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Various Determinant Factors of Production Technology Adoption in Creative Souvenir Micro Enterprise

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ABSTRACT

This study aims to examine the existence of several factors that determine the power of the adoption of production technology on micro souvenirs creative enterprise. The location of the research was determined purposely in Purbalingga Wetan Subdistrict, Purbalingga District, Central Java Province, Indonesia. Research respondents numbered 28 people. The results showed that the various determinants of the adoption of production technology have economic, social and environmental motives. The power of influence of each factor is also distinct. The adoption of different craftsmen resulted in the quality of souvenir products from coconut waste being unequal. Some have a motif design according to market trend. Product price level is feasible. However, some products are only produced semi-finished. The price of this product is relatively lower. The economic feasibility of craftsmen is closely related to the rate of adoption of production technology. There are small number (<25 percent) of craftsmen use mechanical technology. The rest is still aided on the traditional manual techniques in processing waste coconut into souvenirs or creative handicraft.

Keywords: Adoption, Craftsmen, Creative Souvenirs, Determinant Factor, Production Technology.

1. Introduction

1.1 Background

Poverty is always one of the complex national problems. Poverty-prone issues threaten the lives of rural and urban communities. Although the Government of the Republic of Indonesia with other parties has implemented a variety of empowerment efforts. However, the problem of poverty remains difficult to resolve optimally. The Central Bureau of Statistics of 2016 reported that Indonesian people who lives below poverty's population is still high at 27.77 million people (10.6 percent). Of course this

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problem of poverty should not be allowed to go on. Because it is feared to cause a series of negative impacts. Especially it can be harmful in the case of improving the quality of human resources.

One of the most vulnerable groups affected by poverty is the peasants. Especially those who have the status of smallholder farmers and fishermen. Poverty in farmers is due to various factors. Some of these factors are economic urgency, narrowness of arable land, conservative farming techniques, low levels of formal and informal education. The other causes include: weak entrepreneurial skills, low productive creativity, a single livelihood pattern. This subsistence pattern is based only on subsistence farming work. Other factors are weak bargaining position, limited product marketing range and low productivity of land. Nevertheless, the research results of (Dumasari & Watemin, 2013) and (Dumasari & Rahayu, 2016) indicate the social reality of poor farmers can be overcome through the development of diversification of productive livelihoods; such as the management of tourism souvenir goods micro industry. This product is creatively processed by craftsmen from coconut waste.

The poor peasants who work as the craftsmen as well realize the wealth of natural resources available around the village environment. These resources are used as raw materials for various types of economic products. However, the ability of poor farmers to cultivate is limited. Access to information of technology production is remain low. Farmers who are also a craftsman is difficult to buy production technology. Though it is important to improve the quality of souvenir or handicraft products.

Production technology gives benefits for artisans. Production creativity can only occur when craftsmen use appropriate technology. The idea of craftsmen to choose cheap technology is profitable. This capability includes as an entrepreneurial spirit. According to Zusmelia, et al., (2012) entrepreneurship is the soul of economic empowerment. Creativity and innovation technology serves to become the core of entrepreneurship (Wahyudin, 2012). Entrepreneurship is an economic behavior that needs to be developed to empower craftsmen such as Sundaya and Muhardi (2011) research results. Based on that, the purpose of this study is to examine several factors that influence the adoption of production technology on creative micro souvenir business.

2. Research method

The research method used is grounded research with qualitative and quantitative approach. Determination of location of research done intentionally in District of Purbalingga Wetan, Purbalingga District, Province of Central Java, Indonesia. Sources of research data consisted of all craftsmen of micro souvenirs or creative handicrafts processed waste in Purbalingga Wetan. Respondents selected by simple random sampling. Meanwhile, key informants are set with a rolling snowball technique. Number of respondents interviewed by 28 craftsmen.

Primary data collection techniques are in-depth interviews with respondents and key informants. Another primary data collection technique is the Focus Group Discussion (FGD) and observation. Data processing techniques used in this study is a qualitative and quantitative approach. Data that have been processed directly analyzed. Analytical technique for qualitative data is Interaktive Model of Analysis (Miles & Huberman, 1991). The types of all types of quantitative data were analyzed using descriptive statistical techniques such as: percentage, frequency distribution, scoring, mean, tabulation and graphical display. The result of all data analysis then presented in the form of descriptive description.

3. Result and discussion

3.1 Determinant factors of technology adoption

Artisans in adopting production technology are influenced by several important factors. Some of these factors are economically, socially and environmentally motivated. Craftsmen are very careful when choosing production technology. Information on additional sources of capital is needed to make it easier for craftsmen to buy technology. After using the production technology then the craftsmen are able to produce a quality product. Souvenir designs and motifs tailored to market trends. Craftsmen have also been able to modify the product. In order to avoid the product remain monotonous.

