

The development of sokasi woven business management model at Sulahan Village, Susut Sub-district, Bangli Regency

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Abstract. Weaving is a skill activity of someone in making craft goods by arranging certain material alternately by turning, overlapping and folding in order to create a desired woven product. Bamboo woven craftsman is included in domestic industry which is generally located in urban area by employing families as labor. This weaving work is as a part time job that can give extra income for the family. Bamboo woven craft is a simple family business, applying efficient technology, bamboo as raw material is self-planted and it is almost without capital, by skill that is obtained based on experience. The purpose of this research is to find out the business's feasibility and income of bamboo woven craftsman in making sokasi product. Subject or respondent in this research are the bamboo woven craftsman who make sokasi products in Sulahan Village, Susut Sub-district, Bangli Regency, with respondents amount of 12 people. This research was held by using survey and interview methods. Data collected consists of the primary and secondary data. The primary data related to the social economy condition and the condition of the business until today is collected by interview and filling in the questionnaire directly. The secondary data is obtained from the Head of Village office, The Susut Sub-district in Number, and the Central Bureau of Statistics of Bangli Regency, and other references related to the research. Result of this research is expected to be able to become a reference to people in performing bamboo woven crafts business in making sokasi product, and it is be able to increase the production and income of the craftsman.

1. Introduction

In National Research Main Plan, Bali State Polytechnic through the Central Research and Service to People included the Economy and Business as one of research topics that has been determined in Renstra PNB 2016-2019. This economy and business research topic raised the strategic issue in developing business especially the micro and small business (UMK). Related to this topic, it is conveyed the concept of mind that the establishment of micro and small business is started with an understanding about the financing and feasibility of business. In this research topic to be raised is about the Development of Sokasi Woven Business Management Model at Sulahan Village Susut Sub-district, Bangli Regency, as the proposal's title.

The Sulahan Village is one of 9 villages in Susut Sub-district, Bangli Regency. The population of Sulahan Village is 8,868 people that consist of 4,403 male and 4,465 female with total of head of family is 2594 KK (The Ministry of Domestic Affairs General Directorate of Village Government Building, 2019). The average production of each craftsman is about 8-10 pieces per month depends of the size. The sokasi is sold in traditional market with price range of Rp 40,000-80,000 each depends

on the model and size. Thus, the sokasi woven craftsman's income is about Rp 800,000 per month. This income is still assumed to be low and it can be improved by improving the production process.

The bamboo woven business craftsman is included in home industry which generally exists in the rural area by employing families as manpower. The main activities of the rural area people are as farmers whether in wet or dry land, and also as the breeder such as cattle and pig. The weaving activity is as the side job that can give additional income for the family. The bamboo woven handicraft is a very simple family business that implementing the effective technology, the bamboo as raw material is self-planted and it is almost no capital need and the skill is obtained based on the experience from generation to generation.

1.1. Problem

Based on the description above, the problem formula in this research is how much investment needed to develop business in bamboo woven field to produce sokasi in Sulahan Village, Susut Sub-district, Bangli Regency.

1.2. Special purpose

Purpose of this research is to find out the amount of investment and operational cost needed on the process of sokasi woven development, and also the woven business feasibility in Sulahan Village, Susut Sub-district, Bangli Regency.

1.3. Research urgency

The research of sokasi production of bamboo woven of home industry scale in Sulahan Village, Susut Sub-district, Bangli Regency will give description about small business type and also income of craftsman of sokasi maker that has direct correlation with people's welfare. This research also has function to educate the craftsman about the method to handle the production process so the quality of sokasi product can be maintained and the price is stable and even increase. In addition, the small industry activity of sokasi maker has potential in increasing people's income and expands employment opportunities.

2. Literature review

2.1. Bamboo as woven raw material

Raw material to make sokasi is bamboo. The bamboo tree is a very productive plant, where the stem can be processed as many household products in the form of woven crafts, souvenirs, etc. In construction field, bamboo is used in house building for scaffolding, bridges, etc. Bamboo is one of natural Functionally Graded Material (FGM) types due to the vast using and benefit in various fields [1]. Bamboo used is not too old or too young. Old bamboo will easily break if woven, while young bamboo will shrink due to high water content.

Bamboo has hirarchis (neatly formed) structure. Bamboo has fine characteristic such as flexible, very strong and firm, and also light [1]. The most interesting characteristic is the high speed of its growth where it can vertically grow for 5 cm per hour or 120 cm per day and it stops to grow permanently at age of 5 years [2]. Horizontally or in lengthwise direction the bamboo stem is strengthened by strong fibers. Those fibers are distributed densely on the outside surface, and rarely in inside surface. This is why bamboo has greater break tenacity on the outside surface and the tenacity decreases on the inside surface [1]. Some of bamboo types are shown in Figure 1.



Figure 1. Various types of bamboo.

