International Journal of Sustainable Development and Planning
Vol. 18, No. 1, January, 2023, pp. 171-179
Journal homepage: http://iieta.org/journals/ijsdp

The Distribution Levels and Factors Influencing Successful Development of VOE in Trenggalek Regency-Indonesia

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https://doi.org/10.18280/ijsdp.180118

Received: 27 August 2022
Accepted: 15 November 2022

Keywords:
development level, success factors, VOE

ABSTRACT

This research aims to identify the pattern of Village Owned Enterprise (VOE) in the Trenggalek Regency and analyze the factors affecting its success. The regency was selected as the model for other regions because it has East Java's most advanced VOE development. A quantitative approach was adopted using primary data consisting of VOE age, number of business units, number of workers, capital, turnover, profit, and VOE contribution to Village Own-source Revenue. The data was collected through questionnaires and interviews with the village government and VOE administrators. The pattern on the VOE development level was analyzed using Moran Index, while the influencing factors were determined through Geographical Weight Regression. The findings showed that the villages were grouped based on the VOE development level. The developed VOE was generally affected by age, number of business units, number of workers, turnover, profit, and contribution to Village Own-source Revenue. It was also discovered that business capital has a negative effect on the VOE success level, and a similar trend was recorded for labor in some areas. This study implies the importance of strengthening through supporting factors for the success of VOE and the formation of cooperation between villages to achieve developed VOE.

1. INTRODUCTION

Village Owned Enterprises (VOE) are business entities managed by the village as one of the strategies to build the economy. The aim is to improve community welfare and serve as a source of Village Own-source Revenue. It is important to note that the program's main objective is to ensure economic growth and development, but it also has a non-economic role in rural development. The economic aspect is due to its ability to provide capital for small-scale home industries (MSMEs) in rural areas to enhance village entrepreneurship and improve the community's economy through productive activities [1]. Meanwhile, the non-economic sector focuses on reducing the number of people moving from villages to cities [2]. It is possible because good management has several social and economic benefits for rural communities, from providing new jobs, sources of funds to finance village development, and social assistance for the concerned community. The VOE was established to strengthen the rural economy long before the Village Law No. 6 of 2014. It was initiated through Law No. 22 of 1999 Article 108, which allows villages to have business entities following statutory regulations.

The success of the VOE can be theoretically assessed using four basic indicators: turnover, number of employees, contributions to Village Own-source Revenue, and social assistance provided to the community [3]. The program is also believed to be successful when it has resolved obstacles associated with two main aspects of performance and finances [4, 5]. Those related to performance include the lack of public knowledge of professional business activities, especially in preparing financial reports and business results. Those associated with the finances include the potential for VOE abuse, such as the misappropriation of funds from businesses or acts of corruption. According to Agunggunanto et al. [6], the constraints of starting a VOE business include the lack of venture capital, which subsequently leads to the inability to diversify, the lack of adequate management resources, and a low level of public awareness and knowledge of VOE. It normally leads to non-optimal performance.

The 2021 VOE data for Trenggalek Regency was obtained from the East Java DPMD (Department of Community and Village Empowerment), which was dominated at the developed level. The Trenggalek Regency has the highest percentage of developed and developing VOE in East Java. It is indicated by a total of 152 villages, out of which 84 (55%) have developing VOE while 68 (45%) are at a developed level. It is above the average level of VOE development in East Java. It simply shows that the development of VOE in the regency is quite successful.

The data from the East Java Village and Community Empowerment Service shows that all the villages in Trenggalek Regency already have VOE. It is associated with implementing an initial policy designated as VOE in all the villages in 2001 due to the consistent activities of moneylenders in rural economies. It led the Trenggalek Regency Government to sensitize the people about the

importance of VOE in the villages in order to switch from the moneylender system. The regency government also contributed to the venture capital in stages, starting from 2001-2008. It involved the disbursement of Rp. 50,000,000 in 5 stages for five years to return 10,000,000/year and the provision of Rp. 80,000,000 in 8 stages for eight years with a return of Rp. 10,000,000/year. The capital was used to run the VOE business unit through savings and loans.

The implementation was not optimal during the period, with most of the VOEs not running according to the purpose. It was due to inappropriate business management strategies which led to inefficiencies such as the lack of diversification of business units and the domination of the management positions of VOE by village officials. The Trenggalek Regency Government revitalized the VOE after the enactment of the Minister of Village Regulation on Development of Disadvantaged Regions and Transmigration Number 4 of 2015 concerning the Establishment, Management, and Dissolution of VOE. It led the Community and Village Empowerment Service to formulate the Trenggalek Regency Regulation No. 7 of 2017, which places the VOE management outside the village apparatus.

