


The Effect Of The Tetrapreneur Model On The Sustainability Of BUMDes With University Partnership As A Moderating Variable

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Article Info	ABSTRACT
Keywords: BUMDes, Tetrapreneur, University Partnerships	This study was conducted to test the Influence of the Tetrapreneur Model on the Sustainability of BUMDes with Higher Education Partnerships as a Moderation Variable. The population in this study is 129 villages in Buleleng Regency with a sample of 93 villages out of 129 villages calculated using the purposive sampling formula. The respondents in this study were the head of BUMDes, members of BUMDes and Village Heads. Data analysis used SEM-PLS Version 3 with a total of 85 respondents who filled out the questionnaire. The results of the study show that the tetrapreneur model has a positive and significant effect on the sustainability of BUMDes. Higher education partnerships significantly moderate the influence of the tetrapreneur model on the sustainability of BUMDes.
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INTRODUCTION

The most crucial problem of a nation or country is to realize the ideal condition of society. The search for the ideal formula and strategy for changing society is known as national development (Hidayat, 2022). The economy, as the main driver of development, is encouraged to strengthen each other, the success of economic development in order to improve welfare and achieve national development goals and targets (Asvi, 2017).

Village-Owned Enterprises (BUMDes) were established by the government through the Community Empowerment and Village Development Agency to improve the quality of life of the community. BUMDes can affect the welfare of villagers and of course can help increase the Human Development Index (HDI) to overcome problems that arise during BUMDes activities so that the purpose of its establishment can be achieved (Rahmatika, 2019).

The reality in the field, the function of BUMDes does not run according to regulations and the expectations of all parties. There are still many cases of BUMDes that hinder BUMDes from developing, both intentionally and unintentionally. Several cases of misappropriation of BUMDes funds that have occurred in Buleleng Regency over the past three years include:

Table 1. Misappropriation of BUMDes Funds

No.	Year	Parties Involved	Amount of Misappropriation of Funds (Rp)
1	2023	Treasurer of BUMDes Banjarasem Village, Seririt District	274.000.000

limited to understanding physical development and structural direction from above. Physical development is more easily considered an achievement because it has a physical form that can be seen. Third, village elites and community members have not communicated well about various problems. Most village heads and village officials only inform people close to the village head or even his family about certain issues, so many BUMDes are filled by people close to the village head. As a result, many villagers do not know about the problems that are developing in BUMDes. Fourth, the many cases of corruption in BUMDes are evidence of the many corruptions in the upper structure. Some villagers believe that they do not need to return the funds that should be used for village businesses run by BUMDes because many previous government programs before BUMDes, such as KUD, BUUD, and various other programs, failed and their existence is unclear. Sixth, managerial skills that are lacking in BUMDes managers. Seventh, BUMDes does not allow most teenagers to work. Convincing the younger generation that BUMDes can protect its activists is still difficult. This shows that the younger generation has not been significantly involved in BUMDes. As a result, most BUMDes still use conventional models to run their business logic. Tetrapreneurs cause many problems for these BUMDes. So, a better entrepreneurship system is needed because of the many problems faced by BUMDes (Fatimah, 2018).

One of the local government's efforts is to create a competitive BUMDes development strategy using the tetrapreneur model (Masterplandes.com, 2020). Several empirical findings show that tetrapreneurs are used to improve the quality of BUMDes (Fatimah, 2018; Rahmatika, 2019; Firmansyah, 2023). By using the tetrapreneur model, the BUMDes quality development strategy can find problems in the field, fix them, and provide solutions (Rahmatika, 2019) and (Firmansyah, 2023). In addition to implementing the development model through the pillars of the creative economy, BUMDes must also collaborate or work together with Universities during its development. This is done so that BUMDes can develop strong and superior human resources in the academic field. They must also have the ability to create innovation and creativity in a competitive business environment, which will help the sustainability of BUMDes. Cooperation with universities causes companies to obtain innovations, patents, knowledge transfer, products, services, and new processes, which in turn contribute to business sustainability (Jirapong, 2021). With the implementation of the tetrapreneur model and the contribution of partnerships from universities, in this case universities are considered to have minds that are always updated regarding the development of science, it is hoped that they will be able to collaborate in order to guide and direct BUMDes actors to be able to improve themselves properly, so that what is the goal of BUMDes in supporting its sustainability can be successfully implemented. Based on the background above, the researcher raised a study with the following title after studying the phenomena and background of the problem above. "The Influence of the Tetrapreneur Model on BUMDES Sustainability with University Partnerships as a Moderating Variable".

