



THE ROLE OF PENTAHHELIX IN TOURISM DEVELOPMENT IN BINJAI CITY

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Article Info

Article history:

Received : 25 June 2025

Acceptance : 30 July 2025

Published : 30 July 2025

How to cite:

Januardi., Irmayani, T., Achmad, N. (2025). THE ROLE OF PENTAHHELIX IN TOURISM DEVELOPMENT IN BINJAI CITY. OPINI: Journal of Communication and Social Science, vol. 2, no. 2, pp. 115-126, 2025.



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ABSTRACT

Binjai City is a region in North Sumatra with significant tourism potential. However, tourism development in Binjai City still faces several challenges. In this context, pentahelix collaboration is crucial to promote sustainable and competitive tourism development. This study aims to explore the roles of the five main actors in the pentahelix model of tourism development and identify the challenges facing tourism development in Binjai City. This study employed a qualitative approach and was conducted in Binjai City, utilizing data collection techniques through interviews, observation, and documentation. The results indicate that the government acts as a facilitator and regulator, academics contribute through research and policy recommendations, business actors strengthen the tourism sector, the media plays a role in promotion and image building, and communities play a role in preserving culture and encouraging public participation. However, obstacles remain, including limitations in regulations, infrastructure, promotion, budgets, human resources, and local community capacity. Therefore, tourism development in Binjai City requires stronger synergy between the pentahelix sectors to create an inclusive, innovative, and sustainable tourism ecosystem.

Keywords: Binjai City, Tourism Development, Pentahelix

1. INTRODUCTION

In the context of intensifying globalization and increasing global economic competition, the importance of exploring and utilizing the potential of local wisdom has become increasingly crucial (Pageh et al., 2025; Zuhri, 2024). Indonesia, a country rich in culture and tradition, has great potential for developing creative industries rooted in local wisdom (Prahmana et al., 2021; Suhendar et al., 2024). Despite its significant

potential, local wisdom-based creative industries in Indonesia are often hampered by a number of structural and systemic challenges.

Tourism is a strategic sector that contributes significantly to economic growth and regional development. Binjai City, as part of the Medan-Binjai-Deli Serdang metropolitan area, has promising tourism potential, marked by a 4.44% growth in domestic tourist arrivals in 2023 and a growing number of international tourist visits. This is supported by the presence of 34 officially registered tourism businesses in Binjai City, although the overall occupancy rate remains relatively low. Data shows that the accommodation occupancy rate in Binjai is only around 4.443%, illustrating the need for a more effective tourism development strategy to increase tourist appeal.

Tourism destination management in Binjai City is currently supported by a single entity with two main tourism facilities, reflecting limited management capacity compared to the available tourism potential. There are 34 registered tourism businesses in the city, but not a single regional tourism industry player has participated in national tourism promotion activities. This low level of engagement presents a challenge to the development of Binjai City's tourism sector, necessitating synergy between stakeholders to optimize promotional strategies and collaboration.

Binjai City's leading tourism potential encompasses a variety of historical, cultural, and even culinary destinations, including the Old Courthouse Building (Pengadilan Lama), the Train Station, and culinary areas like the People's Appetite Snack Center (Pujasera). Several destinations, such as the Education Park, Café Keboen, and Kakuta, as well as agro-tourism such as the Cocoa Plantation and Bollank Rice Plantation, also have the potential to be further developed as major local tourism attractions. However, data shows that basic infrastructure and adequate tourism facilities are still limited, with only two main facilities meeting standard standards.

The Pentahelix collaboration model, involving government, industry, academia, communities, and the media, is expected to provide a solution to address these challenges. The collaborative role of stakeholders within the Pentahelix framework can accelerate the achievement of tourism development targets, encourage innovation in tourism services, improve the quality of human resources in the tourism sector, which currently has only around 1.184% of its workforce certified, and strengthen promotional strategies through effective media utilization. This integration will help

Binjai City become more competitive in attracting both domestic and international tourists, while ensuring inclusive, sustainable tourism development that provides tangible benefits to the local community.

