Analysis of village-owned enterprises (BUMDes) welfare: Social capital as moderation

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ABSTRACT

Proper management of village-owned enterprises (BUMDes) can be one of the pillars of independence for villages to realize mutual benefit and has multiplier effect for their members. The purpose of this study is to investigate the impact of the performance of BUMDes on the welfare of management and BUMDes members, using social capital as a moderation variables evidence from Sleman Regency. This BUMDes performance measurement uses three components of performance measurement, there are: responsiveness, responsibility, and accountability. Well-being is measured using income variables. The sample size of this study around 11 BUMDes with a total of 50 respondents. This study used quantitative methods with PLS-SEM analysis model and WarpPLS 7.0 analysis tool. These findings reveal that responsiveness, responsibility, and accountability have an impact on the revenues of management and BUMDes members. Meanwhile, the variable of social capital moderation can only strengthen the relationship between the responsiveness of BUMDes to the income of BUMDes management and BUMDes members. The implication of the study to improve the quality of human resources and the ability to commit to managing BUMDEs as crucial factors to increase BUMDEs performances and lead to an increase in their member's welfare.

1. Introduction

A village is a small unit that is closest to the community and is directly related to the needs and welfare of the community (Arindhawati & Utami, 2020). Regulation of the Minister of Home Affairs No. 113 of 2014 Chapter 1 which states that a village is a community unit that has territorial boundaries and is authorized to manage and regulate the community through community initiatives and traditional rights that have been recognized by State of the Republic of Indonesia. Based on Law No. 6 of 2014 explains that villages must be protected and empowered to be strong, advanced, independent, and democratic to create a strong foundation for implementing governance and development towards a prosperous society. In this case, the government has carried out various programs to help the rural economy, but the expected results were not achieved. One of the most significant obstacles was excessive government interference in the villages. This causes the village to rely too much on government assistance, resulting in a lack of enthusiasm for the village community to carry out creativity and innovation in managing and running the village economy. In addition, dependence on government assistance causes the institutional systems and mechanisms of the village economy to malfunction (Fuadi et al., 2022).

Therefore, one of the efforts of the Government is to form village-owned enterprises (BUMDes) which are institutions managed by the village government and the community to meet the needs and

economy of the village (Salihin, 2021). BUMDes is a new approach to increasing Village Original Revenue (PADes). Through an increase in village revenue, village development can be carried out from various sectors (Nurjani et al., 2021). Therefore, BUMDes have a very important role in encouraging village economic development (Khasanah & Riyaur, 2021). Study from Irianto & Wati (2022) argued that BUMDes plays important role for strengthening food security in Merauke. The economic development of this village is driven by the government in an effort to improve community welfare (Sliyeg, 2019). In addition, proper management of BUMDes can be one of the pillars of independence for villages to realize mutual benefit. In the implementation of BUMDes in general, the responsibility lies with the village community, namely from the village, by the village, and for the village (Idris et al., 2021). Good BUMDes operations are reflected in the good performance of BUMDes. According to Dwiyanto (2006) stated there are five indicators for measuring organizational performance, there are: productivity, service quality, responsiveness, responsibility, and accountability. From those five indicators, this study use only three indicators based on Ismoyo (2017), there are responsiveness, responsibility, and accountability.

The quality of BUMDes performance cannot be separated from the existence of social capital in the village. Social capital is a combination of networks, norms, and social beliefs that encourage the efficiency and effectiveness of coordination and cooperation for mutual benefit, which will be a driving force for the community to work together in achieving common goals based on togetherness and in it bound by norms that grow and are obeyed (Ermawati et al., 2021). Therefore, social capital has a great influence in mobilizing villagers in every BUMDes management activity (Djaha et al., 2018), so the performance of BUMDes will be better. The role of social capital in the management of BUMDes can improve the quality of BUMDes performance (Rahayu et al., 2023). Widia & Octafia (2023) argued that social capital has significant effect to productivity. Montria et al (2022) states that the performance of BUMDes has a significant effect on community welfare. Munawaroh (2017) argued social capital has a positive and significant effect on improving welfare. Another study from Afrizal et al (2023) social capital has nothing to do with village economic development, but social capital has a role in the formation of social networks. To bridge the gap between previous studies, this study analyze the effect of BUMDes performance on the community's economy with social capital as a moderation variable. According to data from the Ministry of Villages, until 2023, there are 48,474 BUMDes that have been formed in Indonesia. Among them, there are 13,705 BUMDes that are already legal entities and 463 BUMDes are still in the process of registering as legal entities. Study from Mardalena et al (2023) argued that increase welfare can develop by increasing village fund. The allocation of village fund has some good impacts on Indonesia's rural economy, another funding that village fund can boost welfare, such as improving clean water, per capita income, human development index, and reducing poverty.

