SUSTAINABILITY DIAGNOSIS OF A DEVELOPING TOURISM REGION THROUGH A QUADRUPLE BOTTOM LINE LENS: A CASE STUDY OF THE UNA-SANA CANTON

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Abstract

Purpose – This study aims to provide a comprehensive sustainability diagnosis of the Una-Sana Canton (Bosnia and Herzegovina), a developing tourism region that faces complex sustainability challenges despite growing tourism activity and potential. The objective is to provide the diagnostic evidence on key tourism sustainability bottlenecks, necessary to manage tourism growth without compromising the region's biggest natural asset – its Una River.
Methodology/Design/Approach – A rigorous multi-phased methodology was employed in this case-study research, starting with secondary data research whose outputs were employed in four diagnostic models: SWOT analysis, MAP of actors, DPSIR model and System of sustainability indicators – assessed through the Quadruple Bottom Line (QBL) Framework lens.
Findings – The study reveals significant sustainability risks such as river degradation, governance fragmentation and labour out-migration, despite the region's high tourism potential – driven by geographical position, natural attractiveness and price competitiveness. Crucially, the findings disclose that governance fragmentation is the primary bottleneck that affects the other tourism sustainability pillars within the Una-Sana Canton.
Originality of the research – By utilizing the QBL framework, this study integrates the traditional sustainability pillars of Profit, Planet, and People with a fourth dimension essential within complex national political environments: Governance (Purpose).
Keywords QBL Framework, Sustainability Diagnosis, Una-Sana Canton, Governance, Tourism Development.

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INTRODUCTION

The Una-Sana Canton (USC) region, situated in the northwestern part of Bosnia and Herzegovina has a significant potential for further sustainable tourism development due to rare natural resources, existence of Una National Park and EU-bordering geographic position. Main tourism products of the region are Nature-based, Adventure and Cultural tourism, offered at a very competitive prices compared to competing tourism regions. De facto, future events such as in-progress airport building in Bihać and the fact that country received the confirmed EU candidate status in 2024 (European Commission n.d.) will create new development opportunities. Tourism destinations development, as Ritchie and Crouch (2003) argue, requires a delicate balance between market opportunities and destinations' sustainability. This balance becomes particularly crucial in environmentally sensitive areas like the Una River basin, where tourism development must align with ecological preservation goals, as proven by international recognition of Una National Park part (travertine waterfalls in Martin Brod) being listed at UNESCO World Heritage tentative list (UNESCO World Heritage Centre, n.d.). In the large pool of interesting tourism regions for the case study, the selection of USC region prevails as it represents a unique case of both under-considered investment opportunity and sustainable tourism development potential in Europe. This tourism region, even in the early stages of tourism development, provides an excellent example of the potential conflict between economic development, social impacts, environmental preservation and governance fragmentation. At the same time, it offers the opportunity for a timely risk assessment and pre-emptive sustainability strategies' development, prior to these conflicts between pure economic benefits and other sustainability pillars becoming more obvious and cause a conflict. Additionally, the scientific interest in this proposal is driven by the extremely growing tourism activity within Una-Sana Canton - 353% expansion in overnight stays between 2021 and 2024 (Federal Office of Statistics, 2025) - yet presenting the tourism region that is missing strategic planning and governance.

Literature Review

Tourism is a growing contributor to many national economies (Gursoy and Nunkoo, 2019). Traditionally, tourism sustainability has been assessed through the Triple Bottom Line (TBL) framework which focuses on Profit, Planet, and People (Elkington, 1994). Contemporary research into the economic impacts of tourism has moved beyond the traditional reliance on GDP and employment growth to the investigation focused on overall prosperity, that includes qualitative indicators such as quality of life in the tourism regions (Mathew & Sreejesh, 2017; Ramkissoon, 2020; Jaafar et al., 2017). Grünig Iribarren (2023) describes sustainability as "a way of managing all resources so that economic, social and aesthetic needs can met, while respecting cultural integrity, essential ecological processes, biological diversity and life-sustaining systems" (p. 15). Streimikiene et al. (2021) points out that in order to address the main economic sustainability issues or to strengthen the competitiveness of sustainable tourism sector, all these economic, social and environmental issues need to be addressed together. While global tourism studies mainly rely on TBL and ESG frameworks to assess tourism sustainability, recent research reveals significant limitations.

Barišić & Bučar (2025) argue that despite a long history of tourism development, environmental, social, and governance (ESG) challenges remain and require an integrated and collaborative approach to be addressed. Furthermore, ESG remains problematic as standardized quantitative metrics often prioritize scoring over substantive environmental impact (Mishra & Pandey, 2025). Simultaneously, the urgency of climate change has directed the TBL framework toward an environmental bias, where environmental performance is prioritized at the expense of social and economic aspects (Pasamar et al., 2025). This study addresses these gaps by adopting a holistic QBL framework lens into tourism sustainability diagnosis. QBL framework is essential in complex political environments like the Una-Sana Canton, where the traditional TBL lacks the governance lens that dictate tourism sustainability outcomes. This is supported by Degirmenci et al. (2025), who demonstrate that political governance can play a significant role in shaping tourism development. Governance focuses on components of responsibility, participation, community engagement, transparency, answerability, and accountability (Alibašić, 2018), to implement sustainability policies. In this context, the Governance pillar within QBL framework may be the critical bottleneck or enabler that determines functioning of the other sustainability pillars. This framework meets the requirements of Balas & Abson (2022) for assessing tourism sustainability, who argue that rigorous assessment methodologies must balance globally recognized tourism sustainability indicators with enough flexibility to account for different local contexts.