The main challenge faced is limited access to finance, which often hinders the ability of small and medium enterprises (SMEs) to grow and innovate. This constraint not only impacts their production capacity but also reduces their ability to compete in an increasingly global market (Dalimunthe et al., 2024; Lim et al., 2021). Furthermore, deficiencies in regulatory support and a lack of government guidance compound the challenges faced by creative industry players. The lack of supportive policies and adequate infrastructure often prevents this sector from maximizing its potential. However, there is evidence that developing a creative economy based on local wisdom can significantly improve community well-being. In some regions, small initiatives integrating elements of local wisdom have not only managed to survive fluctuating economic conditions but have also increased the income and well-being of local communities.

The integration of digital technology into the promotional and marketing strategies of creative products based on local wisdom has paved the way for promising new opportunities. The use of social media, online marketing platforms, and other digital tools has enabled these industry players to reach a wider market and increase their competitiveness both nationally and globally (Korcsmáros & Csinger, 2022; Wiradharma et al., 2022).

Binjai City's potential is often overshadowed by Medan, which is considered larger and more metropolitan. Besides Medan, Binjai's tourism is often overshadowed by natural attractions in Deli Serdang Regency. However, the Binjai government and residents are implementing various strategies to gain more attention, similar to other transit cities in other parts of the world (Rangkuti et al., 2023; Saraan et al., 2024).

Take Lyon, France, for example. Lyon is known as the epicenter of French gastronomy, offering a wide variety of culinary experiences, from fine dining restaurants to simple bouchons brimming with traditional flavors. In a gastronomic context, Lyon relies not only on its proximity to fertile agricultural and wine regions but also on the expertise of local chefs who have elevated Lyon cuisine to a symbol of French cuisine (Rachman & Khatulistiani, 2020). The city's attractive transit destination is not only due to its food, but also to markets like the *Marché de la Croix-*

Rousse, which offer fresh, high-quality produce.

The tourism industry in Binjai City holds a crucial role in redefining and accelerating local economic growth. Located in North Sumatra Province, if developed with a smart and inclusive strategy, it could elevate the city to the global stage as a premier tourism destination. The Pentahelix approach, which combines synergy between the government, business sector, academia, communities, and the media, offers an integrative model that can maximize this potential. Examples include leading destinations such as the Education Park, the historical tourism area of the Train Station, the Shri Mariamman Temple, and the Pujasera culinary area, which have high potential to be developed into local tourism icons.

Adopting the Pentahelix model is expected to create a robust ecosystem, where innovation and collaboration are the mainstays of tourism development. Government officials, with conducive policies, can design and implement regulations that not only support tourism business growth but also maintain environmental sustainability and local wisdom. The business sector, with its expertise and financial resources, can invest in modern infrastructure and tourism services that meet international standards, while simultaneously exploring new niches that appeal to global tourists (Azmi et al., 2023).

Educational and research institutions play a critical role in providing the data, analysis, and innovation necessary to understand market dynamics and consumer preferences. Integrating this knowledge into marketing strategies and tourism product development can give Binjai City a sustainable competitive advantage. Meanwhile, local communities and the media, through active participation and effective information campaigns, can help promote the city's unique features, from culinary delights and festivals to historical sites, to a wider audience (Widjanarko et al., 2024).

By strengthening and synergizing among the Pentahelix segments, Binjai City will not only attract greater tourist visits but also create jobs, increase local income, and inspire community pride and participation in preserving cultural heritage (Anjani et al., 2025; Sundari et al., 2021). This step also strategically strengthens Binjai's position within national and international tourism networks, opening the door to further collaboration and valuable cultural exchange.

The urgency of research into Binjai City's potential as a unique and highly competitive tourism destination is crucial in the context of regional and national

development. This research serves not only to identify and optimize untapped local assets but also to formulate sustainable development strategies that integrate local wisdom with modern innovation. By focusing on intersectoral collaboration within the Pentahelix model, this research aims to create a clear roadmap for improving the quality and quantity of tourist experiences, ultimately enhancing Binjai's attractiveness as a sustainable and inclusive tourism destination.

2. RESEARCH METHOD

This study adopts a qualitative research design to explore the role of the Pentahelix model comprising government, industry, academia, community, and media in supporting tourism development in Binjai City. A qualitative approach is considered appropriate as it enables an in-depth understanding of stakeholders' perceptions, experiences, and collaborative interactions that influence tourism initiatives (Creswell, 2021). Grounded in a constructivist paradigm, this research assumes that tourism development is socially constructed through continuous interaction among various actors, thereby requiring a holistic analytical perspective that integrates social, economic, cultural, and environmental dimensions (Fang et al., 2025).

