The Development of Ulap Doyo Handheld Handbag for Application in Pokant Takaq Small and Medium Enterprise, Kalimantan Timur to Support Tourism Sector

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Abstract—Typical East Kalimantan Handicraft is one of the fields that has a major contribution to improving the regional economy. Craft is one of the creative industry sectors, and creative industries in Indonesia contribute an average of 6.3 percent of GDP to the total National GDP with a value of Rp. 104.6 trillion in 2002-2006. However, not much product development has been carried out by UKM Crafts in East Kalimantan. There has been no attempt to develop products based on customer preferences for handicraft products. These special East Kalimantan handicraft products can contribute to one of the East Kalimantan Regional Medium-Term Development Plans, namely the development of ecotourism as souvenirs or souvenirs. Previous research has been conducted to determine community preferences for doyo fabric. The result is that the community has the main reason to buy fashion products (clothes) from doyo ulcer materials because it is unique, traditional, red black, bright and natural, the community has the second reason because it is comfortable and simple while the third reason is because of the bagga and the fourth reason for choosing product because it is attractive and elegant. here has never been any research on the development of other product designs, namely designs of bags made of ulap doyo woven fabric which are adjusted to the preferences of the community. From the research, it can be concluded that (1) Factors that influence people's preferences in choosing fashion products from doyo ulcer bag are the main factors: Emotional Appeal and Design Detail with a variance of 48.286% and Design Style factor with a variance of 16.051%. (2) Kansei Society of fashion products from Ulap doyo is proud, fashionable and elegant, beautiful, comfortable, unique, natural and traditional. (3) Design of fashion products from Ulap doyo Ulcer based on the design characteristics obtained from the research results are Design Alternative 1 with the composition of the handle product elements is a ring, the front half cover, the zipper pocket, the gusset, the connection with a strap and button and the material is a combination of a ulap doyo woven fabric and genuine leather. The results of this study will be applied at UKM Ulap Doyo Pokant Takaq, Tenggarong.

Keywords— *Development; bag product design; fashion; East Kalimantan*

I. INTRODUCTION

East Kalimantan has a diversity of plant fiber germplasm, including the Doyo plant (Curculigo latifolia). Doyo plant is a specific plant with morphology resembling pandanus plants. These plants, including low plants (shrubs) that have habitat on the forest floor. Traditionally, doyo plants are widely used by local people (dayaks) used for

traditional woven materials by using leaves of doyo plants. Doyo leaves are cut 1-1.5 meters long and soaked in water. After the leaf meat is destroyed then the fiber is used as a woven fabric for doyo (ulap doyo).

Ulap Doyo is a legacy of the Dayak Benuaq tribe who live in East Kalimantan. Ulap Doyo has been around since the Kutai Hindu Kingdom Age hundreds of years ago and began to be widely known in the late 1970s until now. Kain Doyo is usually used at traditional Dayak Benuaq events.

The research that developed the weaving craft product design has been done before by Putra [1] entitled Designing Diversification of Typical Tajung Weaving Products in Tuan Kentang Village, Palembang City, South Sumatra Province. The purpose of the research conducted by Putra is to provide input and strategies in the process of guidance and assistance in developing the design and quality of IKM clothing woven products through the OVOP approach at the Tuan Kentang weaving center in Palembang, South Sumatra Province. Through the study of the creative potential of the crafters community, it is hoped that effective steps can be obtained in providing counseling, guidance and delivery of information or insights about design

Conclusion: That the discussion about new fashion design is in the introductory or insight stage, so it requires sufficient time for a more comprehensive discussion. But because the craftsmen are mothers who are very enthusiastic about paying attention to fashion, this discussion can be conveyed quite smoothly even though it is not presented formally. The expectation of the craftsmen is the need for further agendas, in the form of training on fashion design as a whole, by involving tutors from fashion designers, clothing experts, tailoring and garments, as well as being involved in fashion shows where fashion works from Mr. Potato is published.

The description of the Development of Crafts and Opportunities for Fashion, Kansei and Consumer Acceptance Products, the Development of Tajung Weaving Craft Product Design above shows that the ulap doyo handicraft products as a typical craft of East Kalimantan still have great opportunities to be developed into fashion products. To increase competitiveness in facing the 2015 MEA, the development of ulap doyo craft designs needs to be made based on the design characteristics in accordance with the needs and desires of customers so that their products are truly in demand by the public. It was concluded with the development of weaving craft design in South Sumatra, it is assumed that ulap doyo handicrafts have a great opportunity to be developed into fashions products.

