

Production Factors Analysis of Traditional Weaving Textile “ULOS” of Padang Sidempuan Municipality of Indonesia

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Abstract

Many assumptions appear that traditional textiles benefits are not matched with modern business production costs. This study aimed at finding the production factors of traditional textiles of Ethnic Batak of Indonesia such as capital, labor and raw materials. Those factors have contributed to the production value of the Weaving Textiles Business. This study focused on the traditional textiles of South Tapanuli in Indonesia which is so called “Ulos”. With the business factors analysis, the Correlational Research Design was conducted in the oldest manufacture of textiles Ulos, Paulina Manufacture. Data analysis showed the most dominant factor influencing the production value of the *Ulos* Paulina Textile in Padang Sidempuan was a raw material because the partial test showed that the value of raw material contributes more (with a t-count of 3.262) compared to the capital variable (2,242) and labor (2,048). It conclude that the capital, labor and raw materials partially have great significant and positively affect partially on the value of production in the *Ulos* Paulina Textile Factory.

Keywords: Weaving textile Capital, Business factors, Production value.

1.Introduction

Increasing the competitiveness of cooperatives and Small and Medium Enterprises (SMEs) is an integrated part of efforts to improve the quality of human resources, accelerate technology transfer and modernization in sectors which have been dominated by cooperatives and SMEs, such as agribusiness and agro-industry. Therefore, in the development process of SMEs in Indonesia it is made a development priority and is expected to have an important role as a leading sector, which means that with the development of SMEs, it spurs and improves other sectors such as the service sector and agriculture.

Padangsimpuan of Indonesia has the potential area to develop economic activities; The textile industries in this area have productions that have been sold to national and international market. The craft industry also produces *Ulos* woven textiles, uniform batik clothes for government and private agencies. It is the leading commodities in the city of Padang Sidimpuan. This shows that government agencies such as the Government of South Tapanuli Regency and the Padang Sidimpuan Municipality and the private sector have collaborated with the *Ulos* Paulina Textile Weaving Business have procured the regional batik clothes which were inaugurated as official clothes of Civil Servants in their respective governmental environments and uniforms in the neighborhood and private sectors.

The procurement of batik clothing in this region has an important role in encouraging economic growth and promoting the real sector of small and medium enterprises (SMEs). Based on the business factors in textiles Industry, this study was concerning with the capital affect the production value of the *Ulos* Paulina Textile Weaving Business in Padang Sidimpuan Batuna Dua District, Padang Sidimpuan, Indonesia; the effect of labor on the value of production in the Weaving Business of *Ulos* Paulina Textile District of Padang Sidimpuan Batuna Dua, Padang Sidimpuan; the influence of raw materials on the value of production in the *Ulos* Paulina Textile Weaving Business of Padang Sidimpuan Batuna Dua District, Padang Sidimpuan Municipality.

2. Production Factors in Small and Medium Enterprises (SMEs)

Business is a productive economic enterprise that is independent, carried out by individuals or business entities that are not subsidiaries or branches of companies that are owned, controlled or become part of either direct or indirect business from medium-sized businesses or large businesses that meet the criteria of Small Business. Thus, Small and Medium Enterprises (SMEs) are potential businesses to be developed because small and medium enterprises are flexible in adjusting conditions. In a business basically capital, labor, and raw materials are one unit. Working capital is a production factor that is used to finance daily corporate activities that can change according to the circumstances of the company. In this study, working capital is allocated to finance the production process, which includes production costs, wage costs and raw material costs. While the workforce referred to here is the workers in the Weaving of *Ulos* Paulina Textiles Business District of Padang Sidimpuan Batuna Dua, Padang Sidimpuan. The large amount of capital, labor, raw materials in the production process in this business is a very important factor. So the amount of capital, the amount of labor and the amount of raw materials are factors that greatly influence the production of this business.