Informants were selected using snowball sampling to identify individuals with direct involvement and expertise in tourism development. Primary informants included representatives from the Binjai City Tourism Office, tourism business actors, academics, community members, and media practitioners, while secondary data were obtained from institutions such as the Central Statistics Agency (BPS), scientific publications, and relevant policy documents. Primary data were collected through semi-structured in-depth interviews and direct field observations at selected tourism destinations to examine stakeholder interactions and the socio-economic and environmental impacts of tourism activities (Weyant, 2022). Secondary data were gathered from government reports, academic journals, tourism industry publications, and international sources such as UNWTO to provide contextual background and support analytical interpretation.

Data collection techniques consisted of observation, interviews, and documentation analysis. Observations were conducted ethnographically to capture

natural interactions between tourists, service providers, and local communities (Strunk & Mwavita, 2024). Semi-structured interviews allowed flexibility in exploring stakeholders' views regarding collaborative governance, challenges in tourism management, and sustainability strategies. Documentation analysis included official tourism development plans, government policies, sustainability reports, and related academic literature. Data analysis was conducted using the qualitative analysis model of Miles, Huberman, and Saldaña, involving data reduction, data display, and conclusion drawing through thematic coding and interpretative analysis. To ensure the validity and reliability of findings, triangulation was employed by comparing data from interviews, observations, and document analysis. This process enhances analytical credibility and ensures that the research findings accurately reflect the complex dynamics of Pentahelix-based tourism development in Binjai City.

3. RESULT AND DISCUSSION

The empirical findings of this study indicate that tourism development in Binjai City is not implemented through a single institutional framework, but rather through a collaborative and multi-actor interaction involving the five key components of the Pentahelix model, namely government, academia, industry, community, and media. The involvement of these diverse actors reflects a shift from a traditionally state-centered development paradigm toward a more participatory governance approach, where tourism development becomes a collective responsibility supported by cross-sectoral synergy. In practice, this interaction contributes to the formation of an adaptive tourism ecosystem capable of responding to the social, economic, and technological dynamics characterizing contemporary tourism development in the digital era.

From an institutional perspective, the local government particularly through the Department of Tourism plays a strategic role as the leading sector responsible for policy formulation, program coordination, and facilitation of stakeholder collaboration. This role is manifested in the implementation of digital-based promotional strategies that utilize social media platforms such as Instagram and YouTube to disseminate tourism information and enhance destination branding.

These digital communication strategies function not only as promotional tools but also as mechanisms for shaping public perception and strengthening the visibility of local tourism assets among potential visitors, particularly younger demographics. Furthermore, the government's role extends to inter-agency coordination involving departments such as Transportation and Communication and Informatics, thereby ensuring that tourism promotion is supported by adequate mobility infrastructure and information dissemination systems (Opit & Witten, 2025).

In addition to promotional initiatives, the local government has also undertaken efforts to preserve cultural heritage sites, including Binjai Railway Station, Masjid Raya Binjai, and Vihara Setia Buddha, as part of heritage-based tourism development. According to official data from the Binjai Tourism Office in 2024, five out of seven identified cultural heritage sites have undergone formal verification processes. Moreover, the number of cultural festivals organized by the local government increased from one event in 2022 to three events in 2023, contributing to a 19.39 percent growth in domestic tourist visits during the same period. This increase suggests that event-based tourism promotion, combined with digital marketing strategies, has had a measurable impact on tourist inflow and regional economic activity (Zuhri et al., 2024).

Academia also plays a significant role in the tourism development process by functioning as a conceptual innovator and knowledge facilitator. Through the implementation of research and community engagement programs under the Tri Dharma of Higher Education, academic institutions contribute to the enhancement of human resource capacity within the tourism sector. For instance, research conducted on the Sawah Lukis ecotourism site in Cengkeh Turi Village demonstrates that community participation and the availability of supporting facilities have a positive correlation with improvements in local socio-economic welfare. Collaborative research initiatives between Institut Syekh Abdul Halim Hasan (INSAN) Binjai and partner universities such as IAIN Takengon and Universitas Muhammadiyah Sumatera Utara during the 2024–2025 period further illustrate the role of academia as an intermediary actor capable of aligning the interests of government agencies, business stakeholders, and local communities through evidence-based approaches.