METHODS

This study used a quantitative causal research type. Causal research is a type of quantitative research that discusses how changes in one variable affect other variables (Sugiyono, 2016).

This study used primary data sourced from BUMDes actors and village officials in Buleleng Regency. The independent variables of this study are: chainpreneur, marketpreneur, qualitypreneur and brandpreneur. While the dependent variable in this study is the sustainability of BUMDes and the moderating variable of this study is university partnerships. The population used in this study was 129 villages in Buleleng Regency, Bali which have the most BUMDes problems in Bali Province (TPP Kab. Buleleng, 2023). This study used purposive sampling. In this study, certain considerations in question are BUMDes that are still problematic such as still in the legal process, require strengthening of human resources, require strengthening of business capital, management is not optimal and is not a legal entity, and limited human resource capacity according to data obtained from the Professional Assistance Team of Buleleng Regency. Buleleng, namely 31 BUMDes in Buleleng Regency (TPP Buleleng Regency, 2023). The number of research samples is shown in table 2 below:

Table 2. Number of Research Samples Based on District

No.	Subdistrict	Total
1.	Gerokgak	1
2.	Seririt	4
3.	Busungbiu	5
4.	Banjar	9
5.	Sukasada	3
6.	Sawan	6
7.	Kubutambahan	3
	Total	31

Source: TPP Kab. Buleleng, 2023

The PLS-SEM method was used in analyzing the data in this study. Ghazali (2015) explained that SEM is a multivariate analysis method that uses a combination of factor analysis and regression analysis. The goal is to examine a model of both its indicators and constructs and the relationship between these constructs. According to Latan (2013), PLS is an alternative method that switches from a covariance-based method to a variance-based method.

RESULTS AND DISCUSSION

Descriptive Statistical Analysis

Table 3. Descriptive Statistical Analysis

	Min	Max	Mean	Standard Deviation
Chainpreneur (X1)	3	12	7,024	2,64
Marketpreneur (X2)	4	16	8,365	3,013
Qualitypreneur (X3)	3	12	5,7	2,475
Brandpreneur (X4)	3	11,5	5,859	1,778
BUMDes Sustainability (Y)	5	18	8,459	3,903
University Partnership (Z)	4	16	9,035	4,235

Source: Processed Primary Data (2024)

Based on the data in Table 3, it is known that all variables have an average value greater than the standard deviation, so that the distribution of data values in this study is even.

**Structural Equation Modeling-Partial Least Square (SEM-PLS)
 Measurement Model Evaluation (Outer Model)**

Convergent Validity

An indicator is said to be valid if it has test results showing an AVE value above 0.5 or can be known by seeing all outer loading indicator variables have loading results above 0.5 (Abdullah, 2015). The results of the convergent validity test are obtained as follows:

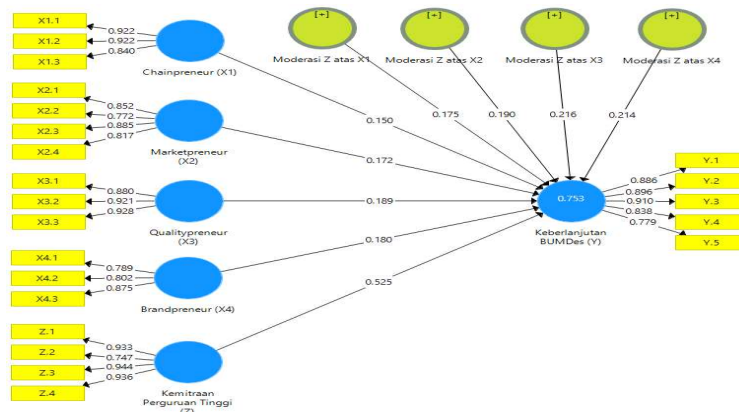


Figure 2. Outer Model Indicator to Variable

Figure 2 shows the specification model between latent variables with their respective indicators along with their outer loading values. all research variable indicators already have values higher than 0.50 so that all indicators are valid.