Trenggalek Regency has the highest number of VOEs in the developed category in East Java Province. It is the reason the area was selected to examine the quantity and quality from the economic and spatial perspectives. Therefore, this research aimed to determine the VOE pattern and identify the factors affecting its successful development in Trenggalek Regency. The success factors of VOE development can be adopted for the development of VOE in other areas. It is important to map the pattern of VOE development to be used as a reference in formulating the appropriate strategy to be applied by the local government to develop rural areas.

2. METHOD

This quantitative research was conducted in 152 VOE in Trenggalek Regency from January-June 2022 using primary data. The variables used include VOE development level, VOE development status, VOE age, number of business units, amount of capital, number of employees, VOE earned turnover, VOE profit, and VOE contribution to Village Own-source Revenue. The variable of developed VOE was adapted from previous research, that the success of VOE management is seen from basic indicators, namely turnover, number of employees, and VOE contribution to Village Own-source Revenue [3]. Developed VOE is supported by adequate capital and business diversification [6]. In this study, age and profit variables are added as novelties. The data was sourced from the Trenggalek Regency Community and Village Empowerment Service and interviews conducted with VOE administrators in Trenggalek Regency. The data was collected from 152 respondents. Moreover, the distribution pattern of the VOE development level was determined using Moran's Index Analysis, while the developmental factors were evaluated using the Geographical Weighted Regression (GWR) analysis through the ArcGis 10.5 software.

2.1 Moran index

A commonly used method for determining spatial relationships is known as the Global Moran Index. Spatial autocorrelation serves to estimate the observed values related to the spatial location of the same variable. According to Lee and Wong [7]. Moran Index can be used to evaluate the spatial dependence or autocorrelation between objects or locations. It can be used to assess the possibility of the peculiarities in a village influencing or being influenced by those in the nearest village. The technique was developed to describe and visualize the spatial distribution as well as identify the concentration and location of outliers [8]. The existence of a positive autocorrelation indicates there are similar values from locations with proximity and tend to be in a cluster. Meanwhile, negative autocorrelation shows the differences in the values at adjacent locations. The formula commonly used to calculate the spatial autocorrelation through the Moran Index presented as follows:

$$MI = \frac{n\sum_{1-1}^{n}\sum_{j=1}^{n} Y_{ij}(X_i - \bar{X})\,(X_j - \bar{X})}{\sum_{i=1}^{n}(X_i - \bar{X})} \quad (1)$$

Description:
MI = Moran Index
n = The number of VOE observed
x_i = Observation value in the i-th VOE
x_j = Observation value in VOE j (neighboring to i)
$\bar{x}$ = The mean value of all observed variables
Y_{ij} = Matrix elements between VOE i and j.
The hypotheses developed at this stage are as follows:
There is an autocorrelation between the villages when:
H0:I = 0, the villages have no spatial autocorrelation of VOE development in the Trenggalek Regency.
H1:I ≠ 0, means that the villages have a spatial autocorrelation of the VOE development in the Trenggalek Regency.
The expected value of the Moran test is:

$$E(I) = I_0 = \frac{-1}{N-1} \quad (2)$$

There is autocorrelation between locations when:

$$Z_{count} = \frac{I - I_0}{\sqrt{Var(I)}} \sim N(0,1) \quad (3)$$

where, I is the coefficient of Moran's I, I_o is *the expected value of* Moran's I, and Var (I) is a variant of Moran's I. The values or patterns formed in the Moran Index include clustering, random, and spreading patterns. The H_0 is rejected when $|Z_{count}>Z_{\alpha/2}$. It is important to note that the value of I is between -1 and 1. Moreover, the autocorrelation value is positive when $I>I_o$, and this means the data are clustered but it is negative when $I<I_o$ and this indicates the data are spread.

2.2 Geographical weighted regression

The factors affecting the success of VOE in the Trenggalek Regency were determined using weighted spatial regression analysis. The Geographical Weight Regression (GWR) is a linear regression model for data using response variables that consider the aspects of spatial data or location [9]. It is an ordinary simple model founded on a non-parametric regression focusing more on locational factors to produce estimators of local model parameters in each observation. It is important to note that the predictor variables in the GWR of each regression coefficient depend on the location of the

observed data determined by the coordinate points. The magnitude of the weighting matrix used depends on the proximity of the observation location.

