

Residents' Perceptions of Geographical Indication Benefits, Pride, and Support in an Emerging Brazilian Wine Region: Evidence from São Joaquim

Giancarlo Philippi Zacchi¹, Luiz Carlos da Silva Flores², Paulo Sérgio Reinert³, Guilherme Oliveira de Mattos da Silva Flores⁴, Eduardo Luiz Moura Sobânia⁵

¹ Universidade Federal de Santa Catarina (UFSC), Florianópolis, Brazil, E-mail: gianpzacchi@gmail.com

² Universidade do Vale do Itajaí (UNIVALI), Balneário Camboriú, Brazil, E-mail: luiz.flores@univali.br

³ Universidade do Vale do Itajaí (UNIVALI), Balneário Camboriú, Brazil, E-mail: Paulo.sreinert@gmail.com

⁴ Universidade do Vale do Itajaí (UNIVALI), Balneário Camboriú, Brazil, E-mail: flores.guilherme@edu.univali.br

⁵ Universidade do Vale do Itajaí (UNIVALI), Balneário Camboriú, Brazil, E-mail: sobania@edu.univali.br

Correspondence concerning this article should be addressed to Paulo Sérgio Reinert Universidade do Vale do Itajaí (UNIVALI), Balneário Camboriú, Brazil, E-mail: Paulo.sreinert@gmail.com. This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the Version of Record.

Please cite this article as:

Zacchi G. P., da Silva Flores L. C., Reinert P. S., de Mattos da Silva Flores G. O., Moura Sobânia E. L. (2026), Residents' Perceptions of Geographical Indication Benefits, Pride, and Support in an Emerging Brazilian Wine Region: Evidence from São Joaquim, Wine Economics and Policy, Just Accepted.

DOI: 10.36253/wep-19898

Abstract

This study examines how Geographical Indications (GIs) contribute to territorial development and social legitimacy in emerging wine regions, focusing on residents' perceptions of the economic, social, and environmental impacts of the GI for high-altitude fine wines in São Joaquim, Brazil. Drawing on a survey with 181 residents, the study employs Structural Equation Modeling using the Robust Diagonally Weighted Least Squares estimator to test a model linking perceived impacts, benefits, pride, and support for the GI. The results indicate that social and economic factors are positively associated with perceived benefits, while environmental factors do not show a significant effect. Perceived benefits significantly increase residents' pride, which, in turn, strongly predicts support for the GI, suggesting that pride may operate as an affective mechanism linking perceived benefits to support. These findings suggest that the consolidation of GIs in emerging wine regions depends not only on economic performance, but also on residents' perceived benefits, pride, and support. The study contributes to the literature on wine tourism and Geographical Indications by highlighting the role of residents' perceptions in shaping the sustainability and long-term support of territorial valorization strategies.

Keywords: Geographical indication; Wine tourism; Resident perceptions; Perceived benefits; Resident support; Cultural appreciation.

1 INTRODUCTION

Geographical Indications (GIs) have become established as strategic instruments for territorial enhancement by linking the quality and reputation of products to specific environmental and cultural characteristics of their region of origin [1]. Although GIs may contribute to sustainability when well-structured [2], their effects are not automatic and may vary according to institutional, territorial, and regional conditions. In this sense, GIs can stimulate local economies, drive population growth, and promote productive reorganization toward higher value-added sectors, but their environmental outcomes require more careful empirical examination, especially in emerging regions [1,3]. Their relevance is even more evident in the field of tourism: certified local products are among the primary drivers of gastronomic tourism development, strengthening the links between identity, territory, and consumption [4].

Beyond their territorial and symbolic roles, Geographical Indications have increasingly been discussed as institutional mechanisms that shape the organization and governance of wine value chains, influencing how value is created, distributed, and legitimized across producers, tourism actors, and local institutions [5,6]. In emerging wine regions, where production systems, market positioning, and tourism structures are still consolidating, GIs may play a strategic role in strengthening coordination among actors, enhancing collective branding, and supporting the social legitimacy necessary for the resilience of local wine value chains [3,7]. However, empirical evidence on how these institutional instruments are perceived by local communities remains limited, particularly in contexts outside traditional wine-producing countries [1,8]. In this context, the social legitimacy of GIs can be understood as the extent to which local communities recognize, accept, and support these institutional arrangements based on their perceived impacts and alignment with territorial values.

From an economic perspective, GIs function as collective mechanisms for territorial branding, reducing information asymmetries and providing quality guarantees in competitive markets [5]. Culturally, they serve as instruments for preserving traditional practices and strengthening collective identities, resisting the homogenizing pressures of globalization [9,10]. Regarding the environmental perspective, they are associated with the enhancement of terroir and the protection of natural resources, although their effects vary according to the regional context [1, 11, 12]. These diverse approaches demonstrate that GIs transcend their initial certification function, assuming a central role in territorial development.

Despite this potential, gaps remain in the literature. While prior studies have emphasized the economic and sociocultural effects of GIs, the environmental dimension remains less consistently addressed and is often perceived unevenly across different contexts [1]. At the same time, research on wine tourism highlights the importance of residents' perceptions in shaping support for territorial development initiatives [13, 14]. However, limited attention has been given to how these dimensions—economic, social, and environmental—are jointly interpreted by residents and translated into perceived benefits within the context of GIs, particularly in emerging wine regions. In this sense, understanding residents' perceptions becomes relevant, as their interpretations of local impacts may influence the level of support and engagement with GI-related initiatives.

Given this scenario, this article seeks to answer the following research question: How do residents' perceptions of the economic, sociocultural, and environmental effects of the high-altitude wine GI in São Joaquim relate to perceived benefits, pride, and support for the GI? To answer this question, we test a structural model linking perceived economic, sociocultural, and

environmental factors to perceived benefits, and subsequently to residents' pride and support. The contribution of this study lies in the empirical analysis of an emerging wine region in Brazil, expanding the understanding of how residents interpret GI-related effects and how these perceptions are associated with affective and supportive responses toward the GI.

2 LITERATURE REVIEW

Geographical Indications (GIs) recognize products with specific identities linked to the environmental and cultural characteristics of their places of origin [1]. Beyond functioning as labels of authenticity, they may contribute to sustainability when properly established and managed, but such effects should not be assumed as inherent or uniformly positive [2]. According to Crescenzi et al. [3], GIs can promote local economic development in rural areas by driving population growth and productive reorganization toward higher value-added sectors. In tourism, they are relevant because products registered with a GI can stimulate gastronomic tourism and strengthen links between products, territory, and consumption [4]. However, Milano and Cazella [1] show that the environmental effects of GIs are uneven across contexts. Their review indicates that positive environmental outcomes are more frequently reported in Global North contexts, whereas negative or null environmental outcomes are more commonly observed in Global South contexts. This asymmetry is particularly important for studies conducted in emerging regions, where GI implementation may not automatically produce visible environmental benefits for local communities.

In Brazil, the use of GIs is regulated by the Industrial Property Law (Law 9.279/96), with the National Institute of Industrial Property responsible for defining and managing registration criteria for geographical indications [8,15]. Beyond the legal aspect, they function as collective territorial branding mechanisms, reducing information asymmetries and ensuring quality in competitive markets [5]. From an institutional perspective, GIs may operate as collective knowledge resources by protecting geographical names and linking them to shared territorial reputations [16]. However, this protective function should not be interpreted as automatic or free from contestation. The collective governance of GIs may also generate exclusionary effects when access to certification is shaped by administrative barriers, technical requirements, unequal organizational capacities, or power asymmetries among producers and institutions. In such cases, the protection of a geographical name does not necessarily prevent private appropriation of value, since stronger actors may be better positioned to capture the economic and symbolic benefits associated with certification. Empirical evidence illustrates this risk. Bowen and Zapata [17], in the case of the tequila GI in Mexico, show that GI protection was

largely appropriated by transnational liquor companies, while independent agave farmers were progressively displaced from the supply chain. Similarly, Belletti, Marescotti, and Touzard [18], drawing on wine and coffee value chains, show that the public-good potential of GIs may be threatened when valorization strategies and legal-protection policies allow added value to be captured by downstream actors rather than by upstream producers and local communities. These cases indicate that collective GI protection may coexist with unequal value distribution, especially when collective action and public policy are insufficient to secure inclusive governance. Therefore, although GIs can support collective territorial branding and reduce information asymmetries, their distributive and governance effects remain empirically contingent [5, 16, 17, 18].

The literature also highlights the role of GIs in strengthening collective identities and resisting the homogenizing trends of globalization, particularly in food systems based on terroir [9]. Even if not originally conceived for this purpose, they can contribute to cultural preservation by protecting traditional practices and knowledge and supporting sustainable development goals [10,19,20]. In this context, territorial identity becomes a key indicator of tourism competitiveness and social sustainability, reinforcing the connection between communities and their heritage [13]. Nonetheless, cultural landscapes face commodification challenges that threaten their authenticity [21], although they also represent tools for cultural valorization and promotion within local development strategies [22,23].

