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ARTICLE

A Deep Dive Into the Success of Joint Village-Owned Enterprises (Joint-BUMDes) in Indonesia

An Interpretive Structural Modeling (ISM) Analysis

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Abstract: The establishment of Joint Village-Owned Enterprises (Joint-BUMDes) presents an opportunity to create a collaborative network among villages, addressing the challenge of hindered business growth commonly faced by single-village enterprises. Therefore, this research aims to explore and analyze key enablers of Joint-BUMDes development using an interpretive structural modeling (ISM) approach and provide strategic recommendations for their growth. Based on a literature review and semi-structured interviews with nine informants, nine enablers were identified. These served as the basis for constructing a questionnaire distributed to three respondents who were purposely selected to establish contextual relationships. The ISM analysis prioritized interventions based on Quadrants III and IV enablers from the MICMAC analysis and the highest levels in the ISM interaction model. Key enablers include the village chief's political influence, managerial and technical skills, leadership characteristics, government support, equality in capabilities among villages, and the founding initiative. The conclusion is that political and management factors predict the success of Joint-BUMDes and influence other factors. Therefore, addressing these enablers is crucial for successfully developing Joint-BUMDes in Indonesia. Apart from these practical implications, this study enriches the literature on social enterprises in Indonesia, which has thus far been limited to single village BUMDes and fragmented in analyzing influencing factors.

Keywords: Social Enterprise; Joint Village-Owned Enterprises; Interpretive Structural Modeling; Rural Development.

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1. Introduction

In Indonesia, social enterprises can play a vital role in achieving the priorities outlined in the national medium-term plan for 2020-2024 (The World Bank, 2023). However, the global and national dynamics have intensified competition in the business world, including challenges faced by social enterprises, known as Village-Owned Enterprises (BUMDes) in the Indonesian context. Previous research has found that social enterprises often struggle to balance these dual roles, with their economic objectives sometimes overshadowing their social ones (Lee et al., 2012; Mair et al., 2012; Saraç, 2021). Like various other types of social enterprises, BUMDes have faced numerous challenges in recent times, including political and legal instability (Puumalainen et al., 2015). Further, Irjayanti and Azis (2012) have determined that poor politics often lead to an unfavorable business environment characterized by high costs and inefficiency. Bureaucratic factors also act as impediments. For instance, Cole (2007) has demonstrated that government bureaucracy hinders business growth and the proliferation of small-scale enterprises through rigid hierarchies. Equally significant, cultural aspects have been identified in some studies as obstacles to BUMDes' success within the theoretical framework of institutional environments (Adeney-Risakotta, 2014; Yuesti & Menes, 2022). Meanwhile, another crucial determinant of BUMDes' success relies heavily on the quality of its assets, including available natural resources, the skills and capabilities of its human resources, and the sufficiency of its financial resources (Ihsan & Setiyono, 2018; Jaryono & Tohir, 2019). In general, many BUMDes face challenges in maintaining and expanding their businesses (Khikmah & Murniningsih, 2022; Kurniasih & Wijaya, 2017). However, some successful BUMDes have expanded their businesses, both in revenue growth and market expansion, even internationally (Alfirdausi & Riyanto, 2019; Sari, 2021). The variety of these conditions is a consequence of the dynamic and competitive business environment.

These conditions indicate that BUMDes, a social enterprise, requires strengthened business development to ensure sustainability. The government has established guidelines for BUMDes' development. In Article 9 of Ministerial Regulation No. 5 of 2015 on Village, Disadvantaged Area Development, and Transmigration, BUMDes is identified as one of the priority sectors funded by the Village Fund. However, the progress of BUMDes falls short of expectations. Data reveals that many BUMDes have struggled to survive since following their establishment. In 2021, there were a total of 57,273 BUMDes, with 45,233 of them being active and 12,040 inactive (Waseso, 2021). The pandemic has exacerbated this situation, with 15,768 active BUMDes, or 35%, being negatively affected by the pandemic and forced to close their businesses, leading to the unemployment of 123,176 workers (Waseso, 2021).

Instead of focusing on the common BUMDes model where one enterprise covers a single village, one opportunity to overcome the common limitations faced by BUMDes is to establish a network of cooperation among villages by creating Joint Village-Owned Enterprises (Joint-BUMDes). This collaboration is needed to facilitate broader socio-economic activities across multiple villages (Ariyanto, 2021). For example, research by Tarlani and Suhirman (2019) shows that the formation of Joint-BUMDes Danar Garut was a solution to the competition challenges faced by 12 villages in the Leles District. This cooperation successfully transformed competition into a collaborative effort that brought economic and social benefits to each village. Another example is the Joint-BUMDes Panca Mandala, a legally established business unit formed through the collaboration of several villages in the Tasikmalaya Regency, including Mandalamekar, Mandalahurip, Papayan, Kertarahayu, and Ciwarak

(Setiawan, 2022). These five villages in the Jatiwaras District agreed to establish a business entity to promote equitable economic growth and create job opportunities for their residents (Setiawan, 2022).

In Indonesia, the formation of Joint-BUMDes remains highly limited. According to data from the Ministry of Villages, Development of Disadvantaged Regions, and Transmigration (Kemendes PDTT), as of November 2, 2023, out of a total of 56,826 existing BUMDes in Indonesia, only 5,331 are categorized as Joint-BUMDes (Sistem Informasi Desa, 2023). When examining more specific data, such as in the West Java Province, out of a total of 5,312 villages, only 16 percent of villages are engaged in Joint-BUMDes initiatives, with Karawang Regency having the highest involvement (119 out of 178 villages) and Banjar City having the least, where none of the 16 villages have established Joint-BUMDes entities (Dinas Pemberdayaan Masyarakat dan Desa, 2020). The details are illustrated in Figure 1.