The influencing factors were analyzed using the VOE development level as the dependent variable. In contrast, the independent variables were VOE age, number of business units, amount of capital, number of employees, turnover earned by VOE, profit earned by VOE, and VOE contribution to Village Own-source Revenue. The GWR models used stated as follows:

$$\begin{aligned} Y_i = {} & b_0(U_i,V_i) + b_1(U_i,V_i)X_{1i} + b_2(U_i,V_i)X_{2i} \\ & + b_3(U_i,V_i)X_{3i} + b_4(U_i,V_i)X_{4i} \\ & + b_5(U_i,V_i)X_{5i} + b_6(U_i,V_i)X_{6i} \\ & + b_7(U_i,V_i)X_{7i} + \varepsilon_i \end{aligned} \quad (4)$$

Description:

Y_i = VOE development level in the village i

b_0 = *Intercept*

$b_{1,..,19}$ = Regression coefficient on each variable in village i

X_{1i} = VOE age in the village i

X_{2i} = Number of business units owned by VOE in the village i

X_{3i} = Total capital in the village i

X_{4i} = Number of VOE employees in the village i

X_{5i} = Total turnover earned by VOE in the village i

X_{6i} = Total profit obtained by VOE in the village i

X_{7i} = Amount of VOE contribution to Village Own-source Revenue in the village i

ε_i = Error

U_i = Longitude spatial coordinates for village i

V_i = Latitude spatial coordinates for village i

The steps involved in the GWR modeling are stated as follows:

1. The use of spatial weighting to estimate parameters is essential. The weighting matrix in GWR is based on the proximity of the i-th observation location to other observation points. It is important to note that closer distance has a greater weight value.
2. Selection of the bandwidth, the distance between the research sites and other locations calculated through a weighting function. It was determined through the circle with the bandwidth radius of each point location. According to Fotheringham et al. [9], the observation locations close to i are more influential in shaping the model parameters at location i.
3. The parameters for each variable X used in the GWR model was tested. A significance test was also conducted to determine the effect of each independent variable on the dependent variable at a significance level of 5 percent (0.05) and 10 percent (0.1). The hypotheses used are stated as follows:
   H0: bk (ui,vi)=0
   H1: bk (ui,vi)≠0 or (bk>0 or bk<0); k=1,2,….,p
   Test statistics:

$$T_{count} = \frac{\widehat{b_k}(U_i,V_i) - b_k(U_i,V_i)}{Se\ \widehat{b_k}(U_i,V_i)} \quad (5)$$

   Description:

   $\widehat{b_k}(U_i,V_i)$ = The k-th predictor variable at the i-th observation location

   $Se\widehat{b_k}(U_i,V_i)$ = Standard error of the k-th predictor variable at the i-th observation location

The criteria for the 0.05 significance level are stated as follows:

1. The number of research units was 152 villages, and this means tα/2, db=n-k was used to determine the value of $t_{0,05/2,\ 152\ -7} = t_{0,025,\ 145} = 1{,}97646$.
2. The H1 was accepted and H0 rejected when the value of $t_{count} > 1{,}97646$.
3. The H0 was accepted when $t_{count} \leq 1{,}1{,}97646$.

The criteria used at 0.1 significance level are as follows:

1. The number of research units was 152 villages, and it means tα/2, db=n-k was used to determine the value of $t_{0,1/2,\ 152\text{-}7} = t_{0,05,145} = 1{,}65543$.
2. The H1 was accepted when the value of $t_{count} > 1{,}65543$.
3. The H0 was accepted when $t_{count} \leq 1{,}65543$.
   The results of the significance test on each variable were used to determine the two-way effect on the success of the VOE development level. A positive coefficient means the variable increases the VOE development while a negative coefficient indicates reduction.
4. Visualization of the GWR results in a map to ensure easy understanding in the process of formulating a policy.

2.3 Hypothesis

The hypotheses developed in this research are stated as follows:

a. The length of the business established has a positive effect on the VOE development level.
b. The number of business units positively affects the VOE development level.
c. The amount of capital has a positive effect on the VOE development level.
d. The number of employees has a positive effect on the VOE development level.
e. The amount of turnover obtained positively affects the VOE development level.
f. The amount of profit obtained positively affects the VOE development level.
g. The VOE contribution to Village Own-source Revenue positively affects the VOE development level.

3. RESULTS

3.1 VOE development level in Trenggalek Regency

The VOE in Indonesia is increasing annually with a positive trend, and a similar pattern was observed in Trenggalek Regency. Meanwhile, Kuncahyo [10] showed that not all VOEs in the regency have developed as expected. The 152 villages with VOEs were divided into three categories and these include 67 developed, 24 developing, and 61 least developed. The Improvement in the development of VOE in Trenggalek Regency occurred after coaching and evaluation were carried out. The data from the East Java Village and Community Empowerment Service in 2021, showed that 84 (55%) are developing VOE while the remaining 68 (45%) are developed VOE.

