Empirical Analysis of Production Costs, Business Duration and Selling Prices on the income of Keris Craftsmen in the Village of Aeng Tong-Tong Sumenep

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Abstract (12 Bold)

This study examines the income of keris (traditional dagger) craftsmen in Aeng Tong-tong Village, Sumenep, influenced by production costs, business duration, and selling price. In addition to earning a livelihood, the craftsmen aim to preserve their cultural heritage. The research uses a quantitative approach with 82 respondents selected through the Slovin formula. Data was collected through interviews and analyzed using multiple linear regression. The results show that production costs do not have a significant effect on income (significance value $0.704 > 0.05$). In contrast, business duration has a significant effect ($0.000 < 0.05$), as does the selling price ($0.018 < 0.05$). Simultaneously, all three variables significantly affect income, supported by the F-test result (F_{count} $16.202 > F_{table}$ 2.72) with a significance level of $0.000 < 0.05$. Based on these findings, it is recommended that keris craftsmen increase their productivity and product quality. Higher quality and selling prices lead to higher income. On the other hand, high production costs without increased productivity may reduce income.

Keywords: *Production Cost, Business Length, Selling Price, Income, Keris, Sumenep*

INTRODUCTION

Based on international recognition from UNESCO on November 25, 2005, Sumenep Regency as the region with the most keris craftsmen. UNESCO's recognition is a source of pride and a challenge to be able to maintain and utilize excellence as best as possible (Ngaisah et al., 2021). In addition, the Minister of Tourism and Creative Economy / Head of the Creative Economy Tourism Agency Sandiaga Uno has announced the 50 Best Tourism Villages of the 2022 Tourism Village Award (ADWI) and conducted the first visit on May 24 at the Keris Tourism Village or Aeng Tong-tong Tourism Village located in Sumenep Regency, East Java (Rummi, 2022).

Currently, Sumenep is included in the extreme poverty category, including in Arjasa, Batang-batang, Pragaan, Lenteng and Sapeken Districts. The government's efforts to deal with extreme poverty in Sumenep Regency are by symbolically handing over assistance to recipients of uninhabitable housing (RTLH), BPJS, electricity and rice. The distribution is carried out in stages and the

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funds come from the central government, province and local government in accordance with the direction of President Joko Widodo in Sumenep Regency in 2024 so that there are no poverty rates (Sumenep, 2022).

In general, per capita income is a measure of a country's welfare and prosperity because its value is obtained from the average income of the population in that country (Perdana, 2020). If people have a high income or salary, they can support their lives and save for future expenses. Conversely, if people's income decreases, it is difficult for them to meet their living needs. And if our country has a high per capita income figure, it will be seen as a prosperous country by other countries in the world.

Production is an activity that aims to produce a product that has utility value or adds utility value to an item. The amount of production costs will affect the income level of the craftsmen. When the production produced decreases, the income received by the craftsmen will decrease. This means that the higher the amount of production produced, the higher the income obtained (Dangin & Marhaeni, 2019). Meanwhile, the length of the business will affect the level of production and income that will be generated. By utilizing the experience and skills they have, it can enable craftsmen to be able to create large and quality production of goods so that it will increase income. The selling price is the nominal final price from the seller or the amount that needs to be paid by the consumer. Of course, there are several factors that can be included in calculating the selling price, such as demand and market conditions. The higher the selling price, the higher the income of the craftsmen. The selling price set aims to cover the costs incurred during the production process (Santi et al., 2019).

Production costs are all costs incurred to process raw materials into finished goods ready for sale (Prawiro, 2018). Production costs usually consist of direct raw materials, direct labor and factory overhead. Where direct raw materials are all raw materials as a whole and finished products and are explicitly included in the calculation of product costs. The influence of the production costs of keris craftsmen can be seen from the way keris craftsmen produce and choose the materials to be selected. And in production activities, of course, capital is needed to increase production and income of keris craftsmen and also the formation of future capital.

Another variable that affects income is the length of business. The large number of craftsmen who are engaged in the keris field causes competition in experience between craftsmen who have been in business for a long time and craftsmen who are new or beginners. Craftsmen who have been in this business for a long time will have more relations and customers and already have special skills in choosing pamor, carving art and others. In terms of experience for production activities, for example experience that has been obtained from the training that has been attended, it can be stated that the longer a business is carried out, the more skilled the skills of each craftsman will be, both in terms of material selection, carving and others. And vice versa, the longer the craftsmen produce, the faster they will get profit from their production (Purnomo et al., 2018).

Selling price is the amount of price that will be charged to consumers obtained or calculated from production costs, non-production costs and expected profits. If the price of goods decreases, the number of goods offered will increase. The price that will be determined for a product will affect the income at the end of its profit. Income from the sale of a product will be equal to the price multiplied by the quantity of sales (Meroekh et al., 2018).

