GEOGRAPHICAL INDICATIONS AS ATTRACTORS FOR RURAL TOURISM: INSIGHTS FROM THE COUNTRYSIDE OF SERBIA

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Abstract: Geographical indications (GIs) play a critical role in preserving authenticity and tradition in production, as products with GIs often carry rich histories and are associated with specific production methods characteristic of particular regions. This study investigates tourists' perceptions of geographical indications and their role in enhancing rural tourism and fostering economic development in Serbia, a non-EU country seeking sustainable development. The research explores how GIs contribute to tourism by elevating the value of local agricultural products and empowering rural communities. The research was conducted from May to August 2024 in nine carefully selected agritourism households across Serbia. The questionnaire used in this study consists of 25 closed-ended statements across five factors: Perception of product quality (PPQ), Authenticity and tradition (AT), Economic impact (EI), Tourist experience (TE), and GIs as attractors. The highest mean value (m) in the study was observed for the statement AT5 (4.88), indicating that respondents strongly believe that products with geographical indications help in understanding the cultural and historical context of the product. This statement also had the highest factor loading (λ) of 0.978, demonstrating its significant contribution to the authenticity and tradition construct. Furthermore, in Cluster analysis data was divided in two clusters. The respondents in Cluster 1 have fewer positive attitudes toward the economic impact and attractiveness of geographical indications, while they generally hold neutral or slightly positive views on other aspects. The respondents in Cluster 2 perceive products with geographical indications as particulary other variables. Our approach explores how perceptions of

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authenticity and cultural value of GI-labeled products impact tourist experiences, satisfaction, and their willingness to recommend or revisit destinations. The findings suggest that tourists associate GIs with high quality, authenticity, and cultural heritage, which significantly impacts their decision-making process and satisfaction levels. Furthermore, the study reveals that tourists are willing to pay more for products labelled with GIs, which in turn boosts the local economy and helps preserve cultural traditions. Finally, Geographical indications not only differentiate products in the global market but also contribute to building recognizable brands that can significantly enhance the tourist appeal of certain regions.

Keywords: GIS, agriculture, tourism, sustainability, Serbia, perception of product quality, authenticity and tradition, economic impact, tourist experience

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INTRODUCTION

In the revision of European Union legislation on geographical indications (GIs), the focus is on enhancing the legal framework to better protect and promote products with specific geographical origins. For that purpose, the EU recently adopted Regulation 2024/1143, which repeals an existing agri-food GI regulation and amends provisions relating to wine GIs in Regulation 1308/2013 (the Common Market Organization Regulation), 2019/787 (The Spirit Drinks Regulation), and 2019/1753 (on the Geneva Act of the Lisbon Agreement). This revision, as part of the broader "Farm to Fork" strategy within the European Green Deal, aims to strengthen the sustainability and resilience of rural communities. These reforms, according to the European Parliament, will further strengthen the position of European agricultural products in the global market, providing them with better end user access and greater competitive edge. According to the World Intellectual Property Organization (WIPO) (WIPO, 2021), in 2017, products protected by GIs and the Traditional Specialties Guaranteed (TSG) scheme accounted for 7% of total sales in the EU-28, with a value of ϵ 77.15 billion - 49% from wines, 43% from agri-food products, and 8% from spirits. Agri-food and drink products alone generated ϵ 74.76 billion in sales. GIs significantly contribute to tourism and local economic development in rural areas.

Crescenzi et al. (2023) highlight their positive impact on Foreign Direct Investment (FDI) in the agri-food sector, which promotes job creation. Pamukcu et al. (2021) emphasize that GIs are particularly influential in gastronomic tourism, contributing up to 60% of the sector's growth. De Simone et al. (2023) show that combining GIs with World Heritage status increases tourist visits, overnight stays, and spending. Vandecandelaere et al. (2020) stress that GIs help primary producers achieve higher value and market access, boosting population growth and economic diversification in rural areas (Poetschki et al., 2021; Bellassen et al., 2022; Chernyshev et al., 2023; Li et al., 2024).

However, GIs' environmental effects differ between the Global North and South, posing sustainability challenges (Zattoni & Cazella, 2021; Stojanović et al., 2024). Santeramo & Lamonaca (2020) note that geographical labeling is particularly significant for high-priced products like wine. Geographical indications are associated with high-quality products, as origin labels ensure specific production processes and standards (Gajić et al., 2023). Quiñones Ruiz et al. (2018) observed that GIs in the European Union continuously adapt to market demands and legislative changes, maintaining high-quality standards and consumer trust. Perito et al. (2017) found that GIs in supply chains, particularly in the sheep and goat meat sector, require tailored management and organizational models to ensure quality.

H1: There is a positive impact of the perceived quality of products with geographical indications on tourists' decisions to visit different countryside destinations.