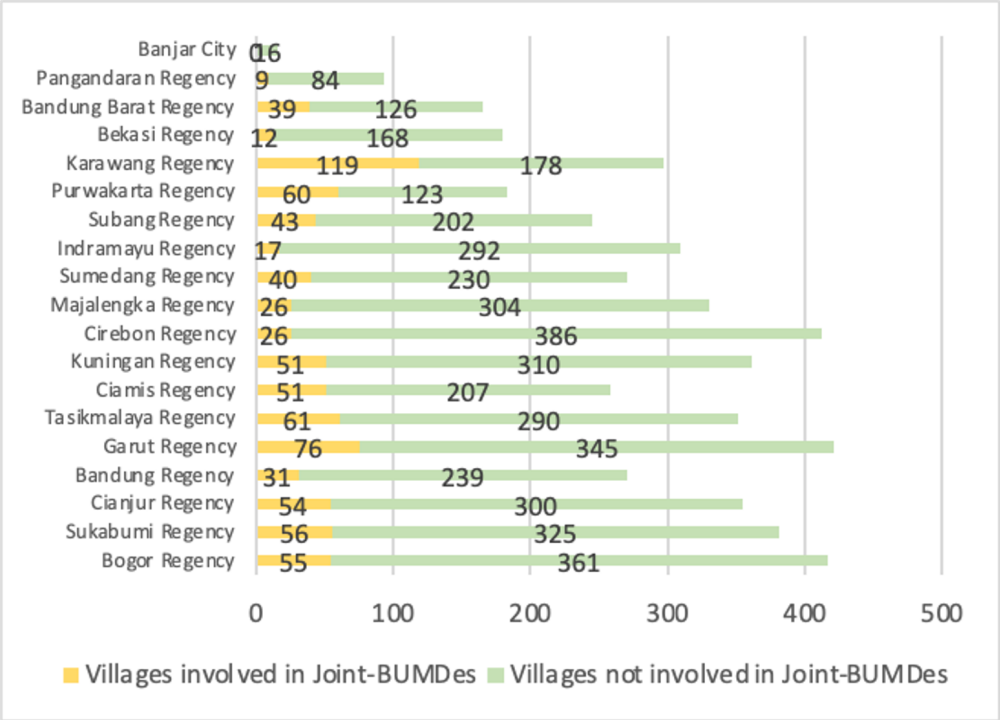

Figure 1. Number of Villages Based on Participation in Joint-BUMDes in West Java Province, 2020

Source: Dinas Pemberdayaan Masyarakat dan Desa (2020)

The formation of Joint-BUMDes represents a specific form of partnership. In the literature, partnerships play a pivotal role in providing public goods through enhanced capital efficiency, attaining economies of scale in service delivery, internalizing externalities, and accommodating various stakeholders' interests (Feiock & Andrew, 2006). However, a business involving multiple actors and interests presents its challenges. Regardless of the context of Joint-BUMDes, various studies on companies built by multiple parties indicate the vulnerability to conflicts or disagreements, differences in organizational culture, or personal incompatibilities that can lead to the dissolution of cooperation (Elmuti & Kathawala, 2001; Nikolova et al., 2014).

To date, there is limited research on Joint-BUMDes. One study conducted by Tarlani and Suhirman (2019) identified numerous opportunities and benefits in forming Joint-BUMDes. However, apart from being a case study, this research did not delve into the challenges faced by Joint-BUMDes in carrying out their business and

social activities. To the best of our knowledge, there is no research focused on depicting Joint-BUMDes, which are still relatively scarce in number. Therefore, our research explores the various factors influencing the development of Joint-BUMDes. Specifically, this study investigates key factors and analyzes the relations among them.

Recognizing the interactions among various factors can help decision-makers take the necessary steps for Joint-BUMDes' growth. This study proposes an interactive model based on interpretive structural modeling (ISM) to understand the growth of Joint-BUMDes using different determinant factors. ISM can help identify and evaluate interactions among various factors and categorize them into various hierarchical levels (Sindhu et al., 2016). This approach offers a systematic and efficient framework for building contextual linkages defined by experts in specific fields (Ahmad & Qahmash, 2021). This research is expected to construct an interaction model among the factors driving the growth of Joint-BUMDes. Several factors that drive the growth of Joint-BUMDes are identified based on interviews with purposively selected informants. Additionally, this study provides a framework for formulating strategies for sustainable growth of Joint-BUMDes.

2. Methods

2.1. Design

This study employs a qualitative research methodology specifically designed to delve into and comprehend the nuanced meanings ascribed by individuals or groups to issues of a social or humanitarian nature (Creswell, 2014). The selection and adaptation of the qualitative method align with the research focus, which centers on the management of Joint-BUMDes. Within this investigation, a comprehensive exploration of diverse factors enabling the success of Joint-BUMDes is undertaken, leveraging a combination of secondary and primary data sources. Secondary data is amassed through an extensive literature review, while primary data is extracted via semi-structured interviews conducted with a cohort of nine informants. This cohort comprises five BUMDes managers, two officials from the Department of Village Community Empowerment in West Java Province, one official from the Directorate of Village Economic Business Development at the Ministry of Village, Development of Disadvantaged Regions, and Transmigration of the Republic of Indonesia, along with one academician concurrently engaged in village activism. The interview was conducted from 1–20 February 2021.

2.2. Interpretive Structural Modeling (ISM)

Interpretive Structural Modeling is a methodology employed to discern and organize the relationships among specific elements within a system into a comprehensive and systematic model (Sarabi et al., 2020). The steps in ISM analysis in this study follow the methodology outlined by Yusuf et al. (2020) comprising three main stages (Figure 2). In the initial phase, this research commenced by formulating the main objectives as the primary focus of the investigation. The nine determinants of success factors (enablers) were obtained through a literature review and expert interviews (see Table 1). These factors were structured into a questionnaire using a pairwise comparison pattern to establish contextual relationships, targeting three purposively selected respondents: two practitioners and one academician. The selection criteria for these respondents hinged upon their expert status, which was informed by their extensive experience and substantive involvement in BUMDes, spanning five years or more. Rigorous validation and reliability assessments of the

interview and questionnaire guides were conducted through the expert judgment method, systematically scrutinizing the validity and reliability of each inquiry and assertion (Elangovan & Sundaravel, 2021).