Discriminant Validity

This method tests discriminant validity with reflective indicators by looking at the cross loading value of each variable that shows results greater than 0.7 (Ghozali & Latan, 2015). Discriminant validity testing is presented in Table 4 below:

Table 4. Cross Loading of Research Variables

	(X4)	(X1)	(Y)	(Z)	(X2)	(X3)
X1.1	0,171	0,922	0,195	-0,154	0,255	0,044
X1.2	0,079	0,922	0,173	-0,250	0,297	0,082
X1.3	0,073	0,840	0,114	-0,253	0,328	0,083
X2.1	0,018	0,263	0,171	-0,010	0,852	0,128
X2.2	0,152	0,308	0,288	0,294	0,772	0,101
X2.3	0,025	0,202	0,189	0,097	0,885	0,113
X2.4	-0,009	0,253	0,243	-0,014	0,817	0,217
X3.1	0,332	0,021	0,332	0,169	0,081	0,880
X3.2	0,314	0,016	0,368	0,227	0,202	0,921
X3.3	0,342	0,161	0,367	0,083	0,176	0,928
X4.1	0,789	0,133	0,530	0,444	-0,010	0,420
X4.2	0,802	0,006	0,483	0,383	0,088	0,127
X4.3	0,875	0,159	0,602	0,452	0,087	0,328

	(X4)	(X1)	(Y)	(Z)	(X2)	(X3)
Y.1	0,571	0,165	0,886	0,500	0,285	0,383
Y.2	0,583	0,198	0,896	0,442	0,299	0,351
Y.3	0,582	0,186	0,910	0,458	0,214	0,333
Y.4	0,560	0,090	0,838	0,400	0,191	0,347
Y.5	0,544	0,158	0,779	0,403	0,219	0,270
Z.1	0,514	-0,127	0,487	0,933	0,145	0,083
Z.2	0,169	-0,414	0,145	0,747	-0,006	-0,014
Z.3	0,544	-0,213	0,558	0,944	0,138	0,306
Z.4	0,458	-0,253	0,453	0,936	0,124	0,123

Source: SmartPLS Output Results (2024)

Table 4 shows the cross loading values of all research variable indicators above 0.70 so that all indicators are valid.

Composite Reliability

A measuring instrument can be said to be reliable if the composite reliability result is greater than 0.7. The test results are presented in Table 5 below:

Table 5. Composite Reliability Test Results

	Composite Reliability
Brandpreneur (X4)	0,863
Chainpreneur (X1)	0,924
BUMDes Sustainability (Y)	0,936
University Partnership (Z)	0,940
Marketpreneur (X2)	0,900
Z Moderation on X1	1,000
Z Moderation on X2	1,000
Z Moderation on X3	1,000
Z Moderation on X4	1,000
Qualitypreneur (X3)	0,935

Source: SmartPLS Output Results (2024).

All variables have composite reliability greater than 0.70, as shown in Table 5.

