

## How The Balanced Scorecard Has Impacted Farmers' Productivity In Bantang Kedis Kintamani

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### Abstract

The purpose of this research is to investigate the impact of the balanced scorecard on the performance of farmers' cropping patterns in the hamlet of Bantang Kedis Kintamani. This is a quantitative study conducted using SPSS version 18.0. Multiple linear regression analysis was utilized to analyze the data in this study. According to the findings of this study, there is a substantial level of financial perspective of 0.000, a significant level of customer perspective of 0.039, and a large level of internal business process perspective of 0.031. The significant level of learning and progress is 0.021. All of the balanced scorecard variables have a lower significance threshold = 0.05, indicating that the hypothesis is accepted, and the R square value in the research model is 0.474, with a coefficient of determination of 47.4%. The independent variable appears to have a 47.4% ability to explain the variance of the variable. This study demonstrates the effect of the balanced scorecard on the performance of farmers' planting patterns in the hamlet of Bantang Kedis Kintamani, proving that the balanced scorecard can be used in agriculture and that it is not limited to manufacturing company.

**Keywords:** Balanced Scorecard; Cropping Pattern; Performance

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## PENDAHULUAN

Bantang Kedis is a village in the Kintamani subdistrict of the Bangli regency, inhabited by 1,413 farmers and merchants. The settlement of Bantang Kedis is dominated by plantation farmers who cultivate renowned citrus plants. During the COVID-19 outbreak, citrus crops were replaced with vegetable crops, which thrived and produced more quickly than citrus plants.

This change in cropping patterns is closely tied to the demand for life for vegetable consumption to increase, and it is unaffected by Covid 19 because vegetables are healthful and essential vitamins for the body. This agricultural innovation is inseparable from the application of the balanced scorecard, which is unknown to the majority of farmers. Farmers have adopted the balanced scorecard, despite the fact that it contradicts current theory. The difficulty that farmers have when employing the balanced scorecard is that horticultural plantings are discontinuous and change based only on the market price of horticultural products. The farmers in the village of Bantang Kedis did not totally change their cropping pattern from oranges to vegetables; instead, only a portion of the citrus trees were cut down and the remainder were still citrus trees. Therefore, the ability of the farmers of Bantang Kedis to utilize their plantation area is highly effective, and the farmers may generate income on a quarterly and annual basis. Horticultural crops provide a three-month income, whereas citrus and cobra coffee, which are grown in Kintamani, provide a yearlong income, considering that Kintamani was a coffee-producing region until citrus plants were introduced.

A theoretical approach to farmer performance can be used to evaluate cropping patterns; however, a balanced scorecard assessment is necessary to evaluate farmer performance in modifying cropping patterns on plantations. According to Hansen and Mowen (2013), the balanced scorecard is an integrated performance management system that links many performance goals, measurements, and organizational initiatives. The Balanced Scorecard translates the vision and strategy of an organization into operational objectives and performance indicators from four perspectives: financial, customer, internal business process, and learning and growth.

In plantations, the financial perspective is the amount of capital spent for planting till the process is ready to be sold. This requires precise estimates so that later farmers can profit at a lower cost and reinvest in the next crop. According to consumer demand, horticultural crops are planted in the Kintamani area and outside of the Kintamani area.

The vast number of farmers who cultivate horticulture crops during the growing season must be evaluated from the perspective of an internal business process, whereas the learning and development perspective of farmers typically employs renewable technology by avoiding the use of excessive chemical fertilizers. On the basis of the presented information, study can be undertaken on "the influence of the balanced scorecard on the performance of farmers' cropping patterns in the hamlet of Bantang Kedis Kintamani."