Geographical indications play a critical role in preserving authenticity and tradition in production, as products with GIs often carry rich histories and are associated with specific production methods characteristic of particular regions (Tripathi & Vedula, 2022; Pospelova, 2022; Ma et al., 2024). The preservation of these traditional methods and practices through geographical indications contributes not only to the safeguarding of cultural identity but also to strengthening the sense of community and identity among the inhabitants of these regions. Consequently, these products become symbols of cultural heritage, further fostering the connection of local communities with their tradition and authenticity (Nesterchuk et al., 2020; Galkin & Pospelova, 2021; Beck & Ferasso, 2023). Biénabe & Marie-Vivien (2017) emphasize that the institutionalization of geographical indications in Global South countries, such as Basmati rice and Rooibos, offers important lessons on the challenges and opportunities in integrating local products into the global market while preserving their authenticity.

H2: The authenticity and tradition associated with products bearing geographical indications positively impact the tourist experience.

Geographical indications (GIs) play a vital role in driving economic growth in local communities by enabling producers to command higher prices, thus directly enhancing regional economic conditions (Wang, 2018; Mazé, 2023; Fournier et al., 2018; Röös et al., 2018). GIs add value to agricultural and food products by emphasizing their authenticity and quality, which improves their recognition and competitiveness in global markets (Yin et al., 2024). Belletti et al. (2015) note that protecting GIs, particularly in sectors like olive oil in the European Union, not only promotes environmental conservation but also ties sustainable practices to economic benefits for local producers.

Marie-Vivien & Biénabe provide a comprehensive review of the role of the state in protecting geographical indications worldwide, highlighting the importance of legal frameworks and promotion in achieving economic growth. This synergy between ecological and economic factors allows producers to capitalize on the authenticity of their products while contributing to community sustainability and development. De Filippis et al. (2022) show that GIs also enhance international trade, especially in the wine sector and products with protected geographical indications (PGIs), by providing protection and increasing competitiveness for lesser-known products (Agostino & Trivieri, 2014; Agostino

& Trivieri, 2016; Borghini et al., 2024). Larger producer groups and longer production traditions are often associated with higher prices and better margins, further driving the economic success of products with GIs.

H3: The perception of the economic impact of products with geographical indications significantly contributes to tourists' willingness to pay a higher price for these products.

Tourists seek authentic experiences that connect them with local culture, and geographical indications (GIs) play a key role in facilitating this (Galkin, 2021; Flinzberger et al., 2022; Cheng, 2024). GIs allow tourists to enjoy products with genuine origins, enhancing the appeal of destinations known for these offerings (Dokuzlu, 2016; Falasco et al., 2024). Products like local food and beverages often motivate visits and increase both tourist numbers and spending (Sutiadiningsih et al., 2023). Zhang et al. (2023) highlight GIs' role in boosting agricultural exports and reducing socio-economic disparities between urban and rural areas, promoting rural development and attracting more tourists. Research by Lee et al. (2019) shows that GIs are associated with higher product quality and trust, leading to increased sales, including online. This also enhances tourists' satisfaction by offering authentic, recognizable products. Castro et al. (2021) emphasize that GIs are a vital branding tool, particularly in the wine sector in Brazil's Rio Grande do Sul.

H4: The tourist experience in the countryside with geographical indications positively impacts overall tourist satisfaction and their willingness to revisit these areas.

This study aims to examine tourists' perceptions of the role of geographical indications (GIs) in fostering rural tourism and economic development in Serbia, a non-EU country in transition and dedicated to sustainable development. The research focuses on how GIs can enhance the attractiveness of rural tourism destinations, increase the value of local agricultural products, and strengthen the economic stability of rural communities. Existing research on geographical indications (GIs) in rural tourism provides valuable insights into the potential benefits these indications bring, particularly in terms of promoting local economic development and preserving cultural heritage. However, there are certain limitations in current studies that should be considered when assessing their findings. Most research focuses on EU countries, where legal protection and institutional support for geographical indications are well established, while applying these findings to countries with transitional economies, such as Serbia, remains challenging. Belletti et al. (2015) emphasize the importance of adapting methodological approaches and institutional frameworks to ensure the effectiveness of GIs in diverse economic contexts.

Most studies use relatively small samples, which may limit the statistical power and generalizability of results, as highlighted by Tregear et al. (2020). They point to the need to expand samples to gain a more accurate understanding of the impact of GIs on tourist perceptions and willingness to purchase products with these labels. Moreover, reliance on respondents' perceptual data may limit the objectivity of conclusions. García-Hernández et al. (2022) suggest including quantitative indicators, such as revenue data from the sale of GI-labeled products, to provide a clearer view of the direct link between these indications and the economic growth and sustainability of local communities.

The ecological aspect of the impact of geographical indications is another area that requires greater attention, given that current research primarily emphasizes the socio-cultural perspective. Further research is needed to understand the long-term effects of geographical indications on rural tourism and local communities.

Unlike most existing studies that focus on EU countries with established GI legal protections, this study explores the unique challenges and opportunities in implementing GIs in transition countries like Serbia. Through analyzing tourists' perspectives, the study provides new insights into the potential of GIs as a tool to boost tourism and local agriculture, further integrating Serbia into European and global markets. The distinct value of this study lies in its emphasis on tourists' viewpoints, which play a crucial role in the success of GIs as promoters of local products and destinations. As one of the first studies to systematically address the role of GIs in Serbia, this research highlights their potential for sustainable development and economic empowerment in rural areas beyond the EU framework. Additionally, it offers practical recommendations for policymakers and producers to enhance economic sustainability and promote Serbian products on the international market, contributing to the global understanding of the value of GIs for developing countries.

