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Creative Industries Development Strategy Based on Craftsmen Vacuum Forming In Makassar

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ABSTRACT
One of the obstacles in developing a sustainable industry is related to limitations in terms of skills and knowledge. This is related to simple technologies that allow them to be used in the industry. This limitation results in their ability to be less aware of opportunities to participate in economic development. One of the plastic molding technologies that can produce plastic-based products that are easy to do with simple tools is the vacuum forming method. Dissemination of technical knowledge of production must be introduced to craftsmen so that they can contribute to the producing process to supply the household, especially in the automotive industry. This can be done through education and training programs as well as counseling and guidance in the field of industrial development. Therefore, it is needed to initiate the growth of this vacuum forming industry sooner. It is expected from this coaching model to have a positive impact on growing new industries in Makassar City.

Keywords: *Strategy, empowerment, creative industries, vacuum forming, Makassar*

1. INTRODUCTION

One of the obstacles in developing a sustainable industry is related to limitations in terms of skills and knowledge on simple technologies to support the industrial process [1]–[3]. These limitations make people in industrial sectors are not well informed about opportunities to participate in economic development. One of the plastic molding technologies that can produce plastic-based products with simple tools is the vacuum forming (VF) method. The industry plays an important role in economic development in a country because it has several advantages over other sectors, including the value to embed capital capitalization, the ability to absorb large labor, and the ability to create added value from each income or material basic process [4]–[6].

Learning from the People's Republic of China (PRC) in building its industrial platforms in Indonesia that can be used as an example for Indonesia to grow as an industrial country. By this, Indonesia can also become a competitor for China. It is expected that Indonesia can be the foremost because Indonesia has a large capital for the growth of an industry. This potential is currently being the target of other industrial countries that make Indonesia as a market destination for their products.

Today, China has become a great country with the industrial sector, which is also known as the giant country in the world. The flood of industrial products from China to fill the houses across Indonesia, ranging from simple ones such as children's toys and household appliances to the high-tech [7], [8]. Most industrial companies aggressively support the Chinese government. The various policy is made, for example, utilizing open market opportunities for China's companies, made a special area for research and development (Research and Development/R & D) in Jiaxing, Zhejiang, and create a Free Trade Zone (FTZ) in Pudong, Shanghai. The PRC government continues to encourage and create various exhibitions both on a global and local scale [7], [8].

Rapid economic growth in China, with fast restructuring, has attracted the attention of scholars worldwide to investigate this matter further. Social research is dynamic, and it requires special attention from academic researchers to better understand some of the underlying processes, help to reduce a big problem, and facilitate the sustainability of growth and development.

In Indonesia, the role of small scale industries such as those in households has given significant contributions to the development of the economy. However, the involvement and role of the household industry especially in the vacuum folding (VF) method of plastic

products in the development sector are still not optimal. This could be due to limitations in the field of education, worker's skills, and knowledge which are still very limited. This limitation means that they do not know the opportunity to participate in development. The need for education and training, as well as counseling and guidance in the field of industrial development, is still relatively needed to carry out the empowerment model through the strategies that are carried out. Regarding the problems faced by the household industry of plastic products, the VF method requires an alternative problem-solving. The strategy is conducted by designing a strategy and an empowerment model of creative industry craftsmen whose industrial base is from materials made from polymer/plastic by using the VF method.

2. RESEARCH METHOD

The method used in this research is descriptive-analytic because it is considered to be able to provide a systematic picture of the conditions of industrial development in China. The descriptive method is designed to gather information about real conditions now (while in progress). The main purpose of using this method is to describe the nature of a state that is temporarily running at the time the research is carried out, and examine the causes of certain symptoms.

The stages of this research are explained as follows: (1) Preparation stage. The first step was taken to conduct need analysis to know the type of industry as well as the determinants of the industry in building the VF industry and to make an introduction. Next, data were conducted to look for the potential of human resources and the right area of the industry for socialization/workshops. Data collection techniques in this study were using secondary data obtained from library research, which was data collection by examining relevant literature in the form of books, scientific journals, documents, seminar papers, magazines, newspapers, internet, and bulletins. (2) The implementation stage; In this stage, the raw data obtained from existing libraries were processed, followed by compiling and classifying data. (3) Analysis phase This research focuses on the formulation of the pattern of building a polymer / plastic industry using VF techniques in Makassar City.

3. RESULT AND DISCUSSION

3.1. The household industries' main ingredient-based polymer/plastic in Makassar

Based on the data search, it is obtained that in Makassar there are large scale/capital intensive companies as follows; there are two companies that produce plastic and beverage packaging made from PE / PET with thermo-vacuum forming production methods and one company that manufactures food packaging, polyfoam and styrofoam container boxes with thermo-vacuum forming production methods. Moreover, two companies produce household appliances such as jerry cans, bottles plastic (tumbler) made from plastic with the production method of blow molding injection, one company manufactures clothes washing brushes, toothbrushes, brooms with production techniques Molding Injection with manual assembling, and one company produces plastic bags and one company that manufactures plastic sacks. The total employment of the seven companies is 520 people with the following Table 2.