Prediction Model Evaluation (Inner Model)

R-Square (R2)

If the R-square results show the numbers 0.75, 0.50 and 0.25, it can be concluded that a model is strong, moderate and weak (Ghozali & Latan, 2015). The results of the R-squares (R2) test are presented in Table 6 below:

Table 6. R Square Test Results

	R Square
BUMDes Sustainability (Y)	0,753

Source: SmartPLS Output Results (2024)

The table above shows that the BUMDes sustainability variable (Y) has an R Square value of 0.753, which indicates that the model is strong. BUMDes sustainability is influenced by Chainpreneur, Marketpreneur, Qualitypreneur, Brandpreneur, the interaction between

Chainpreneur and Higher Education Partnerships, the interaction between Marketpreneur and Higher Education Partnerships, the interaction between Qualitypreneur and Higher Education Partnerships, and the interaction between Brandpreneur and Higher Education Partnerships by 75.3%, while the remaining 24.7% is influenced by other variables outside this study. The R Square of 0.753 also shows that this research model is included in the strong model category because it has a value above 0.75.

Q² Predictive Relevance

A model has predictive relevance if the Q² value is greater than 0. Meanwhile, if a model has a Q² value of less than 0, then it can be said that a model has less predictive relevance. The Q-square value in this study is shown in the following table:

Table 7. Q Square Test Results

	SSO	SSE	Q ² (=1-SSE/SSO)
Brandpreneur (X4)	255,000	255,000	
Chainpreneur (X1)	255,000	255,000	
BUMDes Sustainability (Y)	425,000	204,662	0,518
University Partnership (Z)	340,000	340,000	
Marketpreneur (X2)	340,000	340,000	
Z Moderation on X1	85,000	85,000	
Z Moderation on X2	85,000	85,000	
Z Moderation on X3	85,000	85,000	
Z Moderation on X4	85,000	85,000	
Qualitypreneur (X3)	255,000	255,000	

Source: SmartPLS Output Results (2024)

The table above shows that the sustainability of BUMDes (Y) because the Q² value is above 0, which is 0.518, so the model has good predictive relevance with a strong model because it is above 0.35.

Quality Index

Furthermore, PLS path modeling can find global optimization criteria to determine suitability with the GoF index, using measurement models and structural models, and provide simple measurements for overall model predictions. Small GoF values are 0.10, 0.25, and 0.36, respectively (Ghozali & Latan, 2015).

$$\text{Average AVE} = (0.802 + 0.693 + 0.828 + 0.677 + 0.799 + 0.745) / 4 = 0.757$$

$$\text{Average } R^2 = 0.753$$

$$\begin{aligned} \text{GoF} &= \sqrt{\text{AVE} \times R^2} \\ &= \sqrt{0,757 \times 0,753} \end{aligned}$$

$$\begin{aligned} \text{GoF} &= \sqrt{0,570} \\ &= 0,755 \end{aligned}$$

As indicated by the GoF value of 0.755, this research model has a large GOF, so it is stated as appropriate.

Hypothesis Testing (Bootstrapping)

The parameter coefficient value and the significance value of the T statistic are used in the hypothesis test to determine the significance of the influence between variables. In this hypothesis test, the significance value (one-tailed) t-value used is 1.28 (10% significance level); 1.65 (5% significance level); and 2.33 (1% significance level). Because this hypothesis test uses a 5% significance level, the t-value used is 1.65. The following is a picture of the test result model.

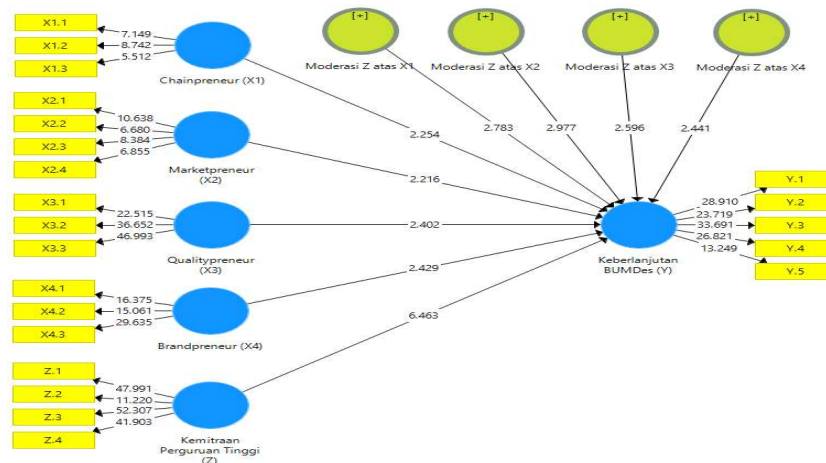


Figure 3. Hypothesis Testing Model Image

Discussion

The Influence of Chainpreneur (X1) on BUMDes Sustainability (Y)