The income earned by craftsmen each month is not fixed depending on the orders and the number of items that have been completed. This means that craftsmen produce keris according to orders and if there are no orders, the craftsmen automatically make keris to be stored and later sold if someone asks for an order. Also, the income earned by craftsmen will certainly vary, because there are craftsmen who work individually and some who have a boss or are usually called contract workers. Then the price is adjusted to the level of difficulty in the manufacturing process. From the previous discussion, there are several problems regarding the uncertainty of everything, both from production costs, selling prices, materials used and there are many craftsmen who have been making keris for a long time who of course will have many competitors. So that some of the things above will affect the level of income that will be obtained by keris craftsmen.

There are several previous research results on the influence of production costs, length of business, selling prices on income, including based on research conducted by (Rahayu, 2020) which shows that production costs have a significant effect on income. This is evidenced by the t-test which shows a significance value of (0.001 <0.05). Then on the variable of length of business, in the study (Purnomo et al., 2018) showed that the length of business has a negative and insignificant effect on the income of salak farmers, along with the development of the era of information that is easily obtained, so the length of the business does not guarantee that it can increase the income of the farmer. However, in a study conducted by (Dewi & Saskara, 2020) said in his research that the length of business partially has a significant effect on the income of mosaic industry craftsmen, this shows that the longer the business is run, the more the income will increase.

The purpose of this study is to determine the partial and simultaneous influence of production costs, business duration and selling price on the income of keris craftsmen in Aeng Tong-tong Village, Sumenep.

METHOD

This study is a quantitative descriptive with a field survey approach (Paramita et al., 2021). The purpose is to find out the influence of production costs, business length, and selling prices on the income of keris artisans in Aeng Tong-tong Village, Sumenep.

The research uses quantitative cross-section data, namely primary data obtained through semi-structured interviews with respondents, and secondary data from documents, books, journals, and historical records related to keris. Meanwhile, the data collection techniques used in this study were direct observation, structured and semi-structured interviews, and documentation of data and archives related to keris craftsmen.

The population in this study amounted to 446 keris craftsmen in Aeng Tong-tong village, Sumenep. The sampling technique in this study used the probability sampling technique, namely the simple random sampling technique, where sampling from the population was carried out randomly without considering the strata in the population (Sugiyono, 2017). In this study, the determination of the number of samples using the Slovin formula is as follows:

Slovin formula $n = N / (1 + Ne^2)$

Where:

n: number of samples

N: number of population

e: tolerance limit for answer errors of 10%

Based on the formula above, the calculation of the number of samples can be obtained as follows:

$n = 446 / (1 + 446 (0.1)^2)$

$= 446 / 5.46$

$= 81.684$

$n = 82$

From the results of the calculation above using the Slovin formula with an error rate of 10%, the sample for this study will be 81.684 which is rounded up to 82 samples.

This study uses four main variables. Three independent variables are production costs (X1), business duration (X2), and selling price (X3), and one dependent variable is income (Y). All variables are measured using a ratio scale, which allows for precise numerical comparisons. The operational definition of each variable is described based on the literature to ensure clarity of measurement and data interpretation.

Data analysis techniques in this study used multiple linear regression analysis with the help of the SPSS program.

1. Classical Assumption Tests Used:
   a. Normality Test: with normal probability plot.
   b. Multicollinearity Test: with Tolerance and VIF values.
   c. Heteroscedasticity Test: using the Glejser test.
2. Hypothesis Test:
   a. f Test (Simultaneous): tests the effect of all independent variables together.
   b. t Test (Partial): tests the effect of each independent variable on income.
   c. Coefficient of Determination (R^2): measures how much the independent variables explain the dependent variable.

RESULTS AND DISCUSSION
RESULTS
1. Classical Assumption Tests
a. Normality Test
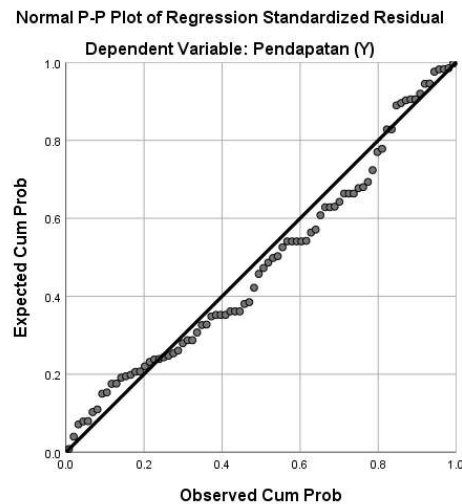
Source: processed data (2025)
Figure 1. Results of Normality Test of Normal P-P Plot