The use of this type of technology tends to be based on various technical and non-technical reasons. Non-technical factors include several matters related to economic, social and environmental motives. Majority (76 percent) of craftsmen farmers mention the dominant basis of consideration in technology adoption decision is non-technical factor. This is closely related to some of the reasons for the craftsmen farmers as listed in Table 1.

Table 1: Several economic motive factors

No.	Determinant factors	Information	
		Amount (People)	Percentage (%)
1.	Cost of providing materials and technology tools	28	100
2.	Availability of costs that can be allocated for technology maintenance	28	100
3.	Utilize technological economics in increasing the production of creative souvenirs	26	93
4.	The cost of replacing materials and technology tools that have worn off	24	86
5.	Availability of sources of capital services from various financial institutions accessible for additional technology procurement	11	39
6.	Easy access to additional capital for procurement of materials and technology tools	11	39
Average		21	76

Information: The amount of informants are 28 people

The decision-making process of most (60 percent) of craftsmen farmers in terms of choosing the type of technology is determined by social-motivated factors. Some of the key social factors are: social support, social utility, technological procurement systems of technology collectively. Another social factor is the functioning that facilitates the work of the labor force, the interests of cooperation and the bond of collectivity.

The craftsmen are aware, the procurement of technological devices that use electric power is difficult. On the other side, the use of this technology facilitates the work. Farmers are difficult to use the manual or traditional way of working. Mechanical technology is required to facilitate the work of cutting, creating patterns of design and motive, shrinking and refining the product. However, on the other hand realized the procurement of various tools of these technologies require expensive costs. Therefore, it is often unaffordable to the economic capabilities of most craftsmen. Several socially motivated factors are shown in Table 2.

Table 2: Social motive factors

No.	Determinant factors	Information	
		Amount (People)	Percentage (%)
1.	Support from family members	28	100
2.	Support from fellow farmers craftsmen	28	100
3.	Utilization of social technology in helping other craftsmen farmers speed up the production process to meet customer orders	19	68
4.	Purchase of technology tools collectively	19	68
5.	The use of technology facilitates the workforce in processing coconut waste into creative souvenirs	10	36
6.	The use of technology strengthens the cooperation of artisan farmers	7	25
7.	The use of technology does not permit the collectivity of artisan farmers	7	25
Average		17	60

Information: The amount of informants are 28 people

Job as a handmade souvenir or handicraft producer of coconut waste processed waste have underwent for many years. Indirectly nurture a sense of awareness and sensitivity to the preservation of the natural environment around the village. Various types of coconut waste collected craftsmen to be used as raw material for creative souvenirs. Procurement of raw materials of various types of coconut waste partly collected directly by the informants and members of their families. Others are purchased from people who work as waste collectors. Coconut waste collectors regularly deposit it to craftsmen. There are also informants who get raw materials from glugu sawn timber traders, grated coconut traders or granulated coconut traders. The source of this raw material is already subscribed. The raw materials of coconut waste are bought by craftsmen at low price (Rp 5000-Rp10.000 per sack).

Craftsmen have a concern and sensitivity to environmental issues. This factor is one of the decisive factors for informants in choosing production technology. Informants are unwilling to use technology that destroys environmental sustainability. Craftsmen also try to avoid the use of chemicals. Whether in the form of cleanser, smoothing or dye. Rarely there are products produced smeared with polishes such as melanin or politur. Table 3 lists several environmentally motivated factors.

Table 3: Several environmental motives factors

No.	Determinant Factors	Information	
		Amount (People)	Percentage (%)
1.	Willing to utilize various types of waste coconut which was originally considered waste or wasted goods into raw material of creative souvenirs	28	100
2.	Reduce environmental pollution around the village and other places from environmental pollution threats due to coconut waste	28	100
3.	Willing to modify various types of coconut waste with creative and productive work techniques	20	71
4.	Invite others to collect and utilize the potential coconut waste into pollutants	15	54
Average		16	57

Information: The amount of informants are 28 people

3.2 Production technology for economic feasibility

The technology used by craftsmen in processing coconut waste into souvenir or handicraft is distinct. The level of technology used is partly modern, some are semi-modern and some still retain traditional manual work techniques. For craftsmen who use modern technology, the processing process is equipped with various tools such as an all-electric machine. Each stage of work done from pre-production preparation, production process to post production already using electric machines. Economic feasibility is closely related to technology. Figure 1 shows the relationship between the economic feasibility and the technological level of the craftsmen.

The information in Figure 1 shows that all craftsmen who have used modern technological tools are able to achieve adequate economic feasibility (medium and high category) from the results of micro-processing souvenirs creative processed waste of coconut. The speed of producing the product in terms of quantity and quality can be achieved by craftsmen according to the target market demand through customer merchant services. Group of artisan craftsmen with modern technology has no difficulty producing products according to market demand.