In the field of viticulture, GIs serve as differentiation instruments, signaling quality and authenticity, while legitimizing the sociocultural and economic value of wine [24,25]. Wine tourism, for example, has become a central tourism product in Portugal, where Port wine culture illustrates economic, social, and emotional values associated with territorial identity [26]. The experiences sought by wine tourists are marked by authenticity, establishing sensory and identity links with destinations [27]. However, the activity faces tensions between tradition and innovation, especially regarding adaptation to climate change [5], in addition to the recent impacts of the COVID-19 pandemic, which heavily affected the sector [26]. In this context, environmental sustainability emerges as a competitive advantage, though it remains under-explored in markets such as Germany [28].

In wine regions, the environmental and aesthetic dimensions of tourism can also be understood through the concept of winescape. Winescape refers to the regional setting in which wine tourism experiences take place, encompassing vineyards, wineries, rural landscapes, natural scenery, spatial organization, and cultural attributes associated with wine production [29,30]. This concept is particularly relevant because wine tourism is not only based on product

consumption, but also on the visual, environmental, and experiential qualities of the territory. Bruwer, Gross, and Lee [29] show that the nature-related environment, including scenery and geographical setting, is one of the most salient dimensions of a regional winescape. Similarly, Guedes and Rebelo [30] argue that winescape attributes, especially vineyards, wineries, and landscape features, express the aesthetic value of wine regions and can influence their tourism appeal.

GIs enhance the potential of wine tourism by connecting territorial identity, cultural valorization, and sustainable tourism development [30]. This activity shows a strong relationship with regional identity, providing distinctive attributes that strengthen the destination's image and competitiveness [13]. In regions with a winemaking tradition, vine cultivation creates territorial character through social, cultural, and economic interactions, consolidating community bonds around labor and the symbols of winemaking [32]. By promoting local products and resources, wine tourism contributes to sustainable development, preserving community values and stimulating environmental awareness [33,34].

Understanding residents' perceptions is fundamental to consolidating tourism development strategies, as it influences attitudes and informs management decisions [35,36]. Studies indicate that perceptions of benefits strengthen support for tourism, while perceptions of costs generate resistance [14,37]. Elements such as community identity, perceived justice, and emotional solidarity act as mediators between perceived impacts and resident support, including in contexts of intangible cultural heritage [14,37,38]. Although residents recognize economic benefits, they also point to negative effects such as pollution and an increased cost of living [39]. Despite these contradictions, general perception tends to be positive, highlighting the importance of community participation in tourism planning processes [40].

2.1 Hypothesis Development

GIs function as a label of authenticity [1] that enables productive reorganization toward higher value-added sectors [3]. This differentiation and competitiveness [5], exemplified in viticulture [24], legitimize the economic and sociocultural value of products, translating into population growth and increased regional income [3]. This generation of economic value is directly perceived by residents as tangible benefits, such as job creation and the stimulation of the local economy. The perception of benefits strengthens support for tourism [14,37], and, in the case of GIs, this support is reinforced by the connection between economic activity and territorial identity [13]. By promoting local products and resources, the GI contributes to sustainable development and strengthens the destination's image, which residents interpret as a direct

benefit that justifies their support. Thus, positive perception is not limited to the GI concept itself but is a reflection of the economic outcomes it provides, creating a virtuous cycle of community support and territorial valorization. Therefore, it is possible to hypothesize that:

Hypothesis 1: Economic factors are positively associated with residents' perception of the benefits associated with Geographical Indications.

The association between environmental factors and residents' perception of GI benefits is grounded in the possibility that Geographical Indications may contribute to the preservation of natural resources, landscapes, and ecological attributes linked to the territory. In this study, environmental factors refer specifically to the maintenance of local landscape beauty, residents' environmental awareness, waste-related effects, mobility and accessibility, circulation in public areas, and the sense of environmental preservation. However, this relationship should not be assumed as automatic or uniformly positive. Milano and Cazella [1] show that the environmental effects of GIs vary across contexts, with positive outcomes more frequently observed in Global North settings and negative or null outcomes more commonly found in Global South contexts. This evidence is particularly relevant for emerging wine regions, where the implementation of a GI may not immediately translate into environmental improvements that are visible or meaningful to residents. The winescape perspective strengthens this more contingent interpretation by showing that environmental perceptions in wine regions are closely connected to landscape aesthetics, natural settings, vineyards, wineries, spatial accessibility, and the experiential qualities of the wine territory [29,30]. Thus, residents may perceive environmental factors as benefits when landscape preservation, environmental awareness, and territorial organization become visible in their daily context. Conversely, when these effects are unclear, weakly communicated, or accompanied by pressures on waste, mobility, or public spaces, the environmental dimension may not be converted into perceived benefits. Therefore, although the relationship is theoretically plausible, it remains empirically contingent on how environmental and winescape-related changes are implemented and perceived by residents. Therefore, it is possible to hypothesize that:

Hypothesis 2: Environmental factors are positively associated with residents' perception of the benefits associated with Geographical Indications.

The association between social factors and the perception of GI benefits by residents is based on the strengthening of collective identities and the protection of cultural heritage. GIs operate

as territorial branding mechanisms [5] that go beyond simple product certification and may become collective knowledge resources by protecting geographical names and linking them to shared territorial reputations [16]. However, critical empirical studies show that this collective function depends on governance arrangements capable of preventing the appropriation of added value by stronger actors within the value chain [17,18]. Therefore, residents are more likely to perceive social benefits when the GI is associated not only with market differentiation, but also with cultural preservation, social cohesion, and a sense that local communities are included in the territorial valorization process. This dynamic contributes to resistance against the homogenizing trends of globalization [9] and the preservation of traditional practices and knowledge [10,11]. In the context of viticulture, the tradition of vine cultivation and the labor surrounding winemaking strengthen community bonds and create territorial character through social and cultural interactions [32]. Wine tourism, by promoting these values, makes territorial identity a key indicator of competitiveness and social sustainability [13]. Thus, residents' perception is positively influenced when they recognize the GI as a tool that preserves their cultural heritage, strengthens social cohesion, and promotes sustainable local development, reinforcing the community's connection with its intangible heritage [14,41]. Accordingly, we hypothesize that:

Hypothesis 3: Social factors are positively associated with residents' perception of the benefits associated with Geographical Indications.

The association between the perception of GI benefits and resident pride is established through the valorization of territorial identity and cultural heritage. By functioning as a territorial branding mechanism [5], the GI ensures product quality and reduces information asymmetries in competitive markets, generating local economic growth [3]. However, its impact extends beyond the economic aspect. GIs strengthen collective identities [9] and protect traditional practices and knowledge [10], contributing to cultural and social preservation [11]. In wine tourism, the Port wine culture illustrates how economic and social values are intertwined with territorial identity [26], creating sensory and identity bonds that reinforce the destination's authenticity [27]. Residents' perception of the benefits generated by the GI—whether economic, environmental, or social—reinforces the community's connection with its heritage [13]. This connection manifests as pride, a sense of belonging, and a valorization of regional identity that the GI helps to legitimize and promote. Thus, we can hypothesize that:

Hypothesis 4: The perception of benefits associated with Geographical Indications is positively associated with pride among residents.

The association between the perception of GI benefits and resident support is a process mediated by the recognition of positive local impacts. Evidence indicates that perceptions of benefits strengthen support for tourism [14,37], and this same logic applies to GIs. The ability of GIs to promote economic development [3] and act as territorial branding mechanisms that ensure product quality [5] leads to a recognition of their value. This recognition goes beyond financial aspects, as it encompasses the protection of cultural landscapes [21] and the strengthening of collective identities [9] —elements that contribute to the social sustainability and competitiveness of the destination [13]. Resident support is influenced by elements such as perceived justice and emotional solidarity, which function as mediators between perceived impacts and community attitudes [14,37]. Although residents also note negative effects such as pollution or an increased cost of living [39], the general perception tends to be positive, reinforcing the importance of community participation in the tourism planning and management process [40] and, consequently, in the support for the GI. The following hypothesis is formulated:

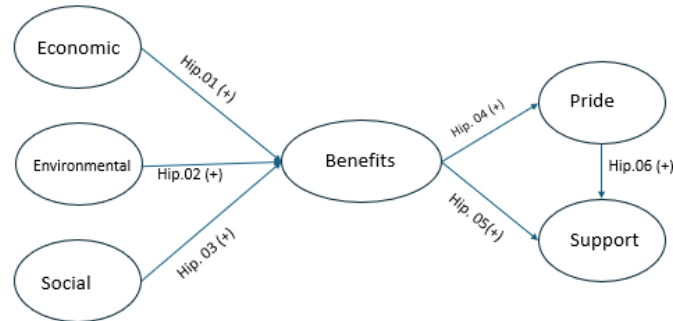
Hypothesis 5: The perception of benefits associated with Geographical Indications is positively associated with support among residents.