The VOE development level was mapped based on spatial autocorrelation to determine the patterns of relationships or

correlations between the locations observed. The results showed the distribution pattern of regional characteristics and the relationship between the locations. According to Tobler in the study of Anselin and Rey [11], closer regions had more effect than those farther from each other. It is also important to note that observations at one location often depend on those at nearby or neighbouring locations. The Moran Index can determine the relationship between a region and surrounding areas based on the -1 < I < 1 range. The results obtained from applying the method in this research are presented in Figure 1.

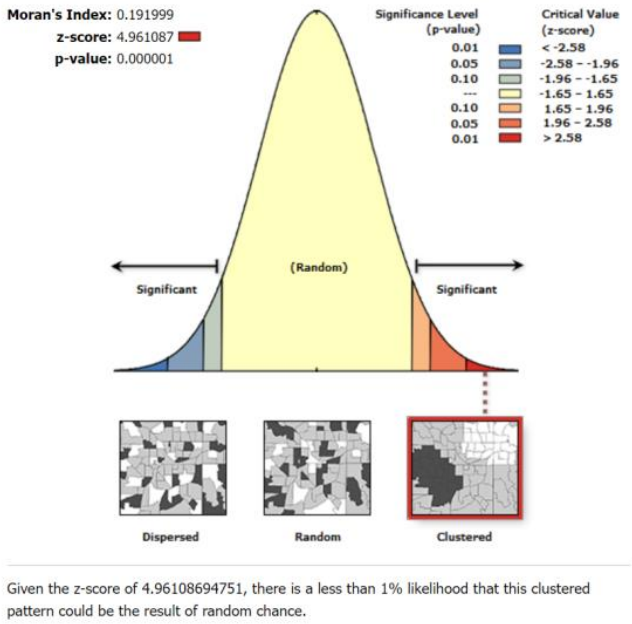

Figure 1. Moran index analysis results

The spatial autocorrelation analysis indicated a positive spatial autocorrelation, meaning the development in each village is clustered, as indicated in Table 1. Moreover, the Expected Index (I0) value of -0.006623 was lower at 0.191999 than the Moran's Index (I) value, which means all the villages in the regency have a high spatial effect on influencing the VOE development level, as presented in Table 1.

Table 1. Moran's index and expected index

Parameter	Value
Moran's Index	0.191999
Expected Index	-0.006623
Variance	0.001603
z-score	4.961087
p-value	0.000001

It was discovered that Kembang Jati, Jatiprahu Village in Karangan District has the most developed VOE in Trenggalek Regency. The VOE has been established for 20 years with eight business units, including the procurement of building materials, refill drinking water depots, credit, clean water, village markets, rentals, and tours. It was observed to have contributed 30,471,073 rupiahs from its profit to the Regional Original Revenue. Meanwhile, the least developed VOE was found in Sambirejo, Sambirejo Village in Trenggalek District, focusing on rental business units, shops, savings loans, and waste management.

The distribution pattern of the VOE development level showed that there are several village clusters with the same development status and tend to cooperate (Figure 2). It is important because the cooperation between VOE and other companies can significantly improve the economy of rural communities [1, 12]. Moreover, the cooperation between villages in developing VOE is in the form of an input-output relationship where some act as the producers of raw materials and others as the processors to have finished products. Meanwhile, VOEs with the same potential can also work together in terms of production and marketing in order to have higher economies of scale. It is essential because [13] reported that economies of scale and marketing reach are some of the sustainability challenges usually faced. It is the reason the VOEs need to collaborate in order to resolve these challenges.

The cooperation between villages is defined in the Minister of Home Affairs Regulation No. 29 of 2017 as an effort jointly implemented by villages or third parties through different activities associated with development, governance, and society. It is also an effort to increase welfare and prevent inequality jointly. It means it must emphasize the community's interests and be participatory [14]. It was also reported by Muryanti [15] that the ability to cooperate on different issues, especially in the VOE development, can encourage the realization of village independence.

