

INNOVATION OF ECOPRINT BACKPACK WITH PATCHWORK TECHNIQUE

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ABSTRAK

The aims of final project were to create a patchwork ecoprint backpack design, produced patchwork ecoprint backpacks, and carry out the branding of the patchwork ecoprint backpack effectively. The ecoprint backpack production process involved production planning, sourcing ideas, and product concept planning. Subsequently, the production stages included making ecoprints, creating designs, developing patterns, and applying production technology. The process concluded with marketing efforts, using the brand "Gotekai" for branding. The final project results showed that the ecoprint backpack design was created using a combination of patchwork techniques, inspired by the colour changes of leaves in plants. Six ecoprint backpacks were produced, with three different collections based on colour and ecoprint techniques. The ecoprint backpacks were branded through social media platforms such as WhatsApp, Instagram, Shopee, and YouTube.

Keywords: *backpack, ecoprint, patchwork.*

INTRODUCTION

The existence of waste produced by society and becomes a problem for the environment, the biggest problem is the existence of waste that is not easily decomposed, one of which is textile waste, waste produced from the world of fashion. Textile waste is actually one of the contributors to the entire non-biodegradable waste. Based on data from the National Waste Management Information System (SIPSN), Ministry of Environment and Forestry (2023), Indonesia produced 31.4 tons of waste in 2023 with 2.79% textile waste. This has increased from the previous year by 0.28 percent because in 2022 textile waste produced 2.51 percent. So that cooperation is needed between society, industry, and even the government, to implement the reduction of non-biodegradable waste or to replace it with environmentally friendly products. According to Putri: "Of course there are ways to reduce textile waste, one way is to utilize textile waste from production waste to produce a product of fashion" (V. U. G. Putri, 2010). The utilization of textile waste is very useful for the environment because the waste can be reused or recycled into new forms. One example of textile waste processing from production residues using the technique patchwork. Patchwork is a technique for combining patchwork of various colours and motifs by sewing (Hamiyati, 2012).

A part from utilizing textile waste from production leftovers, another way to reduce textile waste is by paying attention to the fabric that will be used when producing a product of fashion to make environmentally friendly products and reduce textile waste, the use of fabrics will be more likely to use fabrics containing cotton as the basic material. Cotton fabric is a fabric made from cellulose fiber, which come from spun

plants and these plants are for example: cotton, linen, hemp, or jute plants (Khotimah, 2020). The availability of patterned cotton fabrics is less than plain cotton fabrics. Ecoprint technique become an alternative to create motifs on fabrics with materials derived from nature. Natural dyes used in ecoprinting are non-toxic, renewable, and environmentally friendly dyes (Hikmah & Retnasari, 2021). In accordance with the understanding of Ecoprint is a technique for printing motifs on fabric using natural materials.

Ecoprint technique there are several techniques, including; pounding techniques, steaming techniques, and boiled techniques. The material used to print motifs on this fabric can use leaves or flowers that grow in the surrounding environment, but isn't all plants can be used with all ecoprint techniques, only plants that have high tannins, can use all the techniques ecoprint. Plants that have high tannins will produce more colour on the fabric and the motif will be printed clearly, such as: teak leaves, mango leaves, cherry leaves, and others. However, if the plant has little tannin, it can be used for materials ecoprint but with different techniques, for example: papaya leaves, cassava leaves, spinach leaves, and others use different techniques pounding to make cloth ecoprint. Therefore, in manufacturing, it is necessary to adjust the materials to the technique.

Backpack is a product of fashion which functions as a place to carry loads of goods when traveling and is used on the back (Pandary, 2022). In making products fashion, the most important thing is the use of fabric to make the product of fashion. Especially backpacks, the fabric used in making backpack products is usually synthetic fabric, whereas the use of synthetic fabric is not environmentally friendly and difficult to recycle, so if the backpack cannot be used it will become a pile of unused waste. Branding product is not separated from the marketing process will give the product meaning and differentiate from other products. So, regarding the image of the backpack product with the introduction of this backpack, its identity can be known (Rahmad et al., 2018). This business is a good choice for doing business fashion because of the ecoprint technique process which is creative, innovative, exclusive and different from others (Hikmah & Retnasari, 2021). For this reason, an appropriate marketing strategy is needed that is in accordance with the target market for the product.

