

KEY DRIVERS OF NGLANGGERAN TOURISM VILLAGE: THE ROLE OF THE PRIVILEGES FUND

Herjuna Mai Hatmaka¹, Ayif Fathurrahman¹, and Ahmad Maruf¹

¹Universitas Muhammadiyah Yogyakarta, Jl. Ring Road Selatan, Geblagan, Tamantirto, Kec. Kasihan, Kabupaten Bantul, Daerah Istimewa Yogyakarta, 55184
E-mail: ahmad_maruf@umy.ac.id

ABSTRACT

This study examines the effectiveness of the Privileges fund (Danais) in supporting sustainable tourism village development through a systems-based approach, focusing on Nglanggeran Tourism Village, Yogyakarta. The Cross-Impact Matrix Multiplication Applied to Classification (MICMAC) method is used to analyze influence–dependence relationships among 32 variables across four dimensions: social, economic, institutional, and environmental. The findings show that socio-institutional variables particularly community participation, governance capacity, and institutional coordination act as the main driving forces, while economic and environmental dimensions tend to be dependent. These results indicate that the effectiveness of Danais is determined not only by financial allocation, but also by institutional coherence and strong community-based processes. Theoretically, these findings align with second-generation fiscal decentralization theory, emphasizing governance quality and accountability. However, this study has limitations, including reliance on expert judgment from focus group discussions (FGDs), which may introduce subjectivity, and its focus on a single case. In addition, the MICMAC approach has limitations in capturing dynamic interactions and causal relationships. Future research is suggested to integrate quantitative methods, such as econometric or panel data analysis, and to expand comparative studies across regions and countries, particularly in the context of asymmetric decentralization. A longitudinal approach is also needed to better understand the dynamic impacts of fiscal transfers. These efforts are expected to strengthen understanding of optimizing fiscal transfers to support inclusive and sustainable rural development.

Key words: privileges fund; tourism village; MICMAC; village development

FAKTOR PENGGERAK UTAMA DESA WISATA NGLANGGERAN: PERAN DANA KEISTIMEWAAN

ABSTRAK

Penelitian ini menganalisis efektivitas Dana Keistimewaan (Danais) dalam mendukung pengembangan desa wisata berkelanjutan melalui pendekatan berbasis sistem, dengan fokus empiris pada Desa Wisata Nglanggeran, Yogyakarta. Metode *Cross-Impact Matrix Multiplication Applied to Classification* (MICMAC) digunakan untuk mengkaji hubungan pengaruh–ketergantungan antar 32 variabel dalam empat dimensi: sosial, ekonomi, kelembagaan, dan lingkungan. Hasil penelitian menunjukkan bahwa variabel sosial-kelembagaan khususnya partisipasi masyarakat, kapasitas tata kelola, dan koordinasi kelembagaan berperan sebagai penggerak utama, sementara dimensi ekonomi dan lingkungan cenderung bersifat dependen. Temuan ini menegaskan bahwa efektivitas Danais tidak hanya ditentukan oleh alokasi keuangan, melainkan juga oleh koherensi kelembagaan dan kekuatan proses berbasis masyarakat. Secara teoretis, hasil ini sejalan dengan teori desentralisasi fiskal generasi kedua yang menekankan pentingnya kualitas tata kelola dan akuntabilitas. Namun, penelitian ini memiliki keterbatasan, antara lain penggunaan penilaian ahli berbasis FGD yang berpotensi menimbulkan subjektivitas, serta fokus pada satu studi kasus. Selain itu, pendekatan MICMAC belum sepenuhnya mampu menangkap dinamika dan hubungan kausal antarvariabel. Penelitian selanjutnya disarankan untuk mengintegrasikan metode kuantitatif, seperti ekonometrika atau data panel, serta memperluas studi komparatif lintas wilayah dan negara, khususnya dalam konteks desentralisasi asimetris atau otonomi khusus. Pendekatan longitudinal juga diperlukan untuk memahami dampak dinamis transfer fiskal. Upaya tersebut diharapkan dapat memperkuat pemahaman mengenai optimalisasi transfer fiskal dalam mendorong pembangunan pedesaan yang inklusif dan berkelanjutan.

Kata kunci: dana keistimewaan; desa wisata; MICMAC; pembangunan desa

INTRODUCTION

Efforts to bridge the gap between urban and rural areas have become a central concern in rural development frameworks. Disparities in living standards remain a major factor contributing to urban rural inequality (Yudaruddin et al.,

2023). Alongside rapid technological advancement, particularly digitalization, rural communities are increasingly gaining new opportunities to develop economic activities in both agricultural and non-agricultural sectors. Furthermore, infrastructure development and the provision of adequate public services play a crucial

role in supporting the socio-economic progress of rural areas (United Nations Department of Economic and Social Affairs [UN DESA], 2021). However, rural development is inherently complex, involving multiple interrelated factors that interact dynamically within local contexts.

The success of rural development is influenced by a range of interrelated indicators that do not operate independently but interact with one another in shaping development outcomes. Several studies highlight that the availability of basic infrastructure, particularly transportation (Chaniebate et al., 2023; Hartwig & Nguyen, 2023), along with the presence of adequate facilities and appropriate rural management strategies, plays a decisive role in shaping the direction of village development (Priatmoko et al., 2021; Nugroho et al., 2021). Beyond infrastructure, technological advancement has also driven significant change, particularly through digital adaptation by key rural actors, which creates new opportunities for business management and improvements in community welfare (Ilham et al., 2022). Moreover, rural development is enriched by local knowledge, community creativity, and socially embedded innovation practices that emerge from within villages, strengthening social, financial, and productive capacities at the local level (Monda et al., 2023). These elements are interconnected, where changes in one dimension can influence and be influenced by others, reflecting the systemic nature of rural development.