Yogyakarta Special Region which has several BUMDes that are legal entities. Yogyakarta is the only region that has special autonomy as a special region in Indonesia until now and always maintains local wisdom. Even Law Number 14 of 2012 Article 8 paragraph (1) states that DIY has a special form and structure of government. Because the form of government of DIY is a continuation of the government of the Sultanate and Duchy which adapts to the government of the Republic of Indonesia which also changes over time and is formally regulated in Law Number 3 of 1950 concerning the formation of DIY. In addition, one of the objectives of the establishment of the DIY Privilege arrangement is to create good and democratic governance, as well as public peace and welfare . In addition, local social and cultural aspects are still maintained in Yogyakarta, such as there are still many historical places that are well maintained and even managed as tourist attractions and culture that is still inherent in every aspect of people's lives. In fact, nowadays Yogyakarta is always crowded with tourists even if only to enjoy tourist attractions or at the same time learn its history. Yogyakarta or also known as the city of students has always been a destination for students to increase knowledge through study tour activities, or from village officials who conduct comparative studies related to village potential management. Yogyakarta Special Region has 5 regencies/cities, including Yogyakarta City, Sleman Regency, Bantul Regency, Kulon Progo Regency, and Gunungkidul Regency. However, this research will be conducted in Sleman Regency. Because there are several BUMDes in Sleman that have successfully run their businesses, such as BUMDes Amarta, BUMDes Sambimulyo, and BUMDes Tridadi Makmur, and others. However, in addition, there are several BUMDes that have failed to operate for a while. Meanwhile, according to data from the Bureau of Community Empowerment of the Special Region of Yogyakarta, Sleman Regency has 86 villages but there are only 43 BUMDes recorded until 2022. The following is information on BUMDes data

recorded at the Bureau of Community Empowerment Development of the Special Region of Yogyakarta:

Table 1. List of BUMDes Sleman Regency

No.	Name of BUMDes	Address	Category
1.	BUMDes Remboko	Sumberrejo	Growing
2.	BUMDes Triharjo Sejahtera	Triharjo, Sleman	Growing
3.	BUMDes Amarta	Pandowoharjo, Sleman	Developing
4.	BUMDes Tridadi Makmur	Tridadi, Sleman	Developing
5.	BUMDes Sukma	Sukoharjo, Ngaglik	Growing
6.	BUMDes Amanah	Sinduharjo, Ngaglik	Growing
7.	BUMDes Sari Makmur	Sariharjo, Ngaglik	Growing
8.	BUMDes Tamanmartani 5758	Tamanmartani, Kalasan	Basic
9.	BUMDes Purwo Bersinar	Purwomartani, Kalasan	Developing
10.	BUMDes Sambimulyo	Sambirejo, Prambanan	Advanced
11.	BUMDes Wukir Mandiri	Wukirharjo	Developing
12.	BUMDes Boko Makmur	Bokoharjo, Prambanan	Developing
13.	BUMDes Sumberharjo Sejahtera	Sumberharjo, Prambanan	Developing
14.	BUMDes Tirtamas	Tirtoadi, Mlati	Growing
15.	BUMDes Sindu Mandiri	Sinduadi, Mlati	Growing
16.	BUMDes Katon Margo Sembada	Margokaton, Seyegan	Developing
17.	BUMDes Makarti	Margoluwih, Seyegan	Growing
18.	BUMDes Arum Sejahtera	Sumberarum, Moyudan	Growing
19.	BUMDes Sumbersari Amanah	Sumbersari, Moyudan	Developing
20.	BUMDes Kerta Sembada	Sidokarto	Growing
21.	BUMDes Luhur Sembada	Sidoluhur, Godean	Developing
22.	BUMDes Trihanggo Astaguna	Trihanggo, Gamping	Growing
23.	BUMDes Banyu Gotro Rumpoko	Banyuraden, Gamping	Developing
24.	BUMDes Semar	Margorejo, Tempel	Growing
25.	BUMDes Bangun Mitra Mandiri	Bangunkerto, Turi	Growing
26.	BUMDes Gerbang Merapi	Girikerto, Turi	Growing
27.	BUMDes Dharma Utama	Wonokerto	Growing
28.	BUMDes Candi Sejahtera	Candibinangun, Sleman	Growing
29.	BUMDes Maju Raharjo	Umbulharjo	Basic
30.	BUMDes Pandansari	Wukirsari, Cangkringan	Growing
31.	BUMDes Umbul Sembada	Umbulmartani, Ngemplak	Basic
32.	BUMDes Tirta Jaya	Nogotirto, Gamping	Basic
33.	BUMDes Sido Makmur	Brongol, Sidomulyo	Growing
34.	BUMDes Bina Makmur	Caturharjo, Ngaglik	Growing
35.	BUMDes Pakem Makmur Murakabi	Pakembinangun, Pakem	Basic
36.	BUMDes Bhineka	Purwobinangun, Pakem	Basic
37.	BUMDes Bintang 18	Sardonoharjo, Ngaglik	Developing
38.	BUMDes Cahaya Selo	Selomartani, Kalasan	Growing
39.	BUMDes Makmur Mandiri	Sendangtirto	Growing
40.	BUMDes Usaha Mulia	Margomulyo, Seyegan	Basic
41.	BUMDes Rejo Gemilang	Sendangrejo, Minggir	Growing
42.	BUMDes Mekar Mulyo	Sendangmulyo, Minggir	Growing
43.	BUMDes Sidoarum Mandiri	Sidoarum, Godean	Growing

Source: https://birobermas.jogjaprov.go.id

Table 1 shows there are 24 BUMDes in the growing category, 11 BUMDes in the developing category, 7 BUMDes in the basic category, and there are only 1 BUMDes that are already in the advanced category. However, the data is not accurate because based on the author's direct observations, it was found that there are still some active BUMDes that are not recorded in the data. Among them are BUMDes Agung Sejahtera, BUMDes Sinar Agung, BUMDes Sendangsari, BUMDes Karya Manunggal, BUMDes Sidomoyo Makmur, and BUMDes Mitra Tirtomartani. While there are BUMDes recorded in the data but their existence is no longer operating due to certain factors,

such as 18-Star BUMDes. Even though BUMDes institutions can improve the village economy and community, increase village original revenue and improve village potential management in accordance with community needs (Gayo et al., 2020). This study is considered important to describe the performance of BUMDes in Sleman through the performance of BUMDes in Sleman, the quality can be measured to what extent BUMDes can carry out their activities in accordance with their goals. Then this can be an evaluation material and find solutions to the problems of BUMDes in Sleman.

