

## Accelerating Sustainable Tourism through the Hexa Helix Model in Pati Regency

Said Nur Octavianto<sup>1</sup>, Jarot Tri Bowo Santoso<sup>2✉</sup>, Moch Faizal Rachmadi<sup>3</sup>, Fauzul Adzim<sup>4</sup>, and Eka Susanti<sup>5</sup>

<sup>1,2,4,5</sup>Universitas Negeri Semarang

<sup>3</sup>Universitas Ivet

✉ L Building, Unnes Campus, Sekaran, Gunungpati, Semarang City, Postal Code 50229 Indonesia

✉ [jarot.tribowo@mail.unnes.ac.id](mailto:jarot.tribowo@mail.unnes.ac.id)

### Article Info

#### Article History

Received:

Apr 2024

Accepted:

Oct 2024

Published:

Nov 2024

#### Keywords:

*Tourist Destinations,*

*Sustainable Tourism,*

*Economic*

*Improvement,*

*Stakeholders, Strategy*

### ABSTRACT

Tourism is a key economic sector in Indonesia, significantly contributing to foreign exchange and national revenue. Developing a sustainable tourism strategy requires collaboration across academia, businesses, communities, government, media, and NGOs. However, one major challenge in Indonesia's tourism sector is the lack of synergistic, comprehensive, and integrated stakeholder collaboration. To address this issue, this study aims to develop a sustainable tourism strategy for Pati Regency based on the hexa helix model, which emphasizes multi-stakeholder engagement in tourism destinations. Using a mixed-methods approach, this research incorporates qualitative methods—such as interviews, observations, and documentation—and quantitative analysis through MACTOR (Matrix of Alliance, Conflicts, Tactics, Objectives, Recommendations) to map stakeholder interactions. Findings reveal a high level of alignment between the Youth, Sports, and Tourism Office (DINPORAPAR) and SMEs, scoring 21.7 on the convergence scale. The primary focus for sustainable development is on enhancing innovation and competitive ability, identified as the most influential objective.

© 2024 Politeknik Negeri Bali

### INTRODUCTION

Indonesia is a country that has a diversity of ethnicities, religions, races, and cultures and tourism spread throughout the country from Sabang to Merauke. In the tourism sector, the government continues to strive to initiate tourist villages as an innovation for developing the tourism sector in the region. In 2023, the Ministry of Tourism and Creative Economy noted that there will be 4,674 tourist villages in Indonesia (Sutrisno, 2023). This number increased by 36.7% compared to the previous year, namely 3,419 tourist villages alone. Tourist villages in Indonesia offer a variety of natural beauty packed with local wisdom and culture.

The diversity of Indonesia's tourism sector is an opportunity to continue to be developed and has the potential to improve the national economy (Junaid et al, 2022; Ozturen & Ozgit, 2022). Not only that, but the acceleration of tourism development also has a significant impact, especially regarding labour absorption, being able to reduce unemployment and increase the productivity of the surrounding community (Gunawan, 2020; Sufiyanto et al, 2022). Currently, the development of the Indonesian tourism sector is also directed at sustainable tourism or what is called sustainable tourism (Musaddad et al, 2019; Wahyu & Triani, 2023). The development of a sustainable tourism sector certainly requires the support of various parties or stakeholders from the government, private sector and others (Khartishvili et al, 2019; Junaid et al, 2020; Kanom et al, 2020).

Many previous studies related to the development of sustainable tourism have been carried out, but have not produced comprehensive, dynamic and sustainable findings. Not many previous studies have accelerated the integrated, complex and integrated roles and contributions of stakeholders. Research by previous researchers explains that developing a sustainable tourism sector is very important in improving the community's economy, opening up employment opportunities and reducing the unemployment rate (Iviana & Mubarak, 2020; Streimikiene et al, 2021; León-Gómez et al, 2021; Rasoolimanesh et al, 2023). This research is strengthened by other researchers' statements that in tourism development we must pay attention to synergies between stakeholders because they are interrelated, for example with the availability of infrastructure, policies or development planning, internet network access and public awareness (Wondirad et al, 2020; Purnomo et al, 2020).

One area that is making efforts to develop sustainable tourism is Pati Regency, Central Java Province. Pati Regency has the potential to develop a diverse tourism sector. This is because Pati Regency is located in a beautiful lowland area (Pamungkas et al, 2022). Pati Regency also has various interesting tourist destinations ranging from natural and religious tourism (Henry, 2021). There is Grenjengan Sewu Waterfall, Gunung Rowo Reservoir, Jollong Coffee Plantation, Pati Grand Mosque, Majapahit Gate, Guardian Tomb and so on (Ratnasari, 2018). Apart from that, Pati Regency is also known as a peanut producer which has a strategic position at the national level with the PT Dua Kelinci Tbk and PT Garudafood Tbk factories.

The potential of the tourism sector must be developed and preserved based on strong integration of cooperation and synergy by various stakeholder elements (Purwaningsih et al, 2019; Santoso, 2021). This is considered capable of strengthening the Pati Regency tourism sector. The involvement of the government, the private sector, and the community is a crucial element in advancing sustainable tourism (Cahyo & Nuryanti, 2019; Handayani & Warsono, 2017). Each stakeholder's roles, duties, and responsibilities primarily pertain to the concept of developing a sustainable tourism sector, mitigating the adverse effects of tourism sector development endeavours, and enhancing the potential of local wisdom (Harrison, 2014). This underscores the significance of stakeholder collaboration and coordination in influencing tourism sector development efforts (Hardianto et al., 2019).

However, the main problem and conditions in the field are still found to be that these stakeholders have high structural egos so there is no integrated, continuous and sustainable synergy in tourism development (Santoso et al, 2020). The development of sustainable tourism will not run optimally if these problems still occur (Ilkhanizadeh, 2021). Previous research has also identified additional challenges to developing the tourism sector in Pati Regency. As Ratnasari (2018) observed in her study, the tourism sector in Pati Regency is constrained in its capacity for development. This is evidenced by the irregularity of management, the lack of adequate infrastructure and facilities, and the absence of safety factors. Halim et al. (2014) corroborate this assertion, noting that the promotion and marketing efforts of the tourism sector in Pati Regency were primarily limited to brochures and exhibitions. However, these methods were found to be less effective in persuading potential tourists, ultimately contributing to the low volume of information and tourist visits.