## LITERATURE REVIEW

### *Balanced scorecard*

The balanced scorecard consists of two words: balance, which means "balanced," and scorecard, which is used to record executive performance results' scores. Using the scorecard, we can

compare past performance results, which may subsequently be used to evaluate executive performance. The performance of executives is evaluated from both a financial and non-financial perspective (Mulyadi, 2007). There is four Perspectives in the Balanced Scorecard. Robert S. Kaplan and David P. Norton (1996: 41) divide the Balanced Scorecard into four perspectives, namely:

#### 1. Financial Perspective

According to this financial perspective, each phase of the corporate life cycle has distinct financial objectives, namely: a) Growth, A corporation in the growth phase of its life cycle. To capitalize on this opportunity, substantial resources must be invested in the development and improvement of new products and services. b) Sustainability, A company's business divisions may be in the survival phase, meaning they are still attractive for investment and reinvestment but are likely to generate a relatively high return on investment.

Harvest: Some business units will reach the maturity stage of their life cycle, at which point the company expects to "harvest" the advantages of the investments made in the previous two stages.

#### 2. Customer Perspective

The Balanced Scorecard requires the selection of customers and market groups from the customer's perspective. The market sector is the revenue generator for the company's financial goals. Using the customer viewpoint, businesses can match critical customer measures (satisfaction, loyalty, retention, acquisition, and profitability) with target customers and segments.

#### 3. Internal Business Process Perspective

Managers choose which internal corporate procedures are essential for achieving customer and shareholder objectives. The concept of the generic value chain provides a framework that any

firm can modify to provide an internal business perspective.

#### 4. Learning and Growth Perspective

The fourth and final perspective on the Balanced Scorecard develops the goals and measures that drive learning and growth of the company. Objectives defined in the financial, customer, and internal business process perspectives identify what the company must master to produce outstanding performance.

### Definition of performance

According to Sutrisno (2010), performance is the result of work that a person or group of people in an organization can accomplish in accordance with their respective authorities and responsibilities, in an effort to achieve the goals of the organization concerned legally, without violating the law, and in accordance with morals and ethics.

### Theoretical Framework

The framework of thought is a conceptual model that shows how a theory might be linked to many aspects that have been identified as significant issues (Sugiyono, 2013). The balanced scorecard is the independent variable in this study, while cropping pattern performance in the village of Bntang Kedis Kintamani is the dependent variable. Based on this explanation, the conceptual structure of this research is as follows:

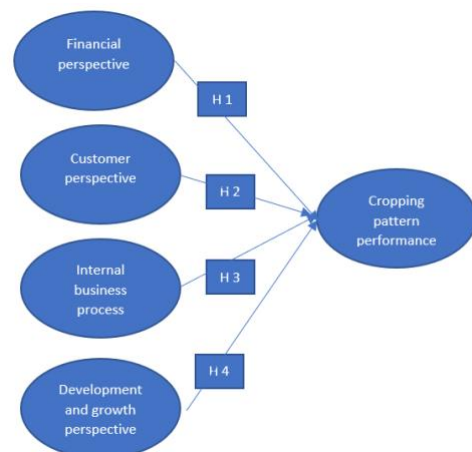


Figure 1. Research Conceptual Framework

### Research Hypothesis

Based on previous research and theoretical studies that have been discussed previously, the research hypothesis can be formulated as follows:

**Hypothesis 1:** There is an effect of financial perspective on the performance of farmers' cropping patterns in the village of Bentang Kedis Kintamani.

**Hypothesis 2:** There is an effect of customer perspective on the performance of farmers' cropping patterns in the village of Bentang Kedis Kintamani.

**Hypothesis 3:** There is an influence of internal business process perspective on the performance of farmers' cropping patterns in Bentang Kedis Kintamani.

**Hypothesis 4:** There is an effect of perspective on development and growth on the performance of farmers' cropping patterns in the village of Bentang Kedis Kintamani.

### METHODS

The research method used is quantitative research. This study used a causal research strategy. Causal research is defined as research with the primary goal of establishing a causal relationship or the relationship between the influencing variable and the impacted variable (Sugiyono, 2010). SPSS 18 is used for this study's multiple linear regression.

According to Sugiyono (2013), the population is a generalization area consisting of items or subjects with specific features and characteristics that are determined to be examined and then made conclusions from. According to the most recent BPS, the population considered in this study is farmers in the village of Bentang Kedis. Bangli village has a population of 785 people. And the sample for this study employs a sampling technique that ensures that each member of the population has an equal chance of being chosen as a sample. The number of

samples is obtained using statistical calculations using the Slovin formula.