In this study, how is the influence of each independent variable, namely capital, labor and raw materials partially on the dependent variable, namely the amount of production value. To simplify this thesis, the writer describes the framework of thinking as follows:

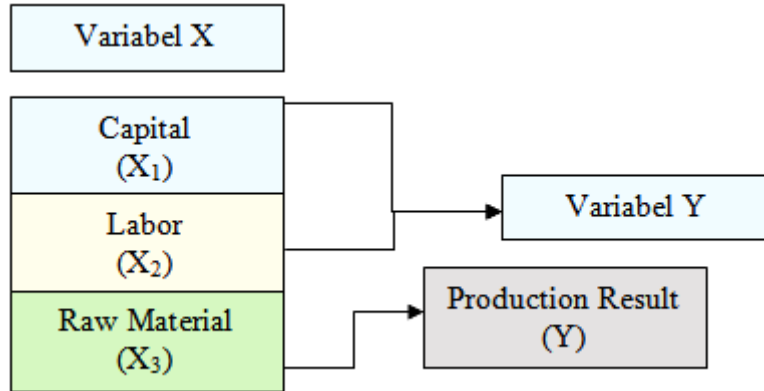


Fig 1. Framework of Thinking

3. Research Method

This research used a quantitative approach which emphasized the significance of the relationship between the variables studied [15]. In a study there are research instruments that must be clearly defined before data collection. The research instrument is everything in the form of what is determined by the researcher to be studied so that information can be obtained about it, then draw conclusions [16]. The research instruments in this study were 2 (two) namely independent or independent variables and non-independent or dependent variables, namely: Bound Variables (Y).

The dependent variable in this study is the result of the production value of the *Ulos Paulina Textile Weaving Business*. The intended production is the end result of the process of economic activity by utilizing some inputs or inputs to produce new goods (utility form). The production of the *Ulos Paulina Textile Weaving Business* has an indicator of the amount of production every time the production process multiplied by the selling price per unit (calculated in units of rupiah) for 1 month.

4. Research Results and Discussion

Until 2018 the Padang Sidempuan government has established a partnership with the *Ulos Paulina Textile Weaving Business* in Padang Sidempuan. Government has provided training to prospective employees of the *Ulos Paulina*

Textile Weaving Business for 15 people and they were appointed as employees. Basically there are some types of *Ulos*, including:

1. *Ulos Ragi Pamunsai*
2. *Ulos Ragi Hidup*
3. *Ulos Ragi Sibolang*
4. *Ulos Ragi Sitolu Tuho*
5. *Ulos Ragi Bolean*
6. *Ulos Ragi Hotang*
7. *Ulos Ragi Mangiring*
8. *Ulos Bintang Maratur*
9. *Ulos Ragi Parompa*
10. *Ulos Sadum*

This *Ulos* has a variety of bright colors. Usually this *Ulos* is used in cheerful events or other events, for example, giving *Ulos* to officials / community leaders with the aim of giving respect and compassion.



Fig 2. *Ulos*

Of the several types of *Ulos* above for now the most widely produced by the Weaving of *Ulos* Paulina Textiles Business Padang Sidempuan of Indonesia is *Ulos Sadum*. This is because nowadays the use of *Ulos Sadum* is more used for certain events that can be used as memories, as decorations, souvenirs or for other functions. Besides that, the typical batik Tapanuli patterned *Ulos* is also produced by the *Ulos* Paulina Textile Weaving Business and also produces various forms and types of textile or custom clothing according to customer or consumer orders.