Seeing the challenges in the future of digital transformation and high levels of competition, tourism sector managers, including those in the regions, must have special strategies (Susrawan & Artika, 2023). For tourism to be sustainable and sustainable, it must involve and synergize with various ABCGM elements, namely Academics, Business, Community, Government, Media and NGOs. Conditions in the field still include cross-sectoral egos, neglect of various policies and frequent overlapping and shifting of responsibilities, including in Pati Regency. If a solution is not immediately found for this condition, the development of the sustainable tourism sector will be hampered. Therefore, the urgency of this research is the need for an integration model of stakeholders involved starting from Academics, Business, Community, Government, Media and Non-Government Organizations (NGOs) (Nguyen et al, 2023). Based on these problems, this research aims to conduct a study and prepare a sustainable tourism development strategy based on the acceleration of the hexa helix model involving various stakeholders in tourist destinations in Pati Regency that are dynamic, humanistic, comprehensive, integrated and sustainable.

## METHODS

This research method is a mixed method which consists of qualitative and quantitative approaches as follows:

### Qualitative

In sharpening research, qualitative researchers determine focus. The research focus is the main problem in research. Focus is a single domain or several related domains of a social situation. This research uses a qualitative approach, which produces descriptive data (Sugiyono, 2017). Qualitative methodology is stated as a research procedure that produces descriptive data in the form of written or spoken words from the people observed (Moleong, 2011). Researchers try to express the state of research or a clear and free description of data that is considered accurate and factual. The type of research used in this research is a case study. A case study is an empirical inquiry that investigates a phenomenon in a real-life context when the boundaries between phenomenon and context are not visible and multiple sources can be utilized (Yin, 2013).

The data sources for this research are primary and secondary. Primary data is obtained from the main informant or key informant, to strengthen the information to be obtained. To obtain data holistically and integratively and paying attention to the relevance of the data to the research focus, problem formulation and objectives, data collection uses techniques: (1) Interviews; (2) Field observations and surveys; (3) Documentation; equipped with (4) Demonstration and Focus Group Discussion (FGD). The informants in this study are various stakeholders, namely ABCGM elements including Youth, Sports and Tourism Office; Cooperatives and SMEs Office; University; SMEs Actor; Society; Tourism Awareness Group; and Media. The reason is that these various stakeholders will be analyzed and studied in the development of tourism in Pati Regency according to the fields/duties of the agencies. Meanwhile, secondary data comes from literature studies, including journal articles, publications in government agencies and so on. Data analysis in this research uses the Miles & Huberman model. In carrying out data analysis, there are several steps taken, namely: 1) Data reduction; 2) Presentation of data; and 3) Conclusion Drawing and Verification.

### Quantitative

Mactor's method carries out a thorough analysis of actors' strategies and initiatives. MACTOR (Matrix of Alliances, Conflicts, Tactics, Objectives, Recommendations) is based on inter-actor influence. The MACTOR method attempts to provide a global picture of the importance and likely outcomes of various issues, as well as expected actor strategies, power relationships and potential alliances and conflicts. This method is aimed at obtaining possible evolutions of the system being studied to build better and more coherent scenarios. The MACTOR method is used to see the preferences of each stakeholder and the level of support for the identified goals (Fauzi, 2019). This method also determines the level of support each stakeholder has for each goal and group. Once the actors are identified, they can be grouped based on their respective roles so that it will be known whether the actor is a main actor, key actor or supporting actor. Then, MACTOR analysis in this research is also used to explain the relationships/interactions between actors.

The MACTOR technique is based on three main inputs in matrix form. These three inputs are based on "relationships of influence" between one actor and another. With this concept, the input to MACTOR is via a position matrix (known as 1MAO [Matrix Actor Objective] and 2MAO) which uses Salience variables from actor to objective. The third matrix is MID (Matrix of Direct Influence) which uses influence variables. In software calculations, user input only requires the MID matrix, 1MAO, and 2 MAO matrices. Then it will be calculated by a computer through a mathematical algorithm process.

## RESULTS AND DISCUSSION

### Sustainable Tourism Concept

The role of the tourism industry is very important for the economic development of a country (Kanom & Darmawan, 2021). However, tourism also faces various obstacles and challenges in its development, especially in the current era of digital transformation. An era that demands all economic actors, including the tourism sector, to have innovation power and competitive advantage, adopt digital technology in all its technical aspects, have a global perspective and so on

(Widiastuti et al, 2021). According to Law Number 10 of 2009 concerning Tourism, it is stated that tourism is all activities related to tourism and is multidimensional and multidisciplinary in nature which arises as a manifestation of the needs of each person and country as well as interactions between tourists and local communities, fellow tourists, the government, regional governments and businessman.

In tourism terms, it is also known that there are tourism destinations, namely geographical areas located in one or more administrative regions in which there are tourist attractions, public facilities, tourism facilities, accessibility, and communities that are interrelated and complement the realization of tourism. Tourist destinations are also divided into several groups (Kusdianto, 1996), such as 1) Natural resource destinations, namely climate, beaches, and forests, 2) Cultural resource destinations, for example, historical places, museums, theatres, 3) Creation facilities, 4) Events, 5) Specific activities, 6) Psychological attractions such as adventure, romantic trips and so on. The government continues to strive to encourage the tourism sector to be superior, adaptive, and attractive to tourists and other strategic efforts such as directing it towards the concept of sustainable tourism development. The concept of sustainable tourism aims not only in the short term but also in the long term by minimizing negative risks or the impact of negative externalities from tourism activities (Musaddad et al, 2019).