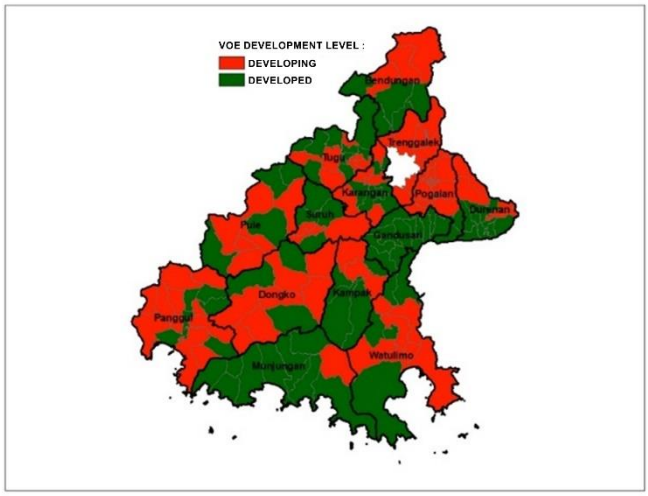

Figure 2. VOE development level in Trenggalek Regency

3.2 The factors influencing VOE development in Trenggalek

The factors analyzed include VOE age (X1), number of business units (X2), amount of capital (X3), number of employees (X4), VOE earned turnover (X5), VOE profit (X6), and VOE contribution to Village Own-source Revenue (X7). The process involved applying the GWR analysis to provide information on the effect of each specific independent variable on each VOE observed. The determination of the coefficient figures was followed by the significance test and a t-test on each independent variable at a 5 to 10% significance level.

The results showed that the average coefficient of determination (R2) is 45%. It was discovered that the VOE age, number of business units, amount of capital, number of employees, turnover obtained by VOE, profit earned by VOE, and the contribution of VOE to Village Own-source Revenue could be explained for 45% of the high VOE development level in Trenggalek Regency, while the rest are due to other factors not explained in the model. Moreover, the GWR model produced local regression equations with variations in each

regional unit. It was observed that each village locally has a different coefficient of determination, as presented in Figure 3, which ranges from 31-50%. The lowest was red and found to be 0.31-0.35 in 25 VOEs located in the villages, with most observed in the Panggul District. Meanwhile, the highest is red, ranging from 0.48-0.50, and found in 69 VOEs spread over the Districts of Gandungsari, Karangan, Pogalan, Durenan, Trenggalek, and Bendungan.

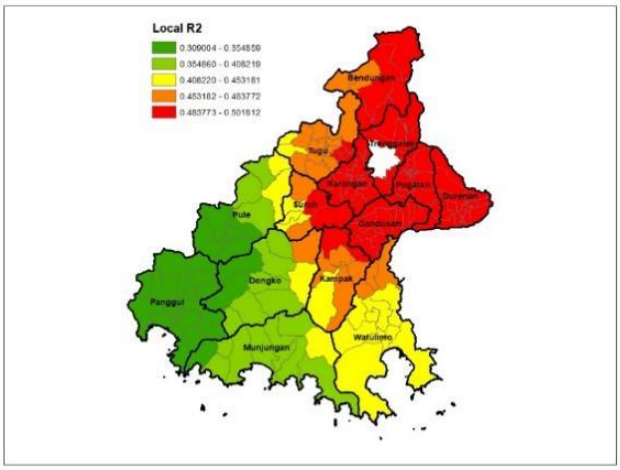

Figure 3. Distribution of R-Square (R2) values in the villages of Trenggalek Regency

1. The effect of age on the VOE development level

The length of the business is the variable used to represent the time a person has been operating the business and the experience [16]. It has been previously reported to have a positive effect on business income, such that a business operated for a longer time can provide more income [17]. A similar trend was observed in this study that VOE age positively influences the VOE development level. The greatest effect was reported in villages with dark brown colour with coefficient values ranging from 2.42 to 2.96, as presented in Figure 4. It means one unit increase in the VOE age can enhance the developmental status by 2.42-2.96, *ceteris paribus.* The most significant effect was in the Watulimo, Kampak, and Suruh districts.

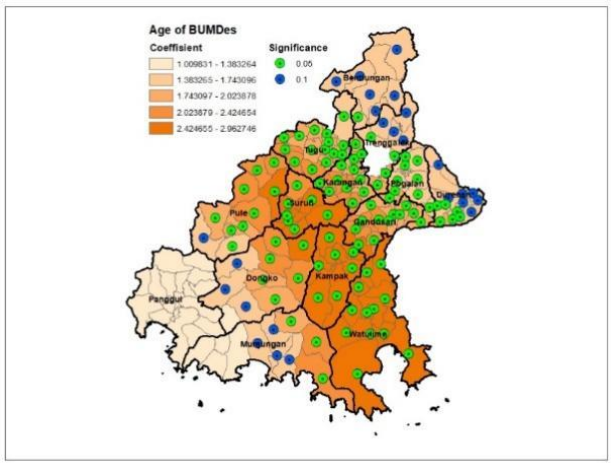

Figure 4. The effect of VOE age on VOE development level

The GWR analysis also showed that age or duration of VOE operation has a significant and positive influence on VOE development levels at 0.05 and 0.1 significance levels. It means a longer period of operation indicates a higher level of development. The age indicates the business organization can compete and survive in the market. It also shows that the company is performing effectively by being able to maintain its existence. Moreover, the increasing age is associated with a better ability to manage processes more effectively and efficiently to create a higher return on investment and performance [18].