4.2. *Statistical Variables*

From the primary data collected on the *Ulos Paulina Textile Weaving Business*, it can be obtained as follows:

1. Capital

Capital in this case is measured based on capital issued by the Weaving of *Ulos Paulina Textile* in carrying out weaving or textile production. The size and capacity of the resulting production is certainly different, so the company's capital used is also different. The description of capital used in producing textiles / weaving produced is as follows:

Table 1 Business Capital of Weaving *Ulos Paulina Textiles*

No	Capital Interval	Production Frequency	Persentation
1	> Rp 30,000,000 - Rp 50,000,000	100	35,71 %
2	> Rp 15,000,000 - Rp 30,000,000	75	28,79 %
3	> Rp 10,000,000 - Rp 15,000,000	50	17,86 %
4	> Rp 5,000,000 - Rp 10,000,000	35	12,50 %
5	> Rp 1,000,000 - Rp 5,000,000	20	7,14 %
Amount		280	100,00%

Source: Data Processed Alone

Based on table 4.3 above shows that the capital value issued by the *Ulos Paulina Textile Weaving Business Padang Sidimpunan of Indonesia* is as follows: capital intervals above IDR. 1,000,000 to IDR. 1,500.00, the total production produced is 20 or 7 , 14%. The use of capital above IDR. 5,000,000 to IDR. 10,000,000 results in a total production of 35 or 12.50%. The use of capital above IDR. 10,000,000 up to IDR. 15,000,000 results in a total production of 50 or 17.86%. The use of capital above IDR. 15,000,000 up to IDR. 30,000,000 results in a total production of 75 or 28.79%. The use of capital is above IDR. 30,000,000 up to IDR. 50,000,000 resulting in a total production of 100 or 35.71%.

The running of a business is also influenced by business capital. Business Capital of Weaving *Ulos Paulina Textile* from the owner's personal capital. So when you want to do business development is constrained by capital. Until now the company does not use loans or use cooperation with investment investments.

2. Production

Skillful production is the potential of human resources that are needed in the development process. The value of production is the real amount of production done in a business unit. In *Ulos Paulina Textile Weaving Business* can absorb as much production as possible.

Production descriptions that are expected to be employed at the *Ulos Paulina Textile Weaving Business* are as follows:

Table 4.2 Labor in *Ulos Paulina Textile Weaving Businesses* Based on table 4.2 above shows that production is employed by the Weaving of *Ulos Paulina Textiles Business Padang Sidimpuan of Indonesia* as follows: production use between 1 person and 5 people, the total production produced is 20 or 7.14%. The use of production of more than 5 people up to 10 people produces a total production of 35 or 12.50%. The use of production of more than 10 people up to 15 people produces a total production of 50 or 17.86%. The use of production over 15 people up to 20 people produces a total production of 75 or 28.79%. The use of production above 20 people produces a total production of 100 or 35.71%.

3. Raw Materials

Raw materials are materials used in making products where the material is thoroughly seen in the finished product (or is the largest part of the product). Raw materials are one of the most active elements in a company that is continuously acquired, changed which is then resold. Most of the sources of companies are also often associated in the supply of raw materials that will be used in the operations of factory companies.

Raw materials are raw materials that are processed into finished material products and usage can be identified directly or followed by a trace or an integral part of a particular product. The description of the raw materials used by the *Ulos Paulina Textile Weaving Business* are as follows:

Table 3. Raw Materials used by *Ulos Paulina Weaving Businesses*

No	Raw Material	Production Frequency	Persentation
1	> 10 People	250	36,77 %
2	> 7 Rolls – 10 Rolls	190	27,94 %
3	> 5 Rolls – 7 Rolls	120	17,65 %
4	> 3 Rolls – 5 Rolls	80	11,76 %
5	> 1 Rolls – 3 Rolls	40	5,88 %
Total		680	100,00%

Source: Data is processed by author

Based on Table 2 above shows that the raw materials used by the *Ulos Paulina Textile Weaving Business* can be described as follows: the use of raw materials used between 1 roll up to 3 rolls then the amount of production produced is 40 or 5 , 88%. The use of raw materials used in 3 rolls up to 5 rolls, the number of production produced is 80 or 11.76%. The use of raw materials used in 5 rolls up to 7 rolls then the amount of production produced as many as 120 pieces or equal to 17.65%. The use of raw materials used in 7 rolls up to 10 rolls, the total production produced is 190 or 27.94%. The use of raw materials used on 10 rolls produces a total production of 250 or 36.77% .