Expected Contributions

This study fills a significant research gap as the first academic sustainability diagnosis of the USC tourism region, providing to the USC stakeholders a vital foundation for risk-cautious investment and rational environmental strategies. The study addresses: How does the QBL lens, by integrating governance as a fourth sustainability pillar, contribute to revealing the holistic causal effects and bottlenecks within the tourism sustainability diagnosis of the Una-Sana Canton? The contribution of this study to new knowledge lies in the introduction of the QBL framework to tourism sustainability diagnosis. This approach provides a replicable methodological lens that can be applied to other developing tourism regions in the fragmented political environments.

1. METHODOLOGY

This study adopts case study research design combined with descriptive elements. Billups (2023) emphasizes that case study designs are essentially situational analyses where a particular event is studied from the viewpoints of all key stakeholders and helps us understand if the event emerged, unfolded, succeeded, failed, or impacted a group or organization. The study employs a multi-phased research methodology, synthesized through the QBL framework lens. This methodological approach is designed to provide a rigorous, 360-degree diagnosis of Una-Sana tourism region's tourism sustainability. After performing the initial secondary data research and theoretical framework grounding, the descriptive data analysis of the region's tourism sustainability was completed. Following the analysis phase, diagnosis phase involved 4 key diagnostic tools: SWOT analysis – for strategic positioning, Map of actors – for assessing stakeholders' relationships and institutional dynamics, DPSIR – for diagnosing causal environmental relationships and System of sustainability indicators – for benchmarking. This methodological combination is appropriate because it moves beyond descriptive and individual interpretations to identify causal effects from different angles, revealing the specific sustainability bottlenecks within the USC tourism sector. The data synthesis was performed in the last methodical phase, to enable presentation of the summarized study conclusions. Further explanation of the methodology employed per the phasis of this study is provided below.

Phase 1 - Descriptive Analysis: Methodology of this study phase relies on the rigorous analysis of the secondary data derived from the official governmental, regulatory and statistical reports, academic research, followed by validated web sources. In addition to descriptive data analysis, this study relies on existing Benchmark analysis data – NP Una vs. NP Plitvice Lakes - as a supplementary data input. Benchmark is the process of continuously improving performance by identifying, understanding, adapting, and implementing best practices that are inside and outside the organization and it is made by comparing the results of the analyzed area with one of the better ones implying the assessment of a wide range of indicators (Bădicu & Dorin, 2018). After the data sourcing process has been completed and targeted documents were identified, careful reading and analysis was required to understand and identify the strengths, weaknesses, opportunities and threats of USC tourism region, classified into the main four sustainability pillars (QBL).

Phase 2 - Sustainability Diagnosis: Building on the previous statements, the tourism diagnostic methodology integrates and interprets data collected in the analysis phase, using four diagnostic methods: SWOT analysis, Map of Actors, DPSIR model and simplified System of Indicators adapted to the realities of USC tourism region. SWOT analysis is a strategic planning technique that helps organizations identify their Strengths, Weaknesses, Opportunities, and Threats (Bitesize Learning, n.d.). In this case study context, SWOT analysis offers a structured categorization of internal and external sustainability factors identified in analysis phase across all 4 sustainability pillars (economic, environmental, social and governance). Map of Actors is a visual depiction of the key organizations and/or individuals that make up a system, including those directly affected by the system as well as those whose actions influence the system (FSG, 2021). This method is used to reveal relationships, dependencies and influences between main tourism categories, actors and systems in USC tourism region. The DPSIR framework is widely used in literature to analyse environmental problems. The framework is based on a chain of causal links starting from "driving forces" (economic, environmental and human activities) through "pressures" (emissions, waste, discharges etc.) leading to "states" (physical, chemical and biological situation of biota and environment) and "impacts" on targets such as ecosystems and human health, eventually giving political or technical "responses" (Labianca et al., 2020). The DPSIR model adopted for the use in tourism - Drivers (Pressure Indicators), Pressures, State (Quality Indicators), Impacts, Responses (Celdrán Bernabeu, 2023)

- provides the systemic foundation of the analysis. It illustrates how existing social and economic drivers in Tourism generate pressures on the environment, moving on how these pressures shape the environmental and social conditions, to what impacts they lead and how responses can mitigate or accelerate these effects. Tourism system indicators are metrics used to measure the health, impact, and sustainability of tourism, covering economic, socio-cultural, and environmental aspects. European Union has developed EU SDG progress tracker that defines main indicators according to UN SDGs (Eurostat, n.d.). The indicator system provides the necessary metrics to monitor the trend of the key indicators for tourism in Una-Sana Canton, including tourist arrivals, employment in tourism, infrastructure development, water quality, cantonal budget spending on environment as well as governance actions taken to improve key issues, categorized in 4 main categories: Economic, Environmental, Social, and Governance. Together, these diagnostic methods enable multidimensional understanding of the tourism sustainability dynamics within USC tourism region.

Phase 3 - Data Synthesis: The study concludes with the synthesis of research results, offering empirical and data-driven foundation for the strategic planning of the sustainable tourism development in Una-Sana Canton. The mixed-methodology employed in the study ensures the data triangulation and its academic quality.

2. RESULTS

2.1 Descriptive Data Analysis

The analysis of the collected information confirms that the crucial problems for USC tourism sustainability are primarily connected with governance and environmental challenges, that prevent Canton to utilize the value of its natural asset at the first instance. The synthesis of the analysis results is provided below and the descriptive data analysis output is presented in Table 1.

Economic pillar (Profit) analysis: A high economic potential of USC exists, driven by market demand for its primary natural product, but the data shows that economic benefits are strongly impacted by infrastructural deficiencies and lack of available funding for the new tourism projects.

Environmental pillar (Planet) analysis: The Una River, with its waterfalls and travertine, is the USC region's main asset. Yet, the analysis indicates that this environment is under pressure from inadequate waste management, climate changes and unregulated building along the riverbanks.

