

# Apparel Design Using Materials Typical of East Kalimantan, Indonesia

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**Abstract**— Typical handicrafts in East Kalimantan consist of a variety of products, but handicraft products that are one of the superior are Ulap Doyo fabrics. Ulap Doyo has experienced developments in its application, namely for fashion products such as clothing, but there are still few Ulap Doyo SMEs that are developing their products. Recently, product development is being directed a lot at a product that is designed based on customer needs (customer-oriented). Product development can be done on every aspect of the product. Innovation / development of bags made from ulap doyo in East Kalimantan based on people's preferences with the kansei engineering method can be done on shape and color. It is necessary to study the respondent's choice of the shape and color of the bag from ulap doyo and leather. The method used is a descriptive method with reference tracing. The result of this study is to show that the choice of shape exists in modern and eclectic while for the chosen color natural color, namely brown.

**Keywords**— Women's bag, ulap doyo, preferences, East Kalimantan.

## I. INTRODUCTION

The national creative industry is growing every year. Currently, the increase in the growth of the national creative industry reaches 7% (Husin, 2021). In 2015 until now the great contribution of the creative industry has been in increasing the national gross domestic product (GDP), since its emergence in 2007. In 2015 it was recorded at Rp. 852 trillion in the contribution of the creative industry to the national gross domestic product (GDP) and in 2020 it reached Rp. 1,100 trillion.

The largest contributor to national GDP is the handicraft subsector, followed by the fashion subsector and followed by the advertising subsector. The handicraft sub-sector in recent years has remained as the largest contributor to national GDP because supporting natural resources for craft making are still widely available. As a candidate for the new capital in East Kalimantan, the growth of the creative industry has also increased and there are 4 subsectors that in the future will become a mainstay because it is believed that it will develop, namely architecture because of the many constructions of buildings, especially office buildings, interior design as a filler in the inner space of buildings that will be made a lot, culinary as a basic need that is increasing due to the capital city move plan and the last subsector is Craft. The export value of East Kalimantan SMEs in 2020 reached Rp. 428.2 billion. The handicraft sub-sector in East Kalimantan that penetrates exports includes processed wood, bead accessories, stones, rattan handicrafts and Mandau. According to Noor (2021), craft industries in East Kalimantan that have the potential to

be developed are handicrafts based on textiles, leather, wood, wicker, paper, glass, metal, furniture/furniture businesses, jewelry and valuables. In addition to expanding exports, SME craft products in East Kalimantan are also successful in the domestic market including bead accessories, stones, Samarinda sarongs, woven beads, wicker rattan, ulap doyo and Mandau. For textile-based crafts typical of East Kalimantan which are very developed today represented by Samarinda sarongs and Ulap doyo. Meanwhile, another textile-based handicraft that is being developed today is East Kalimantan batik.

Typical handicrafts in East Kalimantan consist of a variety of products, but handicraft products that are one of the superior are Ulap Doyo fabrics. (Chairman of Dekranasda Kaltim, Amelia Suharni Faroek, 2014). Ulap Doyo has experienced developments in its application, namely for fashion products such as clothing, but there are still few Ulap Doyo SMEs that are developing their products.

According to Minister of Industry Airlangga Hartarto at the opening of Indonesia Fashion Week (IFW) 2017 in Jakarta, Wednesday (Februari 1, 2017), that the fashion industry contributes greatly to the country's foreign exchange, national GDP and employment. The export value of fashion products in 2015 reached USD12.11 billion, based on BPS data, with the main markets of the United States, Europe and Japan. And the fashion industry's contribution to the national GDP is 1.21 percent. The fashion industry is able to absorb a workforce of two million people or 14.7 percent of the total workforce in the industrial sector for the labor-intensive sector.

The highest transaction recorded in the Shopee application as one of the online marketplaces is the fashion shopping category. According to Chris Feng as CEO of Shopee, at the Fairmount Hotel, Friday (19/1/2018), the most popular in the fashion category with the highest transactions are fashion, shoes, and other complements to the look. The highest transaction is the fashion category that is in demand in Indonesia reaching 400 thousand.

Along with its development, fashion is not only dominated by one type of product, namely clothing, but also develops in it accessories such as shoes and bags. From history it can be seen, there are 1950s, the postwar economic boom sparked a fashion revolution, spearheaded by Dior's New Look. Dresses with close-fitting waist models, long skirts grazing ankles, and women need smaller, structured handbags to balance out this new silhouette. While the 1980s, with its maximum style and rampant consumerism, was a heyday for fashion, and

handbags were the fastest way to communicate the style of the owner. (<https://www.vogue.co.uk/gallery/bag-trends-by-the-decade>). From the explanation above, women's bags still have the opportunity to be developed as one of the fashion accessories products.

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

Recently, product development is being directed towards a product that is designed based on customer needs (customer-oriented) (Nagamachi, 2006). The company looks deeper into the wants and needs of customers and turns them into an effective product. Customers when choosing a product, not only based on logical reasons such as product function or price, but up to emotions and feelings when seeing, feeling the product also then becomes an important factor in choosing a product. Affective factors are described as emotions, feelings and desires hidden in a person's mind. Nagamachi introduced a method called Kansei engineering to translate customer affective factors. This method is used to translate one's feelings, emotions, and impressions into the desired product (Nagamachi, 2011). According to Haryono and Bariyah (2014) in a study entitled "Designing the Concept of Image / Image Products and the feeling of footwear consumer psychology using the Integration of Kansei Engineering Methods and Kano Models" concluded that the design of two categories of Canoeing is an appropriate design, namely one-dimensional and indifferent. In another study (Desrianty & Widayani, 2017) in a study entitled "Concept Design of Portable Cutlery Products Using the Kansei Engineering Method" concluded that the designed cutlery can satisfy consumers when carrying and using the product. Other research related to product development using kansei engineering methods such as: table clocks made of bamboo material (Shergian, A.& Immawan.T, 2014), coat design (Quan, H. & et all, 2018), furniture materials (Lei, Q., et all, 2015), rattan dining chair design (Johan, V.S., et all, 2011), development of affective design methodology (Hartono, M., 2020), combination design of rocking horse and child folding chair (Prakoso, I. & Purnomo, H., 2019), apparel product design (Rajasekera, J., 2015).