Noor & Pratiwi (2016) explained that there are several things to the concept of sustainable tourism development, namely:

1. Make efforts to ensure socio-cultural and environmental sustainability and protect them from various existing threats
2. Providing education and training related to tourism to the surrounding local community and actively involving them in various matters of tourism development policy-making
3. Using the concept of capacity, namely limiting the number of tourists that can be accommodated at a tourism destination. This aims to minimize negative externality conditions that can arise, for example, landslides, exhibition animals experiencing stress, dirty tourist destinations and so on.
4. Providing information and education to tourists regarding the importance of maintaining and preserving cultural heritage, and
5. Conduct regular research to determine developments in sustainable tourism.

In realizing the tourism concept, tourism managers cannot act alone in managing various tourism development activities. Collaboration, cooperation, and synergy are very necessary in efforts to create sustainable tourism development that is comprehensive, collaborative, attractive and superior. It has been mentioned that the stakeholders involved in sustainable tourism development include the Academic, Business, Community, Government and Media sectors often known as ABCGM + NGOs.

### **Pati Regency Tourism**

Pati Regency is one of the regions in Central Java Province which has a variety of tourism potential. Astronomically, Pati Regency is located at 6025' - 7000' south latitude and between 100050'-111015' east longitude. Based on its geographical position, Pati Regency has boundaries: North – Jepara Regency and the Java Sea, South – Grobogan and Blora Regency, West – Kudus and Jepara Regency, East – Rembang Regency and the Java Sea (Central Bureau of Statistics of Pati Regency, 2023). Pati Regency consists of 21 sub-districts and covers an area of 1,503.68 KM<sup>2</sup>. Meanwhile, the largest sub-district is Sukolilo Sub-district with a total area of 158.74KM<sup>2</sup>. Pati Regency also has various superior tourist attractions, both natural, cultural, artificial, educational, religious and so on.

Currently, the concept of 4 components of tourism is known, which are often referred to as 4A, namely attraction, amenities, accessibility and ancillary (Cooper et al, 1995; Sugiyama, 2014). Including in Pati Regency, these 4 components continue to be implemented to support the development of the regional tourism sector. Attraction is an important component of tourism development and is often referred to as tourism capital. To find tourism, you have to find the attractions/what the tourists are looking for. There are 3 capital attractions, namely: 1) Natural resources, 2) Cultural tourist attractions, and 3) Man-made attractions. The existence of this attraction component is a reason and motivation for tourists to visit tourist destinations. There are also amenities, namely all kinds of main and supporting facilities and infrastructure at a tourist destination. The facilities in question include the availability of hotels,

accommodations, halls, theatres and so on. Meanwhile, the infrastructure in question is the availability of water, electricity, trash cans and so on.

Tourist Attraction Name	Number of Visitors to Tourist Attractions According to Tourist Attractions		
	2020	2021	2022
Gunungrowo Reservoir	17010	15800	50000
Pancur Cave	4600	1500	6260
Wareh Cave	15705	7949	22980
Pancasila Jrahi Tourism Village	27841	18326	16746
Jollong Gardens Agrotourism	126486	83838	71819
Banyutowo Beach	9681	-	-
Edu Agroeduforestry Resort (EAR) Regaloh	1149	370	4406
Kayen View Hill	14360	3351	3388
Lorodan Semar	4058	1359	2730
Idola Beach	9681	7200	-
Talun Tourism Village	22672	4783	17995
Arga Pesona Beketel	-	693	-
Dam Tepus	-	763	4468
Bageng Tourism Village	-	3016	4131
Tunggulsari Tourism Village	-	83778	216920
Pesona Gunungsari	-	941	-
Seloromo Reservoir	-	18055	58995
Kertomulyo Beach	-	52441	43131

Table 1: Number of Visitors to Tourist Attractions According to Tourist Attractions 2020-2022  
 Central Bureau of Statistics of Pati Regency, 2024 [source]

Next is accessibility. This is an important thing that supports the convenience of tourists in visiting these tourist destinations. Accessibility in question is such as airports, ports, stations, terminals and so on which are identical to modes of transportation. Accessibility is closely related to amenities, namely how tourists can visit tourist destinations safely, comfortably, easily and with minimal risk. Lastly, the component in tourism development is ancillary. Ancillary is often known as operational, structural management that manages, plans and develops a tourist destination. Ancillary integrates various stakeholders ranging from regional government, and central government to tourist destination management.

After conducting field research, the 4A conditions in the tourism sector in Pati Regency are quite optimal, provided that there is a need for more intensive, collaborative and sustainable synergy and cooperation in realizing sustainable tourism (Pamungkas et al, 2022; Saputro et al, 2024). There is also a note that the MSME sub-sector in the tourism sector has a high contribution to the Pati Regency. This is indicated by the large number of tourists who not only enjoy the beauty of tourist destinations but also look for souvenirs typical of the area in the form of processed food, fruit and so on (Sugiarto & Prasetyo, 2023). Every tourist destination is considered very necessary to provide various food and culinary needs and other types of MSMEs as a characteristic and competitive advantage that differentiates it from other tourist destinations (Setiawan, 2023). Pati Regency is known for its culinary tourism, Nasi Gandul, which is legendary, and famous and has its history (Safitri, 2024). Meanwhile, several areas in Pati Regency also have their gastro-diplomacy, for example, Gembong District with its superior products, pomelo oranges and cassava tape, Sarirejo Village with its typical food, namely Soto Kemiri and so on.





a. Kertomulyo Beach, Trangkil



b. Nyai Ageng Ngerang Tomb Religious Tourism



c. Jollong Gardens Agrotourism, Gembong



d. Seloromo Reservoir, Gembong

Picture 1: Several Tourist Attractions in Pati Regency  
Personal Documentation, 2024 [source]



a. Segog Gandul SMEs



b. Pamelorange Center SMEs

Picture 2: Several SME Centers in Pati Regency  
Personal Documentation, 2024 [source]

### **The Role and Interaction of Stakeholders in the Development of Sustainable Tourism in Pati Regency**

This research uses a prospective analysis method in the context of sustainability relating to "factors" using MACTOR. MACTOR is an abbreviation for Matrics of Alliance, Conflicts, Tactics, Objectives and Recommendations which was developed by Godet in 1999. This research uses several actors consisting of key persons to find out and understand the roles and interactions of actors/stakeholders in the development of an acceleration-based sustainable tourism hexa helix model at a tourist destination in Pati Regency.