The SPSS output results, in the Normal P-P Plot graph, show that the data (dots) are spread around the diagonal line and follow the diagonal line, so it can be concluded that the regression model has a normal distribution.

b. Multicollinearity Test

Table 2. Multicollinearity Test Results
Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Production Cost (X1)	.263	3.799
	Business Duration (X2)	.973	1.028
	Selling Price (X3)	.264	3.793

Source: processed data (2025)

Based on table 2 shows that the correlation between independent variables, namely the production cost variable (X1) has a tolerance value of 0.263> 0.10 and a VIF value of 3.799 <0.10. Then, for the variable of business duration (X2) the tolerance value is 0.973> 0.10 and a VIF value of 1.028 <0.10. And for the selling price variable (X3) the tolerance value is 0.264> 0.10 and a VIF value of 3.793 <0.10. So it can be concluded that the research variables do not experience multicollinearity.

c. Heteroscedasticity Test

Table 3. Heteroscedasticity Test Results
Coefficients[a]

Model		t	Sig.
1	(Constant)	6.085	.000
	Production Cost (X1)	-.740	.461
	Business Duration (X2)	.869	.388
	Selling Price (X3)	-.432	.667

Source: processed data (2025)

It is known from the table above that the sig value of each variable is greater than 0.05, which indicates that there is no heteroscedasticity problem.

2. Hypothesis Test

a. f Test (Simultaneous)

Table 4. f Test Results
ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	44912069658413.920	3	14970689886137.975	16.202	.000[b]
	Residual	72073905951342.140	78	924024435273.617		
	Total	116985975609756.060	81			

a. Dependent Variable: Income (Y)

b. Predictors: (Constant), Production Cost (X3), Business Duration (X2), Selling Price (X1)

Source: processed data (2025)

Based on the table above, it shows that the independent variables simultaneously affect the dependent variable, namely the significance value of income of 0.000 <0.05. So it can be concluded that the X variables, namely production costs, business duration and selling prices simultaneously have a significant effect on the Y variable of income.

b. t Test (Partial)

Table 5. t Test Results
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1669680.216	255486.028		6.535	.000
	Production Cost (X1)	.183	.480	.066	.382	.704
	Business Duration (X2)	55012.755	12920.614	.384	4.258	.000
	Selling Price (X3)	.503	.208	.420	2.425	.018

a. Dependent Variable: Income (Y)

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Source: processed data (2025)

Based on the table of t-test results above, it can be concluded that each independent variable against the dependent variable shows:

1) The production cost variable tested in this study obtained a significant value of 0.704 > 0.05. It can be interpreted that the production cost variable has no significant effect on the income of keris craftsmen in Aeng Tong-tong Village.

2) The business duration variable tested in this study obtained a significant value of 0.000 < 0.05. It can be interpreted that the business duration variable has a significant effect on the income of keris craftsmen in Aeng Tong-tong Village.

3) The selling price variable tested in this study obtained a significant value of 0.018 < 0.05. It can be interpreted that the selling price variable has a significant effect on the income of keris craftsmen in Aeng Tong-tong Village.

c. **Coefficient of Determination (R^2)**

Table 6. Coefficient of Determination (R^2) Test Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.620[a]	.384	.360	961261.897

Source: processed data (2025)

Based on table 5 above, the R2 (RSquare) figure is 0.360 or (36%). This shows that the magnitude of the influence of the variables of production costs, length of business, and selling prices on the income of keris craftsmen in Aeng Tong-tong village is 36% and 64% is influenced by other variables not examined in this study such as work skills and working hours in the study of Dewi & Saskara, (2020), productivity in the study of Purnomo et al., (2018) and technology in the study of Dangin & Marhaeni, (2019).

DISCUSSION

1. The Influence of Production Costs on Income

From the results of this study, it can be seen that the influence of production cost variables on the income of keris craftsmen in Aeng Tong-tong village is proven by looking at the level of significance of 0.704> 0.05. It can be concluded that the first hypothesis Ho is rejected and the production cost variable is said to have no significant effect on the income of keris craftsmen in Aeng Tong-tong village, Sumenep.

The results of this study are in accordance with the theory in previous research conducted by Silaen, (2019) which states that production costs are all costs incurred during the production process. If the production costs incurred by the craftsman are lower than the income obtained, then it can be said that the craftsman makes a profit. The higher the production costs incurred, the higher the income obtained. The results of this study are in accordance with the results of previous research conducted by Silaen (2019), which states that production costs have no significant effect on the income of rubber farmers.