The association between resident pride and their support for a Geographical Indication (GI) is a mechanism established through collective identification with the territory's heritage and values. Territorial identity is a key indicator of competitiveness and social sustainability [13], and it is this identity that GIs help to strengthen. The literature indicates that GIs function as territorial branding tools that strengthen collective identities and protect against the cultural homogenization of globalization [9]. Pride, in this context, arises from the perception that the GI is preserving local heritage and traditions, such as winemaking culture [32]. This sense of valorization and belonging motivates residents to actively support activities associated with the GI. Since the perception of benefits strengthens support for tourism [14], pride can be viewed as one of these intangible benefits. When the community feels proud of its product and history, it is more likely to engage and support efforts for territorial valorization, as the GI becomes a symbol of what makes it unique and valuable.

Hypothesis 6: Pride among residents is positively associated with resident support within a Geographical Indication context.

To facilitate visualization, the following model was generated.

Figure 1 – Proposed Model



Source: authors (2025)

3 METHODOLOGY

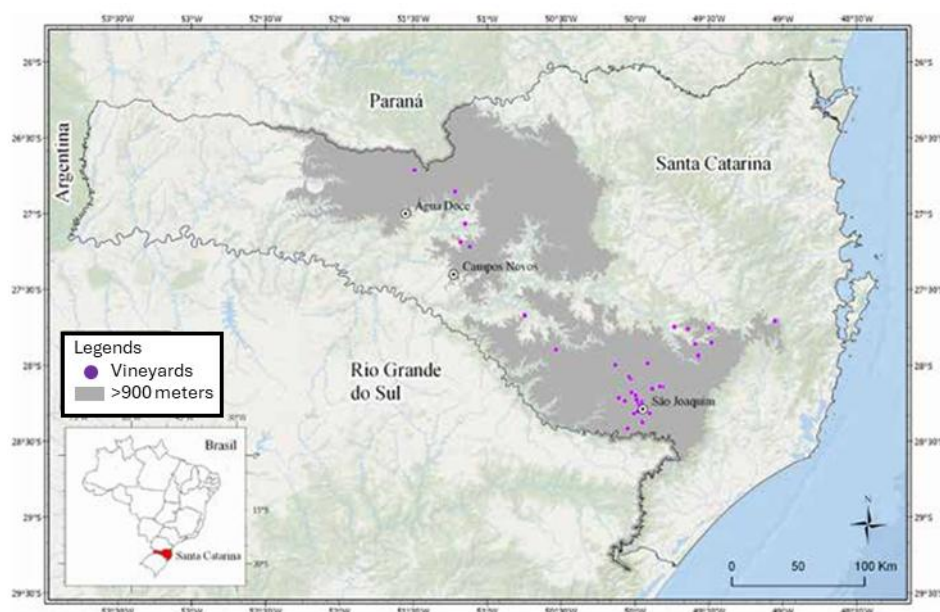
3.1 Research Site

Located in the Serra Catarinense (Figure 2) in Southern Brazil, the municipality of São Joaquim is noted for its unique geographical and climatic characteristics, as well as its strong cultural identity. Founded on April 7, 1887, the municipality currently has a population of 26,852 inhabitants [42,43].

The economy of São Joaquim, initially based on livestock, underwent a major transformation starting in the 1970s with the introduction of apple cultivation. Today, the municipality is the third-largest fruit producer in the state of Santa Catarina, with over 600 small-scale producers. This economic development aligns with the region's tourism potential, driven by its natural landscapes, cold climate, and wine production, establishing the city as one of Brazil's primary wine tourism destinations. Its vineyards, situated at altitudes above 900 meters (approx. 2,950 feet), are distinguished by a combination of meticulous grape selection, a unique terroir, and the dedication of producers, resulting in wines of exceptional quality [44].

The city is situated at an elevation of 1,360 meters (approx. 4,460 feet), set within a rugged terrain characterized by basaltic rock formations and extensive highlands. The mountain landscape is defined by steep escarpments and deep valleys, such as those observed along the Serra do Rio do Rastro. This mountainous setting is home to the headwaters of pristine rivers, including the Pelotas, Lavatudo, Pericó, Da Divisa, Mantiqueira, and São Mateus rivers, which play a fundamental role in the region's water supply [43].

Figure 2: Regions above 900m elevation and vineyard distribution in the state of Santa Catarina and São Joaquim in 2019.



Source: Pandolfo & Viana [45]

The region's temperate climate, characterized by harsh winters and mild summers, favors the production of high-altitude fine wines. Low temperatures, occurrences of snowfall, and high elevation reinforce the area's agricultural and tourism vocation, attracting visitors and boosting the viticulture sector [43].

The "High-Altitude Wines of Santa Catarina" are influenced by the territory's geoclimatic characteristics. At elevations above 900 meters, low winter temperatures induce vine dormancy, supporting traditional production methods. Mild, dry summers with significant thermal amplitude contribute to the concentration of aromas and flavors, ensuring the quality of these fine wines [46]. Currently, the city of São Joaquim is home to 24 wineries, representing 53.7% of the high-altitude wine-growing properties in the state of Santa Catarina, with an average vineyard area of 6.3 hectares per property. According to the Wine and Beverage Information System of the Ministry of Agriculture and Livestock, the vineyards in the city of São Joaquim cover a total of 333.49 hectares [47].

Given the recognized quality of the region's wines, high-altitude wine producers in Santa Catarina adopted an Indication of Source (IO — Indication of Origin) to protect and enhance their territorial identity. The geographical boundaries of the IP considered several criteria to ensure a continuous area representative of local viticulture. The name "Vinhos de Altitude de

Santa Catarina" (High-Altitude Wines of Santa Catarina) was chosen because it accurately reflects the territorial specificities and the tradition of fine wines in the region.

3.2 Methodological Procedures

To conduct this research, resources from applied, exploratory-descriptive research were utilized, employing a quantitative approach and a survey study [58] in the city of São Joaquim (SC). The study was conducted through a structured questionnaire divided into six thematic blocks, developed based on the scales proposed by Xu et al. [48] and Flores et al. [36]. The first block addressed the sociodemographic profile of the respondents, with six questions related to gender, income, residential neighborhood, length of residence, and educational level. The second block investigated the perception of the economic impact dimension through six indicators (Local commerce benefited from the wine GI; the arrival of tourists brought economic dynamism; new jobs were created; the value of my property increased; there are more business opportunities; and my income increased).

The third block examined the sociocultural impact dimension using six indicators (The variety of cultural and recreational activities increased; there is greater care for the conservation of local heritage; the sense of community identity increased; crime increased; the community's knowledge and social values were revived; and public service delivery improved). The fourth block addressed the environmental aspects dimension through six indicators: the beauty of local landscapes was maintained; residents' environmental awareness improved; waste production increased; mobility and accessibility improved; the number of people circulating in public areas increased; and the sense of environmental preservation improved.

The fifth block covered the dimension of benefits generated by the Indication of Source (IP), with six indicators (Improvement in my personal quality of life; increased preservation of cultural aspects; strengthening of cultural identity; enhancement of local gastronomy; increased understanding and respect for other cultures; and improvement in urban infrastructure and services). Finally, the sixth block included items related to general perception, pride, and support. For the SEM, Pride was operationalised through one indicator: "My pride increased due to being recognized for wine production." Support was operationalised through three indicators: "I support the wine IP"; "I believe the high-altitude fine wine IP contributes to territorial identity and cultural enhancement"; and "I believe the city should further stimulate the development of wine tourism." The item "my relationship network expanded" was included in the questionnaire as part of the broader general perception block, but it was not retained as an indicator of Pride or Support in the final measurement model.

Data collection was carried out in April 2025, targeting an estimated population of 26,852 inhabitants [42]. The questionnaire was administered via a link provided on the Google Forms platform. A non-probability convenience sampling technique was adopted, resulting in a sample of 181 respondents. This technique is characterized by the selection of sampling units based on ease of access and individual availability at the time of collection, without applying randomness criteria, which may introduce selection bias and limit the generalisability of the findings. Therefore, it is an appropriate procedure for exploratory research contexts where access constraints or feasibility considerations limit the use of probabilistic sampling techniques. Although the sample is non-probabilistic, its composition—considering participants with significant length of residence and representation across different neighbourhoods—provides analytical relevance for the exploratory objectives of the study, but does not allow for statistical generalisation to the broader population proposed by Gil [49] and Richardson [50]. In practical terms, efforts were made to include respondents from different areas of the municipality and with established ties to the locality, aiming to capture more informed perceptions regarding the GI and its impacts.