The subsequent analytical steps were carried out with the assistance of software. This process involved tabulating survey data into Microsoft Excel in .csv format and inputting data using ISM Professional 2.0, a web-based software accessible at https://statistikawanku.shinyapps.io/ism_software/. The input data resulted in the Structural Self-Interaction Matrix (SSIM), followed by the conversion of SSIM into the Reachability Matrix (RM). The SSIM, reflecting self-structural interactions, was compiled and created the Reachability Matrix (RM) in binary form derived from the SSIM conversion. The Binary Matrix's consistency was validated by examining transitivity rules, an integral component of causal loop analysis. The final Reachability Matrix (RM Final) was generated, and Driven Power and Dependence were determined. The subsequent process involved placing them in the ISM quadrants and determining levels based on values obtained from the Driven Power and Dependence Matrix. Finally, interpretation was conducted on the resulting output, encompassing the positioning of each enabler within the quadrants and the ranking of enablers.

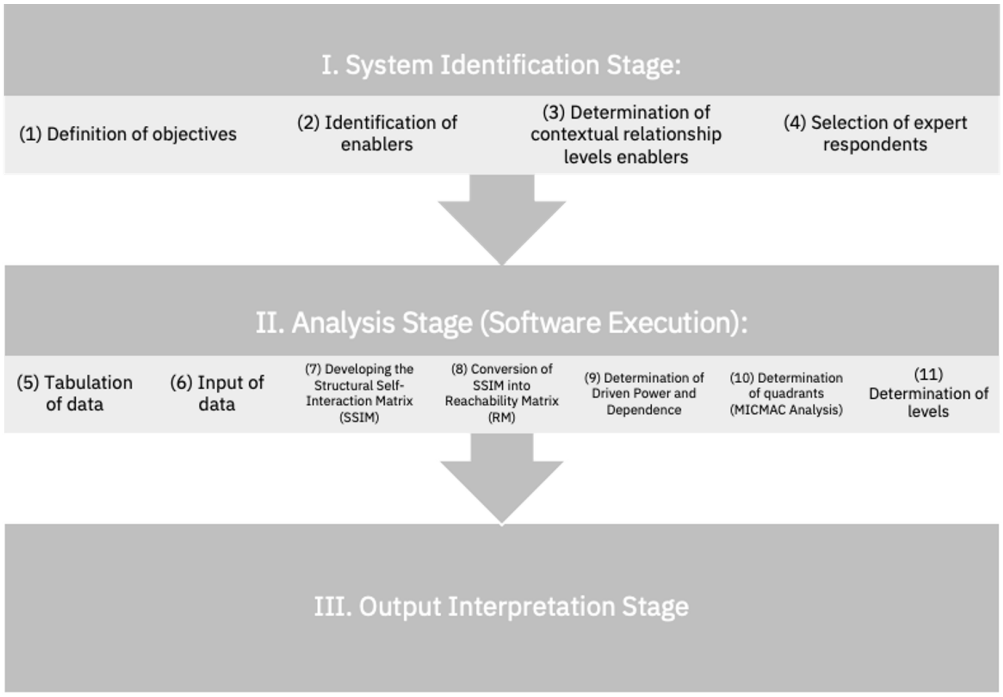

Figure 2. Steps in Interpretive Structural Modeling

Source: Yusuf et al. (2020)

3. Results and Discussion

3.1. Results

3.1.1. Factors Enabling the Success of Joint-BUMDes in Indonesia

The determinants influencing the progression of Joint-BUMDes were discerned through an extensive review of pertinent literature and collaborative brainstorming sessions involving stakeholders from diverse backgrounds. The culmination of this dual-sourced approach yielded a comprehensive identification of nine salient factors that serve as facilitators for the development of Joint-BUMDes in Indonesia.

(1) *Village Chief's Political Influence*

The pivotal role of village chiefs in overseeing Joint-BUMDes necessitates an examination of the political dynamics with Joint-BUMDes executives, coupled with the political willingness of village chiefs to extend support through capital participation and required assets. Village chiefs wield strategic influence in village development (Daulay & Syaputra, 2019), including in Joint-BUMDes success, even before their establishment (Daulay & Syaputra, 2019). Their endorsement of Joint-BUMDes formation is pivotal for rural economic empowerment. While this support may materialize as capital or assets, the risk arises during a change in village leadership that may not endorse Joint-BUMDes. However, instances indicate strong support from village chiefs, often with monthly incentives, sustaining their backing for Joint-BUMDes. Conversely, unsupportive village chiefs may impede Joint-BUMDes development, particularly concerning their influence on executive appointments, often unrelated to merit-based systems (Firdaus, 2018). Additionally, potential conflicts may emerge between successful Joint-BUMDes leaders and village chiefs, threatening the chief's popularity and, thus, influencing Joint-BUMDes performance.

(2) *Managerial and Technical Skills*

The managerial and technical competencies in Joint-BUMDes management encompass vital aspects supporting its success and sustainability. A key factor among these is human resource quality, which refers to the capabilities and competence of the Joint-BUMDes management team. Ensuring this team possesses adequate qualifications, high motivation, and resilience is a crucial initial step (Ihsan & Setiyono, 2018). Simultaneously, organizational management is crucial in Joint-BUMDes management, involving planning, organization, and efficient resource management skills. Institutional improvement is imperative for some Joint-BUMDes, like Joint-BUMDes Panca Mandala, which focuses on legal entity formation to fortify their institutional framework. Moreover, technical skills are paramount in Joint-BUMDes management; these encompass a profound understanding of various relevant aspects such as business, finance, marketing, and the managed business sector (Puspita et al., 2022). This enables Joint-BUMDes managers to effectively handle assets, develop products or services aligned with community needs, and ensure smooth operations. Support in managerial training, business analysis, and financial accounting is also crucial to aid Joint-BUMDes managers in executing their business activities.