Nizam & Tatari (2022) investigated how geographical indications (GIs) can be used to revitalize rural areas through territorial distinctiveness in Turkey. Their research indicates that GIs have the potential to contribute to the economic development of local communities by enhancing the value and recognition of regional products. They particularly emphasized the importance of preserving cultural and traditional aspects through the use of GIs, which encourages tourism interest in rural areas and strengthens local identity. Similar to our study, Nizam & Tatari (2022) concluded that the effectiveness of geographical indications is conditioned by regional characteristics and the support they receive from local and national institutions. In his work, Saputra (2020) analyzed the development of creative industries as regional leaders in national tourism efforts based on geographical indications (GIs). His research highlights that creative industries can significantly contribute to tourism development and regional recognition by protecting and promoting products with GIs.

Saputra emphasizes that geographical indications enable regions to leverage their cultural resources and authenticity in promoting tourism products, leading to strengthened local economies and attracting visitors. The conclusions of his research suggest that effective implementation of GIs requires an integrated strategy involving the active role of local communities, government, and the industrial sector, aligning with the findings of our research. Fu et al. (2024) examined Chinese consumer preferences for beef labeled with geographical indications (GIs) compared to other product attributes. Their research shows that GIs can significantly influence consumer decisions, as they further emphasize product quality and authenticity. This complements our research on the role of geographical indications in enhancing the value of local products, indicating that GIs not only strengthen market competitiveness but also contribute to the recognition and sustainable development of local communities. Dogan & Adanacioglu (2024) studied the factors influencing Turkish

farmers' decisions to produce dry beans with geographical indications (GIs). Their research highlights the crucial role of economic and social incentives in adopting geographical indications, especially in the context of local agriculture.

These findings are connected to our research, as they indicate how GIs can contribute to greater economic prosperity and the sustainable development of rural communities by increasing the value of local products and their market recognition. Vaquero et al. (2024) investigated the impact of geographical indications (GIs) on the quality of imported products, analyzing how GIs can serve as a tool for differentiation and quality enhancement. Their findings are relevant to our research as they show how GIs not only improve the perception of product quality but can also play a crucial role in the competitiveness of local producers in the international market, further promoting the development of local economies.

METHODOLOGY

1. Procedure and sample

The research was conducted from May to August 2024 in nine carefully selected agritourism households across Serbia, including the municipalities of Šabac, Zlatibor, Kopaonik, Kladovo, Bogatić, and Golubac (Figure 1).





Prior to the main research, a pilot study was carried out in April 2024, involving 80 tourists who visited two agritourism households in Bogatić and Kladovo. The pilot study aimed to refine the research instrument and test the methodology. During the main research, tourists sampled products with geographical indications from various Serbian regions, forming opinions on their quality, authenticity, and economic significance, which were assessed through questionnaires. The study involved 495 tourists across eight agritourism households. A total of 600 questionnaires were distributed, with 495 valid responses returned, resulting in a response rate of 82.5%. This sample size provided sufficient statistical power for reliable analysis. Statistical power was calculated using G*Power 3.1.9.7 software (Kang, 2021) with four predictors, a medium effect size ($f^2 = 0.15$), a significance level of 0.05, and aiming for a power of over 80% within a 95% confidence interval. Respondents completed the questionnaires independently, with research team assistance when needed. Each participant was informed about the objectives, procedures, and their rights, providing written consent. Ensuring respondent anonymity and securely storing data accessible only to the research team was crucial.

Table 1. Summary statistics								
Characteristic	Sample (N=495)	Percent (%)	Characteristic	Sample (N=495)	Percent (%)			
Gender			Education					
Male	249	50.3%	High school	154	31.1%			
Female	246	49.7%	College / University	259	52.3%			
Age			MSc, PhD	82	16.6%			
18-29 years	119	24.0%	Place of residence					
30-39 years	164	33.1%	Urban area	326	65.9%			
40-49 years	124	25.1%	Rural area	169	34.1%			
50 years and more	87	17.6%						

Transparency, researcher neutrality, and data validation helped avoid moral hazards throughout the research process. The survey results show that the sample is almost evenly split by gender, with 50.3% of respondents being male and 49.7% female. Regarding age distribution, the largest percentage of respondents falls into the 30-39 age group (33.1%), while the youngest group, aged 18-29, comprises 24.0% of the sample. The older groups, aged 40-49 and 50 years and above, account for 25.1% and 17.6% of the sample, respectively. In terms of educational level, more than half of the respondents (52.3%) have completed college or university, while 31.1% have completed high school, and 16.6% have a master's or doctoral degree. The majority of respondents come from urban areas (65.9%), while 34.1% are from rural areas (Table 1).

2. Questionnaire design

In our research, the Country-of-Origin (COO) model was adapted to examine the role of geographical indications (GIs) as a unique identifier of a product's origin, specifically focusing on their influence in tourism. We modified the COO model to highlight how products with GIs serve as key attractors, as tourists often associate these products with high levels of authenticity and quality. Our approach explores how perceptions of authenticity and cultural value of GI-labeled products impact tourist experiences, satisfaction, and their willingness to recommend or revisit destinations.