The perception of economic, sociocultural, and environmental impacts, as well as perceived benefits, pride, and support, was measured using a 5-point Likert scale, ranging from “strongly agree” (5) to “strongly disagree” (1). The two negatively worded indicators, “crime increased” in the sociocultural block and “waste production increased” in the environmental block, were reverse-coded before estimating the SEM. This procedure was adopted to ensure directional consistency among the indicators, so that higher scores consistently represented more favorable perceptions of the social and environmental effects associated with the GI and wineries. The measurement model comprised the observed indicators retained for each latent construct: economic impacts, sociocultural impacts, environmental impacts, perceived benefits, pride, and support. Structural Equation Modeling (SEM) was performed to evaluate the plausibility of this structure and the relationships among these constructs. Pride was measured using a single observed indicator: “My pride increased due to being recognized for wine production.” As a result, internal consistency and convergent validity statistics could not be estimated for this construct in the same way as for multi-item constructs. This measurement decision is acknowledged as a methodological limitation, and the structural paths involving Pride, namely Benefits → Pride and Pride → Support, should therefore be interpreted with caution. The analysis was implemented using the Robust Diagonally Weighted Least Squares (RDWLS) estimation method, which is suitable for categorical data [51,52].

The fit indices used were: Chi-square (X^2); X^2/df ; Comparative Fit Index (CFI); Tucker-Lewis Index (TLI); Standardized Root Mean Residual (SRMR); and Root Mean Square Error of Approximation (RMSEA). X^2 values should not be significant; the X^2/df ratio should be < 5 or, preferably, < 3 ; CFI and TLI values should be > 0.90 and, preferably, above 0.95; RMSEA values should be < 0.08 or, preferably, < 0.06 , with a confidence interval (upper limit) < 0.10 [53].

4. RESULTS AND ANALYSIS

The first part of the questionnaire sought to define the respondents' profile. The "gender" variable was analyzed based on 179 responses. It was observed that the majority of respondents identified as male, representing 61.88% ($n=112$), followed by 67 respondents (37.02%) who identified as female. This predominance of male participation may reflect either a higher level of interest or engagement of this group in research related to the studied topic, a potential gender composition of the local population or target audience, or simply the group that was most interested in responding to the questionnaire. These data provide a sociodemographic overview that contributes to contextualizing the results and formulating communication and intervention strategies more closely aligned with the participants' profiles.

The question "Does your income depend on any activity related to viticulture and/or wine tourism?" reveals that 75.1% of respondents ($n = 136$) stated they do not economically depend on these activities. In contrast, 24.9% ($n = 45$) declared that their income is linked to practices associated with viticulture and/or wine tourism. These data indicate that, although the research topic is embedded in a context where these activities are relevant to the territory, only a quarter of the sample has their income directly influenced by them. This finding contrasts with broader evidence that highlights the importance of vineyards in regional economies and cultures [54]. In the specific case of São Joaquim, this result may reflect the prominence of other economic activities, particularly apple production, which plays a central role in local employment and income generation, as previously noted in the regional context. This suggests that, although viticulture and wine tourism are symbolically and territorially relevant, their direct economic impact on residents may still be limited in emerging wine regions.

However, this result may point toward a diversified economic structure in the surveyed territory, or perhaps a low level of integration of the local population into the viticulture and wine tourism production chains, which warrants attention in territorial development analyses and public policies. Furthermore, one cannot rule out the fact that São Joaquim flourishes under the influence of apple production, a production chain reinforced by Law 13,790 of 2019, which

granted São Joaquim the title of "National Apple Capital," considered an economic powerhouse that drives industry, commerce, and service provision [55].

Most respondents fall within the 36 to 45 age group, representing 37% of the sample (n = 67). Next, two age groups show equal representation: 46 to 55 and 56 to 65, both at 19.3% (n = 35). The groups under 18 and between 18 and 25 are less representative, at 1.1% (n=2) and 2.2% (n=4), respectively. The group over 65 (7.2%; n=13) and the 26 to 35 group (13.8%; n=25) show modest representation. The age distribution between 26 and 65 reveals a predominance of 89.4% of respondents, a group that may directly influence production processes and local decisions related to viticulture and wine tourism, as well as purchasing power and influence. The 35.3% (n=64) majority within the adult group further demonstrates the predominance of a population in a stage of greater socioeconomic stability.

When questioned about their residence, respondents indicated a wide diversity of neighborhoods (27 in total), revealing significant spatial dispersion of the surveyed population. Although a higher concentration of responses originated from central regions, there were also mentions—albeit less frequent—of areas further from the urban core. The presence of these responses evidences that the activity, or interest in it, transcends the limits of traditional urban space, reaching rural and peripheral regions where viticulture often manifests more strongly. Regarding the length of residence in São Joaquim, the category "more than 20 years" prevails at 83.4% (n=151), followed by the "11 to 20 years" category, representing 8.8% of the sample (n= 16). The "1 to 5 years" and "6 to 10 years" categories both represent 7.8% (n=14). Observing the categories of long-term residents (11 to 20 years and over 20 years), it is found that, on average, 92.2% of respondents demonstrate deep ties to the place. This data suggests that these residents likely develop a strong sense of belonging and build affective memories linked to the space, landscape, people, and local culture. These bonds strengthen territorial identity and favor greater community engagement, as individuals perceive themselves as an integral part of the place, as highlighted by Gerber [56] and Lucion [57].

The analysis of the "educational level" variable, answered by 181 participants, complements the sociodemographic overview of the convenience sample. It reveals a profile with a predominance of higher education (40.9%) and graduate degrees (39.8%), which together account for approximately 80.7% of respondents (n=146). Lower educational levels were less frequent: high school (17.7%; n= 32) and elementary school (1.7%; n= 3). This data suggests that the sample possesses a high degree of formal education, which may have significant implications for both the understanding of the topics addressed in the research and engagement with practices related to local development, viticulture, and wine tourism.

4.1 Analysis of Dimensions – Impacts and Benefits

The initial phase of data analysis aims to validate the measurement model, ensuring the quality and robustness of the constructs used to test the hypotheses. To this end, the following section presents the results of the reliability, validity, and structural model fit tests, following the recommended procedures for Structural Equation Modeling (SEM). Descriptive data and reliability indicators, such as Cronbach's α and MacDonald's ω , as well as convergent validity (AVE) and discriminant validity (HTMT), are detailed below, followed by the model fit indices, which provide the foundation for the analysis of the proposed causal relationships.

Table 1 – Descriptive Data, Reliability, and Heterotrait-Monotrait Ratio

Dimension	Mean	S.D.	Cronbach's α	MacDonald's ω	AVE
Economic	4.399	0.563	0.802	0.726	0.493
Social	3.738	0.792	0.802	0.774	0.527
Environmental	3.885	0.688	0.767	0.743	0.512
Benefits	4.220	0.718	0.875	0.89	0.585
Pride	4.575	0.790	-	-	-
Support	4.836	0.430	0.81	0.773	0.502
Economic	Social	Environmental	Benefits	Pride	Support
1					
0.746	1				
0.656	1.024	1			
0.706	0.774	0.753	1		
-	-	-	-	-	
0.309	0.339	0.28	0.425	-	1

Source: authors (2025)

The results (Table 1) present adequate indicators to support the SEM analysis, albeit with some reservations. Descriptive statistics reveal that the "Pride" and "Support" dimensions obtained the highest means, indicating strong respondent agreement, while "Social" and "Environmental" factors showed more moderate levels, yet remained within an acceptable range (standard deviation below 0.8).

Regarding reliability, all multi-item constructs presented Cronbach's α and MacDonald's ω values above 0.70, indicating satisfactory internal consistency, especially for Benefits ($\alpha = 0.875$; $\omega = 0.890$). Regarding convergent validity, the AVE values were equal to or above the conventional threshold of 0.50 for Social (0.527), Environmental (0.512), Benefits (0.585), and Support (0.502). The only exception was the Economic construct (0.493), which was marginally below 0.50. Given its proximity to the threshold and the exploratory nature of the

study, this result was considered acceptable, although the Economic construct should be interpreted with some caution.

The HTMT matrix indicates a discriminant validity concern between the Social and Environmental constructs. Specifically, the HTMT value for the Social–Environmental pair was 1.024, which is high and above conventional benchmarks commonly used to assess discriminant validity. Rather than treating this result as definitive evidence that the constructs are redundant, we interpret it as an indication of possible empirical overlap in the present sample. This overlap may reflect the way residents in São Joaquim perceive landscape preservation, public space use, environmental awareness, and community well-being as interconnected aspects of territorial development. Therefore, the structural paths involving Social and Environmental factors should be interpreted with caution, especially when comparing the supported effect of Social factors on perceived benefits with the nonsignificant effect of Environmental factors. Future studies should refine the measurement of these dimensions, test alternative model specifications, or consider whether an integrated socio-environmental construct may better represent residents' perceptions in GI contexts.

Based on the criteria established by Brown [53], the tested model presents satisfactory fit indices, indicating robust adherence to the empirical data. The χ^2 value (347.56) was not significant ($p = 0.421$), suggesting no statistically relevant difference between the observed covariance matrix and the one estimated by the model. The χ^2/df ratio (1.013) is well below the conservative limit of 3, reinforcing the model's adequacy even in large samples. The incremental fit indices, CFI (0.997) and TLI (0.996), exceed the recommended threshold of 0.95, indicating substantial improvement over a null model. The RMSEA (0.029), in addition to being below the 0.06 limit, presents a narrow confidence interval (0.019–0.047), with the upper limit significantly below 0.10, confirming the precision of the fit. The SRMR (0.083) slightly approaches the reference value (0.08) but is still considered acceptable in complex models, especially when the other indices are so robust. The factor loading values follow.