2. Method

This type of research uses a quantitative approach. The population in this study is the management and members of BUMDes in Sleman Regency, Yogyakarta Special Region Province. According to Sofianto & Risandewi (2021) the sample consists of all elements that are the subject of research. In this study simple random sampling was used as a sampling technique. In this study the minimum number of samples was 30 people. In accordance with the sampling rules according to Barclay et al (1995) which states that the minimum sample size is taken as much as 10 times the total indicator on the most affected variable. The most influenced variable is people's income with a total of 5 indicators so that the minimum sample is 50 respondents. While the sample used in this study was 50 respondents from 11 BUMDes in Sleman Regency.

Table 2. Research Sample Data

No	Name of BUMDes	Frequency (People)
1	Tamanmartani 5758	5
2	Astaguna Trihanggo	5
3	Sambimulyo	15
4	Amarta	3
5	Katon Margo Sembada	5
6	Agung Sejahtera	4
7	Mitra Tirtomartani	1
8	Gerbang Merapi Girikerto	2
9	Arum Sejahtera	4
10	Luhur Sembada	4
11	Amanah	2
Total		50

Source: Author Calculation

The primary data of this study came from respondents answers through questions asked in the form of questionnaires. Data collection techniques in this study are through observation, documentation, and questionnaires. Table 2 shows sample distribution through BUMDes in Sleman regency. This study used a Structure Equation Modeling (SEM) approach based on Partial Least Squares (PLS). Developing SEM-PLS is used in this research because it is a standard analytical technique for analyzing complex relationships between observed variables and latent variables together (Nurrachmi et al., 2020; Sarstedt et al., 2020) and can calculate errors in research measurements to increase accurate estimates (Daengs et al., 2020; El Ashfahany et al., 2024). In addition, SEM-PLS is more appropriate to use in this study than other methods such as Propensity Score Matching (PSM). Where the PSM method is usually used to find comparisons between two or more group subjects by referring to how to balance treatment and non-treatment group data seen from similar values in the results of propensity score estimates and matching based on the covariates studied (Rubin, 2001). In addition, the advantage of the SEM-PLS method is that there is no limit to the number of samples used (Marmaya et al., 2019). In contrast to the Propensity Score Matching (PSM) method which requires a relatively larger sample (Utomo, 2008). Another advantage using SEM-PLS is a technique within Structural Equation Modelling which is based on an iterative approach that maximises the explained variance of each endogenous variable. PLS-SEM has several advantages over the covariance-based SEM method. SEM-PLS can be used to analyse data that cannot meet assumption of normality, or research data with the small sample size. This method can also be used to analyse construct variables that are reflective in nature (Fernanda et al., 2022).

The research model was tested using the WarpPLS Version 7.0 statistical application. The WarpPLS application was chosen in this research because WarpPLS can automatically estimate the p-value for the path coefficient so there is no need to look for the p value again. WarpPLS can provide model fit indicators that can be used to compare between models to get the best model. The fit

indicators are average R-squared (ARS), average path coefficient (APC), and average variance inflation factor (AVIF). WarpPLS provides minimum sample size requirements taking into account the target path coefficient value, significance level and power level. WarpPLS provides an effect size value, namely f-squared effect size. WarpPLS also provides full collinearity test values which are used to analyze vertical and lateral multicollinearity problems. The algorithm used in the WarpPLS application is able to minimize multicollinearity problems between latent variables (El Ashfahany et al., 2024). The data analysis in this study was carried out in 2 steps, namely evaluation of the measurement model (outer model), and evaluation of the structural model (inner model). In the outer model step, an analysis of the reliability and validity of measurements is carried out. Evaluation of the structural model (Inner model) is carried out by significance analysis and multicollinearity through the Fit Model which contains 3 test indices, including Average Path Coefficient (APC), Average R-Squared (ARS), and Average block Variance Inflation Factor (A-VIF). The study used a significance level of 5% or a confidence level of 0.05 to reject the hypothesis.

3. Results and Discussion

Table 3 shows the characteristics of respondents, across 11 BUMDes in Sleman Regency. The number of questionnaires that have been distributed to 50 respondents. Sleman has the most village-owned enterprises in Yogyakarta followed by Gunungkidul, Kulonprogo and Bantul. BUMDes in Yogyakarta are engaged in services sectors, trade sectors, savings and loans and tourism sectors. In recent years, the management of village-owned enterprises has gradually moved towards professional management, because of training from the local government and many of the BUMDes are managed using the village fund budget so there are accountability reports. Table 3 shows BUMDes managers range in age from 20-30 years (40 percents) and have completed high school and S1 (50 and 42 percents). BUMDes managers are male (66 percents) and some BUMDes managers are village government employees, this is a form of representation of village government employees in managing the village budget to BUMDes. Village funds is mostly used as a form of initial capital for the establishment of BUMDes or the initial operations of BUMDes. After that, there will be assistance and training from the Sleman government in managing BUMDes, so that they are independent and professional and has multiplier effect to their management or income village but BUMDes in Yogyakarta only a few used village funds as total equity participation. The total capital investment of BUMDes in Yogyakarta is mostly through cooperation schemes, followed by grants, village funds and third-party assistance.