In order for a new product to always sell well in the market, in developing a product, the preferences of the user community must be considered carefully. The study, entitled Re-birthered fashion handbags as a collaborative design project, produced a design analysis that showed that designs that do not need attention because they are too common or do not differ from other similar items as the most common reason for not choosing products in the market (Lee & DeLong, 2018) . In such cases, the consumer can replace this basic design with products of cheaper brands. Therefore, the recreated design of fashion bags plus unique design features and utility so that it

can be recognized by consumers as related to brand identity. (Yoon Kyung Lee & Marilyn DeLong, 04 June 2018). From this conclusion, it can be seen that product features / components are one of the important things in a design.

Previous research by Andansari and Keliwar (2019) has been carried out to determine people's preferences for fashion bag products made from ulap doyo based on product elements. The results (1) Factors that influence people's preferences in choosing fashion bag products from ulap doyo material are the main factors: Emotional Appeal and Design Details with a variance of 48.286% and a Design Style factor with a variance of 16.051%. (2) Kansei Society towards fashion bag products from ulap doyo material is proud, fashionable and elegant, beautiful, comfortable, unique, natural and Traditional (3) Design of fashion bag products from ulap doyo material based on design characteristics obtained from the research results is Alternative Design 1 with the composition of the product elements handle no ring, half front cover, pocket part with zipper, The connection part (gusset) is a connection with a rope and buttoned and the material is a combination of Ulap Doyo woven fabric and genuine leather.

Further research conducted by Andansari and Keliwar (2020) the development of fashion bag designs made from ulap doyo using the principle of design composition based on people's preferences so that products can increase their sales because they are made based on interest from the community. From the analysis of the SD I questionnaire, where consumers are asked to assess women's handbag products made from a combination of ulap doyo and genuine leather, it is known that there are 4 influential factors in choosing women's handbag products made from ulap doyo and real leather, namely: emotional appeal and design, color, design details and materials / materials. Of the four factors, the output results of multiple linear regression show that the most dominant factors in describing consumer preferences are emotional appeal and design. However, in the analysis of the SD II questionnaire where consumers were asked to assess 11 samples of women's handbag designs made from a combination of ulap doyo and real leather, it was found that the most powerful factor influencing customer preferences in choosing was color (bright), while emotional appeal and design factors ranked second.

1. The customer's feeling in choosing a women's handbag made from a combination of ulap doyo and genuine leather is determined by proud, beautiful, unique, comfortable, ethnically dominant, textured material, motif, elegant, bright, lightweight.
2. From the results of wallis' crucial analysis, it was found that the design characteristics of women's handbags made from a combination of ulap doyo and genuine leather were:
  1. Rhythm: opposition
  2. Color: warm
  3. Balance: symmetrical
  4. Dominant material: ulap doyo
  5. Texture: smooth
  6. Bag type: handled bag
  7. Motive: patterned
  8. Dominant form: curved

Product development can be done on every aspect of the product. There are several aspects of the product as explained by IDSA (Industrial Designer Society of America) that industrial designers usually focus on the physical appearance, functionality and manufacturability of a product, although they are often involved more in the development cycle. Physical appearance can be associated with designs such as shapes, components, colors, materials and textures. Functionally, the functions of the bag vary including bags for school or work purposes, casual bags or street bags, bags for fashion, bags for shopping and many others. Manufacturability in making bags can be manual, machine or a combination of both manual and machine.

The innovation / development of bags made from ulap doyo in East Kalimantan based on people's preferences with the kansei engineering method is still very limited, but there are already those who do mainly on the aspects of shape and color.

**II. METHOD**

The object discussed in this study is a bag product made of ulap doyo material as a typical East Kalimantan textile. The method used is a descriptive method with reference tracing.

**III. RESULT AND DISCUSSION**

In product development, in the product innovation strategy, there are three things of innovation, namely product innovation, process innovation and marketing innovation. In this study, the discussion focused on product innovation and more specifically bag products from ulap doyo material. The product aspect that will be discussed is the aspect of physical appearance (design), namely shape and color. The discussion was carried out by looking at respondents' preferences for the shape and color of bag products from a combination of leather and ulap doyo.

The following is a table of respondents' choices of shapes and colors for bags made of combined leather and ulap doyo, namely backpacks and bags for Covid 19 medical equipment equipment.

Choice of design style

Backpack

Modern	Rustic	Retro	Modern & Rustic
1	2	3	4

Sling Bag

Rustic	Vintage	Modern
10	13	32

Color

Skin color

Backpack

Red	Black	Brown
5	8	28

Sling Bag

Light brown	Dark brown
16	24

Ulap doyo color

Backpack

Cream	Red	Yellow
38	4	2

Sling Bag

Red	Light brown
18	22

The table above shows that people's preference for combined ulap doyo bags with leather is dominated by modern as well as eclectic. And for the color of both skin and ulap doyo tends to natural colors, namely brown.

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