The results of testing the influence of chainpreneur on BUMDes sustainability obtained that the t-statistic $2.254 > 1.65$ and P value $0.025 < 0.05$ which shows that chainpreneur influences BUMDes sustainability. In addition, a positive influence coefficient of 0.150 was found, indicating that there is a positive direction of influence between chainpreneur and BUMDes sustainability. Therefore, the results show that chainpreneur has a positive influence on BUMDes sustainability. Thus, the first hypothesis is accepted.

The Influence of Marketpreneur (X2) on BUMDes Sustainability (Y)

The influence of marketpreneur on BUMDes sustainability obtained that the t-statistic $2.216 > 1.65$ and P value $0.027 < 0.05$ which shows that marketpreneur influences BUMDes sustainability. In addition, a positive influence coefficient of 0.172 was found. This shows that there is a positive direction of influence between marketpreneur and BUMDes sustainability. Therefore, the result is that marketpreneur has a positive effect on BUMDes sustainability.

The Effect of Qualitypreneur (X3) on BUMDes Sustainability (Y)

The results of testing the effect of qualitypreneur on BUMDes sustainability obtained that the t-statistic $2.402 > 1.65$ and P value $0.017 < 0.05$ which shows that qualitypreneur has an effect on BUMDes sustainability. In addition, there is a positive influence coefficient of 0.189 which shows that there is a positive direction of influence between qualitypreneur and

BUMDes sustainability. Therefore, the result is that qualitypreneur has a positive effect on BUMDes sustainability.

The Influence of Brandpreneur (X1) on BUMDes Sustainability (Y)

The test results of the influence of brandpreneur on BUMDes sustainability obtained that the t-statistic $2.429 > 1.65$ and P value $0.015 < 0.05$ which shows that brandpreneur influences BUMDes sustainability. In addition, a positive influence coefficient of 0.180 was obtained, which indicates that there is a positive direction of influence between brand entrepreneurs on BUMDes sustainability. Therefore, the result is that brand entrepreneurs have a positive influence on BUMDes sustainability.

The Influence of Chainpreneur (X1) on BUMDes Sustainability (Y) moderated by University Partnership (Z)

The test results of the influence of chainpreneur on BUMDes sustainability moderated by University Partnership obtained that the positive influence coefficient was 0.175; t-statistic $2.783 > 1.65$; and P value $0.006 < 0.05$ which shows that the University partnership significantly moderates the influence of chainpreneurs on the sustainability of BUMDes. More specifically, the University partnership strengthens the positive influence of chainpreneurs on the sustainability of BUMDes because in the test without moderation variables, the coefficient of the influence of chainpreneurs on the sustainability of BUMDes is 0.150 while the effect of the interaction of chainpreneurs and University partnerships on the sustainability of BUMDes obtained a coefficient of influence of 0.175. This shows the coefficient of the positive influence of chainpreneurs which is getting stronger or bigger after the moderation of the University partnership. It can be concluded that the University partnership strengthens the positive influence of chainpreneurs on the sustainability of BUMDes.

The Influence of Marketpreneurs (X2) on the Sustainability of BUMDes (Y) which is moderated by the University Partnership (Z)

The results of the test of the influence of marketpreneurs on the sustainability of BUMDes which is moderated by the University partnership show that the positive influence coefficient is 0.190; t-statistic $2.977 > 1.65$; and P value $0.003 < 0.05$ which shows that the University partnership significantly moderates the influence of marketpreneurs on the sustainability of BUMDes. More specifically, the University partnership strengthens the positive influence of marketpreneurs on the sustainability of BUMDes because in the test without moderation variables, the coefficient of marketpreneur influence on BUMDes sustainability is 0.172 while the effect of marketpreneur interaction and University partnership on BUMDes sustainability obtained a coefficient of influence of 0.190. This shows the coefficient of positive influence of marketpreneurs which is getting stronger or bigger after the moderation of the University partnership. It can be concluded that the University partnership strengthens the positive influence of marketpreneurs on the sustainability of BUMDes.