Physical characteristic of bamboo include the water content and specific mass. Water content is an important bamboo physical characteristic because it influences the mechanical characteristic of bamboo. The water content in bamboo stem after it is cut off is between 50-99%, whereas dried bamboo has 12-18% [2]. The specific mass is about 600-900 kg/m³. For rope bamboo type it has average specific weight of 820 kg/m³.

Bamboo type that are mostly used is the rope bamboo type (*Gigantochloa apus*) because its fiber flexible characteristic so it is well functioned as rope, material for woven wall, kitchen tools, woven crafts [3]. In addition, this bamboo type has wide range of distribution in Southeast Asia especially in Java and Bali Island. The mechanical characteristic of the rope bamboo is shown in Table 1.

Table 1. The mechanical characteristic of rope bamboo [3].

Mechanic Character	Bamboo (across the fiber)	Bamboo (along the fiber)
Density (kg/m ³)	802	802
Tensile strength (MPa)	8.6	200.5
Tensile modulus (GPa)	-	24.5
Flexure strength (MPa)	9.4	230.9
Impact strengt (kj/m ²)	3.02	63.54

2.2. The sokasi woven

Sokasi is a bamboo woven product that consists of two parts they are the lower part (body) and the upper part (cover) which is used as container for rice, container for ritual medium, and as souvenirs. The sokasi production began from the selection of apus (rope) bamboo tree which is not too old or too young in order to be easy to weave and not easy to break. The bamboo was cut with specific size according to sokasi size that wants to be made. The bigger the sokasi to be made the longer the bamboo pieces needed. Practically, it uses section quantification on the bamboo such as two sections, three sections, etc. Then the bamboo is split and splintered, to be whittled until smooth so it will be ribbon-shape.

2.3. Calculation of sample amount

The amount of sample is calculated based on the formula of [4] as the following:

$$n = \left[\frac{(Z\alpha - Z\beta)\sigma}{\mu_1 - \mu_0} \right]^2 \quad (1)$$

Where:

- n = amount of sample
- Z α = upper limit of significance on level of confidence 95%, Z α = 1.96
- Z β = lower limit of significance on level of confidence 90%, Z β = -1.645
- σ = deviation standard
- μ_0 = average of initial research variable
- μ_1 = average of research variable with treatment

From the previous research it is found out that sokasi price is Rp 40,000/piece. The fluctuation of price is for 20%. Thus, amount of sample needed is $n = 12$ people.

2.4. Cost analysis

From the economic consideration, money invested to buy tools and other facilities should be returned at the latest of the economic age of the mentioned tools. The economic age of the tools is the lifespan from buying the tools, used them until the approximation the tools are no longer being economic to be operated. The tools are said not to be economic if the ownership cost and operational cost of the tools including the maintenance cost turned out to be greater than the result accepted if the tools were operated [5]. The ownership cost is the cost since the tools were bought which should be accepted back, which is counted during the economic age of the tools. Thus, the ownership cost consists of the depreciation cost, capital interest and insurance cost [5]. Therefore, the tools should be operated in the minimum as the same total cost of depreciation cost, capital interest and reparation cost.

2.5. Depreciation cost

Depreciation is a process since the tools condition is useful until it is assumed to be less or no longer useful. During the tools are used it should be assumed that the value is depreciated and it needs a cost to cover it which is the depreciation cost. So, when the tools are no longer useful at the same time it has cost as the replacement of the tools which are collected during utilization age of the tools [6]. Depreciation is not always depends on the effective age of the tools. It also occurs due to up-to-date changes, market condition changes, and there are tools with new technology which are more economic so there will be depreciation without being processed by time.

To calculate the depreciation cost it is known the 4 ways, they are: the straight line, balanced reduction, fund investment, and summation of year numbers. The simplest way is the Straight Line Method, with formula as the following:

$$D = \frac{P-L}{n} \quad (3)$$

$$S = P - L \quad (4)$$

Where:

- P = initial price/value (fixed cost)
- L = first depreciation price value
- N = depreciation time (economic time)
- S = cost should be returned

2.6. Fixed cost

Fixed cost is the cost that should always be spent without considering production activities carrying out, for example the salary for personnel, office staff, office routine cost, depreciation, etc.

2.7. Variable cost

Variable cost is all costs spent related to the production activities, for example: purchasing materials, renting tools, wage for manpower, fuel, etc.

2.8. Calculation of breakeven point

The method frequently used in evaluating initial planning of investment or as additional analysis in order to validate evaluation result is the Benefit Cost Ratio (BCR) method [7]. Other method that is also frequently be used is the Return Cost Ratio (RCR) criterion that is analyzed by using the following formula:

$$RCR = TR/TC \quad (4)$$

Where:

RCR= Return cost ratio

TR = Total revenue (Rp/m³/production period)

TC = Total cost (Rp/m³/production period)

With criteria, if $RCR > 1$, the business is said to be efficient and profitable, and it is reasonable to be developed; $RCR < 1$, the business is not efficient and it is not profitable; $RCR = 1$, the business is in a breakeven condition (did not experience profit or loss).