Table 3. Characteristics of Respondents

Characteristics of Respondents		Amount	Percentages
Gender	Male	33	66%
	Female	17	34%
Age (Year)	<20 Years old	1	2%
	21-30 Years old	20	40%
	31-40 Years old	8	16%
	41-50 Years old	9	18%
	51-60 Years old	9	18%
	>61 Years old	3	6%
Education Level	Junior High School	4	8%
	Senior High School	25	50%
	D3/S1	21	42%
	S2	0	0%

Source: Author's calculation

The convergent validity test with mean loading factors and square roots average variable extracts around > 0.3 it means that questionnaires used in the study nothing was dropped (Saputra et al., 2022). Table 4 shows that the variable of responsiveness, variable responsibility, variable of social capital, and variable revenue have met the outer model. However, in the accountability variable consisting of 4 indicators, there is one indicator that does not meet the outer model, namely the X3.4 indicator where the X3.4 indicator has a loading factor of < 0.7 or < 0.3, which is -0.175 with a p-value of > 0.05, which is 0.096. Then these indicators should be removed from the model to increase the Average Variance Extracted (AVE) and Composite Reliability values above their limits. If the value of X3.4 has loading factors around 0.3 or 0.7 would not be dropped.

Table 4. Convergent Validity

No.	Variable	Indicator	P value	Loading Factor	Validity
1	Responsiveness (X1)	X1.1	<0.001	0.780	Valid
2		X1.2	<0.001	0.803	Valid
3		X1.3	<0.001	0.732	Valid
4	Responsibility (X2)	X2.1	<0.001	0.876	Valid
5		X2.2	0.001	0.389	Valid
6		X2.3	<0.001	0.796	Valid
7	Accountability (X3)	X3.1	<0.001	0.450	Valid
8		X3.2	<0.001	0.907	Valid
9		X3.3	<0.001	0.894	Valid
10		X3.4	0.096	-0.175	Invalid
10	Social Capital (M)	M1	<0.001	0.702	Valid
11		M2	<0.001	0.817	Valid
12		M3	<0.001	0.812	Valid
13		M4	<0.001	0.837	Valid
14		M5	<0.001	0.770	Valid
15		M6	<0.001	0.558	Valid
16		M7	<0.001	0.674	Valid
17		M8	<0.001	0.778	Valid
18		M9	<0.001	0.693	Valid
19		M10	<0.001	0.827	Valid
20	Revenue (Y)	Y1	<0.001	0.900	Valid
21		Y2	<0.001	0.777	Valid
22		Y3	<0.001	0.727	Valid
23		Y4	<0.001	0.728	Valid
24		Y5	<0.001	0.737	Valid

Source: Data processed

After X3.4 has been dropped all the five variables have met convergent validity which is part of the outer model, which has a loading factor of > 0.3 and a p-value of < 0.05. This is in line with the theory by Hair et al (2010) that factor loading ≤ 0.3 to 0.4 is minimally acceptable. Table 5 shows that the correlation value of a variable is higher than the correlation value between variables. Then it can be concluded that all indicators have met the criteria of discriminant validity.

Table 5. Discriminant Validity Value

	X1	X2	X3	M	Y	M*X1	M*X2	M*X3
X1	(0.772)	0.055	0.114	0.431	0.564	0.309	0.128	-0.067
X2	0.055	(0.719)	0.610	0.275	0.323	0.124	0.204	0.334
X3	0.114	0.610	(0.784)	0.234	0.351	-0.080	0.412	0.532
M	0.431	0.275	0.234	(0.751)	0.830	0.562	0.194	0.057
Y	0.564	0.323	0.351	0.830	(0.776)	0.419	0.226	0.085
M*X1	0.309	0.124	-0.080	0.562	0.419	(1.000)	0.168	0.042
M*X2	0.128	0.204	0.412	0.194	0.226	0.168	(1.000)	0.808
M*X3	-0.067	0.334	0.532	0.057	0.085	0.042	0.808	(1.000)

Source: Data processed

The next test is a construct reliability test using 2 criteria, namely the composite reliability value and the cronbach's alpha value. The value of composite reliability received is > 0.7 (Saputra et al., 2022). Meanwhile, in Chin's opinion, the acceptable value of Cronbach's alpha is above 0.5 and is said to be sufficient if the value is above 0.3 (Yamin & Kurniawan, 2009). Table 6 shows that overall variables have a composite reliability value above 0.7 and have a cronbach's alpha value above 0.3. So it can be said that all variables have met the criteria of composite reliability. While multicollinearity testing can be seen from the Full Collinearity VIF value which must be below 3.3 and is said to be sufficient when the value is <5. As can be seen in Table 4 that all variables have a Full Collinearity VIF value of <5 so this is said to be sufficient to pass the multicollinearity test.