Factor analysis is a data reduction procedure in multivariate statistical techniques. By utilizing the relationship (correlation) between variables are used to form a new variable (Engineering System variable), the results of this factor analysis focus on the goal space in determining the items and product design categories based on the image of customer feelings in kansei.

From the results of factor analysis of fashion products from ulap doyo, it is known that consumers in choosing ulap doyo fashion products are influenced by 4 factors which explain the total variance of 69.664% with the breakdown: 1. design factor with a variance of 38.413% 2. material factors with variance of 13.176% 3. emotional appeal factor 1 with a variance of 9,219% 4. display factor with a variance of 8.841%.

After knowing there are 4 maximum factors, each variable can be determined into these 4 factors. From the calculations it can be concluded that the highest value of each variable indicates which variable belongs to which factor. For factor 1 there are variable characters, unique, traditional, red-black, bright and natural, for factor 2 there are comfortable, fashionable and simple variables while factor 3 there is a proud variable and for factor 4 there are attractive and elegant. From this explanation, the grouping of variables can be made based on factor conformity. The result of reducing and grouping kansei words into 4 factors.

From the calculations it can be concluded that the community has the main reason to buy fashion products from ulap doyo because it is unique, traditional, red and black, bright and natural, the community has the second reason because it is comfortable and simple while the third reason is because of the reason and the fourth reason for choosing the product because attractive and elegant. From these explanations, the alternative fashion products that can be used as sample products are to have bright colors and still look natural and the design looks postmodern that is a combination of unique designs but still looks traditional elements.

II. LITERATURE REVIEW

Indonesia's export market is still dominated by natural raw material products, still oriented upstream, while MEA talks about downstream industry and competitiveness. Thus the creative economy export opportunities are still large including handicraft products. According to Djailani [2] that one of the commodities that continues to be developed and is given business capital support is handicraft products in order to become export commodities. This is supported also by the results of a survey conducted by the government, that around 99.9% of the business world in Indonesia is included in the category of micro and small businesses. Micro and small businesses absorb 97% of the entire national

workforce and contribute no less than 60% of gross domestic product (GDP).

A typical craft in East Kalimantan consists of various kinds of products, but one of the superior handicraft products is the Ulap Doyo fabric. [2]. Ulap Doyo has experienced developments in its application for fashion products such as clothing, but only a small number of UKM Ulap Doyo has developed its products.

Facing increasingly fierce competition, SMEs are required to always improve quality and always develop their products. Several previous studies conducted by other parties concluded that development can improve the quality and economic value of a product and company development does not directly affect the company's performance, but it does have a significant effect on product quality. The product quality has a significant effect on company performance.

According to Minister of Industry MS Hidayat, from the seven existing creative industry sectors, the mainstay sectors that can continue to grow and increase exports are the fashion and craft industry as well as computers and software. The added value generated by the fashion and handicraft industry was 44.3% and 24.8%. The contribution of labor absorption reached 54.35 and 31.13% of the total absorption in the creative industries. Furthermore, exports of the fashion and handicraft industry reached 13 billion US dollars per year.

Recent product development trends lead to a product that is designed based on customer needs. In this concept, the company explores the desires and needs of customers to then turn it into a product that is effective. However, when choosing a product, customers are not only based on logical reasons such as product function or price, but furthermore, emotions and feelings when they see, feel the product also later become an important factor in choosing a product. These emotions, feelings and desires and desires hidden in a person's mind are then expressed as an affective factor. To translate the customer's affective factors, Nagamachi introduces a method called Kansei engineering. Kansei engineering becomes a method for translating one's feelings, emotions, and impressions of the desired product [3].

Previous research [4] that has been done with the results is that the community has the main reason to buy fashion products from ulap doyo material because it is unique, traditional, red black, bright and natural, the community has the second reason because it is comfortable and simple while the third reason for proud reasons and the fourth reason for choosing products because they are attractive and elegant. Other research on product development with kansei engineering methods as has been done [5], [6],

[7], [8], [9], [10], [11]. With this background, further research needs to be done, namely the development of fashion product designs made from ulap doyo bags based on community preferences so that products can increase sales because they are made based on the interests of the community. In addition, in order to support the East Kalimantan regional government program in the 2013-2018 East Kalimantan Provincial Medium Term Development Plan one of them is the development of ecotourism so that fashion products made from ulap doyo have the opportunity to be used as souvenirs or tourist souvenirs in the East Kalimantan area.