Table 1. The main ingredient-based polymer/plastic in Makassar

No	Company	Machine & Method	Product
1	PT. Sarana Sinar Sulawesi	Thermo Vacuum Forming	Plastic Cup / Plastic Cup Plastic Packaging Box PT / PET material
2	PT. Aneka Plasindo Perkasa		Plastic Nets
3	Badan Usaha Luhur Plastik	Blow Molding Injection	Plastic jerry cans
4	PT. Kemasan Cipta Nusantara		Styrofoam. Home / Styrofoam. Box; Hotmould; Injection Moulding
5	PD Indah Packaging Industries		Plastic bags
6	PT. Indus Sandang Nusantara (Makatex)		Plastic bags
7	PT. Indo Brush Utama	Inject Molding, manual assembling	Brush clothes, Broom, Brush teeth.
8	PT. Megahputra Sejati	Thermo Vacuum Forming, Blow Molding Injection	Plastic packaging food/beverage, plastic beverage bottles.

Table 2. The total employment of the companies

No	Company	Employment		Additional Information
		Men	***Women***	
1	PT. Sarana Sinar Sulawesi	16	35	Management: 2 men: 4 women Production: 14 men: 31 women
2	PT. Aneka Plasindo Perkasa	6	8	Management: 1 man: 2 women Production: 5 men: 6 women
3	Badan Usaha Luhur Plastik	5	3	Management: 1 man: 0 woman Production: 4 men: 2 women
4	PT. Kemasan Cipta Nusantara	15	27	Management: 1 man: 4 women Production: 14 men: 23 women
5	PD Indah Packaging Industries	5	12	Management: 1 man: 3 women Production: 4 men: 9 women
6	PT. Indus Sandang Nusantara (Makatex)	12	4	Management: 1 man: 4 women Production: 13 men: 0 women
7	PT. Indo Brush Utama	5	12	Management: 1 man: 2 women Production: 4 men: 10 women
8	PT. Megah Putra Sejati	15	35	Management: 2 men: 7 women Production: 13 men: 28 women
		75	136	

Uptake workforce of 211 people consists of 75 men and 136 women. Based on the reflection of the data, it is found that the sector of management and production activities is dominated by women in terms of accuracy, diligence, and the ability to detail or finish the final product. On the other hand, men generally worked in the employment sector that requires the ability of manpower and expertise as production machine operators.

3.2. Household industries have a production base with the use of simple technology in Makassar.

The industry that produces plastic raw material in a small scale industry is not found in Makassar. Based on the facts in the field, it is an opportunity to start the industry and design the industrial model.

3.3. Developing a Strategy Model or simple VC technology transfer pattern for the household sector.

By referring to the design decision with consideration of the tools that are easy to operate and to maintain which were obtained in the initial description, it is believed that the plastic sheet-based material industry in Makassar City can be established through the recognition and training programs. The fact shows that the growth of the manufacturing industry of plastic products in the city of Makassar is included in the low category and the products produced are generally for the needs of the food and beverage product industry. For other product industries, it has not yet been found. Some factors that determine and become a classic obstacle in developing strategy models that must be considered are as follows: a) Sales factors, b) Derivative businesses, c) Lack of training, d) Promotion ability, e) Managerial ability, f) Product development. Building a business with an industrial core that is new and unknown is a challenge in the process of socialization or efforts to initiate the industry.

3.4. Developing Small Medium-Scale Vacuum Forming-Based household Industries

Below is a recommendation chart of a plastic sheet planning and production design with the technical production of vacuum forming methods.

3.5. The Draft Strategy for Empowering Creative Industry for Craftsmen

In the empowerment strategy, three parties need to be prepared to make sure the business continuity, namely (1) extension agents as agents of change (2) government and private sector related to product development (3) creative industry craftsmen as the main actors. These three parties have their respective roles and synergize with each other in conducting an appropriate extension strategy and under the new paradigm of agricultural extension. The three parties are;

1. Program Initiator; Playing a role in formulating startup programs in the process of incubating the initiation of new industrial programs in Makassar City. These programs are formulated and proposed/communicated to stakeholders.
2. Mentors / Companions; the facilitator acts as the lead operator for each business actor, whose task is to record the progress of the process and the progress of each new business actor.

3. Business Actors; business actors are business incubation participants who will carry out the training process, internships, and final implementers of each program that has been arranged and compiled by an initiator in the industry incubation program for polymer-based products.

4. CONCLUSION

1. Industry plays an important role in economic development in a country because it has several advantages compared to other sectors.
2. An alternative problem solving is needed, namely designing a strategy design and empowerment model of creative industry craftsmen whose industrial base is made from polymer/plastic material using the VF method.
3. In Makassar City, several large-scale/capital-intensive companies produce products made from plastic. However, there is no small scale yet.
4. Three parties need to prepare the empowerment strategies in business sustainability, namely (1) extension agents as agents of change (2) government and private sector related to product development (3) creative industry craftsmen as the main actors.1. Industry plays an important role in economic development in a country because it has several advantages compared to other sectors.

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