4.3 Data Analysis

4.3.1 Analysis of Multiple Linear Regression

Data analysis and hypothesis testing in this study will be conducted using multiple linear regression models, because the variables studied are more than one variable, where in the regression analysis examined the effect of capital, production, and raw materials on the total production of *Ulos Paulina Textile*. Data processing uses the help of Statistical Product and Service Solutions (SPSS) computer program version 18.00 based on data obtained from the sample research conducted. Hypothesis testing is done by testing the regression equation partially or simultaneously. Based on the results of multiple regression analysis carried out with the help of the SPSS version 18.00 program, namely between capital values (X1), labor (X2), and raw materials (X3), and the production value (Y) used multiple regression analysis.

Table 3. Regression Analysis of the Effect of Capital, Labor and Raw Materials, on Production Values

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	10.728	1.197		8.963	.000
	Capital	.357	.159	.308	2.242	.028
	Labor	.344	.099	.457	2,048	.001
	RawMaterial	.127	.039	.219	3.262	.002

a. Dependent Variable: Production Value

The results of multiple regression analysis obtained coefficients for independent variables X1 = 0.357, X2 = 0.344, and X3 = 0.127 with a constant of 10.728, so that the regression equation models obtained are:

$$Y = 10.728 + 0.357 X1 + 0.344 X2 + 0.127 X3$$

The regression model means:

1. Constant value (Y) is 10.728 which means that if the value of production, raw materials and capital equals zero, the value of production will decrease by 10.728.
2. The regression coefficient X1 (capital) of multiple linear calculations obtained a coefficient (b1) = 0.357, this means that every time there is an increase in capital (X1) of 1%, the value of production (Y) will increase by 0.357% assuming the labor variable (X2), and the raw material variable (X3) is constant.
3. The regression coefficient X2 (labor) from multiple linear calculations is obtained coefficient value (b2) = 0.344, this means that every time there is an increase in the use of labor (X2) of 1% then the production value (Y) will increase by 0.344% assuming capital variable (X1), and raw material variable (X3) are constant.
4. X3 regression coefficient (raw material) from multiple linear calculations obtained coefficient value (b3) = 0.127, this means that every time there is an increase in raw material (X3) of 1%, the production value (Y) will increase by 0.127% with the assumed variable capital (X1), and labor variable (X2) are constant.

4.3.2 Simultaneous Hypothesis Testing (Test F)

The F statistical test shows whether all the independent variables included in the model have a joint effect on the dependent variable. Simultaneous test results can be seen in table 4.5 below:

Table 4. Simultaneous Test Results (ANOVA)

Model		Sum of Squares	Df	Mean Square	Sig.
1	Regression	4.729	3	1.576	.000 ^a
	Residual	1.426	32	.020	
	Total	6.156	35		

a. Predictors: (Constant), Capital, Labor, Production

b. Dependent Variable: Production Value

The test results in table 4 above, the simultaneous test (F test) shows that the F_{table} value is obtained from the variables of capital, raw materials, and capital (df1) and production value = 4 and the number of samples (df2) = 32 with $\alpha = 0.05$ that means we take the risk of making a decision to reject the correct hypothesis as much as 5%. Table 4.5 above shows that the value of F_{count} is 78.468 due to the value of $F_{count} (78.468) > F_{table} (2.71)$ or the magnitude of probability is $0.000 < 0.05$. Thus, in this study states that there is a significant effect of capital, labor and raw materials as independent variables simultaneously (together) on the value of production as the dependent variable.

Partial Hypothesis Test (t test)

Hypothesis testing is done to determine whether there is an influence of independent variables with the dependent variable partially. The results of the hypothesis test analysis between independent variables X1, X2, and X3 against Y obtained the following results.