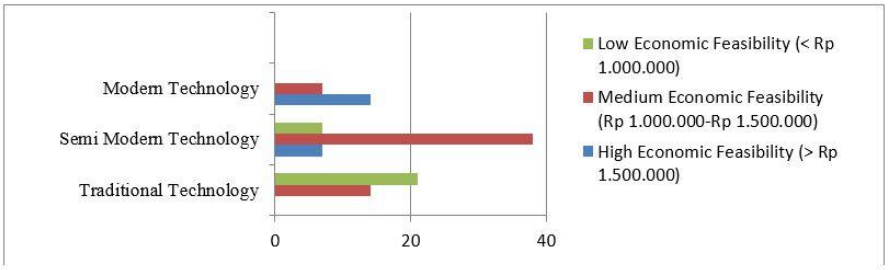

Figure 1: Figure 1: Relationship between economic feasibility and level of technology

Various designs and product pattern produced by artisan farmers with modern technology has reached the national market, especially Sumatra and Kalimantan. At certain moments such as before Ramadan, Idul Fitri, Idul Adha, Christmas and New Year there is an increase in demand for various types of creative products processed of waste coconut. This demand-increasing event is faced by technologically-friendly peasant farmers with ease. In contrast to the condition of the artisan farmers who still use the level of semi-modern technology and traditional manuals, they seem to less ready when facing an increase in product demand. The issue of such imperfection is usually solved by dividing the order of products into other handicraft farmers who have been cooperating for years. Each craftsman farmers get the order quota per design type and creative souvenir pattern according to their respective expertise. More than half of artisan farmers with semi-modern technology achieve adequate economic feasibility (high and medium). Nevertheless, there is a small number of new ones capable of achieving low economic feasibility. In Figure 2 there is information about the portrait of the difference in technological conditions.

Craftsmen do not always use several kind of modern technology in every activity ranging from pre production, production process to post production. Some of them use new modern technology on production process activities only. There is also a small number of craftsmen that has been implemented on all activities from beginning to end of the product sold. Coconut waste is potentially utilized to produce economical products. Pugersari, et al., (2013) proves that coconut waste, especially shell potential, is processed as raw material for commercial products. However, the management of this business can not be removed from the capability of craftsmen in entrepreneurship. Suartha et al., (2014) and Yusup, et al., (2017) suggest that entrepreneurship is important for the empowerment of poor farmers who are interested in developing productive livelihoods.

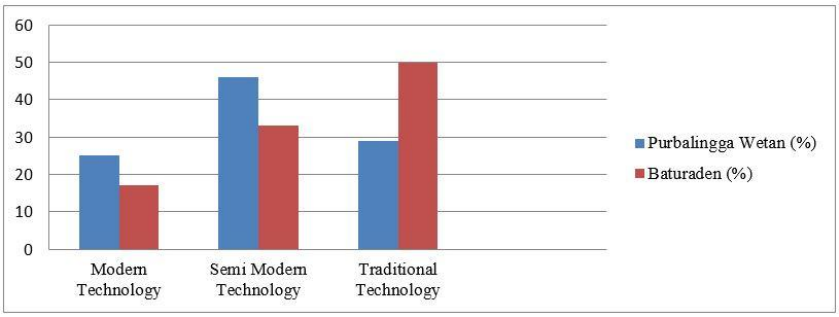

Figure 2: Portrait of difference level of technology of craftsmen

Empowerment through the development of diversification of productive livelihood does have a strategic value to alleviate farmers and craftsmen from poverty. Horton (2004) emphasizes that empowerment is indeed potential to mobilize poor peasants to get out of the backwardness and backward problems. One effort that is able to mobilize that is with the development of micro-based local resources such as waste into a product of coconut souvenirs or creative handicraft.

4. Conclusion

Management of micro souvenirs or creative craft requires the adoption of appropriate production technology, cheap and easy to use. The process of adoption of this technology have several important factors. From the description of the craftsmen, there are some factors that have economic, social and environmental motives. Application of technology utilization on micro souvenir business or handicraft from coconut waste is not similar. There are craftsmen who already use the technology of mechanical and semi-mechanical production. The product results are certainly have higher quality. Souvenir designs and motives are also customized trends. The economic feasibility of the craftsmen is better. It's just small number of micro businesses which are just < 25 percent. The majority of micro souvenirs are still using traditional manual technology. It affected the level of difficulty to produce quality products. Production process done without finishing stage. These artisans have not produced meaningful economic benefits as profit. Thus, assistance should continue. To raise awareness of artisans to be willing to apply production.

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