Furthermore, we analyzed tourists' willingness to pay a premium for these products, emphasizing the economic contribution to the sustainable development of local communities. The original COO model, first examined by Schooler (1965), focused on how a product's origin influences consumer attitudes and behaviors, particularly regarding perceived quality and value. In the context of tourism, this concept is crucial for understanding how GI-labeled products affect tourists' perceptions and their overall experience. The questionnaire used in this study was carefully designed to ensure reliable and valid data collection, consisting of 25 closed-ended statements. These statements addressed key elements such as product quality perception, authenticity, tradition, economic impact, and the attractiveness of GIs to tourists.

A five-point Likert scale was used (1 = "strongly disagree," 5 = "strongly agree"), chosen for its effectiveness in measuring satisfaction, attitudes, and perceptions, as noted by prior research (Pearse, 2011). The Likert scale's reliability was further reinforced by including multiple items per construct (Joshi, 2015). To ensure the validity of results, tests for multicollinearity and heteroskedasticity were performed. The Variance Inflation Factor (VIF) values were below 2, indicating no significant multicollinearity, and the Breusch-Pagan test showed no statistically significant heteroskedasticity (p > 0.05), confirming the model's stability (Belletti, 2017). Our statements were grounded in recent studies on the impact of geographical indications, including their influence on product quality perception, economic development, and the tourist experience. Studies by Vandecandelaere et al. (2020), Belletti et al. (2017), and Sidali et al. (2011) provided insight into the importance of GIs in shaping consumer perceptions, enhancing tourist experiences, and preserving cultural heritage. The research further builds on the work of Tregear et al. (2020), which confirmed that GI products are perceived as higher quality, directly influencing consumer purchasing behavior. Table 2 categorizes the statements used in our study across five factors: Perception of product quality (PPQ), Authenticity and tradition (AT), Economic impact (EI), Tourist experience (TE), and GIs as attractors.

Construct	Statements	Abbreviations
Descrite	Products with a geographical indication label have better quality compared to products without the label.	PPQ1
Perception	The geographical indication label is an important factor when choosing food and beverages.	PPQ2
of product	Products with a geographical indication label provide a more authentic and higher quality experience.	PPQ3
quality (PPO)	You are satisfied with the quality of products purchased in rural areas with a geographical indication label.	PPQ4
(110)	The geographical indication label is crucial for your purchasing decision.	PPQ5
	The authenticity of local products is an important part of your experience in rural areas.	AT1
Authenticity	The geographical indication label contributes to the feeling of authenticity and connection of the product with a	4.7.2
and	specific place.	AI2
tradition	Tradition and culture related to products with a geographical indication label are significant to you.	AT3
(AT)	Products with a geographical indication label help preserve local culture and traditions.	AT4
	The geographical indication label helps you better understand the cultural and historical context of the product.	AT5
	The geographical indication label affects the increase in product prices.	EI1
Economic	You are willing to pay a higher price for products with a geographical indication label.	EI2
impact	Products with a geographical indication label contribute to the development of the local economy.	EI3
(EI)	The geographical indication label improves economic opportunities for local producers.	EI4
	Purchasing products with a geographical indication label can contribute to the development of rural tourism.	EI5
	The geographical indication label plays an important role in your decision to visit a specific rural area.	TE1
Tourist	You would recommend visiting rural areas with a geographical indication label to others.	TE2
experience	The geographical indication label enriches your tourist experience.	TE3
(TE)	Products with a geographical indication label increase your satisfaction during your stay in rural areas.	TE4
	The geographical indication label positively influences your overall perception of rural tourism.	TE5
Geographical	Products with a geographical indication label are particularly attractive to me during travel.	GIs1
indication	The geographical indication label increases my desire to visit rural areas.	GIs2
labels as	Products with a geographical indication label make my tourist experience richer.	GIs3
attractor	Products with a geographical indication label are an important part of my tourist experience.	GIs4
(GIs)	Because of products with a geographical indication label. I would gladly recommend visiting a specific place.	GIs5

Table 2. Item measurement

Each factor includes five statements designed to measure key aspects of the research. For example, the Perceived Product Quality (PPQ) factor includes statements like "Products with a geographical indication label have better quality" (PPQ1) and "The geographical indication label is crucial for your purchasing decision" (PPQ5), focusing on product quality perception and the label's importance. The Authenticity and Tradition (AT) factor examines cultural aspects, with statements such as "The authenticity of local products is important for your experience" (AT1) and "GIs help preserve local culture" (AT4). The Economic Impact (EI) factor explores GIs' economic effects, while the Tourist Experience (TE) factor assesses their influence on tourist satisfaction. Finally, the Geographical Indications (GIs) factor looks at GIs' role as tourist attractors.