Based on this explanation, the author developed a backpack with the innovation of using environmentally friendly fabrics such as using fabrics ecoprint and a combination with cotton fabric. Backpack can contain a lot of luggage and can contain electronic devices, such as: laptops and others. The waste from the backpack production can be utilized with decorations in the form of techniques patchwork and decorations patchwork applied in a structured way and paying attention to the function of the decoration. Creation of the work product makes 1 identical design for 6 products different in each use of materials, colours and fabric motif secoprint. Utilizing the development of social media technology for media branding backpack product ecoprint.

METHOD

Planning is part of the process of making plans with a specific purpose. Market determination is defined as determining the target market, which will then be developed into market segmentation. Before determining the target market, an analysis is needed regarding the product to be made with trend which is developing. It can be said that bag products with trend ecoprint still many enthusiasts as an environmentally friendly

product. There are several stages of this design that will be carried out such as: planning the bag product, planning the design to be made, planning the tools and materials used, and planning sewing techniques to produce the bag product. The backpack is not only functional to carry a lot of load but also has other functions to beautify the appearance of its users. The design is divided into several design parts with the hope of providing the same picture between the design and the product results, and these parts consist of sketch design, production design, presentation design, illustration design and three-dimensional design. The use of these tools and materials aims not only as an environmentally friendly product, but also to provide a sense of comfort for its users, and provide more affordable prices for consumers. Textile waste can be used as a decoration for a product, functioning as an addition to the beauty of the product.

Making crafts from patchwork raw materials will have economic value, so it is worth selling (Mahanani et al., 2021). Sewing planning starts from making patterns, then cutting the materials as needed, making price plans and preparing all the tools and materials needed in sewing bag products. The final planning is the marketing part of a product, because in marketing it is necessary to plan so that backpack products ecoprint sold according to consumers. The source of ideas is anything that can cause someone to create a new idea (Widarwati et al., 1996). Source of ideas for backpack products ecoprint This is inspired by the changing colour of leaves on a plant. In a backpack product ecoprint There will be a collection that provides something different from one product group to another. First collection, the product will be green with a combination of fabrics ecoprint which uses pounding techniques and this collection is inspired by fresh leaves. The second collection, the product will be yellow with a combination of fabrics ecoprint which uses steaming techniques and this collection is inspired by yellowing leaves caused by several things. The third collection, the product will be brown with a combination of fabrics ecoprint which uses techniques boiled and ecoprint using natural dyes, and this collection is inspired by fallen leaves. Source of ideas and concepts that will be applied in a backpack product ecoprint which contains information that will be arranged or described in the form of mind mapping.