(3) *Leaders' Characteristics*

A quality leader in Joint-BUMDes must possess educational background, work or business management experience, and comprehensive training (Jaryono & Tohir, 2019). This is crucial, considering Joint-BUMDes' business orientation toward growth and profit. Joint-BUMDes leaders, usually directors or chairpersons, are required to have at least a high school or equivalent education as an indicator of basic knowledge and communication skills necessary to lead the organization.

Beyond education, experience in business or socio-community activities also plays a vital role. For example, a former successful director of Joint-BUMDes, Panca Mandala, has experience as village head, aiding him in understanding local governance processes and facilitating interactions with

various stakeholders, including village or district governments, to comply with regulations and garner support. This experience also enables him to better understand village issues and plan Joint-BUMDes initiatives in line with local community needs. Leadership experience in other organizations, such as that possessed by the founder and first Chairman of Joint-BUMDes Danar, formerly trusted as the Chairman of the Archipelago Village Community Association (Parade Nusantara), is also useful in building a robust network with relevant stakeholders, securing necessary resources, support, and collaborations for Joint-BUMDes success.

(4) Equality in Capabilities Among Villages

Many studies have found that collaboration between villages determines the success of village development (Sari, 2021). However, another aspect that is rarely discussed is related to equality between the parties working together. Equality in the abilities and potential of villages intending to form Joint-BUMDes is a crucial principle encompassing various aspects, including human resources and business potential in each village. The primary challenge in establishing Joint-BUMDes lies in identifying and leveraging each village's potential equitably. The agreement among several villages to establish Joint-BUMDes depends on an awareness of shared issues that can be addressed and the ability to map the unique potential of each village as a business development opportunity. This collaboration occurs when villages recognize common needs and how their unique potential can be used to build a business unit.

However, if there is inequality in village potential or a perception that collaboration is not proportionate to the effort required, Joint-BUMDes may not form (Sari, 2021). This condition is also influenced by a lack of mapping of village potential and sectoral ego from some Joint-BUMDes or village governments. Advanced Joint-BUMDes may not want to share control or fear losing autonomy in managing the business, hindering collaboration in forming Joint-BUMDes (Sari, 2021). One way to address this is by using information technology such as Geographic Information System (GIS) to map village economic potential. Also, an awareness of the collective benefits that can be generated through collaboration and the ability of villages to see the common potential that can be developed is essential.

(5) Government Support

Government support at various levels, ranging from the district to provincial levels and ministries, is crucial to bolster the success of Joint-BUMDes. One vital form of support is financial assistance (Sari, 2021). Local governments and ministries have provided financial aid to Joint-BUMDes to initiate or expand their ventures. For instance, in 2018, the Ministry of Communication and Informatics supported Panca Mandala Tasikmalaya Joint-BUMDes in establishing a Broadband Village by providing stimulus funds. This financial aid assisted the Joint-BUMDes in overcoming initial financial constraints and enhancing their chances of success. As a result, Panca Mandala Joint-BUMDes successfully established an Internet service unit in the village with the help of this financial support and has been self-reliant since 2022.

Beyond financial aid, the government has also initiated partnership programs involving Joint-BUMDes with private entities, non-profit organizations, or other institutions. These partnership programs encompass

training, market access, technical resources, and other support to help Joint-BUMDes develop their enterprises. For example, the West Java provincial government strives to connect Joint-BUMDes with e-commerce platforms like Shopee and Tokopedia. Private entities play a role in providing entrepreneurship mentoring and market access.

(6) *Founding Initiative*

Community participation has become an important aspect of village development (Akbar, 2017; Fajarwati, 2016). The initiation of the establishment of Joint-BUMDes can originate from the village community or governmental structures, such as the village head, the Head of the Village Consultative Body (BPD), or local and national governments. The bottom-up approach, driven by the village community, often proves more successful and sustainable as it organically arises from the community's needs, aspirations, and potential (Akbar, 2017; Fajarwati, 2016). Real-life examples are Panca Mandala Joint-BUMDes and Danar Joint-BUMDes, founded by the village community in response to challenges and issues they faced, such as inadequate infrastructure and untapped village potential. Through this initiation process, they could design a business model in line with their local characteristics and develop a deep commitment to the success of Joint-BUMDes. On the other hand, top-down initiatives, often imposed by the government, such as in the case of one of the Joint-BUMDes in Tasikmalaya Regency initiated by the government due to perceived common coconut production potential in several villages, may be less effective as they often overlook the nuances and uniqueness of the local community. Another example is Joint-BUMDes initiated by village heads, like Argosari Joint-BUMDes, which may experience conflicts and a lack of support from the village community (Firdaus, 2018).

(7) *Type of Business*

BUMDes' selection of business types is a crucial factor in its success. They must ensure that their ventures do not compete with existing community businesses but rather synergize with the community in developing businesses (Hardiani & Rifandi, 2023; Palupi, 2021). For instance, BUMDes Panca Mandala in Tasikmalaya Regency focused on livestock, overseeing local livestock farmers, predominantly composed of the village residents. This BUMDes does not disrupt community livestock businesses but complements them by concentrating on animal breeding and fattening. Similarly, BUMDes Bersama Danar in Garut Regency serves as a holding company for its partners engaged in supplying catering raw materials and services to P.T. Chengsin. This creates synergy between BUMDes and the community, ensuring that BUMDes functions as a catalyst for mutually supportive economic development rather than as a competitor. This approach ensures that economic benefits reach the entire community and supports fair and sustainable economic growth at the village level.

(8) *Entrepreneurial Orientation*

The entrepreneurial orientation of Joint-BUMDes managers is a pivotal factor influencing their success. Their understanding and commitment to entrepreneurial concepts and their ability to implement them play a crucial role in shaping sustainable Joint-BUMDes. To begin with, the orientation of

Joint-BUMDes managers toward business development determines the extent to which they can identify, design, and manage ventures relevant to the needs and potential of the village. Their capacity to plan and execute sustainable business initiatives is vital to Joint-BUMDes success. An inclusive and progressive business vision, such as targeting export markets, can aid Joint-BUMDes in planning long-term growth. Some findings indicate limitations in Joint-BUMDes' ability to sustain and expand their ventures (Khikmah & Murniningsih, 2022; Kurniasih & Wijaya, 2017), while others point to successful marketing expansion, even at the international level (Alfirdausi & Riyanto, 2019; Sari, 2021).