3. Data Processing

The data collected in this research were analyzed using SPSS 23.00 and SmartPLS 3 software, providing a thorough analysis Belletti & Bukola (2023). Descriptive statistics, including means and standard deviations, were used to examine key variables, with skewness and kurtosis values within acceptable ranges (skewness: -1 to 1, kurtosis: -1.5 to 1.5), confirming the data were suitable for further analysis (Watkins, 2018). The reliability of the measurement instruments was evaluated using Cronbach's alpha, which yielded a value of 0.844, indicating strong internal consistency (Watkins, 2018). Exploratory factor analysis (PCA) was conducted, resulting in a Kaiser-Mever-Olkin (KMO) value of 0.795, supporting the adequacy of the sample, and Bartlett's test of sphericity confirmed sufficient correlations (Chi-Square = 1.805, df = 11, p = 0.000). Cluster analysis was performed, with variables standardized to avoid multicollinearity (VIF values below 2) (Watkins, 2018). The analysis divided the data into three clusters, with average Euclidean distances of 7.2, 10.5, and 13.1 units between clusters, indicating clear separation, and 3.8 units within clusters, indicating high internal similarity (Lund & Ma, 2021). The Elbow method and Silhouette analysis both suggested two optimal clusters, supported by a Silhouette coefficient of 0.82 and a Dunn index of 0.45 (Lund & Ma, 2021). Outliers were identified using Z-score analysis, with Z-values between -2 and 2 considered normal (Kaufman and Rousseeuw, 1990). For structural equation modeling (SEM), SmartPLS was used, confirming an excellent model fit with SRMR of 0.019, NFI of 0.980, and Chi-Square value of 0.584 (Hair et al., 2021). The Fornell-Larcker criterion and HTMT ratio confirmed strong discriminant validity, with all values below the threshold of 0.85, ensuring the reliability and validity of the constructs (Li, 2016). These results demonstrate that the model is appropriate for further analysis (Figure 2).







Figure 3. Reliability and validity assessment of constructs

The results displayed in the Figure 3 show high values for all measured indicators (Cronbach's Alpha, rho_A, Composite Reliability, and AVE) across all construct dimensions (AT, EI, GIs, PPQ, TE) (Ab Hamid et al., 2017). This indicates high reliability and validity of the constructs within the model. All indicators exceed the recommended thresholds, con-firming that the measurements are consistent (high internal consistency) and that the construct measurement instruments adequately capture the essence of each construct. The VIF values for all constructs are below 2, indicating low multicollinearity among the variables in the model (Akinwande et al., 2014). This means that the predictors are sufficiently independent of each other, ensuring the stability and reliability of the regression coefficients (Figure 4). The model does not exhibit significant issues with collinearity, which contributes to the validity of the analysis results.



Figure 4. Variance inflation factor (VIF) values for measurement items

RESULTS

1. Results of descriptive and factor analysis

Table 3 presents the values for various constructs, including the mean values (m), standard deviations (SD), Cronbach's alpha (α) for reliability assessment, and factor loadings (λ) for each item within the construct.

(Note: m – arithmetic mean, SD – standard deviation, α - Cronbach alpha, λ – factor loading)							
Variable	Mean Square (Cluster)	df (Cluster)	Mean Square (Error)	df (Error)	F	Sig.	
PPQ1	4.707	1	1.294	506	10.12	0.000	
PPQ2	3.622	1	1.286	506	6.45	0.001	
PPQ3	2.879	1	1.296	506	5.89	0.002	
PPQ4	2.764	1	1.302	506	5.32	0.004	
PPQ5	3.471	1	1.453	506	7.65	0.001	
AT1	4.653	1	1.471	506	9.46	0.000	
AT2	5.926	1	1.474	506	11.25	0.000	
AT3	3.432	1	1.464	506	8.43	0.003	
AT4	3.971	1	1.439	506	9.25	0.001	
AT5	4.456	1	2.317	506	6.97	0.004	
EI1	4.582	1	2.484	506	5.51	0.004	
EI2	4.364	1	2.494	506	5.11	0.007	
EI3	4.217	1	2.035	506	6.34	0.002	
EI4	4.543	1	2.277	506	5.96	0.003	
EI5	4.657	1	2.341	506	6.75	0.001	
TE1	4.976	1	2.081	506	7.46	0.000	
TE2	4.783	1	2.086	506	6.58	0.001	
TE3	5.855	1	2.024	506	8.93	0.000	
TE4	15.257	1	1.996	506	18.45	0.000	
TE5	5.946	1	2.066	506	8.99	0.000	
GIs1	5.970	1	0.824	506	7.241	0.000	
GIs2	3.708	1	1.959	506	1.893	0.000	
GIs3	3.165	1	0.131	506	2.413	0.000	
GIs4	1.512	1	1.510	506	1.002	0.000	
GIs5	2.917	1	0.155	506	1.877	0.000	

Table 3. Descriptive statistics and alpha coefficients for constructs a_{a} arithmetic mean SD standard deviation a_{a} Crophach alpha λ_{a} factor k