Within Indonesia's national policy framework, efforts to reduce urban-rural disparities are articulated in the 2025-2029 National Medium-Term Development Plan (RPJMN), particularly under National Priority 6 focusing on village-based development. This policy direction is reinforced by a legal framework, notably Law No. 6 of 2014 on Villages, which grants greater autonomy for village-level development based on local potential. In addition, various village financing schemes reflect the government's commitment to supporting grassroots development initiatives. Sustained fiscal transfers have been shown to strengthen rural livelihoods by promoting productive activities and asset accumulation, although their outcomes remain influenced by broader structural conditions (Hajdu et al., 2020).

Although fiscal transfers are intended to ensure a more equitable distribution of regional development capacity, regions operate under

diverse conditions shaped by territorial characteristics, historical trajectories, and varying degrees of authority within the decentralization framework. These differences necessitate more contextualized policy approaches, making special-purpose funding a relevant complement to general fiscal transfers in supporting special authorities (Setyarini et al., 2023). The Special Region of Yogyakarta (DIY) represents a constitutionally recognized special region, grounded in its historical legacy, cultural heritage, and pre-existing governance system. This recognition is formalized through Law No. 13 of 2012, which underscores DIY's historical contribution to Indonesia's independence and its loyalty to the Republic as the basis for its special status.

Furthermore, Law of the Republic of Indonesia Number 13 of 2012 defines the special status of the Special Region of Yogyakarta as a distinct legal position grounded in historical background and original rights, granting authority to regulate and administer certain governmental affairs in accordance with the 1945 Constitution of the Republic of Indonesia. This special status is not construed as a form of political privilege, but rather as state recognition of governance systems, cultural values, and local wisdom that have long been embedded within the community. Such recognition provides room for DIY to exercise specific governmental functions through approaches aligned with local cultural contexts, while remaining firmly embedded within the framework of the Unitary State of the Republic of Indonesia. To support its implementation, the state allocates the Privileges Fund (Dana Keistimewaan/Danais) as a dedicated fiscal instrument to finance these special authorities, thereby enabling legal recognition to be translated into tangible regional development outcomes (Paniradya Kaistimewaan, 2024).

In practice, the Danais is not managed solely at the provincial or district levels, but also extends to the village level through a range of development programs and activities. The utilization of Danais at the local level is generally manifested in the implementation of special authorities, including governance arrangements related to the procedures for appointing the Governor and Deputy Governor, institutional development, cultural affairs, land management, and spatial planning. These authorities are further operationalized through development programs focusing on infrastructure pro-

vision, cultural preservation, and the strengthening of regionally strategic sectors (Paniradya Kaistimewaan, 2024). Through these activities, Danais is expected to promote the integrated development of local potential, thereby enabling development benefits to be directly experienced by village communities.

To date, studies on village development financing in Indonesia have predominantly focused on the effectiveness of budget allocation or on measuring its impacts on specific welfare indicators. Evidence shows that village funds contribute to poverty reduction and employment improvement, although their impact on inequality remains limited (Ernawati et al., 2021). Other studies also find that fiscal transfers improve economic welfare, but their benefits tend to be uneven across different household groups (Sutisna & Qibthiyah, 2023). In addition, the effectiveness of village funding is strongly influenced by institutional capacity and the level of community participation (Sunarsi et al., 2021).

In the context of fiscal decentralization, limited attention has been given to the role of special-purpose fiscal instruments such as Danais in local development dynamics. Existing studies indicate that the Privileges Fund can enhance welfare outcomes and promote economic growth (Rokhman, 2023). However, weak institutional capacity remains a major constraint to effective local economic development (Tessema et al., 2021). Furthermore, governance challenges, particularly in coordination and human resources, continue to hinder policy effectiveness at the village level (Aminullah et al., 2022).

Furthermore, rural development is inherently complex and involves multiple interconnected dimensions. Systematic review studies identify a wide range of economic, social, and environmental variables that interact in shaping rural development outcomes (Roldan et al., 2023). Empirical research also shows that rural development functions such as production, living conditions, and ecological sustainability are interdependent and develop unevenly across regions (Li et al., 2022). Despite this complexity, existing studies have not sufficiently captured the structure of relationships and interdependencies among key factors within village development systems. This indicates the need for an analytical approach capable of identifying driving and dependent variables within a systemic framework. In this regard, the application of

structural analysis methods such as MICMAC remains limited in the context of village policy. Therefore, this study contributes not only empirically, by examining the role of Danais in village development, but also methodologically, by extending the application of MICMAC in analyzing village-level public policy within a systemic framework.

Building upon this need for a systemic analytical approach, this study is grounded in systems theory, which views development as a system composed of interrelated and interdependent elements. In this perspective, rural development outcomes are not determined by single factors, but by the interaction between fiscal policy, institutional capacity, community participation, and socio-economic as well as environmental dynamics. This perspective is particularly relevant in addressing the limitations of previous studies that tend to examine village development financing in a partial manner.

Within this framework, fiscal decentralization particularly intergovernmental transfers such as the Danais is understood as part of a policy subsystem that interacts with broader development components. This is further complemented by sustainable development perspectives, which emphasize the integration of economic, social, and environmental dimensions, as well as community-based development approaches that highlight the role of local participation. The integration of these perspectives enables a more systemic and comprehensive understanding of village development. This study therefore not only applies systems theory in the context of village development, but also contributes to extending its application in analyzing fiscal decentralization policies at the local level.

METHOD

This study adopts a qualitative approach to obtain an in-depth understanding of the utilization of Danais in village development. This approach enables the exploration of the behaviors, attitudes, and experiences of village actors while capturing the complexity of interrelated economic, social, environmental, and institutional dimensions. The research begins with a literature review covering academic journals, books, policy reports, and government documents to identify key variables and construct the analytical framework. Primary data were collected through document analysis, expert-

based questionnaires, and Focus Group Discussions (FGDs), allowing for data triangulation and strengthening the validity of findings.

This study involves 11 expert respondents selected through purposive sampling to represent key stakeholders involved in the utilization of the Privileges Fund (Danais) in Nglanggeran Village. The respondents were drawn from four groups: (1) village government, (2) local community, (3) Tourism Awareness Group (Pokdarwis), and (4) relevant government institutions. The selection criteria included direct involvement in village development or tourism activities, institutional representation, and a clear understanding of Danais implementation at the local level.