Social pillar (People) analysis: The region is characterized by a strong tradition of hospitality and heritage. On the other hand, the data show significant demographic decline, unemployment and the difficulty of ensuring that USC residents actually see the financial benefits of tourism growth.

Governance pillar (Purpose) analysis: Although there is a strategic vision in place, the current management framework is fragmented. This leads to weak tourism planning, funding, inconsistent enforcement per destination and makes it difficult to promote the Una-Sana Canton as a single, coordinated tourism region.

Table 1: **QBL Tourism Sustainability Analysis of Una-Sana Canton**

Economic pillar (Profit) analysis
Strengths: Una-Sana Canton demonstrates continuous growth in tourism activity, a primary factor for revenue generation (Tourism Development Strategy USC, 2024). This is evident in the number of tourist arrivals in USC, which reached 73.848 in 2024 (2023: 38852), with more than 60% of all visitors being foreign tourists (Federal Institute for Statistics of FBiH, 2025; Osmanović & Hrelja, 2025). The highest participation in the foreign tourists' statistics make residents of Saudi Arabia and several other Middle East countries (Federal Institute for Statistics of FBiH, 2025). The region's diverse tourism potentials (including adventure, rural, and cultural) allow the development of specialized offerings, necessary for increasing Cantonal revenue (Tourism Development Strategy USC, 2024). The geographical location is highly favorable, positioning the Canton in proximity to key EU source markets (Spatial Plan USK, 2023). Additionally, the price accessibility of the USC tourism products provides a competitive advantage, compared to neighborhood EU regions. **Weaknesses:** According to data analysis performed by the group of USC experts, several main weaknesses are connected to economic sustainability. Financially, the Canton realizes a relatively low share of total tourism activities compared to the Federation of Bosnia and Herzegovina and BiH overall. Revenue generation is compromised by the pronounced seasonality and short duration of tourist stays. A major inhibitor of tax revenue and fair competition is the pervasive "grey economy in tourism", characterized by the illegal provision of services and deficient controls. The investment climate is weak due to insufficient dedicated funds for tourism projects and inadequate incentives for developing the tourist offer. In addition, the limited scope and low quality of accommodation capacities restrict the ability to attract higher-spending market segments. Lastly, the current shortage of souvenirs and local products represents a persistent missed opportunity for local income generation (Tourism Development Strategy USC, 2024). **Opportunities:** The Canton can leverage continuous tourist movements within FBiH and BiH, benefiting from its regional market advantage (Tourism Development Strategy USC, 2024). According to the same source, the proximity to regional and EU source markets aligns with the tourist tendency to travel more frequently and for shorter periods, offering opportunities for short-break and weekend tourism. Crucially, the region has the possibility of utilizing international sources of funding and donor resources, particularly through cross-border cooperation programs, which is vital for financing necessary public infrastructure and region improvements. According to Development Strategy USC (2021) the majority of Cantonal budget funds (52,4%) is distributed for economic investments, and the rest is distributed between environmental and socio-cultural projects. **Threats:** Financial stability of USC is under constant threat from internal and external factors. The complex political instability and economic situation in BiH create a discouraging environment for entrepreneurship and investments (Development Strategy USC, 2021). The high influence and dependence on foreign tour operators and agencies, combined with a generally low level of investment in research and development, introduce market sensitiveness (Tourism Development Strategy USC, 2024). Moreover, the physical vulnerability of key tourism assets to periodical urban flooding is an increasing hazard (Osmanović & Hrelja, 2025; Gnjato et al., 2024).
Environmental pillar (Planet) analysis
Strengths: The environment's intrinsic value is derived from the authenticity of the area, its hydrography, and its geomorphology (Bidžan-Gekić et al., 2019), centered on the pristine Una River, which is the most important feature of the Bihać tourism region according to the authors. The presence of the Una National Park (NP Una) ensures a protected core asset for recreation, sports, and ecotourism, with the upper reaches maintaining a high level of Class I water quality (Pajazetović, 2020; Cepić, 2009). The Canton exhibits an abundance of natural and untouched immemorial values, particularly geomorphologic and bio-geographic features (Spatial Plan USK, 2023; Cepić, 2009). **Weaknesses:** According to data analysis, the most pressing environmental weaknesses come from infrastructure. The tourism sector is hampered by widespread poor waste management, deficient communal infrastructure and inadequate wastewater systems (Džigal, 2024; Tourism Development Strategy USC, 2024). This contributes to water quality degradation, with contamination like Chemical Oxygen Demand (HPK) sometimes exceeding limits for drinking water (Bajramović et al., 2013). The condition of the tourism infrastructure is poor, failing to meet the standards necessary to safeguard natural and cultural assets (Tourism Development Strategy USC, 2024; Pajazetović, 2020). Essential improvements are needed in planning and strengthening local public-private partnerships, and investing in both basic and tourism-specific infrastructure in Bosnia and Herzegovina (Shultz, Peštek, & Geroulis, 2015). **Opportunities:** Una-Sana Canton is positioned to benefit from global trends toward healthy lifestyles and active recreation, driving interest in its adventure, eco-tourism, and agro/rural products (Federal Tourism Strategy, 2022). Furthermore, there is a growing global interest in ecologically acceptable and organic products, providing an opportunity to integrate local agriculture with the tourism value chain (Tourism Development Strategy USC, 2024). Strategic efforts include intensifying the process of legal protection of natural heritage by forming new protected areas and reconstructing existing infrastructure to enhance access to attractions (Spatial Plan USK, 2023). **Threats:** The primary external threat is the proposed Radioactive Waste Disposal site at Čerkezovac in Croatia, located less than 1 km from the BiH border, which poses an unprecedented risk of contaminating the karst aquifer (Korjenić, 2024). Construction of the hydroelectric power plant on the Una River spring (in Croatia) that was halted in 2024 thanks to activists' initiatives and Government decision. Furthermore, uncontrolled and often illegal construction poses a major threat to the river and the National Park, potentially accelerating degradation faster than industrial pollution (Hromadžić, 2024). Climate change is intensifying hydrological extremes, with the return period for severe flood events on the Una River shortening significantly (Gnjato et al., 2024). Additionally, inadequate waste management and environmental remediation in BiH represent systemic problems the Canton cannot solve autonomously (Džigal, 2024). The proliferation of invasive species, such as the signal crayfish and monkey goby, introduced via human activity like fish farming, poses a major threat to native biodiversity (Hromadžić, 2024).

