Advances in Economics, Business and Management Research, volume 184
Proceedings of the Business Innovation and Engineering Conference 2020 (BIEC 2020)

Setting Up Women *Sociopreneurship* Model Based on Textile Waste

Armaudiah Putri[1*], Andina Oktariani[1], Arief Daryanto[1]

[1]*School of Business IPB University Bogor, Indonesia*
Corresponding author e-mail: armaudiahp@gmail.com

ABSTRACT

Textile waste, known as patchwork, is solid waste which is difficult to decompose and thus requires treatment to reduce the impact on the environment. Convection centers make housewives who are part of residents around the area employed as tailors. This research raises the issue of empowering female tailors to be able to utilize textile waste. This study aims to identify the needs of customers and tailors for textile waste-based women's sociopreneurship products and develop a women's sociopreneurship business model. This study uses a customer discovery approach with a lean canvas model. The results of this study found that empowering female tailors must be able to produce unique, contemporary, simple, neutral-colored product designs and reusable packaging, environmentally friendly and there is product information and can be accepted by the market. The women's sociopreneurship business model that must be designed produces attractive design products selected totebag products to get benefits and profits for female tailors. The implementation of the sociopreneurship women's business model can be in the form of a hybrid type or profit for benefit.

Keywords—*textile waste, women sociopreneurship, customer discovery, lean canvas*

I. INTRODUCTION

In general, fabric waste originating from the textile waste and apparel industry accounts for two percent of the total waste in Indonesia. Waste generated from the textile waste and apparel industry is solid waste known as textile waste. Textile waste is the remnants of pieces of fabric originating from the clothing production process. Fabric is one type of inorganic waste that is difficult to decompose so it cannot be composted. If the textile waste is processed by burning, it will cause smoke and toxic gases which also endanger the environment. The accumulation of solid waste in the apparel industry results in increased pollution, causes various diseases, and creates uncomfortable scenes [1]. This is a problem because based on 2011 data, cloth waste ranks 4th in the highest percentage of waste, with an increase of around 3 to 5 percent per year [2].

Recycling is one of the most effective ways to reduce solid waste in the apparel industry, so that not only pollution will be reduced, but it can also drive activities that bring economic benefits [3]. Not only can it generate revenue, another benefit of recycling is that it can prevent air pollution due to the odor produced, as well as prevent soil pollution because the fabric takes a long time to decompose. Referring to the 2012 Indonesian waste bank profile book on waste management using the 3R (Reduce, Reuse, Recycle) program, the community still needs to be invited to sort and process waste properly. The existence of Law Number 18 Year 2008 concerning Waste Management further strengthens the reason for processing waste creatively.

Kampung Jahit Bulak Timur is one of the areas that has become the largest convection center in the City of Depok. This village began to be well known by convection business people from all over Indonesia. Not a few people who make homes as a production base and as a place to sell their products. Not a few housewives who work as tailors in this area in order to meet the needs of the household. Based on observations made at the pre-research stage, there are a number of factors that cause housewives to work as tailors in the region, namely because their husband's income is not sufficient for household needs andthere is no activity at home so they seek activities by contributing in finding income for the family. Another thing that was found from the pre-research results is that the textile waste has not been used maximally in the area. Textile waste is only discarded or sold at low prices. These two things

are interesting if combined to empower women tailors in Bulak Timur Village in processing textile waste into functional products that have added value. Under these conditions, it is necessary to design a textile waste-based business model with Patch.id products. This can help customers get unique functional products while helping to improve the welfare of female tailors in the target area of empowerment. The design of a business model is carried out to map the right solution to the problems of the customer and tailor segments and can be done with the help of empowering actors. This research raises the issue of empowering female tailors to be able to utilize textile waste. Therefore, the purpose of this research is to identify the needs of customers and tailors for textile waste -based women's sociopreneurship products, and to develop a women's sociopreneurship business model.

II. Materials And Methods

A. *Material*

This study uses two data sources, namely primary data and secondary data. According to the primary data in this study obtained from the results of in-depth interviews (in-depth interviews) and online surveys to respondents. Secondary data were obtained from literature studies through various sources, such as books, theses, theses and journals. The population in this study is the millennial generation aged 20 to 40 years in Jakarta and tailors in Kampung Jahit Bulak Timur. Informants in this study consisted of Depok City Government, the owner of convection in Bulak Timur Village, and the empowerment community.

Respondents are taken based on the non- probability sampling method with techniques *purposive sampling*. The sample for the customer segment in this study is the millennial generation aged 20 to 40 years totaling 50 respondents and the tailor respondent is a female tailor who is a household tailor in the East Bulak Sewing Village totaling 10 respondents.