Table 2 – Factor Loadings

Latent construct	Indicator	Estimate	Std. Error	Standardized loading
Environmental	Env1	1	0	0.596
	Env2	3.03	0.829	0.755
	Env3	1.866	0.386	0.594
	Env4	3.036	0.76	0.67
	Env5	2.417	0.598	0.689
	Env6	3.599	0.913	0.819

Support	Sup1	1	0	0.755
	Sup2	0.601	0.242	0.536
	Sup3	1.708	0.79	0.912
Benefits	Ben1	1	0	0.812
	Ben2	0.899	0.086	0.818
	Ben3	0.551	0.09	0.621
	Ben4	0.48	0.078	0.652
	Ben5	0.759	0.092	0.762
	Ben6	0.986	0.118	0.779
Economic	Ec1	1	0	0.677
	Ec2	0.557	0.084	0.595
	Ec3	0.343	0.065	0.491
	Ec4	1.2	0.265	0.6
	Ec5	0.887	0.168	0.686
	Ec6	1.481	0.287	0.622
Pride	Pri1	1	0	1
Social	Soc1	1	0	0.547
	Soc2	1.814	0.356	0.738
	Soc3	1.793	0.373	0.771
	Soc4	1.709	0.233	0.544
	Soc5	1.827	0.326	0.791
	Soc6	1.888	0.322	0.749

Note: The negatively worded indicators “crime increased” and “waste production increased” were reverse-coded before estimating the measurement and structural models.

Source: authors (2025)

The analysis of factor loadings indicates that most indicators are adequately associated with their respective latent constructs, although some items present moderate loadings and should be interpreted with caution. In the Environmental construct, the standardized loadings ranged from 0.594 to 0.819, with Env6 (0.819) being the most representative indicator of this dimension. The Support construct presented strong loading for Sup3 (0.912), while Sup2 (0.536) showed a more moderate association with the construct, suggesting that this item could be revised in future research. The Benefits dimension presented adequate loadings, ranging from 0.621 to 0.818, with Ben1, Ben2, and Ben6 as the most representative indicators. The Economic construct showed more moderate loadings, ranging from 0.491 to 0.686, with Ec3 (0.491) requiring particular caution because it is close to the minimum acceptable level. Pride was measured by a single observed indicator and therefore presented a standardized loading of 1.0. This value should not be interpreted as evidence of superior measurement quality, since single-item constructs do not allow the estimation of internal consistency or measurement error in the same way as multi-item constructs. Finally, the Social construct presented loadings between 0.544 and 0.791, although Soc1 (0.547) and Soc4 (0.544) were the lowest indicators

for this dimension. Overall, the measurement model provides acceptable support for the proposed constructs, but some indicators should be refined in future studies.

The Benefits dimension presents robust loadings, ranging between 0.621 and 0.818, with Ben1, Ben2, and Ben6 as the most representative items. The Economic construct shows more moderate loadings (0.491 to 0.686), where Ec3 (0.491) warrants special attention as it is near the minimum acceptable limit. Pride was measured by a single indicator and, therefore, presents a standardized loading of 1.0. This value should not be interpreted as evidence of superior measurement quality, since single-item constructs do not allow the estimation of internal consistency or measurement error in the same way as multi-item constructs. Finally, the Social construct demonstrates good consistency, with loadings between 0.544 and 0.791, although Soc1 (0.547) and Soc4 (0.544) show the lowest values for this dimension. Overall, the results indicate that the measurement model possesses adequate convergent validity, with only a few items that could be refined in future studies to improve measurement quality. The Structural Equation Modeling relationships follow.

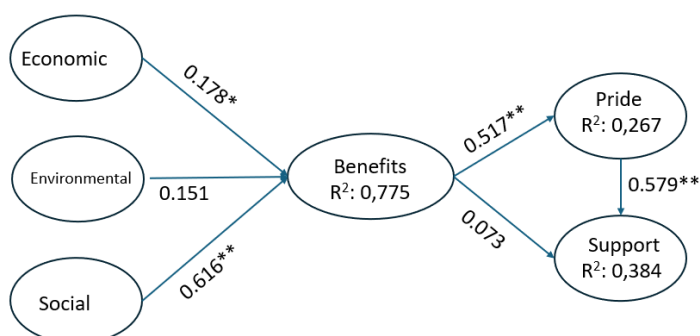
Table 3 – Structural Equation Modeling (Path Analysis)

Path	Estimative	Std. Error	z	β	P value
Social → Benefits	1.146	0.311	3.686	0.616	< .001
Environmental → Benefits	0.599	0.510	1.175	0.151	0.24
Economic → Benefits	0.301	0.142	2.124	0.178	0.034
Benefits → Pride	0.498	0.072	6.911	0.517	< .001
Pride → Support	0.278	0.039	7.05	0.579	< .001
Benefits → Support	0.034	0.037	0.902	0.073	0.367

Source: authors (2025)

For better visualization, the proposed structural model is illustrated in the figure below.

Figure 3 – Structural Equation Modeling



Source: authors (2025)

The results demonstrate significant relationships between the constructs, most notably the strong impact of the Social factor on Benefits ($\beta = 0.616$; $p < 0.001$), explaining a large portion of the variance ($R^2 = 0.775$). The effect of the Economic factor on Benefits was also significant, albeit moderate ($\beta = 0.178$; $p = 0.034$). However, the relationship between the Environmental factor and Benefits was not statistically significant ($\beta = 0.151$; $p = 0.24$), suggesting that this dimension has limited influence on the perception of benefits within the studied context.

The path analysis reveals that Benefits exert a significant effect on Pride ($\beta = 0.517$; $p < 0.001$), explaining 26.7% of its variance ($R^2 = 0.267$). In turn, Pride shows a strong relationship with Support ($\beta = 0.579$; $p < 0.001$), contributing significantly to the 38.4% of explained variance in this construct ($R^2 = 0.384$). It is noteworthy that the direct relationship between Benefits and Support was not significant ($\beta = 0.073$; $p = 0.367$). Together with the significant Benefits $\rightarrow$ Pride and Pride $\rightarrow$ Support paths, this pattern is consistent with a possible indirect affective pathway linking perceived benefits to support through pride. However, this interpretation should be treated with caution because Pride was measured using a single observed indicator and the model does not provide the same level of measurement robustness that would be obtained with a multi-item latent construct. These results indicate statistically significant associations involving residents' reported pride, but they do not provide the same level of measurement robustness that would be obtained with a multi-item latent construct.

These results suggest that: (1) social and economic factors are important determinants in shaping the perception of benefits; (2) pride may operate as an important affective mechanism linking perceived benefits to support; and (3) support is more strongly associated with residents' reported pride than with perceived benefits directly. The model satisfactorily explains the dependent variables, especially Benefits ($R^2 = 0.775$), indicating relevant explanatory capacity for the exploratory objectives of the study.

5. DISCUSSION

The analysis of the results obtained through structural equation modeling allowed for the evaluation of the hypotheses formulated in the literature on Geographical Indications (GIs), focusing on how residents perceive economic, environmental, and social factors associated with the GI and how these perceptions relate to perceived benefits, pride, and support. By linking perceived impacts with affective and supportive responses, this study provides evidence on the social legitimacy of the GI from the perspective of residents in São Joaquim.

Hypothesis 1, which related economic factors to the perception of GI benefits, was supported. The results indicated a positive association, confirming Crescenzi et al. [3], who highlight the

role of GIs in productive reorganization and population growth in rural areas. This finding also corroborates Menapace and Moschini [5], demonstrating that GIs function as territorial branding mechanisms capable of reducing information asymmetries and ensuring competitiveness. In viticulture, this dynamic is reflected in the legitimation of the economic and sociocultural value of products [24]. Thus, residents perceive concrete benefits, such as job and income generation, which reinforces the role of GIs as territorial instruments whose economic effects may contribute to residents' favorable evaluation of the certification.

Hypothesis 2, which proposed an association between environmental factors and the perception of benefits, was not supported. This result should not be interpreted as evidence that the environmental dimension is irrelevant, but rather that environmental attributes were not translated into perceived benefits by residents in the São Joaquim context. This finding is consistent with the caution raised by Milano and Cazella [1], whose review shows that the environmental effects of GIs are uneven and that negative or null outcomes are more commonly observed in Global South contexts. Therefore, the absence of a significant association may reflect the fact that environmental benefits linked to the GI are less visible, less directly experienced, or less consolidated in residents' daily perceptions than economic and sociocultural outcomes. This interpretation is also relevant in light of the winescape literature, which emphasizes the role of natural scenery, landscape aesthetics, vineyards, wineries, and spatial attributes in shaping perceptions of wine regions [29,30]. In this study, however, these environmental and aesthetic attributes did not significantly explain perceived benefits, suggesting that the environmental contribution of GIs in emerging wine regions depends on more explicit preservation practices, communication strategies, and territorial management mechanisms.