Table 6. Reliability and Multicolinearity Test

	X1	X2	X3	M	Y	M*X1	M*X2	M*X3
Composite Reliab.	0.816	0.746	0.818	0.928	0.883	1.000	1.000	1.000
Cronbach's Alpha	0.661	0.496	0.661	0.912	0.833	1.000	1.000	1.000
Avg. Var. Extrac.	0.596	0.518	0.614	0.565	0.603	1.000	1.000	1.000
Full Collin. VIF	1.616	1.760	2.410	3.995	4.349	1.716	3.417	3.963

Source: Author Calculation

Importance Performance Analysis measures the performance of tourism infrastructure in Kampung Ciwaluh. The analysis shows the gap between the current condition of infrastructure with the conditions expected by tourists. Before analysis, validity and reliability tests were carried out on the data obtained from the interviews. The validity test results showed that each variable's r count is greater than the r table (0.196). The lowest R count is toilet facilities, with a value of 0.286. It means that the variables in this study are valid so that they can be used in further analytical calculations. While the results of the reliability test show that the relationship between variables in the indicator is reliable with a Cronbach's Alpha value of more than 0.6. It can be concluded that the indicators used to measure these variables are reliable.

Table 7. Result of Inner Model

	Indeks	P value	Criteria	Description
Average Path Coefficient (APC)	0.422	<0.001	p<0.05	Accepted
Average R-Squared (ARS)	0.197	0.035	p<0.05	Accepted
AVIF	4.008		AVIF<5	Accepted

Source: Author Calculation

The structural model (Inner Model) through 3 criteria, namely the value of Average Path Coefficient (APC), Average R-Squared (ARS), and Average Block VIF (AVIF). APC and ARS values are accepted when the p-value < 0.05 and the AVIF value <5. Table 7 explains that the APC value has an index of 0.422 with a p-value of < 0.001. While the ARS value has an index of 0.197 with a p-value of 0.035. Based on the criteria, the APC and ARS values meet the criteria because they have a p-value of < 0.05. Then the AVIF value has an index of 4.008 which means < 5, then the AVIF value has met the criteria. From these three results, the inner model is acceptable. Figure 1 shows the results of the correlation between constructs are calculated by looking at the path coefficient and the level of significance, which is then compared with the research hypothesis. In this study, a significance level of 5% was determined. Where X1 is responsiveness, X2 is responsibility, X3 is accountability, Y is revenue of BUMDes management and members and M is social capital. Social capital used in this study as moderation variables.
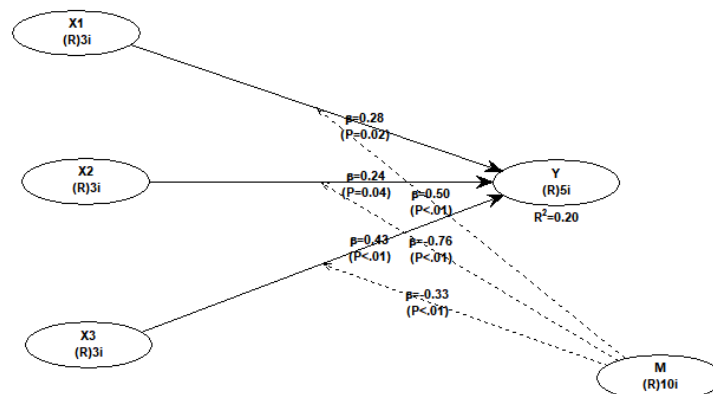
Figure 1. Result of Hypothesis Test

Table 8 shows that the variable responsiveness has a significant effect on the income of management and members of BUMDes in Sleman Regency. Based on observations, BUMDes formulate programs following problems that exist in the community. As in BUMDes Amanah with business units in the financial sector, namely savings and loans as one solution to alleviate the community from loan sharks. In addition, this savings and loan business unit aims to increase capital for the community of small and medium enterprises, traders, and farmers. Therefore, BUMDes Amanah can formulate programs to help increase business opportunities, employment opportunities, income equality, and community empowerment (Widia & Octafia, 2023). The results of this study are relevant to the findings of Khasanah & Riyaur (2021) stated that performance of BUMDes with their programs affects people's income. The study explained that the business programs run by BUMDes can help and be a solution to community problems. This is in accordance with Pratama & Pambudi (2017) the responsiveness aspect of BUMDes is reflected in determining business fields that are in accordance with the needs of the community and have responsiveness in responding to complaints from customers (community). Where the program or business is formulated is an indicator of the aspect of responsiveness.

Table 8. Result of The Hypothesis Test

Hypothesis	Path Analysis	P	β	Result
H1	Responsiveness (X1) → Revenue of BUMDes management and members (Y)	0.018	0.276	Accepted
H2	Responsibility (X2) → Revenue of BUMDes management and members (Y)	0.037	0.236	Accepted
H3	Accountability (X3) → Revenue of BUMDes management and members (Y)	<0.001	0.434	Accepted
Moderation				
H4	Social Capital (M) → H1	<0.001	0.496	Accepted
H5	Social Capital (M) → H2	<0.001	-0.757	Rejected
H6	Social Capital (M) → H3	0.005	-0.333	Rejected

Source: Data Processed

The variable of responsibility in Table 8 has a significant effect on the income of the management and members of BUMDes in the Sleman Regency. Based on observations, BUMDes that have a good and correct administrative system are better able to manage their business fields. BUMDes that can manage and develop their business units will be better able to increase their business income so that the income of people who are members of BUMDes will increase. Such as in BUMDes Luhur Sembada with food service business units, trading business units, waste management business units, agricultural and fisheries business units, and payment service business units. Where BUMDes Luhur Sembada submitted an Accountability Report (LPJ) and work programs for 2022-2023 to the Community Empowerment and Kalurahan Office (PMK) of Sleman Regency. In other words, BUMDes Luhur Sembada has high responsibility aspects that have an impact on the management of BUMDes business units to increase the income of people who are members of BUMDes. Those finding in line with the study from Gusni (2020) and Syani et al (2022) stated that responsibility as an indicator of BUMDes performance has an influence on community welfare.