The Influence of Qualitypreneur (X3) on BUMDes Sustainability (Y) moderated by University Partnership (Z)

The test results of the influence of qualitypreneur on BUMDes sustainability moderated by University partnership obtained a positive influence coefficient of 0.216; t-statistic $2.596 >$

1.65; and P value $0.010 < 0.05$ which indicates that University partnership significantly moderates the influence of qualitypreneur on BUMDes sustainability. More specifically, University partnership strengthens the positive influence of qualitypreneur on BUMDes sustainability because in the test without moderation variables, the influence coefficient of qualitypreneur on BUMDes sustainability was 0.189 while the influence of the interaction of qualitypreneur and University partnership on BUMDes sustainability obtained a coefficient of influence of 0.216. This shows the coefficient of positive influence of qualitypreneur which is getting stronger or bigger after the moderation of the University partnership. It can be concluded that the University partnership strengthens the positive influence of qualitypreneur on BUMDes sustainability.

The Influence of Brandpreneur (X4) on BUMDes Sustainability (Y) Moderated by University Partnership (Z)

The test results of the influence of brandpreneur on BUMDes sustainability moderated by University partnership obtained a positive influence coefficient of 0.214; t-statistic $2.441 > 1.65$; and P value $0.015 < 0.05$ which indicates that University partnership significantly moderates the influence of brandpreneur on BUMDes sustainability. More specifically, University partnership strengthens the positive influence of brandpreneur on BUMDes sustainability because in the test without moderation variables, the influence coefficient of brandpreneur on BUMDes sustainability was 0.180 while the influence of brandpreneur interaction and University partnership on BUMDes sustainability obtained a coefficient influence value of 0.214. This shows the coefficient of positive influence of brandpreneur which is getting stronger or bigger after the moderation of University partnership. It can be concluded that University partnership strengthens the positive influence of brandpreneur on BUMDes sustainability.

CONCLUSION

Based on the analysis and discussion that has been done, the researcher came to the following conclusions: 1) Chainpreneur has a positive and significant effect on the sustainability of BUMDes. This is in accordance with the New Public Management theory used as the grand theory in this study, where the principles of NPM theory can encourage the public sector in this case BUMDes to be able to adopt more modern, efficient, transparent and accountable supply chain practices. This is relevant in the context of the supply chain, the main purpose of which is to optimize the flow of goods, information and services from suppliers to end consumers; 2) Marketpreneur has a positive and significant effect on the sustainability of BUMDes. This is in accordance with the New Public Management theory used in this study, where the NPM theory itself emphasizes the principles of private and public sector management with the aim of increasing efficiency, effectiveness, accountability and quality of public services so that between marketpreneur and NPM theory both are centered on a more market-oriented management approach that acts as an agent of change; 3) Qualitypreneur has a positive and significant effect on the sustainability of BUMDes. This is in accordance with the New Public Management theory used in this study which is closely related to quality orientation and continuous improvement for BUMDes; 4) Brandpreneur has

a positive and significant effect on the sustainability of BUMDes. Brandpreneur with the NPM theory used in this study has a relevant relationship in building image, reputation and brand (branding). In the NPM theory itself, branding has an important role in shaping the public's view of the services they receive which has an impact on trust; 5) University partnerships significantly moderate the influence of the tetrapreneur model on the sustainability of BUMDes. With cooperation with third parties, in this case universities, it will be able to accelerate the understanding of BUMDes actors in managing their businesses, BUMDes actors need to be guided and directed on how to manage BUMDes so that problems that are often experienced can be minimized and management is more organized which of course is updated with current technological developments.

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