From the government sector, respondents include representatives from the provincial and district levels, as well as village officials responsible for development and economic affairs. From the community, respondents consist of local leaders representing different territorial conditions, as well as women and youth representatives to capture social inclusiveness. From the business sector, respondents include local entrepreneurs and tourism-related actors to reflect productive economic activities within the village.

This composition ensures that the selected respondents represent institutional, social, and economic dimensions, allowing for a comprehensive understanding of Danais utilization and its contribution to sustainable village development. In addition, the diversity of respondents supports the reliability of expert judgments by incorporating multiple viewpoints within the system.

To ensure the consistency of responses, the assessment process was conducted in two stages: individual scoring through structured questionnaires, followed by collective discussion in FGDs. Differences in perception and scoring were discussed and clarified to reach a shared understanding among respondents, thereby reducing subjectivity in the evaluation process.

The research site is Nglanggeran Village, Patuk Subdistrict, Gunungkidul Regency, Special Region of Yogyakarta. The selection of this location is based on its characteristics as a tourism village that has consistently received and utilized Danais across various development sectors. This makes Nglanggeran an appropriate case study for examining the systemic role of Danais in supporting sustainable rural tourism development.

Table 1. 1 List of Variables and Their Dimensions in the MICMAC Analysis

No	Code	Variable (English)	Dimension
1	SBI	Supporting Business Infrastructure	Economic
2	PPF	Production and Processing Facilities	Economic
3	APP	Local Commodity Processing and Utilization	Economic
4	LTL	Linkages between Tourism and Local Businesses	Economic
5	EPV	Economic Partnerships and Village-Based Events	Economic
6	SMEP	SME Productivity	Economic
7	PME	Equitable Distribution of Village Economic Benefits	Economic
8	JOB	Local Job Creation	Economic
9	CSD	Social Capacity of Village Community	Social
10	UDD	Understanding of Village Development Direction	Social
11	WOM	Women's Role in Socio-Economic Activities	Social
12	YOU	Youth Role in Tourism Innovation	Social
13	IVG	Inclusion of Socially Vulnerable Groups	Social
14	CIV	Community Involvement in Village Programs	Social
15	SMS	Sustainability of Village Social Capital	Social

No	Code	Variable (English)	Dimension
16	CUL	Preservation of Local Culture and Traditions	Social
17	PPT	Protection of Productive and Tourism Areas	Environmental
18	TMR	Tourist Management and Regulation	Environmental
19	MNT	Management of Tourist Routes and Facilities	Environmental
20	OUN	Orderly Use of Natural Spaces	Environmental
21	TCS	Tourism Area Cleanliness System	Environmental
22	CEM	Community Role in Environmental Maintenance	Environmental
23	TPE	Tourism Pressure on the Environment	Environmental
24	BNT	Balance between Nature and Tourism Activities	Environmental
25	RVG	Role of Village Government	Institutional
26	CVO	Capacity of Village Officials	Institutional
27	SGK	Support from Gunungkidul Regency Government	Institutional
28	SDIY	Support from the DIY Provincial Government	Institutional
29	POK	Role of Tourism Awareness Group (Pokdarwis)	Institutional
30	ADP	Alignment of Danais Programs with Village Needs	Institutional
31	VCE	Village Collaboration with External Actors	Institutional
32	TPB	Transparency of Village Programs and Budget	Institutional

Source: Primary Data Processed, 2025

Data analysis is conducted using the MICMAC method, a structural analysis technique introduced by Duperrin and Duperrin & Godet (1973) to identify key variables in complex systems (Nematpour et al., 2021). The method employs two main matrices, namely the Matrix of Direct Influence (MDI) and the Matrix of Potential Indirect Influence (MPII), to systematically map interdependencies among variables. In this study, the application of MICMAC follows a series of sequential and integrated stages, from the formulation of research objectives to the interpretation of results and conclusion drawing.

The application of the MICMAC method is carried out through a series of systematic and integrated analytical stages. The process begins with the formulation of research objectives and the identification of relevant variables based on literature review and empirical findings. These variables are then evaluated by experts to assess the degree of direct and indirect influence within the Danais utilization system. The results are processed to determine the levels of influence and dependence of each variable,

which serve as the basis for structural mapping and classification of variables according to their roles within the system.

Based on the calculated levels of influence and dependence, variables within the Danais utilization system are classified into four main categories. This classification is derived from expert assessments of direct influence relationships among variables. These evaluations are then aggregated to determine the overall levels of influence and dependence for each variable, which serve as the basis for structural mapping within the MICMAC framework (Rosalinda et al., 2022; Nurhanifah & Rachmawatie, 2025).

Based on the calculation results, the variables in the system are classified into four main categories:

1. Input variables, characterized by high influence and low dependence;
2. Intermediate variables, exhibiting both high influence and high dependence;
3. Output variables, with low influence and high dependence; and

4. Excluded variables, which have both low influence and low dependence.

3 = High direct influence
P = Potential influence

Overall, the MICMAC method allows this study to examine the relationships between variables in the Danais utilization system in a structured way. Through expert assessments and matrix-based analysis, the roles and positions of each variable can be clearly understood. The results help identify key factors that drive, connect, and result from village development activities. Therefore, the methodology used in this study provides a clear and reliable basis for interpreting the research findings.

RESULTS AND DISCUSSION

To analyze the relationships among key variables, FGDs and questionnaire surveys were conducted, with the collected data processed using the MICMAC method. In the questionnaire, respondents assessed the interrelationships among variables using the following scale:

- 0 = No influence
- 1 = Low direct influence
- 2 = Medium direct influence

The results of this assessment are used to determine the levels of influence and dependence among variables, enabling their classification into driving, linkage, dependent, and autonomous categories. In the context of Danais management, this classification helps identify key factors influencing effectiveness, accountability, and sustainability. The detailed results are presented in the Influence–Dependence Matrix (Appendix A), which displays the scores and rankings of each variable. Variables with high influence are identified as key drivers, those with high dependence represent system outcomes, and linkage variables indicate strategic roles due to their strong influence and dependence. This analysis provides an empirical basis for policy prioritization and supports the development of more targeted, transparent, and coherent strategies aligned with regional development objectives.