Social pillar (People) analysis

Strengths: The Canton possesses a richness of cultural-historical monuments, including the Kapetanova Kula and Fethiya Mosque in Bihać (Tahić, 2020; Reljić, 2021). The hospitality of the population is a significant non-physical asset, crucial for enhancing service quality and visitor satisfaction (Hebilović, 2022). The author has found that the local hotel workforce demonstrates relatively high competence in emotional labor (average score of 3.64 on survey questions), indicating a solid base for service excellence. In addition, the number of events and manifestations contributes positively to social life and tourist activity (Tahić, 2020). **Weaknesses:** The most critical social weakness is the difficulty in securing the availability of the workforce and hiring educated and professional staff in tourism (Reljić, 2021; Tourism Development Strategy USC, 2024). On the other hand, Una-Sana Canton records high unemployment numbers, 25.883 unemployed vs. 38.895 employed persons on December 31, 2024 (Federal Institute for Statistics of FBiH, 2025; Una-Sana Canton Employment Service, 2025). According to the same sources, the majority of unemployed population are women, 57,86%. Despite the high unemployment, the Cantonal tourism businesses struggle to recruit a qualified workforce willing to accept seasonal job opportunities in Tourism. This is complemented by a lack of educational programs tailored to tourism market needs. Heritage remains insufficiently accessible to tourists, often stored in libraries and public institutions rather than being actively interpreted and promoted (Reljić, 2021). **Opportunities:** The Canton is positioned to attract global trends in tourism focused on products like cultural, sports, gastro-tourism, and event-based travel (Federal Tourism Strategy, 2022). The development of agro/rural tourism provides a path for diversification, leveraging the local potential and tradition of rural areas. Furthermore, engaging the diaspora and developing educational programs like mandatory school excursions present opportunities to build future demand and strengthen cultural ties (Tourism Development Strategy USC, 2024). **Threats:** The social structure is threatened by the severe emigration from BiH (mainly to EU countries), reducing the available workforce. The depopulation trend contributes to the dying out of traditional crafts and a lower quality of life in rural areas, which erodes the product authenticity. Uncontrolled development risks physically and visually degrading the cultural and natural heritage (Pajazetović, 2020). This unmanaged growth also poses a risk of social degradation and the loss of authentic cultural character through aggressive commodification (Hromadžić, 2024).

Governance pillar (Purpose) analysis

Strengths: There is a high level of interest from stakeholders coming from public and private sector for systemic tourism development, indicating a foundational political will for cooperation (Tourism Development Strategy USC, 2024). The Canton benefits from relatively good awareness of the USC tourism offer among tourists from BiH and the region, providing a foundation for targeted marketing. The recent Spatial Plan of USC provides a framework for rational and planned use of the space as a tourism resource (Spatial Plan USK, 2023). **Weaknesses:** The primary systemic issue is the ad-hoc approach to tourism development and the critical absence of a systemic region management function, specifically the functional absence of a Cantonal Tourist Board (Džigal, 2024). This bottleneck is rooted in the complex system of organization in BiH and the subsequent division/overlap of tourism competencies across state, entity, and cantonal levels (World Bank Group, 2021). This fragmentation further leads to a limited, non-market-profiled, and unintegrated tourist offer. This statement has been confirmed by recent comparative analysis of Plitvice Lakes NP and Una NP whose findings conclude that weakest dimension of the tourist offer between National Parks is in the area of the the accommodation capacity and tourism offer where Una NP is falling significantly behind Plitvice Lakes NP (Pajazetović, 2020). In addition, the institutional framework suffers from a lack of integrated region planning (World Bank Group, 2021), combined with insufficient association of tourism service providers (Tourism Development Strategy USC, 2024). Finally, the Canton and its municipalities face non-harmonized urban planning procedures that lead to a very complex administration and a long duration of building permit issuance that demotivates potential investors. **Opportunities:** Opportunities exist to modernize governance by establishing a Cantonal tourism board to professionalize policy implementation and promotion (Džigal, 2024). Currently, several municipalities have established their own tourism boards and centers for tourism. The development and application of digital technologies is a major opportunity for improving marketing and operational efficiency (Federal Tourism Strategy, 2022). Furthermore, promoting a multi-region approach through cooperation with key regional partners enhances the Cantonal offer. The establishment of Public-Private Partnerships offers a framework for shared investment and risk in infrastructure projects (Tourism Development Strategy USC, 2024). **Threats:** The external institutional perception of BiH is poor, reflected in its low ranking (132nd out of 140 countries in 2019) on the World Economic Forum's Travel & Tourism Competitiveness Index (World Bank Group, 2021). The local environment is threatened by unharmonized, missing, and inadequate legal regulation in tourism across multiple government levels, creating legal uncertainty. This complexity results in insufficient cooperation and coordination between the public, private, and non-governmental sectors. Finally, the lack of uniform methodologies for monitoring tourist movements and collecting reliable statistics hinders evidence-based strategic planning (Tourism Development Strategy USC, 2024).