B. *Methods*

This research uses customer discovery method with action research approach. Action research is an approach that focuses on the changes experienced from extracting information with a particular cycle, namely determining the problem, planning, taking action, and evaluating to get the right change [4]. Action research aims to identify problems (problem identification research) or solve problems (problem solving research) [5]. The stages in customer discovery are testing the problem, testing the solution, and verifying the business model. Explanation of each stage of customer discovery is as follows:

C. *Testing Problems*

Problem testing data are analyzed using reduction and categorization techniques. Data reduction techniques are the process of selecting, focusing on the simplification process, and transforming rough data obtained from written records in the field [6]. After the data has been reduced, categorization is done to categorize the answers of the respondents' questions and determine potential customers. Data obtained from problem testing is converted into a product prototype with Minimum Viable Product (MVP). MVP is a product that already has elements that are considered capable of solving problems or meeting customer needs [7]. After the prototype is designed, the research continues towards the solution testing phase.

D. *Testing Solution*

Solution testing phase is conducted to find out whether the prototype offered already has elements that can solve customer problems. Solution testing is conducted to potential customers through in-depth interviews and online surveys to get feedback regarding the solutions offered. If the solution is not appropriate, then the pivot is redesigned, both from the prototype and the business model, which is then re- tested for suitability to the same respondent. If the majority of respondent state that the prototype is appropriate, a product that answers the problem and a business model that is suitable for market needs is obtained. The solution test data will be transcribed, then reduced, categorized, and verified to be the right business model.

E. *Business Model*

The business model is based on the results of problem testing and solution testing. The business model is carried out to ensure that the business model is truly in accordance with the wishes of the customer segment. There are three factors that are used as parameters in verifying business models, namely the compatibility between products and markets, product customer segments and how to achieve them, and the ability of businesses to make money.

III. Results

A. *Testing Problems*

Problems that were explored with customers regarding obstacles in purchasing handmade products, problems related to handmade products found in the

market, as well as interest in handmade products made from textile waste. Problems felt by respondents include: (1) The design of handmade products on the market today is less attractive. Product design seems monotonous and less varied so that there is a need for design variations in accordance with customer expectations so that customers are not saturated with existing designs, (2) The price of handmade products that are considered expensive. Based on the results of testing the problem, as many as 100% of respondents agree if the price of handmade products is determined based on the level of complexity of making the product, (3) The packaging is less attractive. Respondents find it difficult to find handmade products that are equipped with attractive packaging, especially when they want to give handmade products as gifts to others. In testing the problems of consumer respondents, there are two additional problems, namely: (1) Products are difficult to find. As many as 52% of respondents said that handmade products are difficult to find, even though there are many products but those that are in accordance with their wishes are difficult to find, (2) The manufacturing process is long.

At the problem testing stage, data related to marketing channels are obtained by the customer to find out the existence of handmade products. As many as 84% of respondents know the existence of a handmade product through social media. As many as 40% of respondents know the existence of a handmade product through exhibitions at certain events. Influencers also have the influence to provide information related to the presence of handmade products according to 38% of respondents. As many as 18% of respondents are willing to spend less than Rp.50,000 for one handmade product, 54% of respondents are willing to spend Rp.50,000 to Rp100,000, as much as 24% of respondents are willing to spend Rp100,000 to Rp200,000 and as much as 4% of respondents are willing to spend more than IDR 200,000.

All customer respondents in this study were interested in handmade products made from textile waste with the percentage of respondents who knew handmade products made from textile waste by 88% of respondents. The appeal of textile waste handmade products according to 50 respondents shows that there is a reason for the respondents' interest in textile waste handmade products, including because they can reduce waste in the environment (74%), unique design because of the combination of textile waste pieces (70%), attractive packaging (14%) %) and limited products due to textile waste motifs that are used vary (4%). The majority of respondents have a preference for tote bag products. In the initial stage, women *sociopreneurship* is focused on products that have the largest percentage, namely tote bags by 60%.

TABLE 1. PATCH.ID PRODUCT PREFERENCES BY CUSTOMERS

Product	Percentage (%)
Tote bag	60
Tablecloth	40
Mat	40
Tissue box	36
Laptop bag	30
Clothes	28
Pillow case	22
Makeup pouch	22
Handkerchief	10
Brooch	6
Hat	2
Carpet	2
Face mask	2

Lack of knowledge and skills possessed by tailors is one of the inhibiting factors in utilizing textile waste into functional products. The majority of tailors have not yet made use of existing textile waste. This underlies the need for empowerment in the East Bulak Sewing Village through training in making textile waste-based products. Another problem faced by female tailors in the East Bulak Sewing Village is lack of capital to do independent business. This happens because the income received is only enough to meet the monthly needs of the household so it is not possible to save as capital for an independent business.