(9) *Networking*

The networking or connections established by BUMDes with external parties, encompassing both technical and strategic aspects, represent a pivotal factor that can determine the success of Joint-BUMDes (Kurniawan & Zuhriyati, 2019; Rosiani & Siyami, 2023). In the technical context, collaboration with external companies provides access to knowledge, technology, and technical resources that may not be readily available within the Joint-BUMDes. For instance, Joint-BUMDes Panca Mandiri collaborates with PT. Sarana Insan Muda Selaras provides internet services, reaching thousands of village residents. They are also contemplating establishing their Internet Service Provider.

3.1.2. Modeling the Interaction Among Enablers of Joint-BUMDes in Indonesia

Following the identification of determinants that enable the growth of joint-BUMDes in Indonesia, an analysis was conducted using interpretive structural modeling (ISM). As described in the preceding section, nine determinants were identified through an extensive review of pertinent literature and brainstorming with the informants. To facilitate the analysis process, each enabler was assigned a code, as presented in Table 1.

Table 1. Enablers of the Development of Joint-BUMDes in Indonesia

Enabling Factors	Definitions	Sources
Village Chief's Political Influence (A1)	The political dynamics of village heads encompassing mutual relations with Joint-BUMDes administrators and the political willingness of village heads to provide capital.	Daulay and Syaputra (2019), Firdaus (2018)
Managerial and Technical Skills (A2)	Human resource quality, comprising organizational management skills, technical expertise, and the ability to identify opportunities.	Ihsan and Setiyono (2018), Jaryono and Tohir (2019), Puspita et al. (2022), Sofyani et al. (2019)
Leaders' Characteristics (A3)	Human resource quality, comprising organizational management skills, technical expertise, and the ability to identify opportunities	Jaryono and Tohir (2019)
Equality in Capabilities Among Villages (A4)	Equality, involving aspects of human resources and equal potential among each village	Sari (2021)
Government Support (A5)	Support in terms of capital assistance, partnership programs, and the creation of a supportive business ecosystem	Arifin et al. (2020), Cole (2007), Irjayanti and Azis (2012), Putra et al. (2020)
Founding Initiative (A6)	The initiation of business entity establishment involving bottom-up vs. top-down approaches.	Akbar (2017), Aritenang (2021), Fajarwati (2016), Firdaus (2018)
Type of Business (A7)	The selected business type differs from the enterprises previously established by the community	Hardiani and Rifandi (2023), Palupi (2021)
Entrepreneurial Orientation (A8)	Managerial orientation in business development, relating to strategies for determining economic scale and a willingness to take risks	Alfirdausi and Riyanto (2019), Khikmah and Murniningsih (2022), Kurniasih and Wijaya (2017), Sari (2021)

Enabling Factors	Definitions	Sources
Networking (A9)	Mutually beneficial relationships with other companies, both technically and strategically	Kurniawan and Zuhriyati (2019), Rosiani and Siyami (2023)

Source: Authors (2024)

In the ISM methodology, the subsequent step involves defining the relationships among these enablers in the form of a Structural Self-Interaction Matrix (SSIM). Subsequently, a Reachability Matrix (RM) is constructed.

(1) Structural Self-Interaction Matrix (SSIM)

The creation of a Structural Self-Interaction Matrix in ISM employs four distinct symbols to denote the relationship between determinant factors i and j, namely:

- V: (enabler i contributes to achieving enabler j);
- A: (enabler j contributes to achieving enabler i);
- X: (enabler i and j mutually contribute to each other); or
- O: (enabler i and j are unrelated).

Based on the thorough analysis of the questionnaire responses, the relationships between each enabler were identified, as depicted in Table 1. For instance, the Village Chief's Political Influence (A1) enabler contributes to achieving the Managerial and Technical Skills (A2) enabler. Hence the symbol "V" is inserted into column (1,2). Subsequently, the Leaders' Characteristics (A3) enabler aids in achieving A1, hence the symbol "A" is placed in column (1,3). Furthermore, A1 and Government Support (A5) enablers contribute to each other, thus the symbol "X" is placed in column (1,5). Similarly, A2 and A3 are unrelated, and thus, the symbol "O" is entered into columns (2,3), and so forth.

Collectively, these relationships form the SSIM matrix as presented in Table 2.

Table 2. Structural Self-Interaction Matrix

No.	Enablers									
	j	A1	A2	A3	A4	A5	A6	A7	A8	A9
	i									
1	A1			V	A	V	X	V	V	V	V
2	A2				O	V	A	O	V	V	V
3	A3					X	O	X	V	V	V
4	A4						O	X	A	O	O
5	A5							A	V	V	V
6	A6								V	V	V
7	A7									X	O
8	A8										X
9	A9										

Source: Authors (2024)

(2) Initial Reachability Matrix

The initial reachability matrix is formed by converting the SSIM into a binary matrix. The rules for the conversion from V, A, X, and O to binary numbers are as follows:

- If the entry (i, j) in the SSIM is V, then the entry (i, j) in the reachability matrix becomes 1, and the entry (j, i) becomes 0.
- If the entry (i, j) in the SSIM is A, then the entry (i, j) in the reachability matrix becomes 0, and the entry (j, i) becomes 1.
- If the entry (i, j) in the SSIM is X, then the entry (i, j) in the reachability matrix becomes 1, and the entry (j, i) becomes 1.
- If the entry (i, j) in the SSIM is O, then the entry (i, j) in the reachability matrix becomes 0, and the entry (j, i) becomes 0.