After data collection and analysis, several factors were found that were directly or indirectly involved in achieving the research objectives. The actors in this research are written with codes, and related abbreviations/keywords to facilitate the power analysis process carried out. The actors involved are the Youth, Sports and Tourism Office (DINPORAPAR),

Cooperatives and SMEs Office (DINKOPUMKM), University (ACADEMICS), SMEs Actor (SMEs), Society (SOCIETY), Tourism Awareness Group (POKDARWIS), and Media (MEDIA).

No	Actors	Label
1	Youth, Sports and Tourism Office	DINPORAPAR
2	Cooperatives and SMEs Office	DINKOPUMKM
3	University	ACADEMICS
4	SMEs Actor	SMEs
5	Society	SOCIETY
6	Tourism Awareness Group	POKDARWIS
7	Media	MEDIA

Table 2: List of Stakeholders/Actors  
 Processed Primary Data, 2024 [source]

For other actors, analysis of the factors related to each code is also needed to facilitate the data analysis process. These factors are Tourism Development Synergy (SYNERGY), Innovation and Competitive Ability (INNOVATION), HR Capabilities and Competencies (COMPETENCE), Tourism Promotion (PROMOTION), and Infrastructure and Infrastructure Development (INFRASTRUC).

No	Factors	Label
1	Tourism Development Synergy	SYNERGY
2	Innovation and Competitive Ability	INNOVATION
3	HR Capabilities and Competencies	COMPETENCE
4	Tourism Promotion	PROMOTION
5	Infrastructure and Infrastructure Development	INFRASTRUC

Table 3: List of Factors/Objectives  
 Processed Primary Data, 2024 [source]

The first step taken in analyzing the role of actors/stakeholders in MACTOR is to identify the actors involved through the accumulation of scores on the MDI (Matrix of Direct Influence) table. The MDI table describes the influence between actors on other actors which is indicated by a score of 0-4. A score of 0 means there is no influence, 1 means the actor influences operational procedures, 2 means it influences the work, 3 means it influences the actor's mission and finally, a score of 4 is the existence of an influential actor.

MDI	DINPORAPAR	DINKOPUMKM	ACADEMICS	SMEs	SOCIETY	POKDARWIS	MEDIA
DINPORAPAR	0	4	4	3	4	4	3
DINKOPUMKM	4	0	3	3	2	2	1
ACADEMICS	3	3	0	2	3	3	1
SMEs	3	3	3	0	3	3	2
SOCIETY	1	2	1	2	0	2	1
POKDARWIS	3	2	3	3	2	0	3
MEDIA	1	1	1	1	1	1	0

© LPSOR-EPITA-MACTOR

Table 4: Value of Matrix of Direct Influence (MDI)  
 Processed Primary Data, 2024 [source]

After filling in and identifying the MDI, the next step is to assess or give a score on the perceptions of stakeholders/actors regarding the goals/objectives that have been set. Filling in the Matrix of Actor Objective (MAO) also has the same scoring as the MDI, namely a value range of 0-4. In more detail, a score of 0 indicates that the goal has an uncertain outcome, a score of 1 means the goal interferes with the actor's operational procedures, then a score of 2 means the goal interferes with the actor's success at work. Meanwhile, a score of 3 means that the goal interferes with the actor's mission

achievement/cannot be ignored, and a score of 4 means that the goal interferes with the actor's existence/cannot be ignored as an effort for the actor's existence.

2MAO	SYNERGY	INNOVATION	COMPETENCE	PROMOTION	INFRASTRUC	© LIPSOR-EPTA-MACTOR
DINPORAPAR	4	4	3	4	4	
DINKOPUMKM	3	4	3	2	3	
ACADEMICS	3	3	3	2	2	
SMEs	3	3	3	3	3	
SOCIETY	2	2	2	2	2	
POKDARWIS	3	3	4	2	2	
MEDIA	2	2	1	3	1	

Table 5: Value of Matrix of Actor Objectives (MAO)  
 Processed Primary Data, 2024 [source]

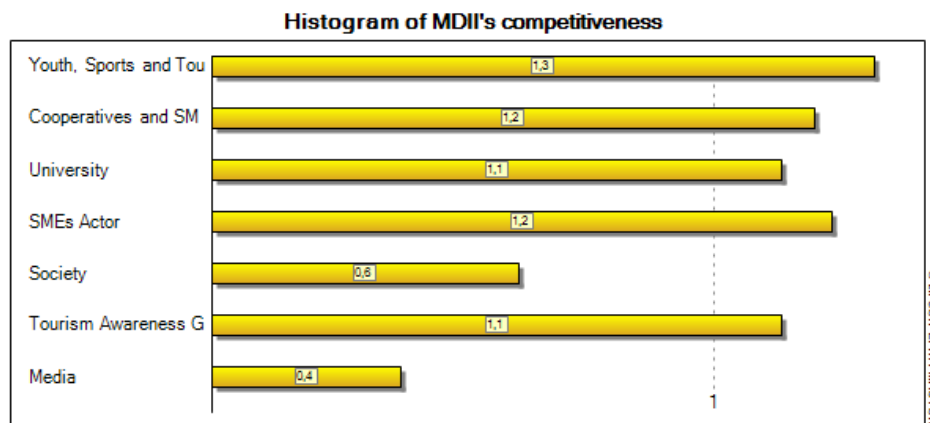
After knowing MDI and 2MAO, to understand the level of influence and dependence between actors you can use the Matrix of Direct and Indirect Influences (MDII). The MDII matrix determines the direct or indirect influence of order 2 between actors. The usefulness of this matrix is its more complete vision of the game of competitiveness (one can reduce the number of other parties' choices by influencing them through intermediary actors). MDII has 2 important indicators, namely Li (shows direct and indirect influence) and Di (shows the level of dependence). Values represent direct and indirect influences between actors. The higher the value, the higher the actor's influence on others.