Additional problems obtained based on testing the problem to tailor respondents include the price of raw materials that are not stable, the physical condition of the tailor and the condition of the equipment owned. Physical conditions that do not support the tailor's productivity on the amount of product that can be produced. The majority of tailors are more than 40 years old, so the production is tailored to the ability of tailors. Equipment that has a low production capacity affects the number of products produced, plus equipment constraints that are often damaged thus hampering the tailor production process.

B. Testing Solution

Patch.id tote bag products are assumed to be able to meet the expectations of respondents for handmade products that have a simple, unique and contemporary

design. The design of Patch.id's tote bag products can be seen in Figure 10. The product design will be tested through the testing phase of the solution to potential respondents to find out if the design was made as expected. The trademark used on the product is Patch.id, because in English "patch" means patches or pieces. The brand shows that Patch.id products are made from pieces, which are textile waste pieces. The design of Patch.id's tote bag product is made simple with a combination of plain textile waste and modest motif.

Fig. 1. Patch.id Product Design Customers

can reuse the packaging as a place to save because on the side of the package is made a hole with the words "save here" as a gap to enter money. Customers can also make packaging as a place to store goods. After the product is removed, the packaging still has functional value. Cardboard box packaging can be recycled into new cardboard boxes, usually reused by cardboard manufacturing service providers. Product related information is needed by the customer on the packaging. The front pack of Patch.id products contains the trademark Patch.id with the logo in the form of a sewing needle and thread forming the letter P with the tagline "Sewn with love". The tagline is made to indicate that the product is a patch. jw.org en sewn lovingly from a female tailor in the East Bulak Sewing Village because the product provides many benefits and hopes for the tailor. The back of the package contains a product story that is described through the words "I am made of material that is usually ignored by others, namely waste. I'm made from textile waste. Thank you for saving the environment by buying me ". There is also a description of the empowerment of female tailors in the East Bulak Sewing Village, namely "I came from the East Bulak Sewing Village, one of the areas in Depok City, made by female tailors there. I present to bring economic change for the female tailor there. Now I'm a product that you can use. Take care of me well ".

When opening the Patch.id packaging, customers will be greeted with thanks for buying Patch.id products. The product is packaged using duslak paper as a wrap layer in the package to be better protected from dirt. There is also product care information in the form of symbols that are commonly used. The water symbol in the bucket means that the product can be machine washed at normal temperatures. A black triangle symbol crossed means that it is forbidden to use bleach when washing because it can damage the color of the fabric on the product. The rectangular symbol in which there is a circle means that the product can be washed dry at normal temperatures. The iron symbol means the product can be ironed to normal temperatures. The packaging is designed to give an exclusive impression on Patch.id products even though the raw material of the product comes from waste.

Fig. 2. Patch.id packaging design

Based on data testing solutions, where as many as 94% of respondents rated Patch.id's tote bag product design as in accordance with the expected criteria. Patch.id's product packaging design has met the criteria and expected needs according to 97% of respondents. The interest of potential customers in Patch.id's tote bag products is evidenced by the results of testing the

solutions conducted, where as many as 91% of respondents are interested in buying Patch.id's tote bag products. This proves that Patch.id products have the opportunity to enter the market with millennial generation customer segmentation.

In the solution testing phase, testing is done related to Patch.id product marketing channels that are approved by potential customers. The majority of potential customers prefer online channels (social media) to market Patch.id products, which is 84% or as many as 27 respondents. 16% or 5 respondents chose offline channels (shops, exhibitions) to market Patch.id products. Another channel suggested by respondents to market Patch.id products is through communities related to Patch.id and creating websites. Based on data testing solutions to potential customers, another marketing channel was also obtained that could be used by women *sociopreneurship* Patch.id to market products, namely through word of mouth.

In the solution testing phase, potential customers are also asked to provide suggestions and input for improvement of Patch.id products. In general, respondents suggest accepting special or custom requests on Patch.id products. The existence of custom services can encourage collaboration with institutions in the manufacture of merchandise so that institutional collaboration is added in the marketing channel

IV. DISCUSSION

The women's sociopreneurship business model that must be designed is referred to from the identification of three aspects namely the compatibility between products and markets, the large customer segments and how to achieve them, and the ability of businesses to make money [7].

A. Match Between Product and Market

The first parameter to measure the compatibility between the product and the market in relation to whether the problem or need is resolved is an urgent or very important need for the customer. Based on the results of testing the problem, the customer's problem was identified. From these problems, three of the most pressing problems were determined to be resolved based on the highest percentage. Problems that are considered urgent include: (1) Unattractive product design, (2) Products difficult to find, (3) Unattractive packaging. The solutions made to overcome these problems include: (1) Products vary with attractive designs and can be custom so that customers can determine their own desired design, but still adapted to the ability of tailors and raw materials available, (2) Online product marketing (social media, influencers, websites), offline (stores, exhibitions), through communities, word of mouth and institutional collaboration, (3) Corrugated box packaging that has an attractive design and in accordance with the features expected by respondents.