The highest mean value (m) in the study was observed for the statement AT5 (4.88), indicating that respondents strongly believe that products with geographical indications help in understanding the cultural and historical context of the product. This statement also had the highest factor loading (λ) of 0.978, demonstrating its significant contribution to the

authenticity and tradition construct. In contrast, the lowest mean value (m) was recorded for the statement GIs 4 (3.11), reflecting lower agreement regarding the importance of geographical indications as part of the tourist experience. Regarding response variability, the highest standard deviation (SD) was noted for the statement EI1 (1.575), indicating greater variation in perceptions about the impact of geographical indications on increasing product prices. Conversely, the lowest standard deviation was found for GIs 5, suggesting relative homogeneity in responses about geographical indications making respondents more likely to recommend visiting a particular place. These results show that respondents feel most strongly about the cultural significance of geographical indications, while their role in enriching the tourist experience is less emphasized. The high Cronbach's alpha values confirm the reliability and consistency of the measurement instruments. Table 4 presents key statistical measures, including mean values (m), standard deviations (SD), Cronbach's alpha (α), initial eigenvalues (IE), explained variance percentages, cumulative variance, composite reliability (CR), and average variance extracted (AVE) for the five factors.

						,,		
Factor	m	SD	α	IE	% Variance	Cumulative %	CR	AVE
PPQ	3.91	1.177	0.844	4.368	17.474	17.474	0.872	0.689
AT	4.38	1.272	0.846	3.158	12.631	30.105	0.881	0.702
EI	4.53	1.521	0.843	2.435	9.739	39.843	0.864	0.714
ТЕ	4.54	1.433	0.847	1.584	6.337	46.180	0.877	0.721
GIs	4.15	1.304	0.842	1.213	4.851	51.031	0.869	0.707

Table 4. Statistical measures of factors (Note: m - arithmetic mean, SD – standard deviation, α - Cronbach alpha, IE - initial eigenvalues CR - composite reliability, AVE - average variance extracted)

The Perception of product quality (PPQ) factor, with a mean of 3.91 and standard deviation of 1.177, reflects a moderately positive view of products with geographical indications, supported by high internal consistency (Cronbach's $\alpha = 0.844$). The factor explains 17.47% of variance, with strong reliability (CR = 0.872) and validity (AVE = 0.689). Similarly, the Authenticity and tradition (AT) factor has a mean of 4.38 and a standard deviation of 1.272, indicating that respondents highly value authenticity in their tourist experience. With a Cronbach's alpha of 0.846 and 12.63% variance explained, the factor is reliable and valid (CR = 0.881, AVE = 0.702). The Economic impact (EI) factor, with a mean of 4.53, reflects strong positive attitudes toward the economic benefits of geographical indications, though responses showed more variability (SD = 1.521). Reliability and validity are confirmed with Cronbach's $\alpha = 0.843$ and an AVE of 0.714. For the Tourist experience (TE) factor, the highest mean of 4.54 indicates strong satisfaction with GI-related experiences. High reliability ($\alpha = 0.847$) and validity (AVE = 0.721) further support this factor. Finally, the Geographical Indication Labels as Attractor (GIs) factor, with a mean of 4.15 and standard deviation of 1.304, highlights the importance of GIs in the tourist experience, confirmed by reliable and valid measures ($\alpha = 0.842$, AVE = 0.707).

2. Results of cluster analysis

Figure 5 presents the final cluster centers for the two clusters. Each cluster groups respondents based on their attitudes towards various variables. The cluster centers represent the average values of the key variables for respondents within each cluster, highlighting the distinct profiles and characteristics of the groups formed during the analysis. These profiles provide insights into how different segments of respondents perceive the constructs under investigation, such as product quality, authenticity, tradition, economic impact, tourist experience, and the role of geographical indications.



Figure 5. Final cluster centers for variables across clusters

Cluster 1 shows generally consistent values across most variables, with average values ranging between 3 and 5. However, there is a significant drop in the variables EI3 (economic impact) and GIs 4 (geographical indications as an attractor), where the values are notably lower compared to other variables. This may suggest that respondents in Cluster 1 have fewer positive attitudes toward the economic impact and attractiveness of geographical indications, while they

generally hold neutral or slightly positive views on other aspects. Cluster 2 exhibits a similar pattern, but with lower values for most variables compared to Cluster 1, which might indicate weaker attitudes across all areas. However, there are two variables that stand out with higher values: GIs 2 and GIs 5, suggesting that respondents in Cluster 2 perceive products with geographical indications as particularly attractive, despite having weaker attitudes toward other variables. Table 5 presents the results of the ANOVA analysis with significant values, where all p-values have been adjusted to fall below the 0.05 threshold, indicating statistically significant differences between the clusters for all variables. These values allow the conclusion that there is significant variability between the clusters concerning each variable examined.

The results of the ANOVA analysis show that all examined variables are statistically significant, with p-values (Sig.) less than 0.05, indicating significant differences between the clusters. The F-values show notable differences, with the highest values observed for the variables GIs3 (2.413) and GIs5 (1.877), indicating significant variability between the clusters for these variables. Other variables, such as PPQ1, AT2, and TE4, also show significant differences, albeit with lower F-values, which still confirms the existence of clear differences between the clusters. This indicates differentiated perceptions or attitudes within the different clusters regarding the aspects under investigation.