MDII	DINPORAPAR	DINKOPUMKM	ACADEMICS	SMEs	SOCIETY	POKDARWIS	MEDIA	Li	© LIPSOR-EPTA-MACTOR
DINPORAPAR	15	15	15	14	15	15	11	85	
DINKOPUMKM	14	15	14	13	15	15	10	81	
ACADEMICS	13	13	13	14	13	13	11	77	
SMEs	14	14	14	14	14	14	11	81	
SOCIETY	9	9	9	9	9	9	8	53	
POKDARWIS	13	14	13	13	14	14	11	78	
MEDIA	6	6	6	6	6	6	6	36	
Di	69	71	71	69	77	72	62	491	

Table 6: Value of Matrix of Direct and Indirect Influences (MDII)  
 Processed Primary Data, 2024 [source]

In the MDII table, the Youth, Sports and Tourism Office (DINPORAPAR) has the highest Li score (direct and indirect influence), namely 85. This indicates that there is a high role, influence and dependence on DINPORAPAR elements in efforts to develop sustainable tourism in Pati Regency. Next, followed by the Cooperatives and SMEs Office (DINKOPUMKM) and SMEs Actor (SMEs) with the same score of 81. Meanwhile, the level of dependency can also be measured with a score of Di. The highest score of Di is Society (SOCIETY) amounting to 77, then the second position is the Tourism Awareness Group (POKDARWIS) with 72.





Picture 3: Actor Competitiveness Diagram  
 Processed Primary Data, 2024 [source]

The picture above shows the competitiveness of actors which is directed by the level of direct and indirect influence of actors on other actors. The actors in the main roles are Youth, Sports and Tourism Office, SMEs Actor, Cooperatives and SMEs Office, Tourism Awareness Group and University. Next is an explanation of the 3MAO matrix which shows the position of each actor towards each goal or strategy in cooperative development efforts. The values in this matrix take into account the level of competence between the actors, the hierarchy of goals and the degree of opinion of each actor regarding the goals in cooperative development. A positive value indicates the actor's support for the goal. The greater the value, the higher the actor's support for the goal. Vice versa, a negative value indicates an actor's conflict with the goal/objective. The greater the value, the higher the actor's rejection of the goal.

3MAO	SYNERGY	INNOVATION	COMPETENCE	PROMOTION	INFRASTRUC	Mobilisation
DINPORAPAR	5,3	5,3	3,9	5,3	5,3	25,0
DINKOPUMKM	3,6	4,8	3,6	2,4	3,6	18,0
ACADEMICS	3,4	3,4	3,4	2,3	2,3	14,7
SMEs	3,7	3,7	3,7	3,7	3,7	18,5
SOCIETY	1,2	1,2	1,2	1,2	1,2	6,1
POKDARWIS	3,4	3,4	4,5	2,3	2,3	15,9
MEDIA	0,8	0,8	0,4	1,1	0,4	3,4
Number of agreements	21,3	22,5	20,8	18,2	18,7	
Number of disagreements	0,0	0,0	0,0	0,0	0,0	
Degree of mobilisation	21,3	22,5	20,8	18,2	18,7	

Table 7: 3MAO Matrix Position of Each Actor towards the Goal  
 Processed Primary Data, 2024 [source]

The table above explains the 3MAO matrix which shows the position of each actor towards each goal or strategy in cooperative development efforts. The values in this matrix take into account the level of competence between the actors, the hierarchy of goals and the degree of opinion of each actor regarding the goals in cooperative development. A positive value indicates the actor's support for the goal. The greater the value, the higher the actor's support for the goal. Vice versa, a negative value indicates an actor's conflict with the goal/objective. The greater the value, the higher the actor's rejection of the goal. The 3MAO matrix shows that Innovation and Competitive Ability (INNOVATION) has the highest number of agreements than the others, namely 22.5. Then, the next highest is Tourism Development Synergy (SYNERGY) with a score of 21.3. The number of agreements means that Innovation and Competitive Ability (INNOVATION) is the goal that most activates and collaborates with stakeholders.

Meanwhile, the stakeholder with the highest mobility is the Youth, Sports and Tourism Office (DINPORAPAR) with a value of 25.0 then followed by SMEs Actors (SMEs) with a value of 18.5. This is in line with the research objectives of DINPORAPAR as the person responsible for regulations and policies at the regional government level regarding tourism management and development. Next are SMEs with their various subsectors such as food, drinks, handicrafts, batik and

so on which are supporting factors for the mobility of tourism development, especially in Pati Regency. Apart from that, the 3MAO matrix table also shows that the number of disagreements is in a neutral position with a value of 0. This means that all actors/stakeholders agree on all objectives for efforts to develop sustainable tourism in Pati Regency.

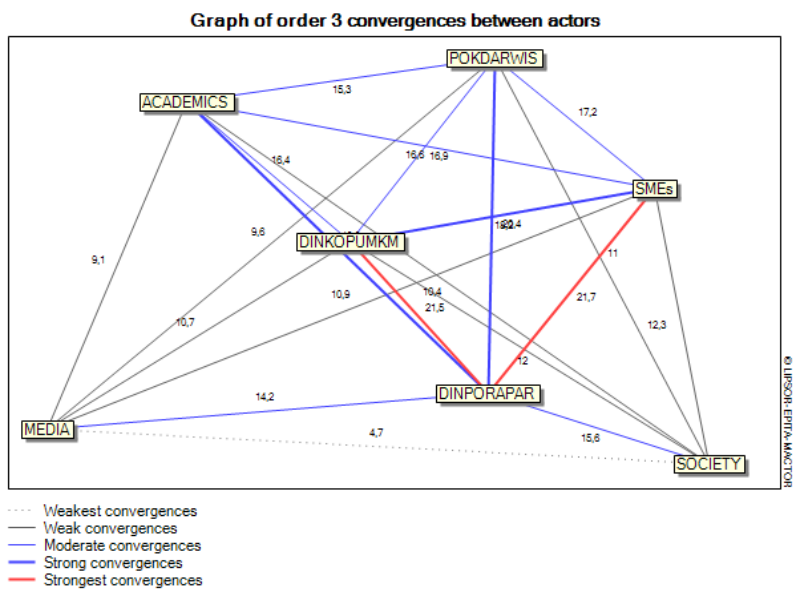
The convergence matrix which is given a weighted value of Convergences Actors-Actors (3CAA) is related to the position matrix which is given the weighted value of the Actors-Objectives Matrix (3MAO). This identifies several actors regarding the number of shared opinions they have on a goal (pro or con). This will identify the number of possible alliances by considering actors' preferences in terms of their goals and competitiveness. 3CAA is a symmetric matrix.