The accountability variable has 4 indicators. Where in the process of data processing, the fourth indicator was removed because it did not meet the convergent validity criteria standards. Based on the results of the study, it was found that the accountability variable has a significant effect on the income of management and BUMDes members in Sleman Regency. Based on observations, the accountability of BUMDes is important in business sustainability because it is in line with the interests of the community. As in BUMDes Amarta which conducts joint deliberations in formulating programs to overcome problems that exist in the community. Amarta BUMDes also accommodates suggestions, criticisms, and the like from the community submitted through village deliberations or those who come directly to the BUMDes office (Fafurida et al., 2022). The openness of BUMDes is what makes the community participate a lot in BUMDes activities, so that they can contribute to improving the community's economy. The results of this study are consistent with the findings Basri et al (2023) stated that accountability affects community welfare.

Social capital variables were able to strengthen the relationship between the responsiveness of BUMDes to the income of BUMDes management and members. Table 8 shows the social capital owned by BUMDes will encourage BUMDes in determining programs or services that are oriented to the interests of the community. As in BUMDes Tamanmartani 5758 which sees the potential of waste management to be able to improve the community's economy. Where BUMDes Tamanmartani 5758 received support from the community to establish an Integrated Waste Treatment Plant (TPST). This community support comes from public trust in BUMDes. The results of this study are consistent with the findings of Prasetya et al (2023) stated that social capital encourages the quality and quantity of BUMDes which then has an impact on the performance of BUMDes. Good performance of BUMDes can help the independence of rural communities and contribute to community welfare. Fafurida et al (2022) argued that social capital affects the performance of BUMDes from the aspect of responsiveness. Where improving the quality of BUMDes performance in the aspect of responsiveness will increase people's income.

Social capital variables weakened the relationship between responsibility to the income of administrators and BUMDes members. Based on the results of interviews with several BUMDes administrators in Sleman Regency, it was found that some BUMDes only have a management period of 3 years and each period to period does not have permanent members. This is the cause of the disconnection of the purpose of BUMDes from the previous period to the next period. Even the selection of BUMDes members is based on people who have relationships with village leaders, and do not see their capabilities in managing BUMDes business units. Djaha et al (2018) argued that social capital owned by a company studied in implementing community development programs does not contribute to encouraging economic, social, and environmental progress. Where the company utilizes community development programs to take advantage of the smooth operation of its company. There is even an alliance between the company and the state which actually increases the burden on the community. So the study stated that the existence of social capital is actually misused by companies and has no social responsibility for people's economic, social, and environmental growth. And in the end, it leads to structural poverty.

Social capital variables has weaken relationship between accountability for the income of administrators and BUMDes members. As in the results of an interview with the BUMDes management in Sleman Regency, it was stated that BUMDes still does not involve the community to contribute in conveying suggestions, inputs, criticisms, and the like. So social capital does not improve the performance of BUMDes from the aspect of accountability to community income. In addition, some BUMDes do not have openness to the public regarding the business activities carried out by BUMDes. Where some BUMDes consider that those who carry out business activities are BUMDes administrators, so the public does not need to know the operations of the BUMDes themselves. So the social capital owned here is only limited to between members and parties who have cooperated. This is in accordance with the findings of Rahayu et al (2023) that that social capital does not play a role in village economic development, but social capital plays a role in forming social networks with various parties from outside the village to provide the benefits needed by BUMDes.

4. Conclusion

Based on Law No. 6 of 2014 explains that villages must be protected and empowered to be strong, advanced, independent, and democratic to create a strong foundation for implementing governance and development towards a prosperous society. Therefore, one of the efforts of the Government is to form village-owned enterprises (BUMDes) which are institutions managed by the village government and the community to meet the needs and economy of the village. BUMDes is a new approach to increasing Village Original Revenue (PADes) through an increase in village revenue, village development can be carried out from various sectors. Therefore, BUMDes have a very important role in encouraging village economic development. Sleman has the most village-owned enterprises in Yogyakarta followed by Gunungkidul, Kulonprogo and Bantul. BUMDes in Yogyakarta are engaged in services sectors, trade sectors, savings and loans and tourism sectors. In recent years, the management of village-owned enterprises has gradually moved towards professional management.

This study used a Structure Equation Modeling (SEM) approach based on Partial Least Squares (PLS). PLS-SEM has several advantages over the covariance-based SEM method. SEM-PLS can be used to analyse data that cannot meet assumption of normality, or research data with the small sample size. This method can also be used to analyse construct variables that are reflective in nature. These

findings reveal that responsiveness, responsibility, and accountability have an impact on the revenues of management and BUMDes members. Meanwhile, the variable of social capital moderation can only strengthen the relationship between the responsiveness of BUMDes to the income of BUMDes management and BUMDes members. The implication of the study to improve the quality of human resources and the ability to commit to managing BUMDEs as crucial factors to increase BUMDEs' performances and lead to an increase in their member's welfare.