Hypothesis 3, which related social factors to the perception of benefits, was supported. This result confirms Gade [9] by indicating that GIs function as mechanisms of resistance against the homogenizing trends of globalization, strengthening collective identities. Similarly, Covarrubia [10] and Salvado [11] advocate for their role in preserving traditional practices and knowledge, while Happ and Nemes [13] highlight territorial identity as a central element of competitiveness and social sustainability. The viticulture tradition exemplifies how these practices strengthen community bonds and create territorial character [32]. Thus, the results indicate that residents recognize GIs as instruments that reinforce social cohesion and cultural heritage, translating into perceived benefits.

Hypothesis 4, which tested the relationship between perceived benefits and resident pride, was supported. The results show that perceived benefits—whether economic, social, or cultural—

increase community pride. This finding corroborates Crescenzi et al. [3], who associate GIs with local economic gains, and Gade [9] and Covarrubia [10], who highlight their cultural contribution. In the field of wine tourism, Port wine culture exemplifies how economic and social values intertwine with territorial identity, creating identity bonds [26,27]. Therefore, the confirmation of this hypothesis reinforces the literature by indicating that perceived benefits fuel feelings of belonging and regional pride.

Hypothesis 5, which proposed a direct relationship between the perception of benefits and support for GIs, was not supported. This result diverges from Wang et al. [14] and Lan et al. [37], who state that perceptions of benefits strengthen support for tourism. It also contradicts Soares et al. [40], who argue that community participation is a determinant in supporting tourism development. A possible explanation is that, in this context, residents do not translate benefits directly into support; instead, these benefits must be internalized into subjective dimensions, such as pride or identity, before converting into practical engagement. This interpretation aligns with Wang et al. [14] and Lan et al. [37], who emphasize the importance of mediators such as perceived justice and emotional solidarity. This finding suggests that economic and social benefits alone may be insufficient to generate support for the GI if these benefits are not symbolically translated into pride, belonging, and positive identification with the territory.

Hypothesis 6, which evaluated the relationship between pride and resident support, was supported. This result confirms Happ and Nemes [13], who consider territorial identity a key indicator of social sustainability and competitiveness, and supports Gade [9] regarding the role of GIs in strengthening collective identities. The viticulture tradition, by consolidating community bonds around vine cultivation, exemplifies how cultural practices fuel pride and engagement [32]. Thus, the study suggests that pride may function as an affective mechanism through which perceived benefits become associated with support for the GI. However, this interpretation should be considered cautiously, since Pride was measured with a single observed indicator.

In general, the results confirm the relevance of the economic, social, and symbolic dimensions of GIs from the perspective of residents. Social and economic factors were associated with perceived benefits, while environmental factors were not significantly associated with benefits in the São Joaquim context. The results also show that perceived benefits increase pride and that pride, in turn, is strongly associated with support for the GI. The nonsignificant direct relationship between perceived benefits and support suggests that support is not generated only by recognizing benefits, but also by the affective internalization of these benefits as pride. These

findings reinforce the importance of understanding residents' perceptions as a central element in the social legitimacy of GIs.

5.1 Theoretical and Practical Implications

5.1.1 Theoretical Implications

The evidence found underscores that economic and social factors play a central role in the perception of benefits associated with Geographical Indications. This confirms the literature linking GIs to economic development and productive reorganization [3], as well as the strengthening of territorial competitiveness through collective branding [5]. Thus, the study contributes to the theoretical understanding of GIs as mechanisms capable of generating not only economic value but also community cohesion and social legitimacy, highlighting their multifunctional nature.

Furthermore, the confirmation of the relationship between perceived benefits and pride broadens the understanding of the role of GIs in the symbolic construction of the territory. The literature emphasizes that they preserve cultural practices and collective identities [9,10], and these results empirically demonstrate how this process strengthens feelings of belonging and community engagement. Consequently, the study contributes theoretically by identifying pride as a fundamental mediating mechanism that connects objective perceptions of benefits to subjective dimensions of support for GIs.

On the other hand, the lack of support for the hypotheses related to environmental factors and the direct relationship between benefits and support challenges portions of the literature that suggest positive links in these aspects [2,14]. This result contributes theoretically by indicating that such relationships may not be universal but rather dependent on specific contexts and mediation processes, such as identity and pride [13]. Thus, this opens space for future research to explore under what conditions the environmental role is perceived as a relevant benefit and how perceptions of benefits may or may not convert directly into community support.

From a broader theoretical perspective, these findings contribute to the literature on Geographical Indications by showing that residents' support for a GI cannot be inferred only from the existence or recognition of local benefits. While GIs are often examined as certification mechanisms, territorial brands, or instruments of market differentiation [1,5], the results of this study indicate that their local legitimacy also depends on how residents interpret and emotionally internalize their perceived effects. In the São Joaquim context, economic and sociocultural factors were associated with perceived benefits, whereas environmental factors were not significantly associated with benefits. This distinction reinforces the need to examine

GIs not only through their formal, economic, or institutional attributes, but also through the meanings attributed to them by local communities.

The study also contributes by identifying pride as an affective mechanism linking perceived benefits to support for the GI. The nonsignificant direct relationship between perceived benefits and support suggests that recognizing benefits is not sufficient, by itself, to explain residents' supportive attitudes. Rather, benefits appear to become more relevant for support when they are translated into pride, belonging, and positive identification with the territory. This finding extends discussions on residents' support for tourism and territorial development initiatives [14,37] by showing that support for a GI may depend on a symbolic and affective process, not only on instrumental evaluations of economic or social gains. It also complements studies that associate GIs with collective identity, cultural preservation, and territorial valorization [9,10,13], while remaining within the empirical scope of the tested model, which concerns residents' perceptions, perceived benefits, pride, and support.

5.1.2 Practical Implications

From a practical standpoint, the findings suggest that managers and public actors involved with the GI should pay attention to how residents perceive the benefits associated with certification. Since social and economic factors were significantly associated with perceived benefits, communication strategies should make these effects more visible to the local community, especially in relation to cultural appreciation, local commerce, employment opportunities, and the symbolic value of high-altitude wine production.

The results also indicate that pride plays a central role in residents' support for the GI. Therefore, initiatives that connect the GI to local history, cultural heritage, and everyday community identity may strengthen residents' favorable attitudes toward the certification. Examples include educational activities, community events, local storytelling, and public communication campaigns that present the GI not only as a market label, but also as a collective territorial achievement.

Finally, the nonsignificant environmental path suggests that environmental and landscape-related benefits should not be assumed to be evident to residents. Local actors should communicate and, where possible, strengthen visible practices related to landscape preservation, waste management, mobility, environmental awareness, and the conservation of public spaces. These actions may help residents better recognize the environmental dimension of the GI, although future studies are needed to assess whether such initiatives affect support over time.

6 FINAL CONSIDERATIONS

The results of this study lead to the conclusion that the Geographical Indication (GI) of high-altitude fine wines in São Joaquim exerts a significant influence on the community's cultural and economic aspects, whereas environmental impacts were not clearly perceived by residents. The economic and social dimensions translated into concrete benefits, pride, and support, revealing that the GI strengthens territorial identity and drives economic dynamism. However, the environmental component—though anticipated by the literature—was not significantly evidenced in the analyzed context, suggesting that local perception prioritizes more immediate and tangible benefits.

This study indicates that the GI for high-altitude fine wines is associated with residents' perceptions of territorial valorization, cultural recognition, and community pride. The results suggest that the economic and sociocultural dimensions of the GI are more clearly perceived as benefits than the environmental dimension. In addition, the findings show that residents' support for the GI is more strongly associated with pride than with perceived benefits directly. Therefore, the sustainability of local support for GIs appears to depend not only on the existence of benefits, but also on whether these benefits are recognized and affectively internalized by residents.

Furthermore, by highlighting the centrality of economic and social factors in resident perception, this research contributes to the understanding that the sustainability of GIs depends on their ability to generate results that are concretely perceived by the community. The study reinforces that the social legitimacy of a GI is linked not only to external recognition but primarily to how residents interpret and engage with the effects of the certification in their daily lives.

6.1 Study Limitations

Despite the rigorous application of Structural Equation Modeling (SEM), this study is not without limitations that warrant careful consideration. First, the geographic and contextual scope is centered exclusively on the municipality of São Joaquim. While this allowed for a deep empirical analysis of an emerging high-altitude wine region in Brazil, it inherently restricts the statistical and external generalizability of the findings. Resident perceptions are highly sensitive to the maturity of the Geographical Indication (GI), local governance structures, and specific cultural idiosyncrasies that may differ in other wine-producing territories.