Table 5. t Test

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			
	B	Std. Error	Beta			Zero-order	Partial	Part	
1	(Constant)	10.728	1.197		8.963	.000			
	Capital	.357	.159	.308	2.242	.028	.834	.257	.128
	Labor	.344	.099	.457	2.048	.001	.836	.381	.198
	Raw Material	.127	.039	.219	3.262	.002	.592	.361	.186

a. Dependent Variable: Production Value

1. Hypothesis Test of t (partial test) of capital against the value of production

In Table 5 above shows that the correlation coefficient is partially for the capital variable of 0.357. Meaning of the correlation coefficient for the results of t_{count} is 2.242 with a probability of 0.028. The probability value is smaller than 0.05 ($0.028 < 0.05$) so that H_0 is rejected and H_a is accepted, indicating that the t_{count} obtained is significant. So the hypothesis tested in this study is that capital has an effect on the production value of the Ulos Paulina Textile Weaving Business in Padang Sidimpuan Batuna Dua District, Padang Sidimpuan City, accepted. The contribution of production value to the production value of the Ulos Paulina Textile Weaving Business in Padang Sidimpuan Batuna Dua District, Padang Sidimpuan City (r^2) is $(0.257)^2 \times 100\% = 6.60\%$.

2. Hypothesis Test t (partial test) labor against the value of production

Based on the results of research and calculations with those carried out was using a computer program SPSS version 18.00 as summarized in the table above shows that the correlation coefficient is partially for the labor variable of 0.344. The significance test of the correlation coefficient for the results of t_{count} is 2.048, with a probability of 0.001. The probability value is smaller than 0.05 ($0.001 < 0.05$) so that H_0 is rejected and accepts H_a , so H_0 is refused to accept H_a , then it shows that the t_{count} obtained is significant. So that the hypothesis tested in this study is that work

is influential on the value of production in the *Ulos Paulina Textile Weaving Business* of Padang Sidimpuan was accepted. The contribution of capital to the value of production in the Weaving of *Ulos Paulina Textiles Business Padang Sidimpuan* of Indonesia (r^2) is $(0.381)^2 \times 100\% = 14.52\%$.

3. Hypothesis Test t (partial test) of raw materials against the value of production

Based on the results of research and calculations with those carried out were using a computer program SPSS version 18.00 as summarized in the table above shows that the correlation coefficient is partially for the raw material variable of 0.127. The significance test of the correlation coefficient for the t_{count} is 3.262 with a probability of 0.002. The probability value is smaller than 0.05 ($0.002 < 0.05$) so that H_0 is refused to accept H_a , indicating that the t_{count} obtained is significant. So that the hypothesis tested in this study is that raw materials have an effect on the production value of the *Ulos Paulina Textile Weaving Business* of Padang Sidimpuan was accepted. The contribution of raw materials to the value of production in the Weaving of *Ulos Paulina Textile Business Padang Sidimpuan* of Indonesia (r^2) is $(0.361)^2 \times 100\% = 13.03\%$.

4.4 Discussion of Research Results

4.4.1 Effect of Capital Against Production Value

The use of capital that continues to increase directly will have a positive impact on the value of production, because with the increase in capital, the weaving / textile businesses produced will also increase or so that with an increase in the number of automatic production will also increase business income.

With the increasing amount of capital used is expected to increase the value of woven / textile production produced. Besides the development of business units that are expected from the use of capital, it can also foster work morale for workers employed at the *Ulos Paulina Textile Weaving Business* in Padang Sidimpuan Batuna Dua District, Padang Sidimpuan City.

The capital variable coefficient figures show a number of 0.357. This means that every time there is an increase in capital (X1) of 1%, the value of production (Y) will increase by 0.357% assuming the variable labor (X2), and the variable raw material (X3) is constant. This supports the theory of [17], demand for production is the relationship between the level of production and the number of workers desired by employers to be employed. So that the demand for production can be defined as the amount of production employed by an entrepreneur at every possible level of production in a certain period of time.