2. The effect of the number of business units on the VOE development level

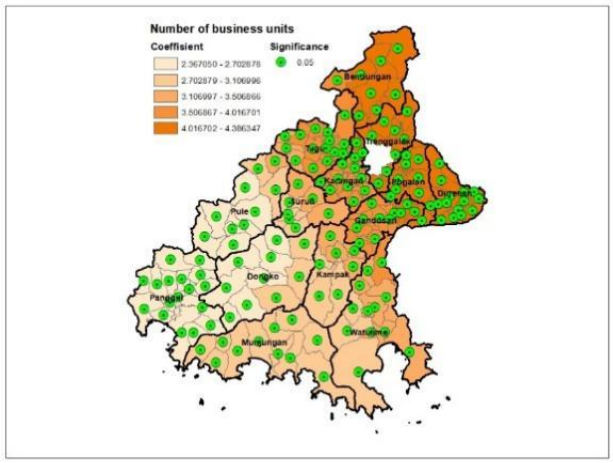

Figure 5. The effect of the number of business units on the VOE development level

Based on the results of GWR (Figure 5), it can be seen that the number of business units affects increasing the VOE development status. A positive and significant coefficient indicates it on all VOEs in Trenggalek Regency. It means that the more business units owned, the higher the development status. It is in line with [19, 20] that business diversification is needed to improve performance. The regression coefficient value is between 2.367-4.396. Adding the number of business units by one unit will increase the development status by 2,367-4,396, ceteris paribus. The more business units owned by a VOE business, the more sources of income. Indirectly, it can improve the community's welfare by providing new jobs.

3. The effect of the amount of capital on the VOE development level

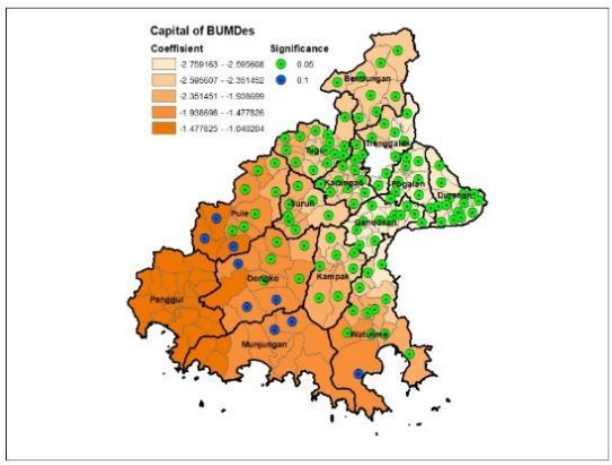

Figure 6. Effect of capital on the VOE development level

Capital allocation was observed to have a negative and significant relationship with VOE development level, as presented in Figure 6. It was indicated by the reference coefficient values ranging from -2.75 to -1.04, which means a one unit increase in VOE capital is expected to reduce the development level by 1.04 to 2.75 ceteris paribus. It shows that a large capital increase will absolutely not increase development. Since their establishment, quite a lot of capital was provided to manage VOEs in Trenggalek Regency.

The analysis showed that venture capital is not the main factor in achieving success in VOE. It means the amount of capital owned needs to be combined with qualified and skilful human resources managers to have a successful VOE. It was further confirmed by Sofyani et al. [21, 22] that VOE performance is usually affected by employees' skills, education level, experience, and sense of belonging to an organization.

4. The effect of the number of employees on the VOE development level

The analysis showed that the number of employees positively influences the VOE development level, as indicated in Figure 7. It means having a higher number of employees can improve the development process. The extent of the effect was indicated by the magnitude of the regression coefficient value such that a higher value provided the greater effect. Moreover, the positive effect is indicated by the regression coefficient value of 0.0029-0.3621, which means one unit increase in the number of employees is expected to increase the development value by 0.0029-0.3621, ceteris paribus.

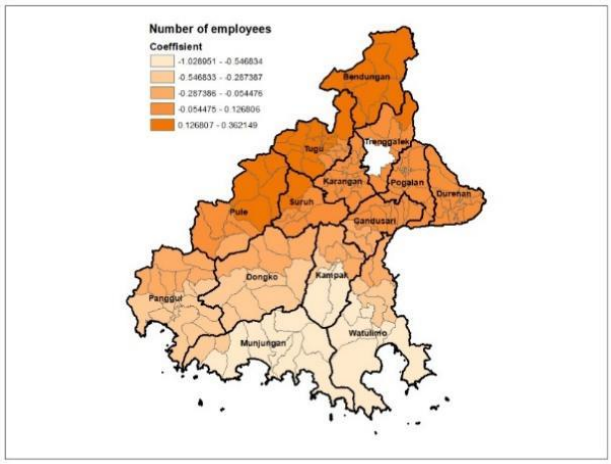

Figure 7. The effect of total employees on the VOE development level

The positive effect was only found among 84 VOEs spread over the Bendungan, Tugu, Trenggalek, Karangan, Durenan, Pogalan, Gandungsari, Suruh and Pule districts while some areas, especially in the Districts of Munjungan and Watulimo, experienced a negative effect. It is because the workforce is relatively small but has good experience and skills to manage a business unit. Work experience and skills positively and significantly affect productivity [23]. Work experience and productivity significantly positively affect VOE income [24].