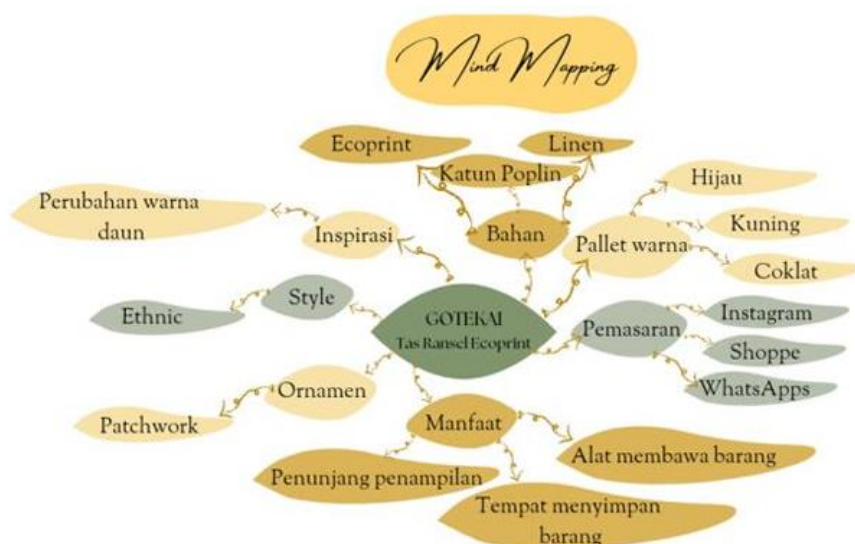


Figure 1. Mind Mapping

CASE

Ecoprint is a technique of giving patterns to fabrics using natural materials, such as leaves that grow abundantly around the environment. This certainly supports the global world to protect nature with high awareness from the community to protect and preserve nature, and users of environmentally friendly products. As for the manufacturing technique ecoprint, among others:

1. Pounding Technique

Pounding Technique is a technique to transfer the colour of the leaves on the fabric by tapping the leaves on the fabric to be ecoprint, for that reason this technique can also be called a tapping technique. The materials needed for this technique are: pounding are cloth, water, tro, hot water, alum, soda ash, quicklime, and leaves. The addition of tunjung material is needed if the desired results are different, because of the nature ferrosulfat which easily absorbs water vapor, making the cloth that has been dipped in the solution Mordan Ferrosulfateasily absorbs dyes in the form of water so that the colour of the fabric becomes sharp (Qomariah et al., 2022). The tools used in this pounding technique namely a basin, plastic, and a hammer. The method used is the techniquepounding by scouring, mordan, post-mordant, placing the leaves, hitting the leaves or flowers that have been arranged on the cloth with a hammer, andfixation.

2. Steaming Technique

Steaming technique is a technique for transferring leaf colour into fabric by steaming the leaves with the fabric to be dyed ecoprint, for that reason this technique can also be called a steaming technique. The steaming technique uses steam and heat to transfer colour and shape of plants on the fabric (Pandansari et al., 2022). Materials needed for this steaming technique are cloth, leaves, tro, alum, soda ash, quicklime, slaked lime, and water. The tools used in this steaming technique namely scales, basins, plastic, hoses, duct tape, rope, and pans for steaming. The method used is the steaming technique by scouring, mordan, post-mordant, leaf placement, fabric winding, fabric steamer, and fixation.

3. Boiled Technique

Boiled technique is a technique for transferring leaf colour to fabric by boiling the leaves with the fabric to be eco-printed, for that reason this technique can also be called a boiling technique. This technique is more effective on leather and paper media, the treatment is the same as the treatment for the steaming technique, the difference is that in this technique it is boiled and not steamed (Sulastri & Akbarini, 2023). The ingredients needed for boiled technique are cloth, leaves, tro, alum, soda ash, quicklime, saffron, water, and natural jolawe dye. The tools used in this boiled technique namely scales, basins, plastic, hoses, duct tape, rope, and a pan for boiling the cloth. The method used is the boiled technique by scouring, mordan, post-mordant, placing leaves, winding cloth, boiling cloth, and fixation.

DISCUSSION AND RESULTS

1. Discussion

Definition of design (design) is a design, shape, or image made to show the appearance or form of a product, before it is made and produced (Arifiana, 2013). Before making a product in the form of a finished product, a product design is needed that can be explained through a collection of sketches or images and can be through a written statement. Obtain a good design form, of course, it must go through the process of compiling the necessary elements as well as possible (Muslichin, 2018). Application of design elements in the creation of backpacks ecoprint This consists of: the application of elements of line, shape, colour, and texture. These basic principles are interrelated with each other, their presence in a work of composition will provide results that can be enjoyed and satisfy Muslichin (2018). Application of design principles used for the creation of backpacks ecoprint consists of: the application of the principles of unity, balance, and emphasis. In addition to the application of design principles, the creation of backpack product designs ecoprint It uses media to collect various kinds of visual reference which will be poured into the form mood board.