Following these rules, the initial reachability matrix is as follows:

Table 3. Initial Reachability Matrix

No.	Enablers									
	j	A1	A2	A3	A4	A5	A6	A7	A8	A9
	i									
1	A1	1	1	0	1	1	1	1	1	1
2	A2	0	1	0	1	0	0	1	1	1
3	A3	1	0	1	1	0	1	1	1	1
4	A4	0	0	1	1	0	1	0	0	0
5	A5	1	1	0	0	1	0	1	1	1
6	A6	0	0	1	1	1	1	1	1	1
7	A7	0	0	0	1	0	0	1	1	0
8	A8	0	0	0	0	0	0	1	1	1
9	A9	0	0	0	0	0	0	0	1	1

Source: Authors (2024)

(3) Final Reachability Matrix

The final reachability matrix is derived from the SSIM and the initial reachability matrix, considering transitivity. This transitivity relationship indicates that if enabler A is related to B, and B is related to C, then certainly A is related to C. After considering this aspect, the resulting table is presented in Table 4.

Table 4. Final Reachability Matrix

No.	Enablers									
	j	A1	A2	A3	A4	A5	A6	A7	A8	A9
	i									
1	A1	1	1	0	1	1	1	1	1	1
2	A2	0	1	0	1	0	1	1	1	1
3	A3	1	0	1	1	0	1	1	1	1
4	A4	0	0	1	1	0	1	1	1	1
5	A5	1	1	0	0	1	0	1	1	1
6	A6	0	0	1	1	1	1	1	1	1

No.	Enablers									
	j	A1	A2	A3	A4	A5	A6	A7	A8	A9
	i									
7	A7	0	0	0	1	0	0	1	1	1
8	A8	0	0	0	0	0	0	1	1	1
9	A9	0	0	0	0	0	0	0	1	1

Source: Authors (2024)

(4) *Matrice d'Impacts Croises-Multiplication Appliqúe an Classment (MICMAC) Analysis*

The MICMAC analysis assesses the driving power (DP) and dependence (D) of enablers to delve deeper into the impact of each enabler. The driving power and dependence are identified in the Final Reachability Matrix. The DP of an enabler is defined as the total number of enablers it might cause, while the degree of D is the total number of enablers responsible for this enabler. Meanwhile, the determination of rankings (R) is based on the highest to lowest values, and the same applies to the determination of levels (L). After the calculations, the results are obtained as presented in Table 5.

Table 5. Driven Power, Dependence, Rank, and Level

No.	Enablers											
	j	A1	A2	A3	A4	A5	A6	A7	A8	A9	DP	R
	i											
1	A1	1	1	0	1	1	1	1	1	1	8	1
2	A2	0	1	0	1	0	1	1	1	1	6	3
3	A3	1	0	1	1	0	1	1	1	1	7	2
4	A4	0	0	1	1	0	1	1	1	1	6	3
5	A5	1	1	0	0	1	0	1	1	1	6	3
6	A6	0	0	1	1	1	1	1	1	1	7	2
7	A7	0	0	0	1	0	0	1	1	1	4	4
8	A8	0	0	0	0	0	0	1	1	1	3	5
9	A9	0	0	0	0	0	0	0	1	1	2	6
	D	3	3	3	6	3	5	8	9	9		
	L	5	5	5	3	5	4	2	1	1		

Source: Authors (2024)

Description:
DP : Driver Power
R : Rank
D : Dependence
L : Level

In this phase, the ISM analysis yields an output in the form of a Quadrant Chart consisting of the relative influence among these enablers. The results of determining the level of DP and D possessed by each enabler can be observed in Figure 3, indicating the classification of each enabler in different quadrants. Based on Figure 2, the enabler variables for the success of Joint BUMDes are distributed in three quadrants: Quadrant II, Quadrant III, and Quadrant IV. No enabler falls within Quadrant I (autonomous), indicating that no enabler has a

low impact on the success of Joint BUMDes, and the enablers are interconnected.

In Quadrant II (dependent), the DP is weak, but D is strong. Therefore, each enabler in this area is highly dependent on other enablers (high dependence) but has a weak driving force on the success of Joint BUMDes. In this context, enablers Type of Business (A7), Entrepreneurial Orientation (A8), and Networking (A9) fall into this quadrant. Therefore, addressing these three enablers should be undertaken after dealing with other enablers.

Furthermore, in Quadrant III (linkage), there is an enabler of Equality in Capabilities among Villages (A4). In this quadrant, both DP and D values are strong. Enablers in this quadrant are inherently unstable, implying that any action focused on enabler I will likely affect several other enablers, thus creating feedback effects on i. In other words, this condition indicates a high interdependence among enablers in this area, so handling enablers in this quadrant should be approached carefully. Although only enabler A4 is present in this quadrant, another enabler is located between Quadrant III and Quadrant IV, namely the enabler Founding Initiative (A6). Therefore, both enablers should be handled with care.

Meanwhile, in Quadrant IV (independent), where DP is strong and D is weak, the majority of enablers are located, namely Village Chief's Political Influence (A1), Managerial and Technical Skills (A2), Leaders' Characteristics (A3), and Government Support (A5). Enablers within this quadrant have weak interconnections, but they significantly influence and determine the success of Joint BUMDes. Therefore, priority should be given to addressing these four enablers.