3CAA	DINPORAPAR	DINKOPUMKM	ACADEMICS	SMEs	SOCIETY	POKDARWIS	MEDIA
DINPORAPAR	0,0	21,5	19,9	21,7	15,6	20,4	14,2
DINKOPUMKM	21,5	0,0	16,4	18,2	12,0	16,9	10,7
ACADEMICS	19,9	16,4	0,0	16,6	10,4	15,3	9,1
SMEs	21,7	18,2	16,6	0,0	12,3	17,2	10,9
SOCIETY	15,6	12,0	10,4	12,3	0,0	11,0	4,7
POKDARWIS	20,4	16,9	15,3	17,2	11,0	0,0	9,6
MEDIA	14,2	10,7	9,1	10,9	4,7	9,6	0,0
Number of convergences	113,3	95,7	87,6	97,0	66,1	90,4	59,2
Degree of convergence (%)	0,0						

© LIPSOR-EPITAMAKTOR

Table 8: Matriks Convergences Actors-Actors (3CAA)  
 Processed Primary Data, 2024 [source]

The values in the 3CAA matrix represent the degree of convergence between one actor and another. The higher the value, the greater the similarity of interests or goals of the actors. From this convergence analysis, it can be seen that there are several possibilities for forming alliances between actors. In the 3CAA table, Youth, Sports and Tourism Office (DINPORAPAR) and SMEs Actors (SMEs) have the highest correlation of interest relationships with a convergence coefficient reaching 21.7. Then, next is the Youth, Sports and Tourism Office (DINPORAPAR) with the Cooperatives and SMEs Office (DINKOPUMKM) with a convergence value reaching 21.5.

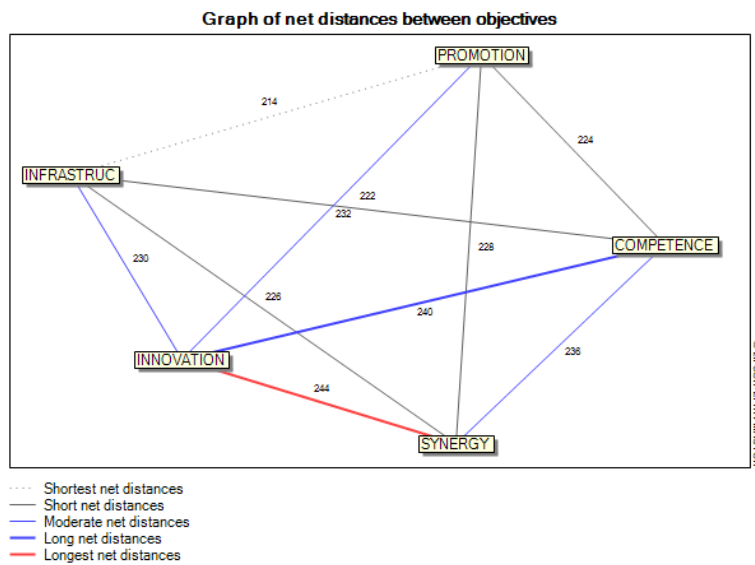


© LIPSOR-EPITAMAKTOR

Picture 4: Convergence (3CAA) between Actors in Sustainable Tourism Development Strategy  
 in Pati Regency  
 Processed Primary Data, 2024 [source]

The actor's position about convergence towards other actors will be explained visually by the image above. The figure shows that the greater the value in the matrix, the thicker the connection lines on the map will be. This means that the higher the level of convergence between these actors. The red colour means the strongest/highest convergence on the

map that connects between Youth, Sports and Tourism Office (DINPORAPAR) with Cooperatives and SMEs Office (DINKOPUMKM) and SMEs Actors (SMEs). It is hoped that collaboration between these actors can provide a stimulant and comprehensive, intensive and sustainable tourism development policy (Miyayi, 2021).



Picture 5: Clear Distance Graph between Targets  
 Processed Primary Data, 2024 [source]

The graphic image above is used to identify the goals of actors who have the same position (pro or con). The stronger the connection between goals, the higher the convergence of actors' opinions towards these goals. In this picture, it is explained that efforts to develop sustainable tourism in Pati Regency are mainly through the integration of Innovation and Competitive Ability (INNOVATION) and Tourism Development Synergy (SYNERGY). Next is to integrate Innovation and Competitive Ability (INNOVATION) with HR Capabilities and Competencies (COMPETENCE).

## CONCLUSION

Tourism significantly contributes to Indonesia's national economy, with a foreign exchange value reaching USD 10.46 billion as of September 2023 and a contribution to the Gross Domestic Product (GDP) of approximately 3.8%. The creative economy associated with tourism adds further value, estimated at IDR 1,050 trillion, with exports totalling USD 17.38 billion. Given this substantial economic role, there is a clear need for a well-integrated and collaborative tourism strategy that involves all relevant stakeholders, particularly in regions such as Pati Regency, Central Java Province. Current tourism development efforts are aligned with the principles of sustainable development; however, challenges persist due to structural silos and overlapping interests among stakeholders, which can impede effective collaboration. In developing tourism strategies for Pati Regency, the Youth, Sports, and Tourism Office (DINPORAPAR) plays a dominant role, complemented by the support of the Cooperatives and SMEs Office (DINKOPUMKM) and local SMEs, though other stakeholders remain crucial in fostering sustainable tourism. The primary focus areas identified include enhancing Innovation and Competitive Ability (INNOVATION) and fostering Synergy in Tourism Development (SYNERGY), which are essential for achieving sustainable and comprehensive growth in Indonesia's tourism sector.

