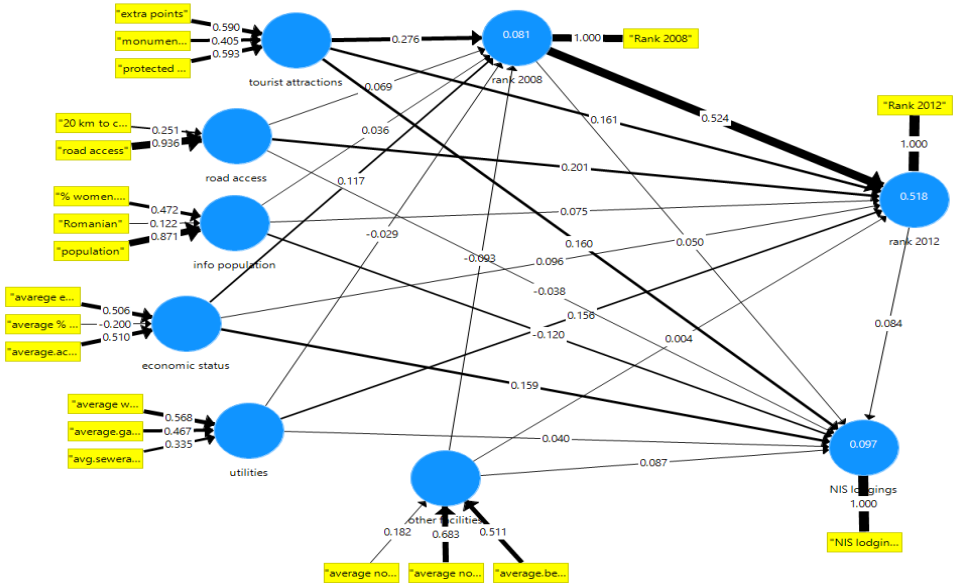
Annex 14.9: Testing NIS lodgings for 948 communes with 2012 rank - 2012 rank not included among factors (H3.2)



Annex 14.10: Testing MoT lodgings for 948 communes with 2012 rank - 2012 rank not included among factors (H3.2bis)



Annex 14.11: Testing NIS lodgings for 948 communes with 2012 rank - 2012 rank included among factors (H3.2a)



Annex 14.12: Testing MoT lodgings for 948 communes with 2012 rank - 2012 rank included among factors (H3.2a-bis)