4.4.2 Effect of Labor on the value of production

The coefficient number of the labor variable shows a number of 0.344. This means that every time there is an increase in labor (X2) of 1%, the production value (Y) will increase by 0.344% assuming the capital variable (X1), and the raw material variable (X3) is constant.

With the addition of labor will affect the value of production this is due to the increasing number of workers, it will increase the amount of work productivity. So the more labor is used, the lower the production time. Thus the amount of labor will determine the amount of production value. Theoretically, the greater the workforce employed in small labor-intensive industries, the higher the production value.

4.4.3 Effect of Raw Materials on Production Values

Raw materials are the level of production or the total number of goods which are the final results of the production process in a business unit which will then be sold to consumers. If demand of industrial products from the industry increased, the producers tend to increase their production capacity. For this purpose, producers will increase their production use.

The raw material variable coefficient figures indicate a number of 0.127. This means that every time there is an increase in raw material (X3) of 1%, the value of production (Y) will increase by 0.127% assuming the capital variable (X1), and the labor variable (X2) is constant.

In accordance with the theory of Simanjuntak [18] also states that employers employ someone because it helps produce goods / services for sale to consumers. Therefore, an increase in employers' demand for production depends on the increase in public demand for goods produced. Likewise, on the contrary, the lower the level of production, the less the amount of production needed to produce these goods.

4.4.4 Effect of Capital, Labor and Raw Materials on Production Values

The results of multiple regression analysis indicate that there is an influence between capital, labor and raw materials on the production value of the *Ulos Paulina Textile Weaving Business*. This shows that with the increase in capital used is one of the factors that can affect the value of production, with high production will have an impact on increasing employee productivity so that production will also increase. The value of production will not run optimally if it overrides the influencing factors such as production, raw materials and capital.

This is in accordance with the theory of Afrida BR [19], which states that if the price of capital goods falls is the substitution effect. This situation can occur because producers tend to increase the amount of capital goods (machinery) so that intensive capital occurs in the production process. So the relative use of production decreases.

5. Conclusions and Recommendations

5.1 Conclusions

Based on the results of research and discussion, it can be concluded as follows:

1. Simultaneous test (F test) shows that the F_{table} value is obtained from the variables of capital, labor and raw materials (df1) and the production value = 4 and the number of samples (df2) = 32 with $\alpha = 0.05$ means we risk wrong in make a decision to reject the correct hypothesis as much as 5%. Obtained a F_{count} of 78.468 due to the value of $F_{count} (78.468) > F_{table} (2.71)$ or the magnitude of the probability of $0.000 < 0.05$.
2. The results of the capital count are 2,242, with a probability of 0.028. The probability value is smaller than 0.05 ($0.028 < 0.05$) so that H_0 is rejected and accepts H_a , which means capital influences the production of *Ulos Paulina Textile Weaving Business Padang Sidimpuan* of Indonesia.
3. The results of the labor t count are 2.048 with a probability of 0.001. The probability value is smaller than 0.05 ($0.001 < 0.05$) so H_0 is rejected and H_a is accepted which means there is a positive influence between labor on the production value of the *Ulos Paulina Textile Weaving Business of Padang Sidimpuan*.
4. The results of the raw material t count are 3,262 with a probability of 0.002. The probability value is smaller than 0.05 ($0.002 < 0.05$) so H_0 is refused to accept H_a , which means there is a positive influence between the raw materials on the production value of the *Ulos Paulina Textile Weaving Business of Padang Sidimpuan*.
5. The most dominant factor influencing the production value of the *Ulos Paulina Textile Weaving Business* in Padang Sidimpuan was a raw material because the partial test shows that the value of raw material contributes more (with a t-count of 3.262) compared to the capital variable (2,242) and labor (2,048).

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