Second, the cross-sectional nature of the data collection represents a temporal constraint. By capturing a "snapshot" of resident attitudes at a single point in time, the model cannot account

for the longitudinal evolution of these perceptions. External shocks—such as economic fluctuations, climate-related shifts affecting harvest quality, or the post-pandemic recovery of wine tourism—could potentially alter the weights of the observed variables.

Third, Pride was measured using a single observed indicator. Although this item captured residents' self-reported pride associated with the recognition of São Joaquim for wine production, single-item measures do not allow the assessment of internal consistency, convergent validity, or measurement error in the same way as multi-item constructs. Consequently, the paths involving Pride, particularly Benefits → Pride and Pride → Support, should be interpreted with caution. Future studies should develop and validate multi-item scales for residents' pride in GI contexts to provide a more robust assessment of this affective and symbolic mechanism.

Finally, the use of a non-probability convenience sample imposes important restrictions on external validity. The sample was not evenly distributed across key sociodemographic characteristics, since it was composed predominantly of long-term residents, highly educated respondents, and male participants. Specifically, 83.4% of respondents had lived in São Joaquim for more than 20 years, approximately 80% had completed higher education or postgraduate studies, and 61.9% were male. These characteristics may have influenced the results, as long-term residents may have stronger affective ties to the territory, highly educated respondents may be more familiar with institutional and territorial development issues, and male participants may not fully represent the perceptions of other social groups in the municipality. Therefore, the findings should not be generalized to the entire population of São Joaquim or to other GI contexts. Rather, they should be interpreted as exploratory evidence based on a specific respondent profile. Future studies should employ probabilistic or stratified sampling strategies to ensure greater balance in gender, education, length of residence, and territorial distribution.

Another limitation concerns the discriminant validity between the Social and Environmental constructs. The HTMT value for this pair was high and exceeded conventional benchmarks commonly used to assess discriminant validity, indicating that these dimensions may not be fully distinguishable in the present sample. This overlap may be related to the specific context of São Joaquim, where residents may interpret environmental preservation, landscape quality, public space use, and sociocultural well-being as closely connected aspects of territorial development. As a result, the structural paths involving Social and Environmental factors should be interpreted with caution. Future research should refine the items used to measure

these dimensions and test alternative specifications, including the possibility of modeling socio-environmental perceptions as an integrated construct.

6.2 Directions for Future Research

To advance the scholarly understanding of the social legitimacy of GIs, future research should adopt a comparative territorial approach. Cross-regional studies involving both consolidated and nascent GIs (e.g., comparing South American wine regions with those in the Global North) would be invaluable to identify if the "Social-Pride-Support" path observed here is a universal phenomenon or a characteristic of emerging markets. Such research could further examine how different stages of GI institutionalization influence community valorization.

Furthermore, we strongly recommend the implementation of longitudinal research designs. Tracking the same community over a period of 5 to 10 years would allow scholars to observe whether environmental factors—which were not significant in this study—gain prominence as sustainable viticulture practices mature and become more visible to the public.

Lastly, integrating qualitative methods, such as in-depth interviews or focus groups, could complement the current quantitative findings. This mixed-methods approach would provide a more nuanced understanding of the why behind the lack of direct support from perceived benefits, potentially uncovering additional psychological or political mediators that influence the community's relationship with its territorial heritage. Future research could examine whether and how residents' perceptions of GIs relate to broader governance arrangements, institutional coordination, and value chain dynamics, using longitudinal, comparative, or multi-actor research designs.

REFERENCES

- [1] M.Z. Milano, A.A. Cazella, Environmental effects of geographical indications and their influential factors: a review of the empirical evidence, *Current Research in Environmental Sustainability* 3 (2021) 100096. <https://doi.org/10.1016/j.crsust.2021.100096>
- [2] E. Vandecandelaere, L.F. Samper, A. Rey, A. Daza, P. Mejía, F. Tartanac, M. Vittori, The geographical indication pathway to sustainability: a framework to assess and monitor the contributions of geographical indications to sustainability through a participatory process, *Sustainability* 13 (2021) 7535. <https://doi.org/10.3390/su13147535>
- [3] R. Crescenzi, F. De Filippis, M. Giua, C. Vaquero-Piñeiro, Geographical indications and local development: the strength of territorial embeddedness, *Regional Studies* 56 (2022) 381-393. <https://doi.org/10.1080/00343404.2021.1946499>

- [4] H. Pamukçu, Ö. Saraç, S. Aytuğar, M. Sandıkçı, The effects of local food and local products with geographical indication on the development of tourism gastronomy, *Sustainability* 13 (2021) 6692. <https://doi.org/10.3390/su13126692>
- [5] L. Menapace, G. Moschini, The economics of geographical indications: an update, *Annual Review of Resource Economics* 16 (2024). <https://doi.org/10.1146/annurev-resource-101623-092812>
- [6] K. Schober, R. Balling, T. Chilla, H. Lindermayer, European integration processes in the EU GI system: a long-term review of EU regulation for GIs, *Sustainability* 15 (2023) 2666. <https://doi.org/10.3390/su15032666>
- [7] L.M. Vieira, J.M. Monticelli, T.P. Cislighi, The interplay of institutions and coopetition: a decade-long analysis of a geographical indication in the Brazilian wine industry, *Journal of Business & Industrial Marketing* 40 (2025) 1283-1297. <https://doi.org/10.1108/JBIM-04-2024-0268>.
- [8] M. Chacana-Ojeda et al., The development of geographical indications in Latin America: a bibliometric analysis, *RIVAR* 12 (2025) 1-22. <https://doi.org/10.35588/5f224w47>.
- [9] D.W. Gade, Tradition, territory, and terroir in French viniculture: Cassis, France, and Appellation Contrôlée, *Annals of the Association of American Geographers* 94 (2004) 848-867. <https://doi.org/10.1111/j.1467-8306.2004.00438.x>.
- [10] P. Covarrubia, The disappearance of traditions: the use of geographical indications and collective marks to prevent loss of culture in South America, *IIC* 55 (2024) 1257-1280. <https://doi.org/10.1007/s40319-024-01519-8>.
- [11] J.O.M.G. Salvado, Enotourism ecosystem: stakeholders' coopetition model proposal, *Tourism and Hospitality International Journal* 6 (2016) 77-93.
- [12] F.D. Zucco, C.M. Ardigó, G.A. Patricio, P.S. Reinert, C.M.S. Miranda, Market segmentation in tourist festivals: perspectives on social and cultural identity, *Turismo: Visão e Ação* 26 (2024) e19968. <https://doi.org/10.14210/tva.v26.19968>
- [13] E. Happ, N. Nemes, The role of territorial identity in the sustainability of tourism in Hungary, *Geo Journal of Tourism and Geosites* 58 (2025) 225-232. <https://doi.org/10.30892/gtg.58119-1404>
- [14] B. Wang, S. He, Q. Min, F. Cui, G. Wang, Influence of residents' perception of tourism's impact on supporting tourism development in a GIAHS site: the mediating role of perceived justice and community identity, *Land* 10 (2021) 998. <https://doi.org/10.3390/land10100998>

- [15] Associação dos Produtores de Maçã e Pera de Santa Catarina (AMAP), 137 years of São Joaquim: celebrating the essence of the National Apple Capital, 2025. <https://www.amapsc.org.br/>
- [16] A. Mazé, Geographical indications as global knowledge commons: Ostrom's law on common intellectual property and collective action, *Journal of Institutional Economics* 19 (2023) 494-510.
- [17] S. Bowen, A. Valenzuela Zapata, Geographical indications, terroir, and socioeconomic and ecological sustainability: the case of tequila, *Journal of Rural Studies* 25 (2009) 108-119. <https://doi.org/10.1016/j.jrurstud.2008.07.003>.
- [18] G. Belletti, A. Marescotti, J.M. Touzard, Geographical indications, public goods, and sustainable development: the roles of actors' strategies and public policies, *World Development* 98 (2017) 45-57. <https://doi.org/10.1016/j.worlddev.2015.05.004>.
- [19] G. Pettenati, E. Amo, M. Woods, Assembling mountains through food: typical cheese and politics of mountainness in the Italian Alps, *Geoforum* 159 (2025) 104210. <https://doi.org/10.1016/j.geoforum.2025.104210>.
- [20] J. Salvado, Wine culture, territory/landscape and tourism, the enotourism key pillars: how to get business success and territorial sustainability inside wine tourism ecosystem? A pathway for the new generation of tourism research, in: *Proceedings of the EATSA Conference 2016*, 2016.
- [21] I.M. Adhika, I.D.G.A.D. Putra, Reinvigorating cultural landscapes for planning cultural tourism in Bali, *Geo Journal of Tourism and Geosites* 33 (2020) 1462-1469. <https://doi.org/10.30892/gtg.334spl03-594>
- [22] A. Palermo, L. Chieffallo, S. Virgilio, The identification of cultural tourism geographies: results from a systematic literature review, *Geographica Pannonica* 27 (2023). <https://doi.org/10.5937/gp27-46772>
- [23] F. Bourlon, T. Gale, A. Adiego, V. Álvarez-Barra, A. Salazar, Grounding sustainable tourism in science: a geographic approach, *Sustainability* 13 (2021) 7455. <https://doi.org/10.3390/su13137455>
- [24] Z. Zachmann, L. Chloe McCallum, R. Finger, The effect of geographical denomination on the uptake of fungus-resistant grapes, *Applied Economic Perspectives and Policy* 47 (2025) 1095-1118. <https://doi.org/10.1002/aepp.13512>.
- [25] A.A. Ducman, V. Diaconita, I. Simonca, A. Belciu, A.M.I. Corbea, Government oversight and economic impacts: sustainability in the vineyard and the evolution of wine