Industry actors, including hospitality providers, culinary enterprises, transportation services, and small and medium enterprises (SMEs) serve as primary

drivers of local economic growth within the tourism sector. Statistical data indicate that the accommodation and food service subsector experienced growth from 5.08 percent in 2022 to 5.66 percent in 2024, reflecting the sector's contribution to the Gross Regional Domestic Product (GRDP). Beyond providing essential tourism services, business actors also generate employment opportunities and stimulate local entrepreneurship, thereby reinforcing the labor-intensive nature of tourism as a catalyst for economic development. The presence of locally managed homestays, traditional culinary businesses, and tourism-related microenterprises exemplifies how industry participation enhances the overall attractiveness and accessibility of tourist destinations in Binjai.

The media sector contributes to tourism development by acting as both an information disseminator and a destination image constructor (Suhendar et al., 2023; Yang et al., 2025). Local media outlets such as Waspada Online, Orbit Digital, and Metro 24 have consistently reported on tourism-related events and cultural activities between 2023 and 2024. In parallel, digital community platforms such as KM18_Cuy employ visual storytelling techniques to promote tourism destinations through social media engagement. This dual function of media formal and community-based facilitates two-way communication between tourism managers and the public, thereby fostering participatory discourse and enhancing public awareness regarding local tourism opportunities (Dalimunthe et al., 2020; Wong et al., 2023).

Equally important is the role of local communities, which function as central actors in the implementation of community-based tourism initiatives. The active involvement of groups such as the Tourism Awareness Group (Pokdarwis), Binjai Heritage Society, Komunitas Fotografi Binjai, and Komunitas Kreatif Binjai (KreBin) indicates that community members are not merely passive beneficiaries of tourism-related economic gains but are actively engaged in destination management and cultural preservation. Community participation in managing homestays, organizing cultural festivals, and offering local culinary experiences contributes to the creation of authentic tourism experiences while simultaneously reinforcing local identity and social cohesion.

Despite these positive developments, several structural challenges continue to hinder the optimal implementation of tourism development initiatives in Binjai City.

One of the primary challenges identified is the absence of a comprehensive regulatory framework and an integrated tourism development roadmap. As a result, tourism programs often operate in a fragmented manner, lacking effective coordination among stakeholders. Furthermore, differences in institutional priorities between government agencies, business actors, and community groups sometimes create disparities between policy objectives and field-level realities. These discrepancies underscore the need for a more adaptive collaborative governance model capable of accommodating diverse stakeholder interests while ensuring policy coherence.

These findings of this study suggest that the Pentahelix model has facilitated the emergence of a collaborative tourism development ecosystem in Binjai City. The synergistic interaction between governmental, academic, industrial, media, and community actors contributes not only to increased tourist visits and regional economic growth but also to the strengthening of cultural identity and social sustainability. However, the effectiveness of this model remains contingent upon the establishment of integrated policy frameworks and sustained stakeholder coordination to address existing structural constraints in future tourism development initiatives.

4. CONCLUSION

Based on the research findings and analysis, this study concludes that the Pentahelix approach plays a strategic role in fostering multisectoral collaboration for tourism development in Binjai City. The involvement of key actors government, academia, industry, media, and local communities has contributed to the creation of a participatory, adaptive, and sustainable tourism ecosystem. The local government, particularly through the Department of Tourism, functions not only as a policy implementer but also as a facilitator and coordinator among stakeholders, actively promoting tourism through cultural preservation programs and digital-based promotion. Academia contributes through research, education, and community engagement, offering evidence-based policy recommendations and strengthening cross-sectoral networks. The business sector supports local economic growth by providing tourism-related services, creating employment opportunities, and fostering strategic partnerships. Meanwhile, the media plays a crucial role in tourism promotion,

public information dissemination, and destination branding, enhancing public awareness and encouraging community participation. Local communities also serve as key actors in preserving cultural and environmental sustainability while actively participating in tourism planning and management. However, tourism development in Binjai City still faces several challenges, including the absence of a comprehensive regulatory framework and tourism development roadmap, limited infrastructure and accessibility, suboptimal promotional strategies, environmental management issues, budget constraints, and limited institutional capacity among local stakeholders. These challenges indicate the need for stronger synergy and integrated collaboration among stakeholders to optimize tourism development outcomes in the future.

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