Based on the results of testing the solution, 94% of respondents agreed that Patch.id's tote bag product design was as expected and 97% of respondents said that Patch.id's packaging design was as expected. As many as 91% of respondents are interested in buying Patch.id products. These percentages indicate that Patch.id has provided solutions to urgent consumer problems. The data answers the second parameter to see between the product and the market regarding whether the product meets or addresses customer needs. Based on these data shows that the solution offered by Patch.id can solve the perceived problem. The third parameter in determining the compatibility between the product and the market is whether there are enough customers for a business opportunity. This parameter is determined through market size. The market size of Patch.id products is identified through TAM, SAM and TM which can be seen in Figure 14. Assuming the number of TMs that are the target market for Patch.id products around 2 767 145 soul. This assumption proves that there is enough market for Patch.id to be a business opportunity.

B. Customer Segments and How to Achieve Them

The Patch.id customer segment is explained through the customer segment element in the lean canvas model. Millennial generation or generation Y aged 20 to 40 years is a customer segment of Patch.id. Millennials who are interested in handmade products and have bought handmade products still have problems with purchasing handmade products, so they need solutions to overcome these problems. Patch.id products have considerable market potential because based on the results of problem testing and testing solutions, the majority of respondents are interested in buying Patch.id products. How to reach millennial generation including marketing products online (social media, influencers, websites), offline (stores, exhibitions), through communities, word of mouth and institutional collaboration. Online marketing makes it easy for consumers to find products.

C. Business Ability to Make Money

The ability of a business to make money is identified through simple financial analysis to find the

Cost of Production (COGS) and determine the selling price of the product. Patch.id product prices are adjusted to the level of complexity of product manufacturing and customer willingness to pay. HPP of Patch.id totebag products is Rp31 479 per unit with a selling price of Rp 50,000 per unit. Women sociopreneurship Patch.id is assumed to produce 150 products in one month. Based on these calculations it can be concluded that this business is able to make money and have a net income (earn after tax) of Rp33 375 000 in the first year.

The implementation of the sociopreneurship women's business model can be in the form of a hybrid type or profit for benefit. A hybrid type in which the implementation model bears social funds from various stakeholders or commercial funds from government and private companies. Social funds are used to produce operations from Patch.id products by empowering tailor women. In the hybrid type of professional staff to empower women carried out voluntarily. Empowered women not only receive training but receive product sales. Meanwhile, the type of profit for benefit funds for operational empowerment and producing empowerment products is carried out personally and in business where professional staff to empower women are carried out for a fee.

V. CONCLUSION

Customer expectations for the products produced by Patch.id include having a unique design, current, simple and neutral in color. Expectations on Patch.id packaging can be reused, are environmentally friendly and there is product information. Patch.id's product preferences by the majority of customers are tote bag products to further become the initial products produced through the empowerment program. Tailors' expectations as business actors for the products produced by Patch.id include products that are varied, have designs that are expected by the customer segment and can be accepted in the market.

The lean canvas model for Patch.id sociopreneurship women is verified based on three aspects, namely: (1) Product compatibility with the market. Based on the results of testing solutions, product design and packaging Patch.id is in accordance with the expectations of the majority of customer segments, (2) customer segments and how to achieve them. Millennial generation customers can be reached through online marketing channels (social media, websites, influencers) and offline (shops, exhibitions, communities, word of mouth, institutional cooperation) to market Patch.id products, (3) How businesses make money. Women sociopreneurship Patch.id can make money through the sale of tote bag products for Rp 50,000 per product with a sales target of 150 products per month.

The implementation of lean canvas models for women sociopreneurship Patch.id can be done by either hybrid type or profit for benefit.

REFERENCES

[1] Grayson M, *Recycling, Fuel and Resource Recovery: Economic and Environmental Factors*. New York: John Wiley & Sons, 1984.
[2] Susilo R, Karya A, Utilization of Textile Waste for Manufacturing Furniture. *Journal of Fine Arts and Design*, 2012, 2(1): 1-5.
[3] Vogler J, *Work from Waste.* London Intermediate Technology Publication, 1983.
[4] Saunders M et al, *Research Methods for Business Student*, 2009, Italy: Perason.
[5] Umar H, *Business Research Methods*. Jakarta (ID): PT Gramedia Pustaka Utama, 2003.
[6] Miles MB, Huberman AM, Qualitative Data Analysis: A Resource Book about New Methods. Jakarta (ID): UI Press, 1992.
[7] Blank S, Dorf B. *The Startup Owner's Manual : The Step-by-Step Guide for Building a Great Company*, California (US) : K&S Ranch, Inc. Publisher, 2017.