The number of study samples, according to the Slovin formula, is:

$$n = \frac{785}{1 + 785 (0.1)^2}$$

$$n = \frac{785}{8.85}$$

$$n = 88,7$$

The result of 88.7 is rounded to 90, so that the number of samples is 90.

The following data collection strategies were employed in this study:

1. Documentation, is completed by gathering data from BPS Bangli on the number of farmers in Bntang Kedis village.
2. Questionnaire, the questionnaire employed in this study was a structured questionnaire with possible responses to statements produced in the form of choices.

### RESULT AND DISCUSSION

#### Descriptive statistics

In this study, descriptive statistics are offered to provide information on the properties of research variables, particularly the mean and standard deviation. The data processing results indicate the descriptive statistical value of each variable. From a total of 90 questionnaires, the cropping pattern performance (Y) had a standard deviation of 0.95116 and a mean of 3.6399. The standard deviation of financial perspective (X1) is 0.96323 while the mean is 3.1465. The standard deviation of the customer's perspective (X2) is 0.91784 and the mean is 3.7503. Internal business process (X3) has a standard deviation of 0.85106 and a mean of 3.2179, whereas growth and development (X4) has a standard

deviation of 0.95414 and a mean of 2.8476.

**Classic assumption test  
Normality test**

According to the results of the KOLMOGOROV-SMIRNOV test table 4.1,

the Asymp.Sig value is 0.200. This number is greater than 0.05, implying that the residuals are regularly distributed. As a result of the test findings, it is possible to conclude that the model is not influenced by normalcy issues

**Tabel 1.** One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		90
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	.69004698
Most Extreme Differences	Absolute	.068
	Positive	.061
	Negative	-.068
Test Statistic		.068
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>

Source: Appendix

**Autocorrelation Test**

The autocorrelation test determines whether there is a link between the confounding error in period t and the error in period t-1 in a regression model. The

Durbin-Waston (DW) method was used to determine the presence of autocorrelation. Table 4.2 displays the results of the DW test.

**Tabel 2.** Autocorrelation Test

Model	df2	Sig. F Change	Durbin-Watson
1	85	.000	2.118

a. Predictors: (Constant), X4, X2, X1, X3

a. Dependent Variable: Y

The autocorrelation test was carried out using the Durbin Watson method (d) where the results of the regression analysis yielded a DW value of 2.118. The value of the d test is compared with the value of the Durbin Watson table for decision making. The decision-making is: H0: There is no autocorrelation. Ha: There is autocorrelation

The value of the DW table is the value of dl = 1.566 and du 1.1751. Based on the test values and table values, the criteria fall on du < d, meaning that H0 is not rejected, so this model has no autocorrelation.

**Multicollinearity Test**

Based on the tolerance value calculation results, it also shows that there is no independent variable with a tolerance value of less than 0.10, implying that there is no connection between variables with values more than 95%. As a result, this correlation remains below 95%, indicating that there is no significant multicollinearity. There is also no value larger than 10 in the VIF value. As a result, there is no multicollinearity between the independent variables in the regression model.

**Tabel 3.** Multicollinearity Test

Model	Partial	Correlations		VIF
		Part	Tolerance	
1	(Constant)			
	X1	.546	.473	1.079
	X2	.222	.165	1.036
	X3	.232	.173	1.130
	X4	.246	.184	1.109

a. Dependent Variable: Y

### Goodness of Fit Test

#### Coefficient of Determination

The percentage of influence of the variables analyzed, namely the independent variable and the dependent

variable, is determined using analysis of determination, as shown in table 4 below:

**Tabel 4** Coefficient of Determination  
Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.688 <sup>a</sup>	.474	.449	.70610	.474	19.125	4

The table gives an R square value of 0.474 in the research model and a coefficient of determination of 47.4%. It appears that the ability of the independent variable in explaining the variance of the dependent variable is 47.4%.