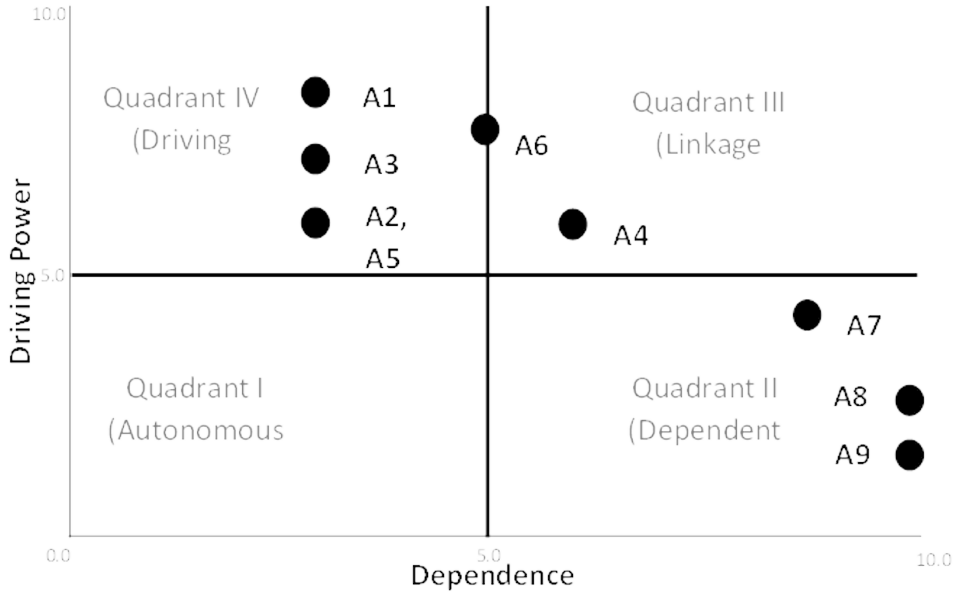

Figure 3. ISM Quadrant

Source: *Authors (2024)*

(5) Building an Interaction Model

This stage presents the level partitioning conducted to establish the importance levels of each enabler in the success of Joint BUMDes. The formed

interaction model consists of 6 levels, as depicted in Figure 4. Level 1 encompasses the Village Chief's Political Influence (A1) at the bottom of the graph, identified as the most dominant enabler. Conversely, level 6 is positioned at the model's top, representing Networking (A9). Meanwhile, other enablers are situated between these two levels. The arrows in Figure 3 depict the direction of relationships between enablers. If enabler I contribute to achieving enabler j, an arrow points from I to j. After consolidating all relationships, the graph in Figure 3 is achieved. As indicated by the arrows, each enabler at a higher level in Figure 3 is directly influenced by at least one enabler in the next lower level and is indirectly influenced by numerous lower-level barriers.

It is essential to note that the positions of enablers in the driver power and dependence graph obtained from the MICMAC analysis (Figure 3) do not always correspond to the enabler levels in the ISM interaction model (Figure 4). For instance, enablers A1, A2, A3, and A5 are in quadrant IV, but the first is positioned at level 1, while the latter three are at level 3. Therefore, it is not only the driving power and dependence of a specific enabler that defines its level in Figure 4 but also the driving power and dependence of the enablers associated with it.

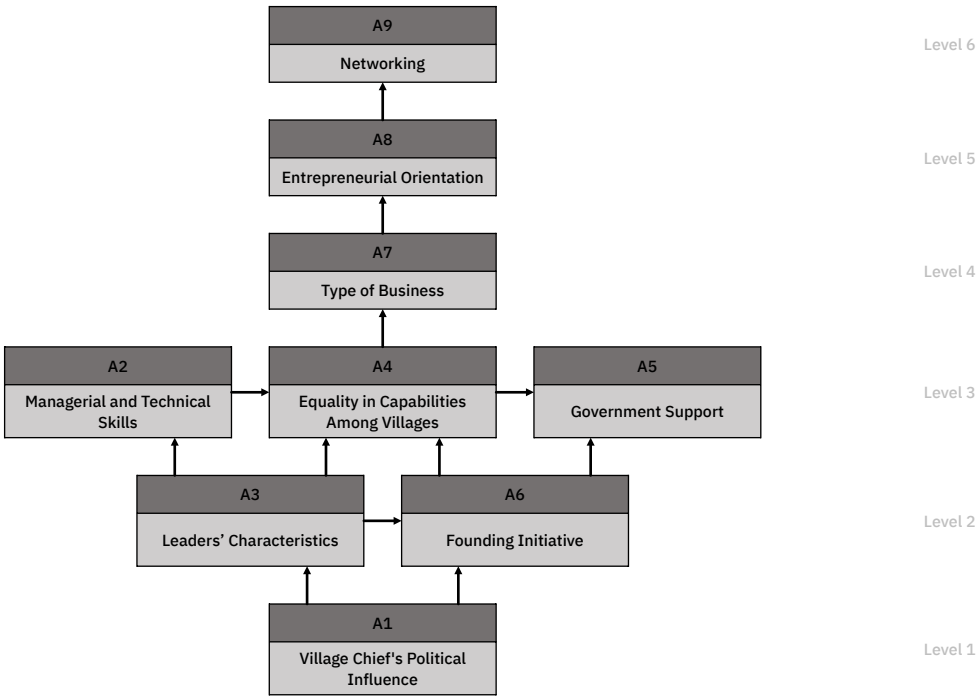

Figure 4. ISM Level

Source: Authors (2024)

3.2. Discussion

Village-owned enterprises have witnessed considerable advancement following governmental initiatives conferring legal entity status. This strategic move allows BUMDes to forge collaborations and expand their operations. However, numerous villages still grapple with the effective management of their BUMDes. An opportunity for villages lies in collaborating with other villages to establish a collective entity called "Joint-BUMDes." Nevertheless, in contrast to BUMDes established for

individual villages, Joint-BUMDes encounter more substantial challenges for sustainability.

The inadequacy of previous research lies in its perspective. Earlier studies, primarily concentrated on singular-village BUMDes, exhibited fragmentation in defining factors and observing the isolated influence of these factors on BUMDes growth. For instance, some studies focused on internal enablers for BUMDes growth (Sofyani et al., 2019), while others exclusively scrutinized external enablers (Aritenang, 2021). This codependent perspective has resulted in a unidimensional focus, neglecting other pivotal determinants (Runtuk et al., 2023). A singular determinant's influence on Joint BUMDes growth fails to optimize its potential. For example, a Joint BUMDes leader demonstrating exceptional leadership skills yet lacking collaboration and coordination with other entities curtails the growth potential of the Joint BUMDes. Collaboration with external entities is indispensable for the sustainability of Joint BUMDes.