As a partner who is willing to apply the results of this research is Ulap Doyo Pokant Takaq UKM located on Jl. Mangkuraja VI No. 54 Loa Ipuh Tenggarong. The owner of UKM is Mrs. Hamidah who has long been working on ulap doyo weaving. Besides making doyo silkworm, Ms. Hamidah also makes fashion products from ulap doyo, such as bags, clothes and shoes. So far, no bag products have been made based on people's interests or preferences, so they are willing to apply the results of this research.

After previous research on public preferences for ulap doyo fashion products in general, it is necessary to do research on community preferences for ulap doyo bag products based on product elements. The formulation of the problem is: 1. What factors influence people's preferences in choosing fashion bag products from ulap doyo material based on product elements 2. How do you see the society about fashion products made from ulap doyo based on product elements 3. How to design a fashion bag product from ulap doyo material based on the design characteristics obtained from the results of the study.

III. METHOD

The method in this study is as follows:

1) Semantic differential questionnaire I

In this questionnaire, respondents conducted an assessment of the desired product by giving an assessment of the pair of kansei words with the Semantic Differential technique (SD Evaluation 1).

2) Distribution of questionnaire I

This stage is done by distributing questionnaires to customers and sellers.

3) Statistical Analysis I

Kansei I word selection is done by several statistical methods such as validity, reliability and factor analysis. The results from this stage may reduce the kansei word pair, so the kansei word pair that will be arranged for the next questionnaire will be reduced.

4) Collection of product samples

A Kansei Engineer must collect product samples that match the results of the customer's preference for the desired product. In this research, because the ulap doyo bag product is not too many variants of its product elements, a number of sample elements of the women's bag product were collected according to the needs. Each element of the bag product is chosen 5 that represents.

5) Distribution of semantic questionnaire II

In the SD II questionnaire, respondents were asked to return to provide an assessment for each product sample associated with the pair of words given kansei.

6) Statistical Analysis II

Next the statistical analysis is done by using cluster analysis to get the most dominant kansei variable. Furthermore, said Kansei will be used as a benchmark in the creation of ulap doyo designs.

7) Design

The results of the statistical analysis above are a number of design categories and elements that are appropriate for the ulap doyo customers. Furthermore, these results will be discussed with ulap doyo designers to get more artistic and innovative design inputs without changing the results of the customer's work.

IV. RESULT AND DISCUSSION

In the initial stage a grouping of kansei words is made. This grouping is done by means of equations and the closeness of the meaning of words in accordance with the terms in the design field. The following table is a grouping formed by one main word (top-concept) at the top that represents the group of words in that column. Main words are chosen based on the largest percentage chosen by respondents

Table 1

Differential Semantic Questionnaire 1

FASHIONABLE	COMFORTABLE	ATTRACTING	PROUD ATTENTION
Modern	Comfortable	Gorgerous	Proud
Present	Comfortable to wear	Very nice	Identity
Dynamic	Soft	Comfortable to see	Typical
Innovative		Cool	Regional Image
Not outschool style		Matching	Unifying
Haigh passion		Draw attention	
Fashionable		Sensual	
Not old-fashioned		Artistic	
Minimalist		Beautiful	
		Feminine	
CHARACTER OF	**UNIQUE**	**ELEGANT**	**TRADITIONAL**
Have character	Unic	Elegant	Traditional
Brave	Unbelievable	Rich	Antique
Confidence		Classy	Old-fashioned
Strong		Expensive	Ethnicity
Trusted		Formal	Classic
Charismatic		Seriously	
Religious		Neat	
SIMPLE	**RED-BLACK**	**BRIGHT**	**NATURAL**
Relax	Red Black	Bright	Natural
Romantic	Black-green	Bright Showy	Silk
Interaction	Black-purple	Shiny	Handcrafted
	dark	Sharp	Limited edition
			Detail
			Variative

In this questionnaire, respondents conducted an assessment of the desired fashion product made from ulap doyo desired by giving an assessment of the pair of kansei words with the Semantic Differential technique (SD Evaluation 1). Kansei words that form the SD 1 questionnaire are the main concepts of the category classification that has been done before. The following are the pairs of kansei words used in SD I questionnaire

Validity test Validity test aims to determine whether a questionnaire is valid or not. A questionnaire is said to be valid if the question is able to express something you want to be measured in a study. The results of the validity test conclusions below can be seen that all variables are valid because they have r arithmetic > r table (0.202) and have a significance of less than 0.05 (error rate of 5%). So that all variables will be included in the next calculation process.