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References

Afrizal, Rahmatunnisa, M., Suwaryo, U., & Yuningsih, N. Y. (2023). Local government capability in managing village owned enterprises (BUMDEs) in Indonesia: A case study of Bintan regency. *Lex Localis*, *21*(3), 707–727. doi: 10.4335/21.3.707-727(2023)

Arindhawati, A. T., & Utami, E. R. (2020). Dampak keberadaan Badan Usaha Milik Desa (BUMDEs) terhadap peningkatan kesejahteraan masyarakat (Studi pada badan usaha milik desa (BUMDEs) di Desa Ponggok, Tlogo, Ceper dan Manjungan Kabupaten Klaten). *Reviu Akuntansi Dan Bisnis Indonesia*, *4*(1), 43–55. doi: 10.18196/rab.040152

Barclay, D., Higgins, & Thompson, R. (1995). *The Partial Least Squares (PLS): Approach to causal modelling: Personal computer adoption and use as an illustration*. Technology Studies.

Basri, Y. M., Yasni, H., Nurmayanti, P. M., & Indrawati, N. (2023). Accountability in social enterprises: The role of institutional pressure and social performance. *International Journal of Business Excellence*, *31*(1), 155–175. doi: 10.1504/IJBEX.2023.133579

Daengs, A., Mahjudin, & Desembrianita, E. (2020). Effect of land area and agricultural invesment on labor through GRDP district/city of East Java 2017. *Optimum: Jurnal Ekonomi Dan Pembangunan*, *10*(2), 112–118. doi: 10.12928/optimum.v10i2.16062

Djaha, A. S. A., Lino, M. M., & Mau, A. E. (2018). Social capital making through local institution: A village community empowerment strategy in the Pulau Buaya village, East Nusa Tenggara of Indonesia. *Russian Journal of Agricultural and Socio-Economic Sciences*, *77*(5), 116–122. doi: 10.18551/rjoas.2018-05.14

Dwiyanto, A. (2006). *Mewujudkan Good Governance Melalui Pelayanan Publik*. UGM Press.

El Ashfahany, A., Farrahvanaya, S. K., Apriantoro, M. S., & Suharjianto. (2024). Analysis of factors influencing intention to purchase halal Japanese food: The moderating role of religiosity. *Innovative Marketing*, *20*(1), 66–76. doi: 10.21511/im.20(1).2024.06

Ermawati, T., Dalmiyatun, T., & Prayoga, K. (2021). Pengaruh modal sosial terhadap keberlanjutan Gapoktan Ngudi Rukun di Kabupaten Wonogiri. *Jambura Agribusiness Journal*, *3*(1), 1–14. doi: 10.37046/jaj.v3i1.10129

Fafurida, Karsinah, & Bowo, P. A. (2022). Scale-up collaboration model of village-owned enterprises for increasing village economy. *International Journal of Sustainable Development and Planning*, *17*(8), 2615–2619. doi: 10.18280/ijsdp.170830

Fernanda, J. W., Luthifiana, V., & Akhyar, M. K. (2022). Analisis Partial Least Square Structural

Equation Model (PLS-SEM) untuk permodelan penerimaan sistem jaringan informasi bersama antar sekolah (JIBAS). *J Statistika*, *15*(2), 292–297. doi: 10.36456/jstat.vol15.no2.a6436

Fuadi, R., Linda, Batara, G., & Sari, N. (2022). Analysis of village owned enterprises (BUMDEs) financial performance before and during COVID-19 pandemic. *13th of Aceh International Workshop and Expo on Sustainable Tsunami Disaster Recovery, AIWEST-DR 2021*. doi: 10.1051/e3sconf/202234003004

Gayo, S. B., Erlina, & Rujiman. (2020). Peranan badan usaha milik desa dalam meningkatkan perekonomian masyarakat pedesaan. *Media Komunikasi Geografi*, *21*(2), 202–209.

Gusni. (2020). Efektivitas dan kinerja terhadap pengelolaan badan usaha milik desa Lagading Kecamatan Pitu Riase Kabupaten Sidenreng Rappang. *Praja: Jurnal Ilmiah Pemerintahan*, *8*(2), 78–87. doi: 10.55678/prj.v8i2.237

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Pearson.

Idris, H., Samsinar, & Syachbrani, W. (2021). Pengaruh kinera badan usaha milik desa terhadap peningkatan pembangunan desa di Sulawesi Selatan. *Proceedings of National Seminar*.

Irianto, O., & Wati, C. H. S. (2022). The impact of village-owned enterprises (BUMDEs) in strengthening food security in Merauke regency. *IOP Conference Series: Earth and Environmental Science*, 012101. doi: 10.1088/1755-1315/1107/1/012101

Ismoyo. (2017). Kinerja pegawai negeri sipil di badan kepegawaian pendidikan dan pelatihan daerah Kabupaten Ponorogo. *Forum Ilmu Sosial*, *44*(1), 18–26.

Khasanah, U., & Riyaur, R. M. (2021). Peran BUMDes dalam perekonomian masyarakat di daerah pedesaan. *Jurnal Ilmiah Ekonomi Dan Bisnis Triangle*, *2*(3), 383–392.