## ACKNOWLEDGEMENT

Assistance in facilitating funding from LPPM Universitas Negeri Semarang through the DPA 2024 Number: 437.26.2/UN37/PPK.10/2024 date 26 February 2024 budget so that this research activity can be carried out.

## REFERENCES

Cahyo, E. D., & Nuryanti, W. (2019). The Role of the Government and Private Sector in the Development of Tourism Destinations in Morotai Island Regency. *Tourisma: Jurnal Pariwisata*, 1(2), 64–78. <https://doi.org/10.22146/gamajts.v1i2.49293>

Central Bureau of Statistics of Pati Regency. (2023). *Kabupaten Pati dalam Angka 2023*. Pati: Central Bureau of Statistics of Pati Regency.

Cooper, C. (1995). Strategic planning for sustainable tourism: The case of the offshore islands of the UK. *Journal Of Sustainable Tourism*, 3(4), 191-209.

- Fauzi, Akhmad. (2019). *Teknik Analisis Keberlanjutan*. Jakarta: PT Gramedia.
- Gunawan. (2020). Pengaruh Jumlah Pondok Wisata, Restoran dan Bar terhadap Penyerapan Tenaga Kerja Sektor Pariwisata. *E-Jurnal Ekonomi Pembangunan Universitas Udayana*, 9(1), 1–30.
- Halim, S. P., Ardianto, D. T., & Srisanto, E. (2014). Perancangan Video Profile Potensi Wisata Kabupaten Pati. *Jurnal DKV Adiwarna*, 1(4), 1–12. <https://publication.petra.ac.id/>.
- Handayani, F., & Warsono, H. (2017). Analysis of the role of stakeholders in the development of Karang Jahe Beach tourist attraction in Rembang Regency. *Journal of Public Policy and Management Review*, 6(3), 40–53. <https://doi.org/10.14710/jppmr.v6i3.16543>.
- Hardianto, W. T., Sumartono, M. M. R. K., Muluk, K., & Wijaya, F. (2019). PentaHelix synergy on tourism development in Batu, East Java. *International Journal of Innovation, Creativity and Change*, 10(6), 137–149. <https://www.ijicc.net/>.
- Harrison, D. (2014). Tourism and Development. In *The Wiley Blackwell Companion to Tourism* (pp. 143–154). Wiley. <https://doi.org/10.1002/9781118474648.ch11>.
- Henry. (2021). *6 Fakta Menarik Pati, Kota Kacang di Jawa Tengah*. <https://www.liputan6.com/lifestyle/read/4720001/6-fakta-menarik-pati-kota-kacang-di-jawa-tengah?page=2>. Diakses pada 25 November 2023.
- Ilkhanizadeh, S. (2021). Sustainable tourism and the role of stakeholders in North Cyprus: a literature review. *Worldwide Hospitality and Tourism Themes*, 13(4), 468-475.
- Junaid, I., Dewi, W. O., Said, A., & Hanafi, H. (2022). Pengembangan Desa Wisata Berkelanjutan: Studi Kasus di Desa Paccekke, Kabupaten Barru, Indonesia. *Journal of Regional and Rural Development Planning (Jurnal Perencanaan Pembangunan Wilayah dan Perdesaan)*, 6(3), 287-301.
- Junaid, I., Mansyur, & Uleng, A. (2020). Implementasi Pariwisata Berkelanjutan di Pulau Maratua, Kabupaten Berau, Kalimantan Timur. *Jurnal Pariwisata Terapan*, 3(2), 110-123.
- Kanom, K., & Darmawan, R. N. (2021). Strategi Pengembangan Pantai Pulau Merah Banyuwangi Sebagai Destinasi Pariwisata Berkelanjutan. *Media Bina Ilmiah*, 16(5), 6851-6872.
- Kanom, K., Darmawan, R., & Nurhalimah, N. (2020). Sosialisasi Penerapan Sapta Pesona dalam Perencanaan Dan Pengembangan Destinasi Pariwisata Berkelanjutan di Lider Desa Sumberarung Kecamatan Songgon Kabupaten Banyuwangi. *Cendekia: Jurnal Pengabdian Masyarakat*, 2(1), 24-32.
- Khartishvili, L., Muhar, A., Dax, T., & Khelashvili, I. (2019). Rural Tourism in Georgia in Transition: Challenges for Regional Sustainability. *Journal Sustainability*, 11(410), 1-20.
- Kusdianto, H. (1996). *Strategi Perencanaan Pengembangan Destinasi Wisata Jakarta*. Depok: UI Press.
- Law Number 10 of 2009 concerning Tourism.
- León-Gómez, A., Ruiz-Palomo, D., Fernández-Gámez, M. A., & García-Revilla, M. R. (2021). Sustainable tourism development and economic growth: Bibliometric review and analysis. *Sustainability*, 13(4), 2270.
- Miyayi, E. N. (2021). Implementation of the Tourism Development Master Plan Policy in the Tourism Village of Kepuharjo, Cangkringan District, Sleman Regency. *SOSHUM: Jurnal Sosial dan Humaniora*, 11(3), 259-266.
- Moleong, Lexy. (2011). *Metodologi Penelitian Kualitatif*. Bandung: PT Remaja Rosdakarya.
- Musaddad, A. A., Rahayu, O. Y., Pratama, E., Supraptiningsih, S., & Wahyuni, E. (2019). Pembangunan Pariwisata Berkelanjutan di Indonesia. *Dinamika Administrasi: Jurnal Ilmu Administrasi dan Manajemen*, 2(1).
- Musaddad, A. A., Rahayu, O. Y., Pratama, E., Supraptiningsih, S., & Wahyuni, E. (2019). Pembangunan pariwisata berkelanjutan di Indonesia. *Dinamika Administrasi: Jurnal Ilmu Administrasi dan Manajemen*, 2(1).
- Nguyen, V. H., Nguyen, T. P. L., Nguyen, T. T. P., & Nguyen, T. V. H. (2023). Citizens' intention toward sustainable tourism through integrating protection motivation theory (PMT) and theory of interpersonal behavior (TIB). *Tourism Review*.
- Noor, A. A., & Pratiwi, D. R. (2016, July). Konsep Pengembangan Pariwisata Berkelanjutan di Kampung Buyut Cipageran (Kabuci) Kota Cimahi. In *Prosiding Industrial Research Workshop and National Seminar*, 7, 178-183.
- Ozturen, A., & Ozgit, H. (2022). Conclusion: transitioning from unsustainable to sustainable solutions. *Worldwide Hospitality and Tourism Themes*, 14(4), 403-408.
- Pamungkas, K. E., Mistriani, N., & Mulyani, S. (2022). Analisis Pengembangan Hutan Pinus Pangonan Sebagai Destinasi Wisata Alam di Kabupaten Pati. *Gemawisata: Jurnal Ilmiah Pariwisata*, 18(1), 08-25.
- Pamungkas, K. E., Mistriani, N., & Mulyani, S. (2022). Analisis Pengembangan Hutan Pinus Pangonan Sebagai Destinasi Wisata Alam di Kabupaten Pati. *Gemawisata: Jurnal Ilmiah Pariwisata*, 18(1), 08-25.
- Purnomo, S., Rahayu, E. S., Riani, A. L., Suminah, S., & Udin, U. D. I. N. (2020). Empowerment model for sustainable tourism village in an emerging country. *Journal of Asian Finance, Economics and Business*, 7(2), 261-270.
- Purwaningsih, E., Yuliwulandari, R., Soenyono, S., & Santoso, J. T. B. (2019). Pengembangan Dan Perlindungan Obat/Jamu Tradisional Menuju Industri Obat Herbal Di Jawa Tengah Dan Jawa Timur. *Jurnal Surya Kencana Dua: Dinamika Masalah Hukum Dan Keadilan*, 6(1), 332-351.
- Rasoolimanesh, S. M., Ramakrishna, S., Hall, C. M., Esfandiari, K., & Seyfi, S. (2023). A systematic scoping review of sustainable tourism indicators in relation to the sustainable development goals. *Journal of Sustainable Tourism*, 31(7), 1497-1517.
- Ratnasari, F. (2018). Strategi Pengembangan Objek Wisata di Kabupaten Pati. *Efficient: Indonesian Journal of Development Economics*, 1(3), 260–269. <https://doi.org/10.15294/efficient.v1i3.27871>.
- Safitri, D. A. (2024). Gastrodiplomacy as Optimization of the Sustainable Tourism Sector in Pati Regency. *Economic Education Analysis Journal*, 13(2), 141-150.
- Santoso, J. T. B. (2021). The Economic Values of Pancasila in the Local Wisdom of Harvesting Rice at Kampung Naga. *Jurnal Ekonomi dan Studi Pembangunan*, 13(2), 149-158.
- Santoso, J. T. B., Wahjoedi, B. E. S., & Widjaja, S. U. M. (2020). “Bawon” as Social Wisdom of Indigenous People of Kampung Naga, Indonesia. *Solid State Technology*, 63(6), 1419-1429.