Reliability Test

The reliability test shows the consistency and stability of a score (measurement scale). Reliability is different from validity because it focuses on the problem of consistency and more attention to the problem of accuracy. The step in testing reliability is to look at its crobach alpha value. If the Cronbach alpha value ≥ 0.6, the variable is said to be reliable (Ghozali, 2002). From the results of calculations, the reliability value for doyo sorrow is 0.837. so it can be concluded that all the variables in the questionnaire are said to be reliable.

Factor analysis is a data reduction procedure in multivariate statistical techniques. By utilizing the relationship (correlation) between variables are used to form a new variable (Engineering System variable), the results of this factor analysis focused on the goal space in determining the items and product design categories based on the image of customer feelings in kansei.

Comparison index of the distance between the correlation coefficient with the partial correlation coefficient and termed the Kaiser Meyer Olkin Measure of Sampling (KMO). When the sum of the squares of the partial correlation coefficient between all pairs of variables is of small value when compared to the sum of the squares of the correlation coefficient, it will produce a KMO value close to 1. The KMO value is considered to be sufficient if it exceeds 0.5. The results of calculations in this study indicated the value of KMO meets the requirements because it had a value above 0.5, reaching 0.841. Thus the KMO requirements are met because they have values above 0.5.

Calculations that have been made with SPSS software, the Barlett Test of Sphericity value of 323,288 with a significance of 0,000. Thus, the Barlett Test of Sphericity fulfills the requirements because the significance value is below 0.05 (5%), as well as the kansei words variable is considered feasible and can be used for the next stage of analysis.

The Total Variance Explained table shows the value of each variable analyzed. In this study there are 8 variables, meaning that there are 8 Components analyzed. There are two kinds of analysis to explain a variant, namely Initial Eigenvalues and Extraction Sums of Squared Loadings. In the Initial Eigenvalues variants indicate the factors formed. If all the factors added together indicate the number of variables (ie 3.906 + 1.284 + 0.772 + 0.574 + 0.466 + 0.381 + 0.337 + 0.280 = 8 variables). While in the Extraction Sums of Squared Loadings section shows the number of variations or the number of factors that can be formed, the output results above there are 2 (two) factor variations, namely 3.906 and 1.284.

Based on the Total Variance Explained output table in the "Initial Eigenvalues" section, then there are 2 (two) factors that can be formed from the 8 variables analyzed. Where the requirements to become a factor, then the value of Eigenvalues must be greater than 1. Eigenvalue Component 1 value of 3.906 or> 1 then becomes a factor 1 and is able to explain 48.286% variation. While the Eigenvalue Component 2 value of 1,284 or> 1 becomes a factor 2 and is able to explain 16,051% of variation. If the factors 1 and factor 2 are added up they are able to explain 64.876% of the variation.

From the results of factor analysis of bag fashion products from doyo ulcer, it is known that consumers in choosing ulap doyo fashion products based on image or feeling towards the product are influenced by 2 factors that explain the total variance of 64.876% with the breakdown: 1. Emotional appeal (proud, fashionable and elegant) and design details (Beautiful, Comfortable, Unique and Natural) with a variance of 48.286%. 2. Design Style (Traditional) with a variance of 16,051%.

Collection of Bag Product Elements

The next stage is the collection of elements of bag products. Of the several elements of existing bag products, selected elements that are sufficiently representative can form the whole bag design. The product element of the bag is the handle (handle), the bag cover, the bag, the connection (gusset) and materials / materials. Questionnaires were made to determine the types of bag product elements preferred by the public. The types of each bag product element selected are as follows:

1. **The handle (handle),**

a. above, b. There is a ring, c. there is a buckle, d. rolled up, e. iron chain, f. iron chain woven leather

2. Closing Section

a. No front lid, b. Full front cover, c. Cover the front half, d. Cover the front half with the hook lock, e. Cover the front half with a slot lock, f. Close the fold with a zipper at the edges & magnets on the inside

3. Bag Section

a. Bag with cover with snap buttons, b. Pouch with cover with button buttons, c. Bag with hook lock, d. Pouch with cover and buckle, e. A bag with a lid and lock inserted, f. Pockets with zippers