The direct influence–dependence map is interpreted by examining the relative position of each variable along two axes: influence (vertical) and dependence (horizontal), forming four analytical quadrants. Quadrant I represents

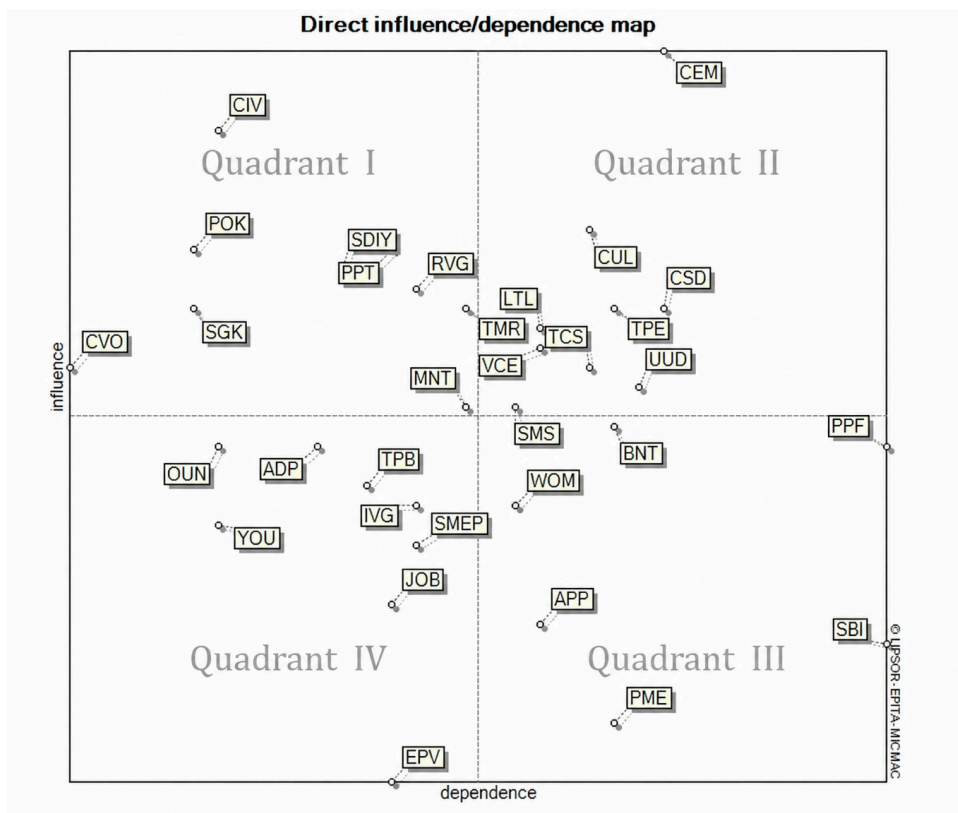


Figure 1. Map of sustainability variables by influence and dependence

Source: Primary Data Processed, 2025

driving variables with high influence and low dependence, Quadrant II includes linkage variables with both high influence and dependence, Quadrant III consists of dependent variables, and Quadrant IV contains autonomous variables with limited interaction. The results show that variables such as CIV, POK, CVO, SGK, and SDIY are positioned in Quadrant I, indicating their role as primary drivers. This placement suggests that interventions targeting these variables can generate broader systemic effects in tourism village development.

A closer examination indicates that variables in Quadrant II, such as CEM, CUL, TPE, CSD, and UDD, occupy a strategically sensitive position due to their dual role as both influ-

encers and recipients of influence. In contrast, variables such as SBI, PPF, PME, and APP are located in Quadrant III, reflecting high dependence on social, institutional, and environmental factors. This suggests that economic performance is primarily an outcome of prior structural dynamics rather than a primary driver. Meanwhile, variables in Quadrant IV, including YOU, OUN, and ADP, exhibit relatively weak interaction within the system.

Overall, the configuration indicates that socio-institutional factors function as the primary foundation of development, while economic variables emerge as outcomes of cumulative systemic interactions.