In distinction from the range of extant studies, the present research analyzes a spectrum of determinants governing the growth of Joint-BUMDes in Indonesia and discerns interdependencies among them. Initially, diverse determinants were identified through expert interviews with individuals possessing expertise and experience in Joint-BUMDes issues. Subsequently, these determinants underwent processing via the ISM method, culminating in the MICMAC analysis. This analysis provides insights into the relative significance and mutual interdependence among determinant factors (see Figure 2) and structural relationships (Figure 3).

In quadrant IV, determinative factors encompass the village chief's political influence (A1), managerial and technical skills (A2), leadership characteristics (A3), and government support (A5). Three enablers exhibit political and managerial attributes at levels 1, 2, and 3 in the structural model in Figure 4. These determinant factors wield a potent driving force, influencing all other inhibitors significantly. The robust influence of political roles, whether from the village head or government regulations, has been corroborated by diverse studies (Daulay & Syaputra, 2019; Firdaus, 2018). Meanwhile, the role of managerial and technical expertise among Joint BUMDes managers is also the most influential factor in Joint BUMDe's success (Puspita et al., 2022). Therefore, it is imperative to ensure the pivotal role of village heads as leaders at the village level to instill professionalism in Joint BUMDes leadership. Correspondingly, regional and central governments must furnish technical and strategic support for the growth trajectory of Joint BUMDes.

In quadrant III, a linkage enabler, namely, equality in capabilities among villages (A4), resides. The initiation of founding (A6) also occupies the intermediary space between Quadrants III and IV, signifying a lower dependence power than A4. Enablers in this quadrant exert a robust influence on the success of Joint BUMDes, akin to enablers in Quadrant IV. However, the level of dependence on enablers in this quadrant is high. This implies that actions taken concerning these enablers should be judicious. Among these enablers, A6 assumes a higher level than A4, namely, levels 2 and 3. This indicates that, within this model, A6 commands greater prominence than A4. This research underscores the significance of citizen initiatives in multiple villages to establish Joint BUMDes, thereby contributing to the advancement of Joint BUMDes. This finding resonates with cases in the UK, where rural social enterprises initiated by the government faced challenges due to resistance from local communities (Richter, 2019).

Further, in quadrant II, three strategic enablers are discernible: the type of business (A7), entrepreneurial orientation (A8), and networking (A9). Each enabler

occupies a distinct level in the structural model, with A7 at level 4, A8 at level 5, and A9 at level 6. Quadrant II signifies that enablers within it exhibit high dependence but a low driving force. Nevertheless, while their influence on the success of Joint BUMDes is not exceedingly pronounced, enablers in this quadrant are contingent on actions taken concerning enablers in other quadrants. Therefore, based on a prioritized sequence, enhancements to these enablers can be instituted after addressing other determinants.

Collectively, politically and managerially oriented enablers emerge as critical, significantly influencing other determinants. Consequently, channeling efforts toward resolving these factors constitutes a precondition for enhancing the success of Joint BUMDes (Aritenang, 2021; Puspita et al., 2022). For instance, the political support of village heads for establishing Joint-BUMDes determines the scale of Joint-BUMDes operations, given that the village head dictates the capital contribution for Joint-BUMDes. Additionally, within the Joint BUMDes structure, village heads, ex-officio, function as Joint BUMDes advisors—a position analogous to commissioners in other profit-oriented enterprises. Instances exist where inadequate support or excessive intervention by village heads weakens the performance of Joint BUMDes (Daulay & Syaputra, 2019; Firdaus, 2018). Simultaneously, from a managerial standpoint, operational managers of Joint BUMDes, including leaders and administrative and business unit operational executives, play a pivotal role. These operational executives constitute the core of Joint BUMDes governance, participating in budget discussions, policy execution for business development, activity coordination, labor regulation, employee appointments, and dismissals aside from secretarial and treasurer roles, loans, collaborations, profit distribution, and utilization.

Meanwhile, the business environment aspect, which encompasses government support, is also a key enabler. As a regulatory provider, the government plays a crucial role in developing Joint BUMDes, with the most impactful being the opportunity given to Joint-BUMDes to acquire legal entity status. This support has enabled Joint BUMDes to expand their networks and markets, as legally recognized Joint BUMDes can collaborate with companies and other third parties. Additionally, support in the form of grant programs and capacity-building training for Joint BUMDes managers significantly shapes the trajectory of Joint BUMDes progress (Aritenang, 2021; Putra et al., 2020).

4. Conclusion

In summary, the success of Joint-BUMDes is a culmination of collaboration among political, managerial, and business environment factors, with the first two aspects being dominated. To achieve sustainable success, all relevant stakeholders must collaborate in creating a supportive environment, managing Joint-BUMDes judiciously, and forging mutually beneficial partnerships. With a holistic understanding of these enablers, Joint-BUMDes has the potential to become a driving force for economic development at a broader village level.

The various success enablers for Joint-BUMDes are intricately interdependent. The ISM model and the driver-power and dependence-power diagrams developed in this study create a systemic understanding of the complexity of these relationships. This understanding offers Joint-BUMDes insights into identifying starting points for their actions. Based on the research findings, several recommendations are suggested:

First, village heads in each village play a crucial role in the success of Joint-BUMDes. They can actively support Joint-BUMDes initiatives by facilitating resource allocation, such as sufficient capital investment, establishing partnerships, and fostering a conducive environment. Support, transparency, and active participation of village heads in Joint-BUMDes activities can set a positive example for the village community, build trust, and ensure that these initiatives reflect the needs and aspirations of the community. Additionally, village heads can promote Joint-BUMDes as a collectively owned village asset and help build a sense of communal ownership of this initiative.

Second, supra-village governments at the regional and national levels play a crucial role in supporting the development of Joint-BUMDes. They can provide support through supportive policies, including financial assistance, training, and partnership programs with the private sector, to ensure the sustainability and growth of Joint-BUMDes. A strategic step is also financial support in the form of incentives and tax facilities for Joint-BUMDes. Lastly, the government can facilitate strategic partnerships between Joint-BUMDes and government agencies in various sectors, creating new opportunities and enhancing positive impacts on overall rural economic development.

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