Mardalena, Adji, A., Rohima, S., Harunurrasyid, & Nida, R. (2023). The welfare impact of village fund allocation in Indonesia: The comparative of Java and Non-Java. *Optimum: Jurnal Ekonomi Dan Pembangunan*, *13*(2), 207–218. doi: 10.12928/optimum.v13i2.8668

Marmaya, N., Zakaria, Z., & Mohd Desa, M. N. (2019). Gen Y consumers intention to purchase halal food in Malaysia: A PLS-SEM approach. *Journal of Islamic Marketing*, *10*(3), 1003–1014. doi: 10.1108/JIMA-08-2018-0136

Montria, T. A., Sunarko, B., Lestari, S., & Raharjo, S. (2022). Analisis pengaruh kinerja Bumdes " Warga Sejahtera" terhadap kesejahteraan masyarakat di Desa Sokaraja Kulon Kecamatan Sokaraja Kabupaten Banyumas. *Rural Tourism and Creative Economy to Develop Sustainable Wellness, 8*.

Munawaroh, S. T. (2017). Pengaruh modal sosial terhadap peningkatan kesejahteraan penambang pasir di Desa Sadangwetan Kecamatan Sadang Kabupaten Kebumen. *OIKONOMIA - Jurnal Pendidikan Ekonomi*, *6*(2).

Nurjani, M., Sudarmanto, E., & Surono, S. E. (2021). Peranan Badan Usaha Milik Desa (BUMDEs) terhadap peningkatan pendapatan asli desa pada BUMDEs yang terdapat di Kecamatan Megamendung periode 2016-2018. *Jurnal Online Mahasiswa (JOM) Bidang Akuntansi*, *8*(3).

Nurrachmi, I., Setiawan, & Saripudin, U. (2020). Motivation for purchasing halal products: The influence of religiosity, trust and satisfaction. *Humanities & Social Sciences Reviews*, *8*(5), 210–218. doi: 10.18510/hssr.2020.8520

Prasetya, B. P., Moeljadi, Wijayanti, R., & Aisjah, S. (2023). Innovation capacity and social capital as mediators of relationship in integrated quality management with sustainable performance of village-owned enterprises in Klaten district, Central Java, Indonesia. *International Journal of Applied Economics, Finance and Accounting*, *17*(2), 454–468. doi: 10.33094/ijaefa.v17i2.1198

Pratama, R. N., & Pambudi, A. (2017). Kinerja badan usaha milik desa panggung lestari dalam meningkatkan pendapatan asli desa di Desa Panggungharjo Kecamatan Sewon Kabupaten Bantul. *Journal of Public Policy and Administration Research*, *6*(2), 105–116.

Rahayu, M. J., Mukaromah, H., & Mulyanto. (2023). Social capital-based strategy of sustainable village-owned enterprises (BUMDEs) development. *International Journal of Social Economics*. doi: 10.1108/IJSE-10-2022-0700

Rubin, D. B. (2001). *Matched sampling for causal effects* (1st ed.). Cambridge University Press.

Salihin, A. (2021). Peran Badan Usaha Milik Desa (BUMDEs) sebagai upaya pengembangan ekonomi masyarakat Desa Pejanggik. *Al-Intaj: Jurnal Ekonomi Dan Perbankan Syariah*, *7*(1), 96–104. doi: 10.29300/aij.v7i1.3937

Saputra, A. R. P., Iswara, D., Azman, M. N. A., & Hajimia, H. (2022). Green tourism during the COVID-19 pandemic: Health protocol moderation analysis. *International Journal of Public Health Science (IJPHS)*, *11*(3), 957–966. doi: 10.11591/ijphs.v11i3.21689

Sarstedt, M., Ringle, C. M., Cheah, J. H., Ting, H., Moisescu, O. I., & Radomir, L. (2020). Structural model robustness checks in PLS-SEM. *Tourism Economics*, *26*(4), 531–554. doi: 10.1177/1354816618823921

Sliyeg, S. (2019). Badan Usaha Milik Desa (BUM DESA): Tinjauan ekonomi islam dan perannya dalam meningkatkan kesejahteraan masyarakat desa di Kabupaten Indramayu. *Jurnal Inklusif: Jurnal Pengkajian Penelitian Ekonomi Dan Hukum Islam*, *4*(2), 100–113. doi: 10.24235/inklusif.v4i2.4326

Sofianto, A., & Risandewi, T. (2021). Mapping of potential village-owned enterprises (BUMDes) for rural economic recovery during the COVID-19 pandemic in Central Java, Indonesia. *IOP Conference Series: Earth and Environmental Science*, 012022. doi: 10.1088/1755-1315/887/1/012022

Syani, K., Sellang, K., & Mannu, A. (2022). Optimalisasi pengelolaan badan usaha milik desa terhadap kesejahteraan masyarakat desa Bulo. *Jurnal Ilmiah Administrasi*, *10*(3), 125–130. doi: 10.55678/jia.v10i3.774

Utomo, W. B. (2008). Perbandingan analisis regresi logistik dengan analisis propensity score matching pada studi kasus imunisasi bayi. *Kesmas: National Public Health Journal*, *2*(6), 282–290. doi: 10.21109/kesmas.v2i6.248

Widia, E., & Octafia, S. M. (2023). The role of social capital for the development of women's enterprises: A case study of MSMEs in Padang city. *Optimum: Jurnal Ekonomi Dan Pembangunan*, *13*(2), 219–230. doi: 10.12928/optimum.v13i2.8693

Yamin, S., & Kurniawan, H. (2009). *Structural Equation Modelling*. Salemba Infotek.