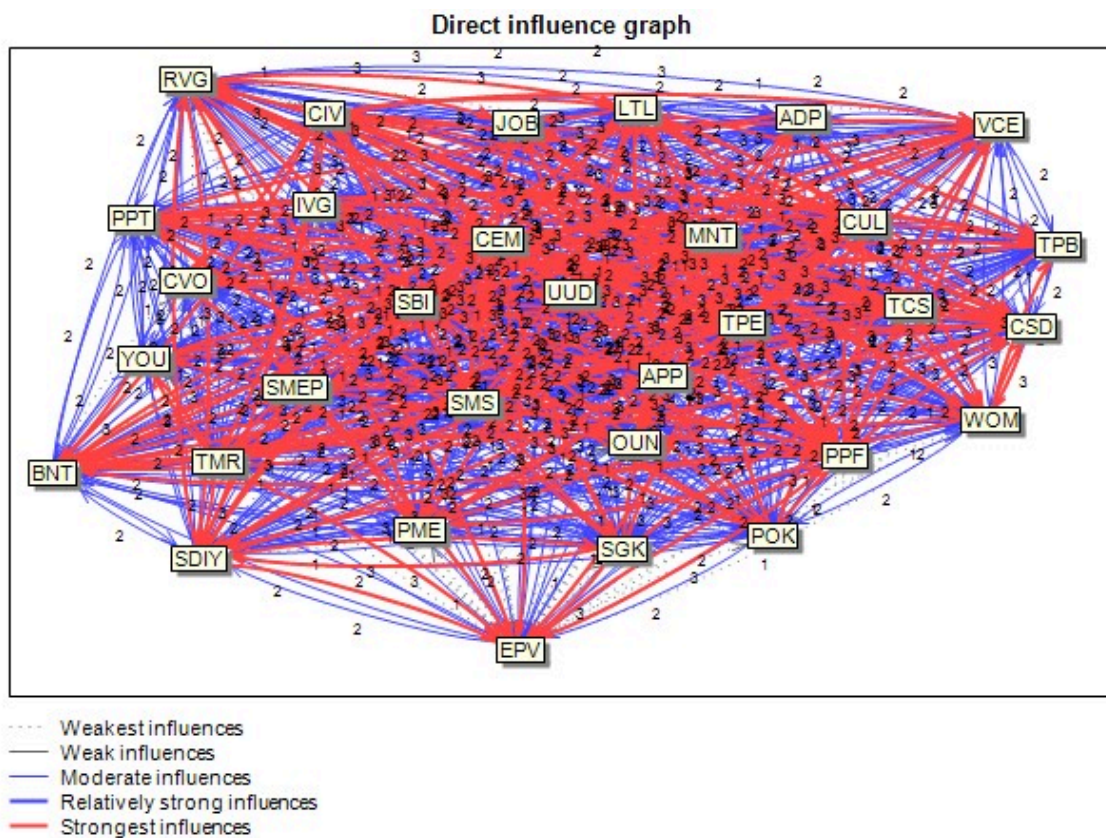


Figure 2. Graph of direct influence relationships between variables

Source: Primary Data Processed, 2025

The direct influence graph is interpreted by examining the pattern, direction, and intensity of connections among variables, where each link represents a causal relationship within the system. Unlike quadrant mapping, this graph illustrates how influence is transmitted through direct interactions. The density of connections indicates a highly interconnected system in which changes can propagate across variables. The results show that CIV, POK, and LTL act as key drivers with

extensive outgoing links. TMR exerts strong influence on environmental variables, while economic variables such as SBI, PPF, and SMEP receive more incoming links, indicating their dependence on upstream factors.

Figure 3 illustrates indirect influence relationships through intermediary pathways, highlighting multi-step system interactions. CIV occupies a central role as a key driver, PPF and SBI act as enhancers of economic

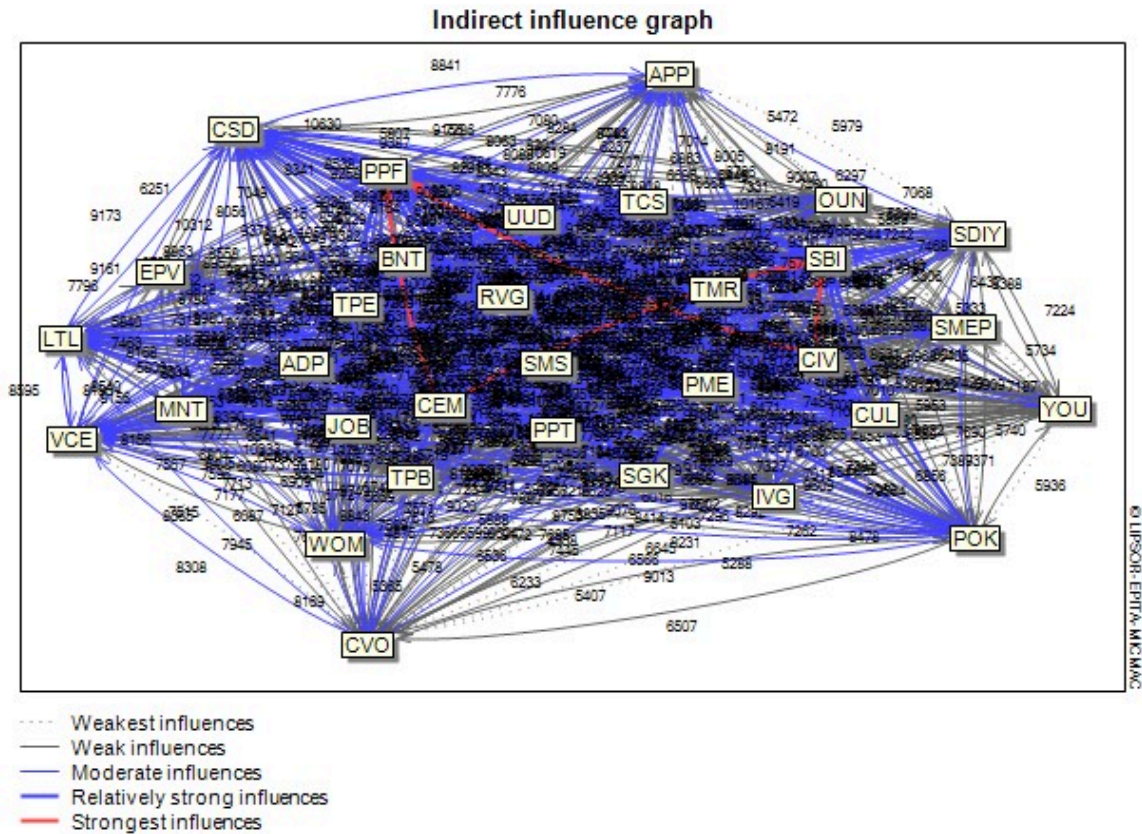


Figure 3. Graph of indirect influence relationship between variables

Source: Primary Data Processed, 2025

Classify Variables According to Their Inf

Rank	Variable	Variable
1	22 - CEM	22 - CEM
2	14 - CIV	14 - CIV
3	16 - CUL	16 - CUL
4	17 - PPT	17 - PPT
5	29 - POK	29 - POK
6	28 - SDIY	28 - SDIY
7	25 - RVG	9 - CSD
8	9 - CSD	25 - RVG
9	18 - TMR	18 - TMR
10	23 - TPE	23 - TPE
11	27 - SGK	27 - SGK
12	4 - LTL	31 - VCE
13	31 - VCE	4 - LTL
14	21 - TCS	21 - TCS
15	26 - CVO	26 - CVO
16	10 - UUD	10 - UUD
17	15 - SMS	15 - SMS
18	19 - MNT	19 - MNT
19	24 - BNT	24 - BNT
20	2 - PPF	30 - ADP
21	20 - OUN	20 - OUN
22	30 - ADP	2 - PPF
23	32 - TPB	32 - TPB
24	11 - WOM	13 - IVG
25	13 - IVG	11 - WOM
26	12 - YOU	12 - YOU
27	6 - SMEP	6 - SMEP
28	8 - JOB	8 - JOB
29	3 - APP	3 - APP
30	1 - SBI	1 - SBI
31	7 - PME	7 - PME
32	5 - EPV	5 - EPV

Figure 4. Rank of variables based on Influence

Source: Primary Data Processed, 2025

processes, while CEM reflects cumulative outcomes of prior interactions.