Source: Descriptive research analysis according to QBL framework, created by the authors.

2.2 Diagnosis of the USC tourism region

Prior to transition into tourism sustainability diagnosis phase, it was important to assess the current tourism development stage of the Una-Canton tourism region. Based on the previous data analysis and looking at the key elements and indicators such as tourist growth numbers, infrastructure development and local involvement, Una-Sana Canton region is best characterized as being in the later phases of the involvement stage and actively transitioning into the development stage, as per Tourism Area Life Cycle theory (Butler, 1980). This means that some key tourism sustainability indicators are not developed yet, that presents certain limitation for the full sustainability diagnosis of the region in alignment with UN Sustainable Development Goals (United Nations, 2015). However, this diagnosis provides an appropriate level of academic confidence in the local sustainability assessment context.
The overall USC tourism sustainability diagnosis reveals that the strengths, challenges, opportunities and threats of the region are not isolated but form a complex interconnection, where the failure in the Governance pillar (primarily in the role of unclear accountability, response and mitigation) destabilize the Environmental, Social, and Economic pillars.

2.2.1 Results of USC SWOT analysis

The SWOT analysis of the USC tourism region (see Table 1) shows a high tourism potential but structurally challenging region. Strengths of the region are heavily concentrated in the economic demand, geographical position and environmental resources, while weaknesses and threats lie predominantly in the governance and infrastructure-related environmental area. The economic strengths such as rapid tourism growth, strong demand from foreign markets, price competitiveness and diversified tourism potentials suggest a solid market readiness. The environmental strengths reinforce this potential: pristine hydrographic features, high water quality, biodiversity, and the presence of a Una National Park. This is supplemented by hospitality of residents and active government support and involvement in tourism development. Combined, these position USC as a strong tourism region for the nature-based tourism.

Table 2: **USC SWOT analysis**

INTERNAL	**Strengths (S)** ● Strong tourism demand (local and foreign) ● Continuous growth in USC tourism activity ● Geographical location (EU bordering) ● Price competitiveness of tourism products ● Natural assets (Una NP and Una River) ● Hydrography and geomorphology of the area ● Water quality and biodiversity ● Hospitality of residents and tourism workforce ● High interest and active involvement of local stakeholders in tourism development	**Weaknesses (W)** ● Absence of central tourist board (USC) ● Overlapping tourism planning & responsibilities ● Complex administrative processes ● Grey economy in tourism (illegal services) ● Poor waste management and infrastructure ● Inadequate wastewater infrastructure ● Illegal construction at river Una ● Skilled workforce out-migration to EU ● High unemployment including mainly women ● Lack of tourism educational programs ● Complex urban planning & procedures that demotivate potential investors ● Lack of tourism funding
EXTERNAL	**Opportunities (O)** ● Leveraging continuous tourist movements, using its regional advantage (EU border) ● EU cooperation and funding ● Global trends toward eco and rural tourism ● Public-private partnerships for tourism infrastructure projects ● Involvement and funding from diaspora to build future demand ● Digital technologies in tourism ● New investors from Middle East countries ● New airport (connections with Europe and Middle East)	**Threats (T)** ● Čerkezovac radioactive waste disposal ● Flooding events caused by climate change ● Complex political situation in the country ● General economic situation in the country that may decrease investments ● Continued illegal construction at river bank that may harm natural shape of riverbed ● Inadequate and non-harmonized regulations, including tourism legislation ● Severe emigration from Bosnia and Herzegovina and USC

Source: SWOT analysis of Una-Sana Canton Tourism region developed by the authors.

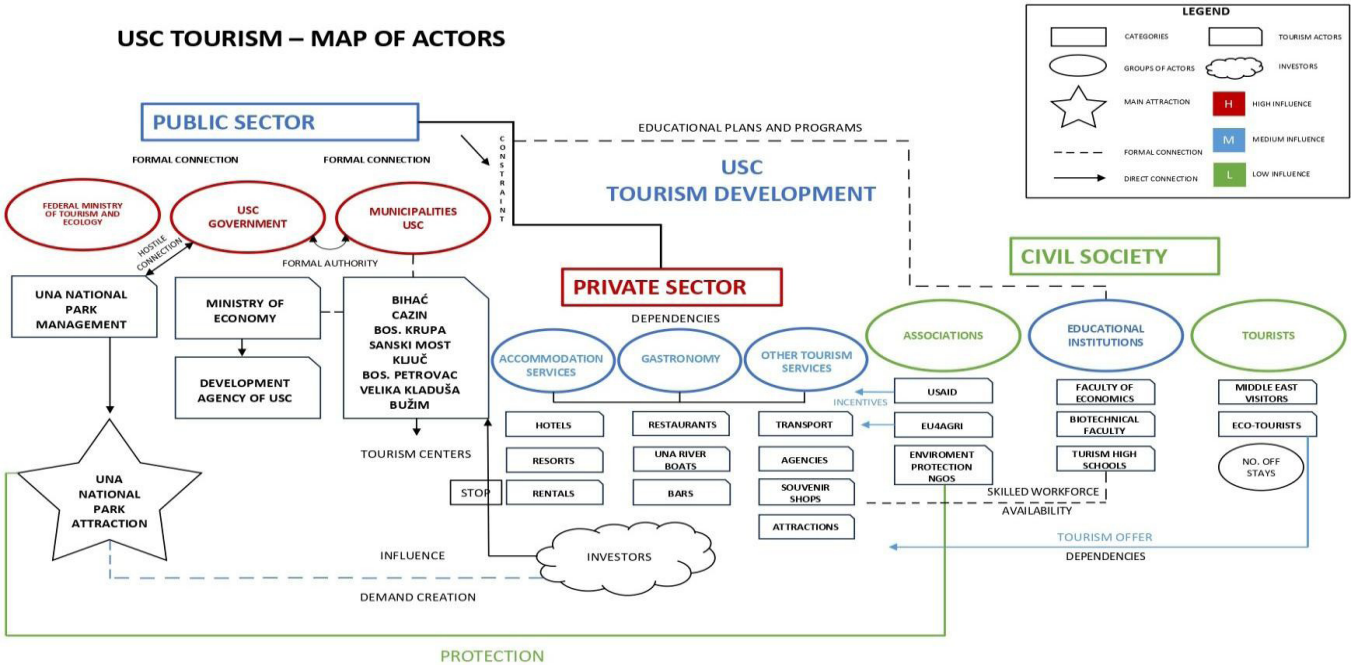
However, these strengths are undermined by severe weaknesses: governance fragmentation, absence of a central, Cantonal tourism board, overlapping tourism planning responsibilities, lack of tourism funding and complex administrative processes. The grey economy further impacts financial sustainability, reducing public revenue. Environmental weaknesses such as poor waste management, inadequate waste-water infrastructure, and illegal construction directly threaten the core resources that drive tourism demand. In this sense, environmental degradation becomes an economic risk, confirming a strong interdependence between pillars. Social weaknesses reinforce this vulnerability: skilled workforce out-migration to EU countries, high unemployment, and lack of tourism education programs create a structural mismatch between labour supply and tourism market needs.