- regulations, trade and production, *Agronomy* 13 (2023) 2991.
<https://doi.org/10.3390/agronomy13122991>.
- [26] J.A. Quintela, H. Albuquerque, I. Freitas, Port wine and wine tourism: the touristic dimension of Douro's landscape, *Sustainability* 15 (2023) 11718.
<https://doi.org/10.3390/su151511718>
- [27] D. Esau, D.M. Senese, The sensory experience of wine tourism: creating memorable associations with a wine destination, *Food Quality and Preference* 101 (2022) 104635.
<https://doi.org/10.1016/j.foodqual.2022.104635>
- [28] G. Szolnoki, M. Tafel, Environmental sustainability and tourism: the importance of organic wine production for wine tourism in Germany, *Sustainability* 14 (2022) 11831.
<https://doi.org/10.3390/su141911831>
- [29] J. Bruwer, M.J. Gross, H.C. Lee, Tourism destination image (TDI) perception within a regional winescape context, *Tourism Analysis* 21 (2016) 173-187.
<https://doi.org/10.3727/108354216x14559233984692>
- [30] A. Guedes, J. Rebelo, Winescape's aesthetic impact on lodging room prices: a spatial analysis of the Douro region, *Tourism Planning & Development* 17 (2020) 187-206.
<https://doi.org/10.1080/21568316.2019.1597761>
- [31] A. Alcalá-Ordóñez, V. Segarra, Tourism and economic development: a literature review to highlight main empirical findings, *Tourism Economics* 31 (2025) 76-103.
<https://doi.org/10.1177/13548166231219638>.
- [32] Á.R. Ruiz Pulpón, M.D.C. Cañizares Ruiz, Intangible heritage and territorial identity in the multifunctional agrarian systems of vineyards in Castilla-La Mancha, Spain, *Land* 11 (2022) 281. <https://doi.org/10.3390/land11020281>
- [33] M. Carvalho, E. Kastenholz, M.J. Carneiro, Interaction as a central element of co-creative wine tourism experiences: evidence from Bairrada, a Portuguese wine-producing region, *Sustainability* 13 (2021) 9374. <https://doi.org/10.3390/su13169374>
- [34] A. Trigo, P. Silva, Sustainable development directions for wine tourism in Douro wine region, Portugal, *Sustainability* 14 (2022) 3949. <https://doi.org/10.3390/su14073949>
- [35] K.M. Lopes, Paths of environmental perception in place: Pindaí - Island of Maranhão, Master's dissertation, State University of Maranhão, 2021.
- [36] L.C.S. Flores, G.O.M.S. Flores, P.G. Jaski, I. Cegatta Júnior, Contribution of wine tourism in São Joaquim/SC to the perception of residents, *Journal of Contemporary Tourism* 11 (2023) 317-345. <https://doi.org/10.21680/2357-8211.2023v11n2id27785>

- [37] T. Lan, Z. Zheng, D. Tian, R. Zhang, R. Law, M. Zhang, Resident-tourist value co-creation in the intangible cultural heritage tourism context: the role of residents' perception of tourism development and emotional solidarity, *Sustainability* 13 (2021) 1369. <https://doi.org/10.3390/su13031369>
- [38] V. Reinert, C.B.D. Quadros, G.A. Patrício, P.S. Reinert, T.L. Kuhn, Meanings of leisure and its impacts on the experience of escapism, personal fulfillment, and use of spaces, *Turismo: Visão e Ação* 27 (2025) e20841. <https://doi.org/10.14210/tva.v27.20841>
- [39] P. Tuntipisitkul, T.W. Tsusaka, S.M. Kim, R.P. Shrestha, N. Sasaki, Residents' perception of changing local conditions in the context of tourism development: the case of Phuket Island, *Sustainability* 13 (2021) 8699. <https://doi.org/10.3390/su13168699>
- [40] J.R.R. Soares, M.F. Casado-Claro, M.E. Lezcano-González, M.D. Sánchez-Fernández, L.P.M.C. Gabriel, M. Abril-Sellarés, The role of the local host community's involvement in the development of tourism: a case study of the residents' perceptions toward tourism on the route of Santiago de Compostela, Spain, *Sustainability* 13 (2021) 9576. <https://doi.org/10.3390/su13179576>
- [41] F.D. Zucco, C.B. de Quadros, T. Pereira, P.S. Reinert, P.F. Limberger, Community benefits in local tourism: the mediating role of institutional trust in meeting needs and social integration, *International Journal of Event and Festival Management* (2025) 1-21. <https://doi.org/10.1108/ijefm-07-2025-0095>
- [42] Brazilian Institute of Geography and Statistics (IBGE), São Joaquim: panorama and population data, 2025. <https://cidades.ibge.gov.br/brasil/sc/sao-joaquim/panorama>.
- [43] Municipal Government of São Joaquim, Geographic and social aspects, 2025. <https://saojoaquim.sc.gov.br/pagina-713/>.
- [44] Vinhos de Altitude Producers Association, Altitude wines of Santa Catarina: a unique experience in the world, 2025. <https://vinhosdealtitude.com.br/#viniculas>.
- [45] C. Pandolfo, L.F.N. Viana (Eds.), High-altitude wines of Santa Catarina: characterization of the producing region, indicators and instruments for proposing a geographical indication, Epagri, Florianópolis, 2020.
- [46] P.B.M. Rebollar, C. Baumgarten, High-altitude wines of Santa Catarina: history and culture, Epagri/Sebrae, Florianópolis, 2020.
- [47] Brazil, Ministry of Agriculture and Livestock, Wine and beverage information system (SIVIBE), 2025. <https://mapa-indicadores.agricultura.gov.br/publico/extensions/SIVIBE/SIVIBE.html>.

- [48] S. Xu, C. Barbieri, D. Anderson, Y. Leung, Residents' perceptions of wine tourism development, *Tourism Management* 55 (2016) 276-286. <https://doi.org/10.1016/j.tourman.2016.02.016>.
<https://doi.org/10.1016/j.tourman.2016.02.016>
- [49] A.C. Gil, *Methods and techniques of social research*, 6th ed., Atlas, São Paulo, 2008.
- [50] R.J. Richardson et al., *Social research: methods and techniques*, Atlas, São Paulo, 2011.
- [51] C.H. Li, Confirmatory factor analysis with ordinal data: comparing robust maximum likelihood and diagonally weighted least squares, *Behavioral Research Methods* 48 (2016) 936-949. <https://doi.org/10.3758/s13428-015-0619-7>.
- [52] C. DiStefano, G.B. Morgan, A comparison of diagonal weighted least squares robust estimation techniques for ordinal data, *Structural Equation Modeling* 21 (2014) 425-438. <https://doi.org/10.1080/10705511.2014.915373>.
- [53] T. Brown, *Confirmatory factor analysis for applied research*, 2nd ed., Guilford Press, 2015.
- [54] A. Jezierska-Thöle, A. Gonia, Z. Podgórski, M. Gwiazdzińska-Goraj, Wine tourism as a tool for sustainable development of the cultural landscape: a case study of Douro Wine Region in Portugal, *Sustainability* 17 (2025) 1494. <https://doi.org/10.3390/su17041494>.
- [55] AMAP. Associação dos Produtores de Maçã e Pera de Santa Catarina. (2025). 137 years of São Joaquim: Celebrating the essence of the National Apple Capital. <https://www.amapsc.org.br/>
- [56] R.M. Gerber, The contribution of anthropology in recognizing cultural reference in GI (geographical identity) processes in Santa Catarina, in: *Geographical Indications and Traditional Products: Proceedings of the VIII Santa Catarina Workshop on Geographical Indication*, Florianópolis, 2019, pp. 30-33.
- [57] J.M.R. Lucion, The social construction of the territorial identity of the Corupá/SC region amidst qualifications, singularities and geographical indications, in: *Geographical Indications and Traditional Products: Proceedings of the VIII Santa Catarina Workshop on Geographical Indication*, Florianópolis, 2019, pp. 34-44.
- [58] C.C. Prodanov, E.C. Freitas, *Methodology of scientific work: methods and techniques of research and academic work*, Feevale, Novo Hamburgo, 2013.