5. The effect of turnover on the VOE development level

Turnover is all income generated from the sale of goods or services of a business [25, 26]. It is one of the parameters to measure the success of a business from a micro perspective. The GWR results presented in Figure 8 showed that the turnover obtained by VOEs has a positive and significant effect on their development status, with the regression coefficient values ranging between 0.029 and 5.015. Adding one unit of turnover is expected to increase the developmental status by 0.029-5.015, ceteris paribus. Therefore, having more turnover leads to higher development status.

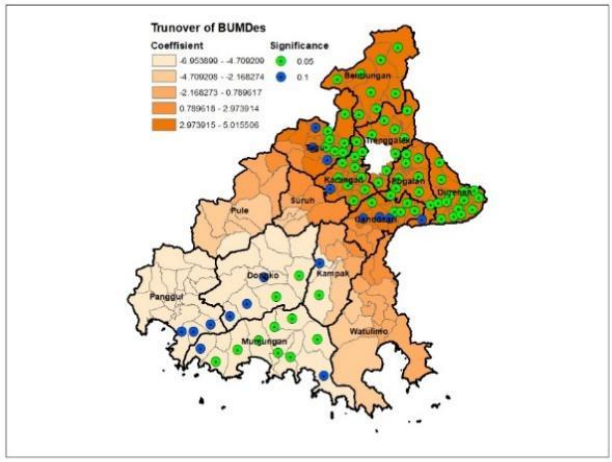

Figure 8. The effect of turnover on the VOE development level

Meanwhile, a negative and significant effect on turnover was recorded in several villages of Munjungan, Dongko, and Pogalan districts because the business units developed by VOE tend to be focused on meeting the basic needs of the community. VOEs were developed as village economic institutions oriented toward public services instead of profit [27].

6. The effect of profit on the VOE development level

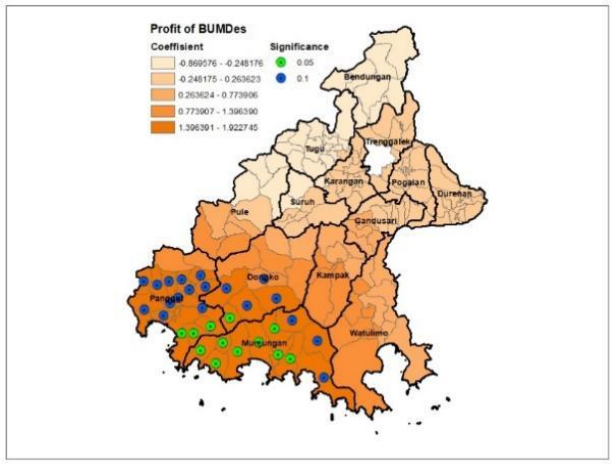

Figure 9. The effect of profit on the VOE development level

The GWR analysis presented in Figure 9 shows that the profit owned by VOE has a positive and significant effect on the VOE development level. It means more profit from the business leads to a higher level of development. It was observed in 91 VOEs in Panggul, Munjungan, Dongko,

Watulimo, Kampak, and Pule districts with the regression coefficient ranging from 0.0007 to 1.9227. It means adding one unit of profit is expected to increase the value of development by 0.0029-0.3621, ceteris paribus. Therefore, it can be stated that the total profit earned positively impacts the welfare of the employees. It is because high profits allow proper compensation for their performance. Meanwhile, all the VOE workers in Trenggalek are the villagers, meaning the community's welfare is guaranteed while the VOE is being managed professionally.

7. The effect of contribution to Village Own-source Revenue on the VOE development level

The contribution of VOEs to Village Own-source Revenue is an essential indicator of their success [3]. The total Village Own-source Revenue is associated with VOE activities increasing the funds needed for different development purposes. It was discovered that a more significant contribution to this income usually leads to a higher level of independence for a village. The village does not depend on the State Revenue and Expenditure Budget to finance its development.