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2. Effect of Business Length on Income

From the results of this study, it can be seen that the influence of the variable of business duration on the income of keris craftsmen in Aeng Tong-tong village is proven by looking at the level of significance of 0.000 <0.05. It can be concluded that the second hypothesis Ho is accepted and the variable of business duration is said to have a positive and significant effect on the income of keris craftsmen in Aeng Tong-tong village, Sumenep.

Based on an interview conducted with Hermanto who works as a keris craftsman, he stated that "the longer a person works in the keris business, the more experienced they will be in improving the quality of the keris product. The longer 1 keris area is worked on, the better the quality of the workmanship obtained by the keris craftsman and the price of the keris will be higher. Because the keris already has good workmanship quality and certainly has its own characteristics from the workmanship of each keris craftsman".

The results of this study are supported or in accordance with the theory in previous research conducted by Zahara, (2020) which states that the longer a person runs his business, the more experience he will have in the field he is running. Meanwhile, work experience itself is a process of forming character, knowledge and skills. A person's work experience can be seen from how long the person has been doing a particular job. The longer a person pursues the business, the more experience he will have and the person will be able to quickly develop his business. The results of this study are in accordance with the results of previous research conducted by Anggraini (2019), Yuniasih (2021) which stated that the length of business has a positive and significant effect on trader income.

3. Effect of Selling Price on Income

From the results of this study, it can be seen that the influence of the selling price variable on the income of keris craftsmen in Aeng Tong-tong village is proven by looking at the level of significance of 0.018 <0.05. It can be concluded that the third hypothesis Ho is accepted and the selling price variable is said to have a positive and significant effect on the income of keris craftsmen in Aeng Tong-tong village, Sumenep.

The results of this study are supported or in accordance with the theory in the research of Jannah & Rivandi (2018) which states that the selling price is the amount of price that will be charged to consumers which is obtained or calculated from production costs plus non-production costs and expected profits. The selling price is closely related to income as well as to determine the high or low income of a company. These results are in accordance with the results of previous studies conducted by Lardi, (2022, Santi et al., (2019) which stated that the selling price has a positive and significant effect on income.

4. The Effect of Production Costs, Length of Business and Selling Price Simultaneously on Income

It can be seen that simultaneously the variables of production costs, business duration and selling price have a significant influence on the income of keris craftsmen in Aeng Tong-tong Village, Sumenep, as evidenced by the Fcount value which is greater than Ftable (Fcount of 16.202> Ftable of 2.72) with a

probability level of 0.000 which is less than $\alpha = 0.05$. So it can be concluded that simultaneously the cost of production, business duration and selling price have a significant effect on income. Which means that the fourth hypothesis Ho is accepted.

This is also based on the magnitude of the influence of production costs, business duration and selling price on income simultaneously with an R2 value of 0.360, meaning that the Adjusted R-Square figure illustrates how much the independent variable model is able to explain the dependent variable model. From the results of the Adjusted R-Square of 0.360 or 36% of the income of keris craftsmen in Aeng Tong-tong village is influenced by the variables of production costs, business duration and selling price. While the remaining 64% is influenced by other variables such as work skills and working hours in the study of Dewi & Saskara, (2020) productivity in the study of Purnomo et al., (2018) and technology in the study of Dangin & Marhaeni, (2019). The results of this study are in accordance with the results of previous research conducted by Sari, (2018) which showed that selling price and production costs simultaneously have a significant effect on income. The results of previous research conducted by Purnomo et al., (2018) showed that production costs and business duration simultaneously affect income.

CONCLUSION

The results of the study on the influence of production costs, length of business, and selling price on the income of keris craftsmen in Aeng Tong-tong Village, Sumenep, showed that partially, production costs did not have a significant effect on the income of craftsmen. Meanwhile, the length of business and selling price were proven to have a positive and significant effect on their income. This shows that the longer a craftsman pursues his business and the higher the selling price of the keris set, the greater the income obtained. Simultaneously, the three variables—production costs, length of business, and selling price—also have a positive and significant effect on the income of craftsmen, indicating that all three together determine the level of income received by keris craftsmen in the village.

Based on the research results, recommendations that can be given include several aspects. For keris craftsmen in Aeng Tong-tong Village, it is recommended to utilize the digital marketplace which is now a shopping trend for Indonesian people to expand the reach of the market and consumers. In addition, it is important for craftsmen and the village government to collaborate in preserving this cultural heritage through skills training, coaching for the younger generation, and comparative studies to other areas such as Solo which is also known as a producer of keris. These efforts are expected to be able to maintain the sustainability of keris crafts in the future. Meanwhile, for further researchers, it is recommended to develop research by adding more diverse variables to broaden understanding of the factors that influence craftsmen's income, as well as find new theories that are more relevant and applicable.

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