Figure 4 ranks variables based on influence relative to dependence, where crossing lines indicate positional shifts. CEM, CIV, CUL, and PPT consistently emerge as key drivers, while governance variables act as enablers and economic variables show lower influence, indicating they are not primary drivers in the Danais system.

Figure 5 presents variable dependence rankings after accounting for indirect interactions, with crossing lines indicating positional shifts. SBI, CEM, TPE, and TMR decline, while PPF, UDD, CUL, and TCS improve. Overall, economic and infrastructure variables remain highly dependent on social, institutional, and environmental factors.

Figure 6 illustrates shifts in variable positions across quadrants after accounting for indirect interactions, reflecting system dynamics. High-influence variables serve as strategic leverage points, while highly dependent variables represent outcomes. Overall, the effectiveness of Danais depends on coordination among system factors.

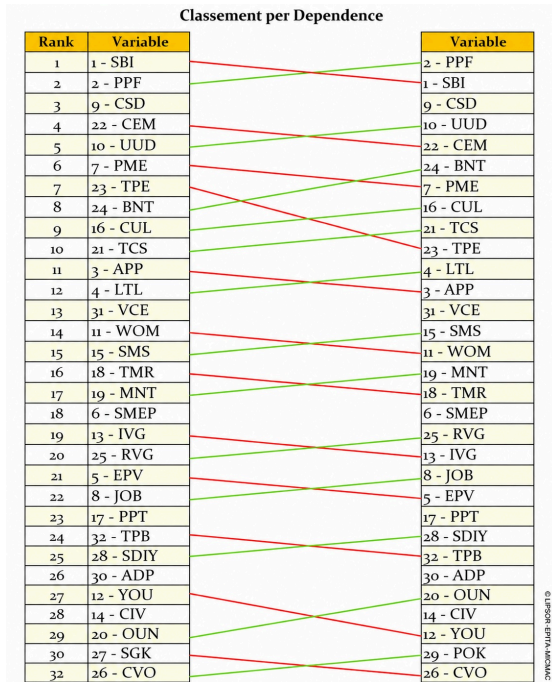


Figure 5. Rank of variables based on dependencies

Source: Primary Data Processed, 2025

This discussion is grounded in the theoretical framework of fiscal decentralization and system based development. Intergovernmental fiscal transfers are designed to address fiscal

imbalances and support regional development; however, their effectiveness is not solely determined by the size of financial allocation (Mohapi et al., 2023; Rutto et al., 2022). Second-generation fiscal decentralization theory emphasizes that development outcomes are largely shaped by governance capacity, institutional incentives, and accountability mechanisms (Otoo & Danquah, 2021; Park et al., 2022).

This implies that fiscal instruments operate within broader institutional systems, where policy effectiveness depends on how financial resources are embedded within social and governance structures. In line with this, sustainable rural development highlights the importance of participatory governance and locally embedded institutions in translating policy inputs into development outcomes (Gupta & Vegelin, 2023). From a systems perspective, as reflected in the MICMAC approach, development is understood as the outcome of interactions among interdependent variables within a structured system.

Within this context, the Privileges fund of Yogyakarta (Danais) represents a distinctive intergovernmental transfer embedded in a unique institutional setting. Under Law No. 13 of 2012, the Special Region of Yogyakarta integrates the Sultanate and the Duchy into the formal gover-