Gender disparities in employment ratio deepen this problem. Threats are heavily related to environment and governance, including the existential threat of the Čerkezovac radioactive waste site, flooding events caused by climate change, external institutional perception of BiH as a country and tourism region, complex political instability, overall economic situation in BiH, severe emigration in the future, and legal / regulatory fragmentation at the country level, that impact Una-Sana Canton as well. Despite significant opportunities that lie in the USC geographic position, potential EU cooperation and funding, global trends toward eco and rural tourism products that may bring more tourists, public-private partnerships, involvement and funding coming from diaspora, implementation of digital technologies in tourism, new tourism investors from Middle East countries and the new airport infrastructure that may enable access of tourists from different regions, the SWOT analysis reveals a complex environment. While high demand and tourism potential exist, there is an insufficient financial support and governmental capacity to support strategic sustainable development at this point of time, unless significant changes occur in the near future.

2.2.2 Results of USC MAP of Actors

The USC MAP of Actors (see Figure 1 below) highlights a complex and fragmented governance system, where actors with high influence (Ministry of Tourism of Federation of Bosnia and Herzegovina and Ministry of Economy of Una-Sana Canton) do not coordinate tourism activities in a harmonized manner and where critical functions such as integrated region management are absent (Cantonal Tourism Board as an acting body instead of Municipalities' tourism and culture centres founded in several USC municipalities).

Figure 1: **USC MAP of Actors**



Source: MAP of Actors of Una-Sana Canton Tourism region, developed by the authors.

The Cantonal Government theoretically holds significant influence, but the power is dispersed across municipalities, state institutions, and the NP Una institution that was established by Federation of Bosnia and Herzegovina. USC Municipalities (8) hold important authority and have high influence over urban planning and construction permits, yet their procedures are slow and inconsistent, directly affecting potential tourism investors' confidence. Formally, Canton holds budget responsibility for the municipalities, but each municipality works according to their own programs and with additional funds, collected through the grants and own budgets. Una National Park as a main attraction creates demand for other tourism services.

The private sector (accommodation services, gastronomy, other tourism service providers) is dependent on and constrained by this institutional setup. Even though the tourism offer is diverse and many private service providers such as accommodation, gastronomy and transport companies are present at the tourism market, their involvement in decision making is limited. The demand for these services is mainly linked to Una NP as a main tourism attraction in the Canton. However, private sector stakeholders are still invited to participate in the creation of Tourism strategy and consulted for main decisions by USC or Municipality authority boards. Investors perceive USC as high investment opportunity but region of high risk, due to uncertainty in obtaining permits, insufficient infrastructure, and inadequate tourism planning activities.

Civil society - especially environmental NGOs - has proven to be an important actor, temporary stopping environmentally harmful projects such as the planned radioactive waste disposal in Croatia. They act as external guardians of the natural environment, filling some governance gaps. Foreign organizations may support USC tourism infrastructure development, through organized project applications and incentives, but clear project ownership and governance shall be established. Academic institutions are responsible for developing a skilled tourism labour workforce and are involved in tourism strategy development process, but as in some other areas, educational plans and programs customized to tourism workforce needs require time to be adopted through complex procedures.

Tourists form a diverse actor group, with Middle Eastern visitors exerting substantial influence on product development and cultural adaptation. Eco-tourists, by contrast, are highly sensitive to environmental degradation and may shift to alternative regions if quality declines.