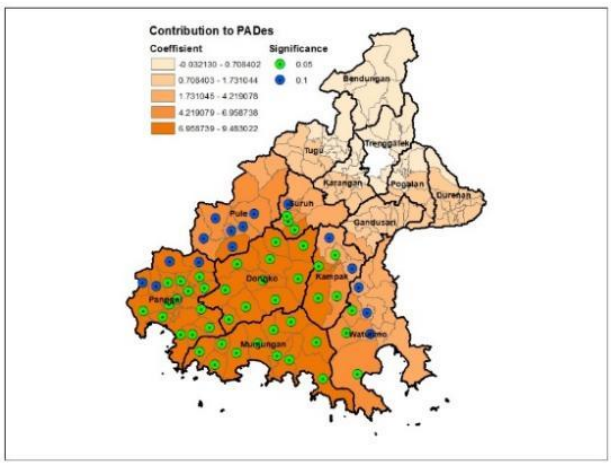

Figure 10. The effect of the contribution to Village Own-source Revenue on the VOE development level

The GWR analysis showed a positive and significant effect of the VOE's contribution to Village Own-source Revenue on the VOE development level in most villages, as indicated in Figure 10. It was based on the regression coefficient value recorded to be between 0.031 and 9.483, which means higher contribution led to a better level of VOE development. Meanwhile, three VOEs, including Dompyong in Dompyong Village, Mekar Jaya in Botoputih Village, and Mulyo Langgeng in Surenlor Village, showed an insignificant negative effect. It means it does not really have a negative effect.

4. RESEARCH IMPLICATION

VOE is a strategic effort of the village government to develop and improve rural community welfare. Its existence and development can be a solution to ensure villages' development and fiscal independence [28]. It means the establishment, growth, and development of VOE are important for the government to maintain business sustainability [29]. The VOE development level in Trenggalek Regency is categorized into developed and developing stages. It was also observed to have a clustered pattern, and the high spatial autocorrelation values were found to be influencing its VOE development in each village.

The findings further showed that some of the developed VOEs are more than five years old and have different types of businesses in the productive sector. Meanwhile, those considered to be developing VOEs are small and dominated by non-essential sectors such as leasing and waste management. It means they focus more on social activities not conducted by the private sector that do not involve much capital and labor. VOE engaged in the productive sector able to absorb a lot of labor [30]. These are the areas to be considered by these VOEs to move to the developed stages. It was also discovered from the distribution pattern that several villages with the same development status tend to be close together and are usually in groups. It is expected to assist the government in decision-making and determining the appropriate treatment to push each VOE forward.

The determination of the VOE category in each village in the Trenggalek Regency was followed by exploring the factors influencing their development. The results showed that age or length of establishment, number of businesses, number of workers, turnover, profit, and contribution to Village Own-source Revenue have a significant positive effect, while the amount of capital has a negative effect on VOE development. It means higher capital does not determine the VOE's success [31]. Therefore, managing and handling the right business is necessary to increase profits and sustain the VOE. The funding obtained for the village from VOE is independent and separate but still under the auspices of the village government. Therefore, it is necessary to plan, implement, manage, control, and evaluate the process of running a business unit. The success achieved using the method can be used as a role model to develop businesses in other villages.

These implications show the importance of this research and its impact on future studies. The VOE implementation in Trenggalek Regency was observed to be generally good with a group pattern. It is associated with the efforts made to strengthen and develop the community through the collective management of VOE to reach the developed stage. It can further be achieved by honing skills and developing cooperation between villages. The findings related to the influencing factors can also be examined more specifically in future research.

5. CONCLUSIONS

The results showed that Trenggalek Regency is an area with the most developed and developing VOEs in East Java and has the potential to become a role model for other regions. It was also discovered that there is a cluster of villages based on the VOE development level. Moreover, the factors influencing VOE development generally include the VOE age, number of business units, number of workers, turnover, profit, and contribution to Village Own-source Revenue. It means having a large number of employees, skills, and work experience can affect the success of VOE. The novelty of this research is in terms of time, location, and methods which involved combining economics and geographical analysis to determine the distribution of VOE, classify them into developed and developing categories and analyze the factors influencing their success. The variables in this study can still be developed in

more detail and specifically. For further research, it is recommended to conduct long-term observations so that they can formulate regional development strategies based on the VOE cluster.

Several recommendations and considerations are made concerning the next steps for VOE development. First, the government needs to optimize growth and development by providing training to improve the skills of VOE managers. Second, the government needs to direct the business fields to be developed through VOE to reach the productive and essential sectors. The third is the need for cooperation between villages to ensure the VOE development is developed and provides welfare to the community.

ACKNOWLEDGMENT

The authors would like to thank the LPPM of Universitas Terbuka, Indonesia, for granting permission and funding so that this research can be carried out. We also thank all informants who have provided various data and information so that they are beneficial to the smooth completion of this research.

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