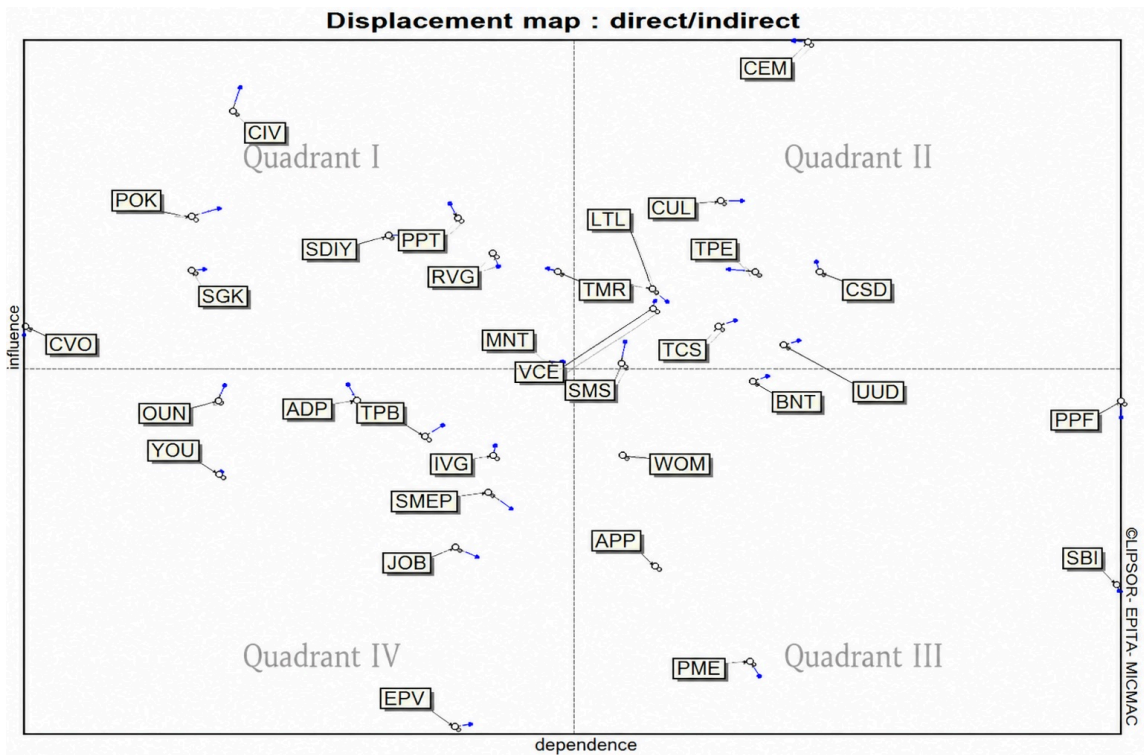


Figure 6. Displacement Map in the Influence–Dependence Structure

Source: Primary Data Processed, 2025

nance structure, with the Sultan concurrently serving as Governor. This arrangement creates an asymmetric governance system in which cultural legitimacy and administrative authority are unified. While the regional government retains formal responsibility for managing Danais, policy direction is influenced by values, norms, and institutional roles derived from culturally embedded institutions. Consequently, Danais operates within an integrated governance system where cultural authority is institutionalized within the state and shapes policy formulation and implementation.

The findings reveal a clear structural pattern in which socio-institutional variables act as primary drivers, while economic and infrastructure variables emerge as dependent outcomes. Community participation, governance capacity, and institutional coordination occupy dominant roles, indicating that development outcomes particularly in community-based tourism are primarily shaped by governance quality rather than financial inputs alone. This finding is consistent with the integrated governance framework observed in Nglanggeran.

At the local level, these dynamics are reflected in tourism village development, where economic performance and infrastructure expansion depend on collective action, community participation, and institutional coordination. This confirms that Danais functions not as a direct financial driver, but as an enabling instrument whose impact is mediated through governance processes and the coherence of the local development system. Furthermore, linkage variables, such as tourism management and local economic linkages, act as transmission channels that translate socio-institutional influences into economic outcomes. These variables serve as integrative mechanisms that align governance processes with local economic activities and ensure that development benefits reach local communities.

Despite its strategic role, several risks and limitations are identified. The dependence of economic and infrastructure variables on socio-institutional drivers may lead to inefficiencies when financial allocation is not accompanied by sufficient local capacity, participation, and institutional readiness. Additionally, the system shows a tendency toward reliance on government-driven initiatives, which may reduce local initiative and weaken the sustainability of community-based development. The culturally embedded nature of Danais also introduces chal-

lenges, as cultural authority may concentrate strategic orientation that is not always aligned with diverse local needs.

The indirect structure of influence suggests time-lagged effects, making short-term evaluation insufficient to capture the full contribution of Danais. Moreover, interdependence among institutional actors creates coordination complexity, where misalignment between policy direction, administrative implementation, and local execution can constrain overall effectiveness.

Conceptually, this study positions Danais as a system-embedded fiscal instrument whose effectiveness depends on interactions between formal governance and socio-cultural institutions. The findings confirm that socio-institutional factors act as primary drivers, while economic and infrastructure outcomes remain dependent within an interconnected system. From a policy perspective, this implies a shift from a program-based approach toward a system-oriented approach that strengthens linkages across governance levels and village-level implementation. Policy priorities should focus on enhancing institutional capacity, community participation, and local economic mechanisms, supported by evaluation frameworks that capture long-term and indirect impacts.

CONCLUSION

This study demonstrates that the effectiveness of Danais in supporting sustainable tourism village development is shaped by the interaction of four key dimensions namely institutional, social, economic, and environmental within an interconnected system. The MICMAC analysis reveals that the institutional and social dimensions, reflected in governance capacity, inter-actor coordination, and community participation, function as primary driving forces. In contrast, the economic and environmental dimensions predominantly emerge as dependent outcomes, contingent upon the strength and coherence of the underlying institutional and social structures. These findings highlight that development effectiveness is not determined by financial allocation or physical intervention alone, but by the quality of systemic interactions across these dimensions.

However, this study is subject to several limitations. First, the reliance on expert judgment through FGD-based scoring introduces potential subjectivity in assessing inter-variable

relationships. Second, while the MICMAC approach effectively captures structural interdependencies, it does not fully account for temporal dynamics or quantify causal relationships. Third, the empirical focus on Nglanggeran Tourism Village limits the generalizability of the findings, particularly in regions with differing institutional arrangements and development contexts.

Future research should incorporate quantitative approaches, such as econometric or panel data analysis, to validate the identified relationships, while adopting comparative and longitudinal perspectives across regions and countries. Expanding the scope through comparative studies particularly in regions with asymmetric decentralization or Privileges fund arrangements is essential to better understand how institutional variation shapes interactions across development dimensions, given that differences in governance capacity and socio-political structures can significantly influence outcomes. In addition, longitudinal approaches are needed to capture the dynamic and time-lagged effects of fiscal transfers. Integrating system-based analysis with performance evaluation will further enhance understanding of how special fiscal transfer instruments, including but not limited to Danais, can be optimized to support inclusive and sustainable development across diverse contexts.