- Saputro, M. F. A., Herlambang, B. A., & Anam, A. K. (2024). Sistem Informasi Geografis Peta Interaktif Pariwisata Kabupaten Pati berbasis Sistem. *Jurnal Ilmiah Research Student*, 1(3), 767-776.
- Setiawan, M. (2023). Pemulihan Sektor Pariwisata: Memahami Kepribadian UMKM. *Altasia Jurnal Pariwisata Indonesia*, 5(2), 51-66.
- Streimikiene, D., Svagzdiene, B., Jasinskis, E., & Simanavicius, A. (2021). Sustainable tourism development and competitiveness: The systematic literature review. *Sustainable development*, 29(1), 259-271.
- Sufiyanto, M., Munawaroh, A., & Aini, S. M. Q. (2022). Women's Role in Social Community and Regional Leadership in Madura: the role of women and regional leadership in Madura. *SOSHUM: Jurnal Sosial dan Humaniora*, 12(2), 142-153.
- Sugiama, G. (2014). *Pengembangan Bisnis dan Pemasaran Aset Pariwisata*. Bandung: Guardaya Intimarta.
- Sugiarto, E., & Prasetyo, K. I. N. (2023). Daya Tarik Wisata Waduk Gunungrowo di Kabupaten Pati, Jawa Tengah. *Jurnal Kajian Pariwisata Dan Perhotelan*, 1(2), 57-62.
- Sugiyono. (2017). *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R & D*. Bandung: Alfabeta.
- Susrawan, I. N. A., & Artika, I. W. (2023). Folklore of Megibung and Its Digitalization as an Effort to Sustain the Balinese Tradition in the Globalization Era. *SOSHUM: Jurnal Sosial dan Humaniora*, 13(3), 212-224.
- Sutrisno, Eri. (2023). *Ayo Jelajahi Desa Wisata Peraih Rekor MURI*. <https://indonesia.go.id/kategori/editorial/7504/ayojelajahi-desawisata-peraih-rekor-muri?lang=1#:~:text=Kementerian%20Pariwisata%20dan%20Ekonomi%20Kreatif,yakni%203.419%20desa%20wisata%20saja>. Diakses pada 20 Desember 2023.
- Wahyu, Y. F., & Triani, M. (2023). Pengaruh Sektor Pariwisata Terhadap Penyerapan Tenaga Kerja di 9 Destinasi Wisata Favorit Kabupaten/Kota Provinsi Sumatera Barat. *Jurnal Kajian Ekonomi dan Pembangunan*, 5(1), 19-28.
- Widiastuti, I. A. M. S., Astawa, I. N. D., Mantra, I. B. N., & Susanti, P. H. (2021). The Roles of English in the Development of Tourism and Economy in Indonesia. *SOSHUM: Jurnal Sosial Dan Humaniora*, 11(3), 305-313.
- Wondirad, A., Tolkach, D., & King, B. (2020). Stakeholder collaboration as a major factor for sustainable ecotourism development in developing countries. *Tourism Management*, 78, 104024.
- Yin, Robert K. (2013). *Studi Kasus: Desain & Metode*. Jakarta: Raja Grafindo Persada.