4. Connection Section (gusset)

a. General Connection, b. Accordion Connection, c. General connection with a rope, d. Rope and button joint

e. Winged Side, f. The field is expanded and there is a zipper

5. Materials / Materials

a. Ulap doyo woven cloth all, b. Combined ulap doyo woven fabric and genuine leather,c. Combined

ulap doyo woven fabric and synthetic leather, d. Combined ulap doyo woven cloth and canvas fabric

After the questionnaire was distributed and filled out by respondents, a recapitulation of the value of bag product elements was carried out. The recapitulation results are as follows:

the top two (2) rankings of each product element, namely:

1. Section Grip: the highest value is the type of grip there is the ring, the value second is the handle there is a buckle

2. Closing Section: the highest value is a type of front cover with half the lock is ooked, the second value is the front cover half

3. Bag Section: The highest value is the type of bag with a zipper, The second value is a bag with a lid with button button

4. Connection Section: the highest value is the type of connection with a rope and buttoned, the second value is the expanded and existing field zipper

5. Material: The highest value for choice of material is compound doyo and ulap woven fabrics

Differential Semantic Questionnaire II After getting the bag product elements that were liked by the respondents, then the Differential Semantic II questionnaire was made to get the bag composition according to the tastes of the people associated with the predetermined word.

From the results of SPSS 17.0 output, it was found that all independent variables entered into the variables forming the regression model in this study. The order of the first variables is Beautiful, Elegant, Comfortable, Proud, Fashionable, Natural, Traditional and Unique. From these results it appears that the variable that is ranked first comes from emotional appeal factors and design details. This shows that the beautiful design detail plays an important role in one's preference when choosing a bag product from ulap doyo woven fabric. The Traditional and Unique factors at the bottom show that these two variables do not significantly affect a person's preference for choosing a product made from a ulap doyo bag. From the SPSS output it was also found that the doyo bag product with the elements of the product handle, top cover, pouches, connection parts and materials obtained the best design namely Alternative Design 1. This conclusion can be seen from the mean and mean different distribution values located on a scale of 3 (positive scale)

New Respondent's Reference

From all the results of the analysis that has been done, an alternative design for new products made from ulap doyo can be made. The final results of the development of a doyo fashion product (bag) design using kansei engineering method can be seen in the following figure, with the following details:

1. The part of the handle is a type of grip there is a ring

2. Part Cover type front cover half

3. Pockets Section is a type of pockets with zippers

4. Connection section is a type of connection with a rope

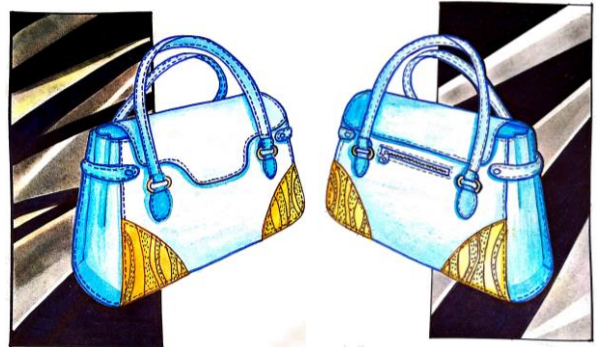5. The material is doyo silkworm fabric combined with genuine leather

Figure 1. Bag product

V. CONCLUSION AND SUGGESTION

5.1. Conclusion

From the analysis and discussion it can be concluded that:

(1) Factors that influence people's preferences in choosing fashion bags products from doyo ulcer material are the main factors: Emotional Appeal and Design Details with a variance of 48.286% and Style Design factors with a variance of 16.051%.

(2) Kansei Society of fashion products from doyo is a proud, fashionable and elegant, beautiful, comfortable, unique, natural and traditional

(3) The design of a fashion bag product from doyo worm material based on the design characteristics obtained from the results of the study is Alternative Design 1 with the composition of the handle product elements there is a ring, the front half cover, the part of the bag with a zipper, the connection (gusset) namely the connection with the rope and the buttons and materials are a combination of doyo and genuine leather.

5.2. Suggestion

a. Further research needs to be done, namely the development of fashion product designs for women bags made from ulap doyo based on community preferences in terms of design elements, namely concept elements, visual elements, and relative elements.

b. It is necessary to design more than one alternative design as a reference for user partners.

c. Need to make a bag product pattern from the selected design alternatives in addition to the perspective picture.

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