Figure 2. Moodboard

Creating image presentation techniques as a way to display ideal, proportional, and attractive design images. According to Widarwati et al., (1996) there are several techniques used in image presentation consisting by personal document source:

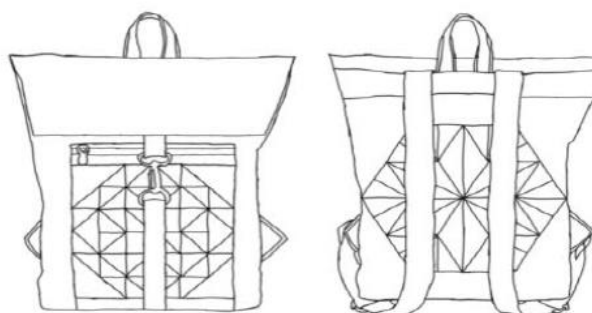


Figure 3. Design Sketching

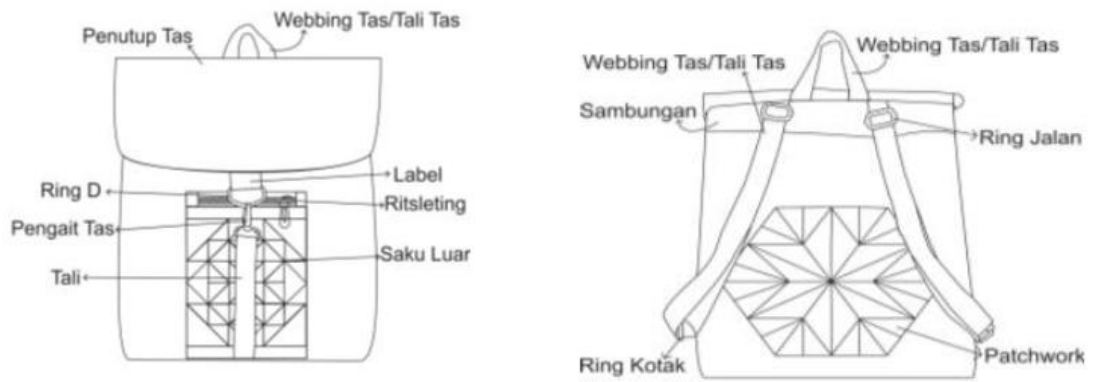


Figure 4. Production Sketching



Figure 5. Presentation Drawing



Figure 6. Illustration Design



Figure 7. Three Dimention Drawing

Pattern Making to realize a desired model that is in accordance with the design that has been made, so that the next process is needed, namely the pattern making process. Without a pattern, it will be difficult in the bag making process because there is no reference in cutting material (Amantullah, 2020). This process is intended as a guide in cutting the fabric in the form of a paper cut, or as a plan to help determine the amount material which is needed according to the design that has been made. The patterns needed in making a backpack ecoprint, consists of: front visible bag body pattern, back visible bag body pattern, bag cover pattern, lining pattern patchwork, by patchwork big front, pattern patchwork medium front, pattern patchwork small front, pattern patchwork straight front, strap pattern for bag hook, zipper closure pattern, pattern patchwork big back, pattern patchwork small back, body pattern lining bag, pocket pattern inside the bag, zipper pattern, triangle pattern, ring box and ring box strap pattern. As for the size of the bag to make a backpack ecoprint, consist of:

Table 1 Bag Sizes Personal Documentation Source

No	Descriptions	Size (cm)
1	Bag Length	35
2	Bag Width	12
3	Bag Height	43
4	Front Pocket Length	18
5	Front Pocket Width	22
6	Inside Pocket Length	33
7	Inside Pocket Width	33
8	Bag Cover Length	35
9	Bag Lid Width	20
10	Bag Handle Length	20
11	Bag Strap Length	70