#### F-test

To test the significant effect of the independent variables together on the dependent variable, which will be shown in table 5 below:

**Tabel 5.** F-test  
ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	38.140	4	9.535	19.125	.000 <sup>b</sup>
	Residual	42.379	85	.499		
	Total	80.519	89			

a. Dependent Variable: Y

b. Predictors: (Constant), X4, X2, X1, X3

It appears that the calculated F value in the research model is 19.125 with a significance level of 0.000. The significance value is below 0.05 which indicates that the independent variables simultaneously have a significant effect on Y at 5% significance.

#### Hypothesis testing

The t-test will be used to determine whether or not the hypothesis is accepted (t-test). The following test results can be displayed based on the analysis results:

**Tabel 6** t-test  
Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations
		B	Std. Error	Beta			Zero-order
1	(Constant)	.248	.442		.560	.577	
	X1	.485	.081	.491	6.010	.000	.589
	X2	.174	.083	.168	2.098	.039	.278
	X3	.205	.093	.184	2.198	.031	.372
	X4	.194	.083	.194	2.344	.021	.358

**Hypothesis Testing 1:** Based on the data analysis above, it appears that the t count and a significance level of 0.00 less than 5% for the X1 variable are significant. As a result, the H1 hypothesis in this study is accepted: There is a significant effect between X1 and Y.

**Hypothesis Testing 2:** Based on the data analysis, the t-count and a significance level of 0.039 below 5% for the X2 variable appear to be significant. As a result, hypothesis H2 in this study is accepted: There is a significant effect between X2 and Y.

**Hypothesis Testing 3:** Based on the data analysis, it appears that the t-count and a significance level of 0.031 for the X3 variable are significant. As a result, the H3 hypothesis in this study, which states: There is a substantial relationship between X3 and Y, is accepted.

**Hypothesis Testing 4:** According to the data analysis above, the t-count value and significance level of 0.021 for the X4 variable are significant. As a result, the H4 hypothesis in this study, which states: There is a significant effect of X4 on Y, is accepted.

## Discussion

Based on the findings of the study, it is evident that the balanced scorecard has a significant effect on the cropping

patterns of farmers in the hamlet of Bentang Kedis Kintamani. Financial perspective (X1), customer perspective (X2), internal business process perspective (X3), and growth and development perspective (X4) on the performance of farmers' planting patterns have varying relevance ratings. From a financial standpoint, the significance level is 0.00, indicating that the greater the farmers' financial resources, the more diverse their cropping patterns, as more seeds, agricultural drugs, and farmers' wages can be purchased, and the cropping pattern situation is in accordance with market demands.

The customer's perspective (X2) has a significant value of 0.039 on the performance of farmers' cropping patterns, indicating that farmers always try to meet consumer demand for vegetables and fruits by observing market trends, so that farmers will plant according to market trends and customer needs. occur. Despite the fact that the internal business process perspective (X3) has a significance value of 0.031 in relation to the performance of farmers' cropping patterns, this suggests that farmers are capable of ensuring the prosperity of their farmer employees. This is evidenced by the fact that planting and harvesting vegetable seeds involves a great deal of energy, resulting in a more efficient flow of money among farmers. The broader effect can also be felt by merchants in the



vicinity of the study site. Perception of growth and development (X4) has a significant level of 0.021 on the performance of farmers' cropping patterns, indicating that farmers are constantly attempting to increase the growth and development of community welfare so that their performance can also increase by increasing farmers' wages.

## CONCLUSION AND SUGGESTION

### Conclusion

Based on the findings of the study, it is possible to conclude that the acceptance of the hypothesis proves that the balanced scorecard has an effect on the performance of farmers' cropping patterns in the village of Bntang Kedis Kintamani, proving that the balanced scorecard can be used in agriculture and not just in my manufacturing company. Furthermore, the results of this study show that the balanced scorecard has a 47.5% effect on the performance of farmers' cropping patterns.

### Suggestions

This research is simply attempting to apply the balanced scorecard in the field of agriculture so that the assessment will be different when compared to manufacturing companies. This research is expected to be developed by increasing the product price variable, the number of markets that can be met, and a broader scope of business as well as comparing agriculture in the fields of wine, cloves, and coffee in Bali.

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