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Appendix A. Influence–Dependence Scores and Ranking of Variables in MICMAC Analysis

		1	2	3	4	5	6	7	8	9	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3			
		0	1	2	3	4	5	6	7	8	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	
		S	P	A	L	E	S	P	J	C	U	W	Y	I	C	S	C	P	T	M	O	T	C	T	B	R	C	S	S	P	A	V	T	
		I	F	P	L	V	E	E	B	D	D	M	U	G	V	S	L	T	R	T	N	S	M	E	T	G	O	K	I	K	P	E	B	
						P																					Y							
1	Supporting Business Infrastructure	0	2	2	2	1	2	2	1	1	2	2	1	2	1	2	2	1	1	3	1	2	2	1	2	2	1	1	2	2	1	2	2	
2	Production and Processing Facilities	3	0	2	3	3	2	3	2	3	3	2	1	2	1	2	3	1	1	2	1	3	1	0	2	2	2	2	2	2	1	2	2	
3	Local Commodity Processing and Utilization	3	3	0	3	1	2	2	2	3	2	1	0	1	1	1	2	1	2	2	2	2	1	0	1	2	2	1	3	2	1	2	1	
4	Linkages between Tourism and Local Businesses	3	3	2	0	2	2	3	3	3	3	3	2	2	2	2	3	1	3	2	1	1	1	3	3	2	1	1	1	2	2	2	3	
5	Economic Partnerships and Village-Based Events	2	3	0	2	0	1	1	1	2	2	1	1	2	2	1	2	2	2	1	2	1	1	1	2	1	1	1	2	1	1	1	1	
6	SME Productivity	3	3	2	2	2	0	3	2	2	2	1	0	2	1	2	2	1	2	2	2	2	1	1	2	2	2	2	1	2	1	3	1	
7	Equitable Distribution of Village Economic Benefits	2	2	2	1	2	2	0	1	1	1	2	1	1	1	1	2	1	2	1	3	2	2	2	1	2	1	1	1	2	1	2		
8	Local Job Creation	2	3	3	2	2	2	2	0	2	2	2	1	1	2	1	2	1	1	2	1	2	2	3	2	1	1	1	1	2	2	1	1	
9	Social Capacity of Village Community	2	2	3	3	2	2	2	2	0	3	3	2	2	3	2	3	2	2	2	2	3	2	2	3	2	2	2	2	1	2	2	1	
10	Understanding of Village Development Direction	3	3	2	2	2	2	2	2	3	0	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	3	2	2	2	2	
11	Women's Role in Socio-Economic Activities	2	2	1	2	1	2	2	2	3	2	0	3	2	1	1	2	2	2	1	2	3	2	2	3	2	1	1	0	2	2	2	3	
12	Youth Role in Tourism Innovation	2	2	1	1	1	2	2	1	3	3	3	0	2	1	1	2	2	3	1	2	2	2	2	3	2	1	1	0	2	2	2	3	
13	Inclusion of Socially Vulnerable Groups	2	2	1	2	1	2	2	1	2	2	2	2	0	2	2	2	2	3	1	2	2	2	3	2	2	2	2	0	1	2	2	3	
14	Community Involvement in Village Programs	3	3	2	3	2	4	2	2	3	3	3	2	3	0	3	3	2	2	3	2	2	3	3	3	3	3	3	3	3	1	2	3	2
15	Sustainability of Village Social Capital	3	3	2	2	4	4	2	3	3	2	2	2	2	0	3	3	3	3	3	2	3	3	3	3	1	1	1	2	1	1	1	1	
16	Preservation of Local Culture and Traditions	3	3	3	3	2	2	3	3	2	3	2	2	2	2	3	0	2	2	2	2	2	3	3	3	2	1	2	2	2	2	2	2	
17	Protection of Productive and Tourism Areas	3	3	2	2	2	2	2	2	3	2	2	2	2	2	3	2	0	2	3	2	3	3	3	2	2	2	2	2	1	2	3	3	
18	Tourist Management and Regulation	2	3	3	2	3	2	2	2	2	2	2	3	2	2	3	2	2	0	2	2	2	3	2	2	2	2	1	2	3	2	2	2	
19	Management of Tourist Routes and Facilities	2	2	2	2	2	2	2	2	2	3	2	1	2	3	2	2	2	2	0	3	2	1	2	2	2	2	1	2	1	3	3	2	
20	Orderly Use of Natural Spaces	2	2	2	2	1	2	2	1	2	2	2	2	2	3	2	2	2	2	3	0	2	2	2	1	2	2	1	2	2	3	2	2	
21	Tourism Area Cleanliness System	2	2	2	1	2	3	2	2	2	2	2	2	3	2	2	1	2	2	2	2	0	3	3	2	3	1	2	2	2	2	3	2	
22	Community Role in Environmental Maintenance	3	3	3	2	3	3	3	3	3	3	2	2	2	2	3	3	3	3	3	2	3	0	3	3	2	2	2	2	2	2	3	3	
23	Tourism Pressure on the Environment	3	3	2	2	3	2	2	2	2	3	2	2	2	1	3	3	2	2	2	1	3	3	0	3	2	4	2	2	2	2	3	2	
24	Balance between Nature and Tourism Activities	3	3	2	2	2	2	2	2	2	2	2	2	2	1	3	3	2	2	2	1	2	3	3	0	2	4	2	2	2	1	2	1	
25	Role of Village Government	3	3	3	3	3	3	3	3	2	2	3	2	2	1	2	2	2	2	2	1	2	3	2	2	0	1	2	3	2	2	2	1	
26	Capacity of Village Officials	3	2	3	2	3	2	3	2	2	2	2	2	2	1	2	2	2	2	2	1	3	3	3	2	2	0	2	2	1	2	2	1	
27	Support from Gunungkidul Regency Government	3	2	3	2	3	2	2	2	3	2	2	2	2	1	3	2	2	2	2	1	2	3	3	2	2	2	0	3	2	2	2	2	
28	Support from the DIY Provincial Government	3	3	3	3	3	3	2	2	2	2	2	2	2	1	2	2	2	2	2	1	2	3	3	2	3	2	3	0	2	2	2	2	
29	Role of Tourism Awareness Group (Pokdarwis)	3	3	2	2	2	2	2	3	2	2	2	2	3	2	3	2	3	2	3	2	2	3	2	2	2	2	2	2	0	2	3	2	
30	Alignment of Danais Programs with Village Needs	2	2	2	2	1	2	2	1	2	2	3	1	2	3	2	2	2	2	2	3	2	2	2	2	2	2	1	2	2	0	2	2	
31	Village Collaboration with External Actors	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2	2	2	2	2	2	0	2	
32	Transparency of Village Programs and Budget	2	2	2	2	1	2	3	1	2	2	2	2	1	2	2	2	3	2	2	1	2	3	2	2	2	1	2	2	1	2	2	0	

Source: Primary Data Processed, 2025