Production technology is a process for making backpacks ecoprint. Production process begins with preparing the tools and materials for making backpacks ecoprint to the sewing process. The tools and materials needed to make a backpack consist of: sewing machine, scissors, ripper, ruler, meter, sewing clips, pins, chalk pencil, plain cotton cloth (linen/poplin), fabric ecoprint, calico, errow cloth, dacron press size 4 mm, air foam size 3mm, textile glue, staple M33, viseline, on the road, on the box, on D, bag hook, label brand, webbing bags/bag straps, zippers, zipper heads, decorative zipper heads, and threads. Designing a bag there are several methods that can be used in sewing, namely sewing with a machine or sewing manually by hand (handmade) (Satria, 2022). Sewing technique is the process of connecting fabrics or other materials that will be passed through a sewing needle and thread. For the process of

sewing a backpack ecoprint done with a manual or classic sewing machine. In addition to sewing techniques, the finishing of the product is part of this process. Finishing process of cleaning and tidying up after the sewing process. Finishing backpack ecoprint have two levels, first step, cleaning the stains that remain on the backpack product ecoprint and the way to overcome this is to remove the stains by using a special bag cleaning fluid and wiping it with a tissue or clean cloth. Second step is process of cleaning up the remaining thread that occurs during the process of sewing a backpack ecoprint and process strimming done by cutting the remaining thread using thread scissors.

The next step is branding process that gives meaning to a product or service by creating or shaping a brand among consumers. The purpose of branding is to differentiate a product with a good image and having a strong image will make it easier for consumers to differentiate the product from competitors branding also becomes an initial strategy for carrying out marketing activities (Salma, 2024). There will be an identity brand which is a collection of characteristics containing elements brand which is summarized as the core brand. As for the component element brand until forming DNA branding, among others: Gotekai is the brand name for backpack products ecoprint with technique patchwork. Gotekai takes a classic theme that emphasizes the value of using materials or how to produce backpacks ecoprint. The colour palette used in brand gotekai is colour earth tone with the function of packaging is very important to protect product gotekai brand. Another promotion for branding product from WhatsApp, Instagram, Shopee, And YouTube.

2. Results

Backpack design creation ecoprint, inspired by the change in colour of leaves on a plant. There are many colours that inspire the change in leaf colour. Common colours that often occur when leaves change colour leaves, namely green, yellow, and brown. Backpack product design ecoprint will display 1 same design for 6 products. However, the difference in each product is regarding 2 different types of materials, 3 colours applied, and 6 leaf motifs ecoprint on each product will be different. So that the collection of backpack products ecoprint giving a different impression from one product group to another. In a backpack product design ecoprint, there are two types of designs applied, namely backpack products as structural designs and patchwork as an ornamental design (Sudana, 2019). The process of designing a backpack product ecoprint done digitally with the application Ibis Paint X. By applying 5 image presentation techniques, namely: sketch design, production design, presentation design, illustration design, and three-dimensional design.

Backpack product manufacturing ecoprint, in the backpack product collection ecoprint There are 3 collections which are differentiated based on the colour and technique used to make the fabric ecoprint, each collection has a different meaning. Here is a collection of back pack products ecoprint. Vant series is not identical to the colour green, so the colour used is green monochrome green. Techniques for making clothe coprint series this uses the pounding technique in technique ecoprint. The leaf motif is taken for series from leaves that grow around the house, such as: cassava leaves, papaya leaves, and wild plants around the house. The meaning of series This is a backpack product ecoprint provides calm for its users, which is due to the

meaning of the colour green which is closely related to nature which provides a calm and relaxed atmosphere (Zharandont, 2015). The result of creating a backpack design ecoprint displaying number 1 until 6 products design, but differences in each product regarding the materials used, colours applied, and motif ecoprint on each product will be different. Here are the design results that have been made, including:



Figure 8. Design Product 1



Figure 9. Design Product 2

Flaus series is identical to the colour yellow, so the colour used is yellow. mono chrome yellow. Techniques for making cloth ecoprint series This uses the technique steaming in technique ecoprint. The leaf motif is taken for series This is from leaves that grow far from settlements or grow in forests. The meaning of series This is a backpack product ecoprint brings a hope, like the colour yellow is associated with happiness, cheerfulness, and warmth (Zharandont, 2015).