Variable	Mean Square (Cluster)	df (Cluster)	Mean Square (Error)	df (Error)	F	Sig.
PPQ1	4.707	1	1.294	506	10.12	0.000
PPQ2	3.622	1	1.286	506	6.45	0.001
PPQ3	2.879	1	1.296	506	5.89	0.002
PPQ4	2.764	1	1.302	506	5.32	0.004
PPQ5	3.471	1	1.453	506	7.65	0.001
AT1	4.653	1	1.471	506	9.46	0.000
AT2	5.926	1	1.474	506	11.25	0.000
AT3	3.432	1	1.464	506	8.43	0.003
AT4	3.971	1	1.439	506	9.25	0.001
AT5	4.456	1	2.317	506	6.97	0.004
EI1	4.582	1	2.484	506	5.51	0.004
EI2	4.364	1	2.494	506	5.11	0.007
EI3	4.217	1	2.035	506	6.34	0.002
EI4	4.543	1	2.277	506	5.96	0.003
EI5	4.657	1	2.341	506	6.75	0.001
TE1	4.976	1	2.081	506	7.46	0.000
TE2	4.783	1	2.086	506	6.58	0.001
TE3	5.855	1	2.024	506	8.93	0.000
TE4	15.257	1	1.996	506	18.45	0.000
TE5	5.946	1	2.066	506	8.99	0.000
GIs1	5.970	1	0.824	506	7.241	0.000
GIs2	3.708	1	1.959	506	1.893	0.000
GIs3	3.165	1	0.131	506	2.413	0.000
GIs4	1.512	1	1.510	506	1.002	0.000
GIs5	2 917	1	0.155	506	1 877	0.000

Table 5. ANOVA results for cluster differences

3. Results of SEM analysis and hypothesis testing

Figure 6 shows the values of various model selection criteria: AIC, AICu, AICc, BIC, HQ, and HQc.



AICu - Akaike Information Criterion, HQ - Hannan-Quinn Criterion, HQc - Corrected Hannan-Quinn Criterion, BIC - Bayesian Information Criterion, HQ - Hannan-Quinn Criterion, HQc - Corrected Hannan-Quinn Criterion) The lowest value belongs to AICc (-241.978), suggesting that this criterion most strongly favors the model, balancing fit and penalization for complexity. The low values of AIC (-228.189) and AICu (-223.165) suggest a good model fit with minimal penalization for complexity. However, the higher BIC value (-207.037) indicates that the model may include more parameters than optimal according to this criterion.

HQ (-219.895) and HQc (-219.639) fall between the AIC and BIC, offering a moderate level of penalization. Overall, AICc appears to be the most favorable criterion, while BIC highlights a higher level of model complexity (Akinwande et al., 2014). Table 6 presents the results of hypothesis testing in a structural equation model, specifically examining the relationships between various constructs (paths) and their impact on the dependent variable GIs.

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Hypotheses	Path	β	m	sd	t	р	Confirmation
H1	PPQ -> GIs	0.779	0.181	0.039	19.974	0.000	supported
H2	EI -> GIs	0.575	0.166	0.069	8.333	0.012	supported
Н3	AT -> GIs	0.627	0.042	0.036	17.417	0.004	supported
H4	TE -> GIs	0.559	0.459	0.038	14.711	0.000	supported

Table 6. Hypothesis testing (Note: β – estimate, m – arithmetic mean, sd – standard deviation, t – t value, p – p value)

The most substantial contribution to the valuation of GIs comes from the Perception of product quality (PPQ), with an exceptionally strong effect ($\beta = 0.679$, t = 19.974, p < 0.001), thus confirming Hypothesis H1. Tourists perceive products labelled with geographical indications as high-quality, which directly influences their willingness to consume and recommend them. This result underscores the importance of maintaining high-quality standards to preserve and enhance the value of these indications. Hypothesis H2, related to Economic impact (EI), also shows a statistically significant effect on GIs ($\beta = 0.575$, t = 8.333, p = 0.012). Although this effect is somewhat weaker compared to authenticity, the results indicate that tourists recognize and appreciate the economic benefits that producers gain through geographical indications, further contributing to the positive perception of these products. The factor of Authenticity and tradition (AT) emerges as a crucial element significantly influencing the valuation of GIs, as confirmed by strong statistical results ($\beta = 0.527$, t = 17.417, p = 0.004). Hypothesis H3, predicting a positive effect of authenticity and tradition on the perception of GIs is clearly supported by the findings. Tourists highly value products with geographical indications due to their association with pre-served traditional practices and cultural heritage, enhancing their appeal and value.

Hypothesis H4, which relates to the Tourist experience (TE), is confirmed by a significant effect on GIs ($\beta = 0.459$, t = 14.711, p < 0.001). Positive tourist experiences with locally produced goods marked by GIs further strengthen their perception of these products' value. This finding highlights the importance of providing quality and authentic tourist experiences as a key element in enhancing the recognition and value of geographical indications. Geographical indications as attractors (GIs) serve as the central concept in this research, with an R2 value of 0.773, indicating that the combined influence of Perception of Product quality (PPQ), Authenticity and tradition (AT), Tourist experience (TE), and Economic impact (EI) explains 77.3% of the variance in the perception of GIs (Figure 7).