3. Methodology

This research is performed in Sulahan Village Susut Sub-district Bangli Regency. Subjects or respondents in this research are the sokasi woven crafts with total respondents of 12 people. This research is performed by using the survey method. Data collected consist of the primary and secondary data. The primary data related to the social economy condition and the condition of the business until today is collected by interview and filling in the questionnaire directly. The secondary data was obtained from the office of head of village, Susut Sub-district in Number, and the Central Bureau of Statistics of Bangli Regency and other references related to the research.

The primary data obtained from the subjects or respondents of sokasi woven craftsman, and then it is processed and analyzed descriptively. According to Waldiyono [6] any field of business only know two types of cost they are the fixed cost and the variable cost. Furthermore, the financial analysis to find out the business feasibility is calculated with the following formula [6]:

$$\Pi = TR - TC \quad (5)$$

$$= TR - (TVC + TFC) \quad (6)$$

$$= (Y.Py) - (\sum X_1.PX_1 + TFC) \quad (7)$$

$$= (Y.Py) - ((X_1.PX_1) + (X_2.PX_2) + (X_3.PX_3) + D) \quad (8)$$

Where:

Π = net income (Rp/production period)

TR = gross income (Rp/production period)

TC = total cost (Rp/production period)

Y = total production (piece/ production period)

Py = product price (Rp/piece)

TVC = total variable cost (Rp/production period)

TFC = total fixed cost (Rp/production period)

X1 = total bamboo stems (stem/ production period)

PX1 = bamboo price (Rp/stem)

X2 = shaping cost (kg/production period)

PX2 = cost for cutting down (Rp/ stem)

X3 = total manpower (HOK/ production period)

PX3 = wage for manpower (Rp/ production period)

D = Depreciation (Rp/unit/ production period)

To find out the business efficiency it uses the Return Cost Ratio (RCR) criteria, which is analyzed by using the following formula:

$$RCR = TR/TC \quad (8)$$

Where:

RCR = return cost ratio

TR = total revenue (Rp/production period)
 TC = total cost (Rp/production period)

With the criteria, if $RCR > 1$, the sokasi woven business is said to be efficient and profitable, and it is reasonable to be developed; $RCR < 1$, the business is not efficient and it is not profitable; $RCR = 1$, the business is in a breakeven condition (did not experience profit or loss).

4. Results and discussion

The business of sokasi maker craftsman was started from the preparation of working station, which is a place to carry out the activities of cutting down the bamboo, splitting, shaping and weaving. This working place, generally, is very simple place like house's overhang or a house with plaited bamboo walls, completed with seat from wooden block or at the house's terrace. The financial analysis has purpose to find out whether a business is feasible or not to be developed. Analysis base uses the calculation of fixed cost, variable cost, total cost, gross income and net income. The fixed cost calculation for a sokasi production business is shown in Table 2.

Table 2. Cost for tools and working station

Description	Amount	Unit Price (Rp)	Total (Rp)
Work Stasiun	1 Unit	200,000	200,000
Tools (saw, knife, etc)	1 Set	100,000	100,000
Total			300,000

The greatest fixed cost component is the cost for working station preparation which takes part for about 66.66% of total fixed price. Whereas the rest is the preparation for tools such as saw, axe, temutik, knife, etc. that take part for 33.33%. Considering that the cost for working station preparation is very great amount then it needs to be maintained regularly in order that the working place will be able to last more than 5 years.

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Table 3. Production cost and income per month.

No.	Description	Total	Unit Price (Rp)	Total (Rp)
1	Production cost			
	- bamboo supply	30 Pc	10,000	300,000
	- labour:cut, whittle, and weaving	1 people	1,500,000	1,500,000
	- tool depreciatio	0,10	300,000	30,000
			production cost	1,830,000
2	Income			
	- sokasi (small)	60 pc	40,000	2,400,000
	- netto income			570,000
3	efficiency			
	RCR			1.31

Whereas income is influenced by total sokasi product produced like is shown in Table 3 and market price which is ranging for about Rp 40,000/piece for small size sokasi. The calculation of RCR

efficiency value is obtained for 1.31 or greater than 1 which means that the business of sokasi maker craftsman is quite profitable and it is feasible to be developed.

5. Conclusions

Business of sokasi maker craftsman is quite promising with RCR value = 1.31 which means that it gives profit and feasible to be developed. The net income is for Rp 570,000 per month and it can be saved, because daily operational cost has been fulfilled from the wage for Rp 1,500,000 per month. The sokasi maker craftsman job is very flexible and it can be done by man (father) and woman (mother) whether they do it together or do it in turn.

6. Suggestion

To improve the development of sokasi woven business it needs an elucidation to weave from related institute, also in weaving skill so in one day there will be more than 2 sokasi can be produced, so people's income will more increase and people's welfare can be fulfilled.

7. References

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