Map of Actors identifies the following influence strength across the groups of Tourism Actors:

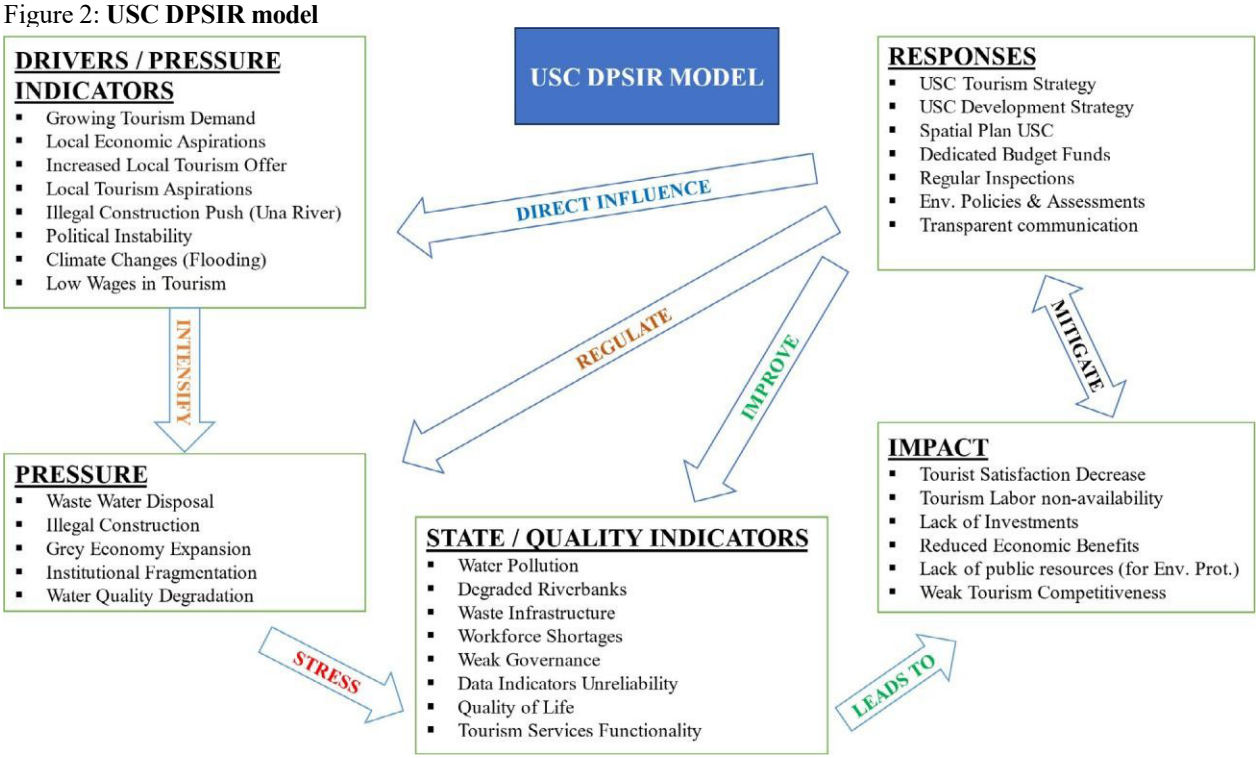
- High influence: Federal Ministry of tourism and ecology, Cantonal Government, Municipal governments.
- Moderate influence: Private sector providers, educational institutions.
- Low influence: Associations, Tourists (yet high impact exposure).

In a nutshell, The USC Map of Actors shows institutional misalignment and missing coordination mechanisms, confirming governance fragmentation as one of the core challenges in USC Tourism Sector.

2.2.3 Results of USC DPSIR model

The USC DPSIR model (see Figure 2 below) illustrates the dynamic processes through which environmental, social, economic and governance pressures interact.

Figure 2: **USC DPSIR model**



Source: DPSIR model of Una-Sana Canton Tourism region, created by the authors.

Drivers (pressure indicators) such as growing tourism demand, increased local tourism offer by service providers, and local tourism / economic aspirations provide a momentum for tourism development. However, conflicting drivers such as the push for illegal construction at the Una River, political instability, low wages in tourism and climate change (flooding) also intensify the pressures on the system. Pressures are primarily environmental and related to governance: waste-water disposal, illegal construction, water quality degradation, grey economy expansion, quality of life and systemic institutional fragmentation. These pressures directly stress the state of the environment, undermine the functioning of the tourism activities, and reduce quality of life for the residents. The state (quality indicators) is characterized by periodical water pollution, degraded riverbanks, limited waste infrastructure, workforce shortages, unreliable data indicators (statistics), and overall weak governance. All this combined creates cascading impacts across all sustainability pillars. Water contamination reduces tourist satisfaction; out-migration reduces tourism labor availability; governance inefficiencies reduce tourism competitiveness, discouraging tourism investments that consequently affect economic benefits. The mentioned impacts create feedback loops that are worsening the system

functionality. For example, degraded natural areas reduce visitation quality, which in turn reduces economic gains and weakens public resources available for environmental protection. Responses exist on paper (USC tourism and development strategies, spatial plans, budget funds, inspections, environmental policies and periodical assessments, transparent communication), but system implementation remains weak and slow. Civil society fills some gaps, but strategic coordination and ownership is absent. The DPSIR model thus confirms a system under stress, where the pressures are rising faster than responses.

2.2.4 Results of USC System of indicators

In the absence of a formal UN Tourism Satellite Account (TSA) metrics and Eurostat SDG tracking (Eurostat n.d.) for Bosnia and Herzegovina, indicators were constructed based on two criteria: historical data availability (to observe trends over time) and diagnostic relevance (addressing known regional pressures). Indicators are categorized under the QBL pillars and interpreted through target-based benchmarking (e.g. standard tourism industry rules for the growth/decrease indicators; established thresholds for the environmental and regulatory indicators). Success or failure is determined by whether an indicator meets or misses these defined targets, to reveal key sustainability bottlenecks in USC tourism region. Economic indicators are showing growth potential but structural inefficiencies of Una-Sana Canton as a tourism region, while environmental indicators reveal river degradation and flooding events. Social indicators demonstrate internal contradictions and social paradox due to labor out-migration, unemployment rate and difficulty to recruit tourism workers in the Canton. Governance indicators present systemic failures including presence of grey economy. Overall, the USC sustainability indicators show that positive trends (increasing tourist arrivals, new accommodation infrastructure investments, and wages increase) are outweighed by negative or stagnant trends in environmental, governance, and social - labour out-migration metrics.