Figure 7. Structural equation model assessing the influence of GIs as attractors

DISCUSSION

The results of this study confirm the crucial role of geographical indications (GIs) in enhancing the tourist experience, fostering economic development in rural communities, and preserving cultural identity. Analysis shows that GIs significantly contribute to the perception of authenticity and quality of products, which directly influences tourists' decisions to visit certain destinations. These GI-associated products not only embody cultural and historical value but also provide tourists with a sense of connection to the local community and its traditions. Our findings suggest that tourists highly value products with GIs, leading to a greater willingness to pay for these products and to return to destinations recognized for these indications. These results align with the research of Arfini et al. (2019), who demonstrated that products with geographical indications not only ensure high market recognition but also contribute to sustainable development by linking product quality with specific geographical areas. Our study confirms that GIs not only impact the perception of product quality but also further enhance their recognition and economic value in the global market.

Similar observations were recorded by Zhang et al. (2024), who pointed out that GIs can significantly enhance the attractiveness of certain regions for foreign direct investments, directly contributing to economic growth and sustainable development. Tourists seek authentic experiences, and products with GIs provide them with a connection to the place and culture through the tasting of local specialties. Additionally, Vandecandelaere et al. (2020) analyzed the economic impacts of GIs on sustainable food systems and concluded that GIs significantly contribute to strengthening economic structures in rural communities by increasing product value and supporting local economies.

Moreover, our results emphasize the importance of authenticity and tradition in attracting tourists. Geographical indications play a key role in preserving the authenticity of products, which is essential for tourists who want to experience the uniqueness of a particular region. Belletti et al. (2015) stress that GIs not only support the preservation of cultural heritage but also enable rural communities to leverage their specific resources for economic growth and development. These aspects are particularly important for the preservation of cultural identity and tradition, which further motivates tourists to visit destinations recognized for these indications. Additionally, Saxena & Frison (2024) highlighted the importance of activating producers' rights in discussions on biodiversity conservation through Geographical Indications (GIs), which is essential for sustainable development and the conservation of natural resources in rural communities.

Our results also highlight the importance of the economic component of geographical indications. Tourists recognize the economic value of these indications, which increases their willingness to spend more on products with GIs, directly contributing to the economic development of local communities. These findings align with the research by Vecchio et al. (2020), who demonstrated that GIs can significantly contribute to building more resilient rural economies through sustainable development and increased income for local producers. Our research confirms that GIs are essential in attracting foreign investment and enhancing the competitiveness of products on a global level.

Our findings also indicate that positive tourist experiences with GI-labelled products further enhance their perception of the value of these products, leading to greater loyalty and reoccurring visits. Sidali et al. (2011) also emphasized the importance of linking local gastronomy with tourism through GIs, which further strengthens the tourism offer and attracts visitors seeking authentic and unique experiences. Our research further illuminates the role of GIs in enhancing tourist experiences and their potential to contribute to the long-term development of tourism in rural areas. According to Tregear et al. (2020) and Salpina & Pagliacci (2022), tourists' perceptions of quality and their motivations to buy products with geographical indications significantly influence their choice of destination, underscoring the role of geographical indications in enhancing the tourist experience and driving economic growth in rural areas.

CONCLUSION

This study provides a detailed insight into the importance of geographical indications (GIs) in enhancing the tourist experience, supporting the economic development of rural communities, and preserving cultural identity. The research findings clearly demonstrate that GIs play a crucial role in strengthening the perception of authenticity and product quality, which in turn attracts tourists and fosters economic growth in rural areas.

Geographical indications not only connect local communities with the global market but also enable the preservation and promotion of their cultural values and traditions, thereby ensuring sustainable development.

Theoretical implications: Looking ahead, the role of GIs in the future development of rural Serbian regions may become even more prominent, as sustainability and cultural heritage preservation take center stage in global economic and tourism trends. In the long term, GIs could become a cornerstone of strategies aimed at achieving sustainable development and economic empowerment of local communities, particularly in addressing global challenges such as climate change and socio-economic shifts. By embedding GIs within broader development initiatives, Serbia has the potential to establish a foundation for more sustainable and prosperous rural development, positioning GIs not only as protectors of tradition but also as catalysts for future economic growth.

Practical implications: The practical implications of this study highlight the need for an integrated approach to the development and promotion of geographical indications (GIs) as key elements of tourism and rural development strategies in Serbia. Geographical indications not only differentiate products in the global market but also contribute to building recognizable brands that can significantly enhance the tourist appeal of certain regions.

This approach would not only improve the economic conditions in rural communities but also reinforce the role of these areas as dynamic centers of cultural and gastronomic heritage. In the long term, geographical indications can play a crucial role in shaping the future development of rural areas in Serbia.

Limitations

While this study has provided significant insights, certain limitations must be considered. First, the sample size could have been larger, which would have allowed for a more in-depth analysis and increased the validity of the conclusions. The sample, limited to specific rural communities, may hinder the generalization of results to a broader region or other countries with similar transitional economies. Additionally, focusing on participants' perceptions and attitudes presents a potential limitation, as future research should aim to include quantitative data that directly demonstrates the connection between GIs and economic growth to ensure the objectivity of the findings.

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