Table 3: **USC System of Tourism Indicators**

Strategic Pillar	Indicator title	Measurement	Current trend	Target
Economic	Tourist arrivals	Year-over-Year (YoY) % change	Positive upward trend	Increase/accelerate upward trend
	Average length of tourist stays	Number of days	Short stays (shorter than 2 days)	Increasing trend
	New investments in accommodation	Number of beds/ accommodation units	Increasing capacity, but high seasonality	Increasing capacity + rising utilization
	Employment in tourism	Number of registered workers in tourism	Grey economy presence, labor shortages	Increasing trend in official registration
Environmental	Quality of the Una river (HPK)	HPK water quality score	Periodical degradation	Improved trend in HPK score
	Waste footprint	Waste per tourist (%)	Data unavailable, waste management failure	Decreasing trend in waste footprint
	Budget for the environment	% of the total USC budget	Spend data unavailable, wastewater management gaps	Increasing trend in environmental spending
Social	Unemployment rate	% of unemployed	Lowering, but partially caused by labor out-migration	Decreasing trend in overall rate
	Female employment	% of female vs. male employment	Positive trend, better use of labor pool required	Increasing trend in female employment
	Tourism sector wages	Ratio of tourism vs. total USC wages	Low wages, contribute to labor mismatch	Increasing trend in wage ratio
Governance	Tourism budget share	% of total USC budget	Increasing trend (media), no report data	Increasing budget for tourism infrastructure
	Average time for investors' permits	Number of days	Months to years (non-official)	Decreasing trend (Target: <60 days)
	New Tourism policies	No. of policies adopted	Slow adoption, no central framework	Increasing trend in policy adoption
	Illegal construction controls	No. of inspections (quarterly)	Insufficient, illegal construction trends worsening	Increasing trend in inspections number

Source: System of Tourism Indicators of Una-Sana Canton Tourism region, developed by the authors.

2.3 Synthesis of the research results

The sustainability diagnosis of the USC tourism region discovers an interconnected system where weaknesses and threats in one pillar reflect to other sustainability pillars. The key finding of this study is that governance pillar has a key impact on economic, environmental and the social pillar due to budget dependencies in the first instance. From an economic perspective, USC Tourism potential is unquestionable but the region provides a non-stable external image towards new investors. The dependency on foreign agencies and funds, seasonality, lack of funding for basic environmental infrastructure, lack of tourism infrastructure and other tourism investments reduce local economic measurable impacts. Environmental pillar is both the region's greatest asset and its most severe vulnerability. Degradation of the river, infrastructure deficits, and illegal construction harm the very foundation of the tourism offer. Climate change increases hazard intensity, making strategic planning and adaptation imperative. The social pillar further complicates the system. Workforce shortages, labour out-migration and gender disparities hinder service quality and reduce resilience. Cultural, adventure and rural tourism hold significant potential but remain underdeveloped due to institutional and educational gaps. Governance fragmentation prevents the development of effective responses. Without a functional Cantonal Tourist Board, strategic plans cannot be operationalized, as they are being dispersed per municipalities. The absence of efficient urban planning and consistent regulations generate high investment uncertainty, which is especially relevant for the significant FDIs into future tourism resort projects.

CONCLUSION

In conclusion, this study confirms that Una-Sana Canton as s tourism region represents a rare opportunity for the further tourism development, though one that requires careful approach. The region has an extraordinary natural value, strong cultural heritage, and high tourism market potential. The Una National Park remains the region's primary tourism attraction, supported by the Bihać Tourist Board's leading role in promoting the tourism offer. While these efforts demonstrate strong local momentum, the region operates within a fragmented governance system. The adoption of the QBL lens in this study proved essential, as it revealed that the region's economic, environmental, and social performance is structurally dependent on governmental policies, budget allocations, and institutional decision-making. Unresolved environmental risks, such as inadequate waste-water management and illegal construction at the Una River banks, prevent long-term sustainability. The identified governance bottlenecks impact region's image and discourage foreign investors. Consequently, financial success is not guaranteed by natural beauty alone; it is dependent on how effectively stakeholders and investors manage integrated QBL risks. This includes development of the rational tourism strategy that will reinforce pre-emptive actions in safeguarding the natural environment and its regeneration, among other priorities. While global tourism trends pivot toward nature-based and quiet tourism offerings, by resolving these bottlenecks, the Una-Sana Canton can transform its potential into an attractive, regenerative tourism model in the long-term.

Managerial Implications

Following the findings of this study, several managerial implications may be addressed. USC tourism actors shall aim for establishment of a centralized tourist board to develop an integrated tourist offer, aiming for extended length of tourist stays in the region. Furthermore, determining carrying-capacity thresholds for the Una River ecosystem, followed by improved monitoring of the river degradation cases would preserve the environment. Finally, tourism managers are advised to develop off-season tourism products to increase their financial benefits and support the local economy.

Limitations and Future Research

Limitations of this study may be addressed to limited academic research and non-availability of the wider tourism metrics for the USC tourism region. Official statistical data are influenced by the grey economy, where many tourism business activities and employment data are hidden or not adequately reported. Furthermore, this study relies on available secondary research data. Despite the aforementioned limitations, this diagnosis is sufficiently robust and provide appropriate confidence level. The future research should utilize primary data sources and new data, coming from semi-structured interviews and questionnaires, to explore specific impacts on sustainable USC tourism development.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

In preparing this paper, the authors used Gemini AI tool (Google) – monitored version by UOC – for assistance in complex data synthesis and structural refinement. Following the use of this tool/service, the authors have reviewed and edited the content as necessary and take full responsibility for the content of the published article.

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