Figure 10. Design Product 3



Figure 11. Design Product 4

Series Zalea series is identical to the colour brown, so the colour used is brown monochrome brown. Fabric making techniques ecoprint series This uses the technique boiled and techniques iron blanket in technique ecoprint. Ecoprint series There are additional natural dyes to beautify the fabric ecoprint. The leaf motif is taken for series This is from leaves that grow on large trees, such as: teak leaves, mango leaves, ect. The meaning of series This is a backpack product that has many benefits for its users, such as the brown colour which is associated with the meaning of giving a warm, comfortable and safe impression (Zharandont, 2015).



Figure 12. Design Product 5



Figure 13. Design Product 6

The next step after designing the backpack product ecoprint is carrying out production process, from the production process the finished product will be produced as a backpack ecoprint which is according to design. The results of the backpack product ecoprint grouped into 3 collections series products of different colours and techniques ecoprint. The following is the result of the backpack product collection ecoprint among:



Figure 14. Real Product Vant Serries 1

Backpack products ecoprint Vant series 1 has dimensions of p (35 cm) x l (13 cm) x t (40 cm), uses poplin cotton material with colour dominant of green, and the motif using pounding techniques. Backpack products ecoprint Vant series 2 has dimensions of p (35 cm) x l (13 cm) x t (40 cm), uses Linen cotton material with colour dominant of green, and the motif using pounding techniques.



Figure 15. Real Product Vant Serries 2

Backpack products ecoprint Flaus series 1 has dimensions of p (35 cm) x l (13 cm) x t (40 cm), uses poplin cotton material with colour dominant of yellow, and the motif using steaming techniques. Backpack products ecoprint Flaus series 2 has dimensions of p (35 cm) x l (13 cm) x t (40 cm), uses Linen cotton material with colour dominant of yellow, and the motif using steaming techniques



Figure 16. Real Product Flaus Serries 1



Figure 17. Real Product Flaus Serries 2

Backpack products ecoprint Zalea series 1 has dimensions of p (35 cm) x l (13 cm) x t (40 cm), uses Linen cotton material with colour dominant of brown, and the motif using boiled techniques. Backpack products ecoprint Vant series 2 has dimensions of p (35 cm) x l (13 cm) x t (40 cm), uses Iron cotton material with colour dominant of brown, and the motif using boiled techniques



Figure 18. Real Product Zalea Serries 1



Figure 19. Real Product Zalea Serries 2

Results branding backpack product was successfully sold to a target market of women aged 18 to 40 years. The purpose of buyers in buying backpack products ecoprint diverse, for school, work, and traveling. Products ecoprint from 6 backpack successfully sold in a way online with each of the 3 products. Products series both of them were sold out online, product series Both of their flaws were sold out offline, and products series zalea sold out online and offline. Products sold online online through marketplace in the form of shopee, while the products sold are offline through communication with the seller via media branding WhatsApp and Instagram. Media branding to market a backpack product ecoprint has opened up opportunities for business growth digitalis era (Kania & Prastian, 2024). Each has its own benefits, including: Benefits of the appli cation WhatsApps among others: creating buyer trust by providing useful information to buyers, offering products with product displays on profiles, and facilitating responses between sellers and buyers. Benefits of the application Instagram for branding is to provide information about the results of each post by getting insight about posts that users like. Benefits of the application Shopee for branding is to make it easier for consumers to buy a product through a trusted, secure payment process and integrated logistics. Benefits of the application YouTube for branding increase sales and brand awareness, with make it easier for people to find, watch, and share various kinds of videos. Soby maximizing social media for branding Apart from offering products for sale, another benefit is introducing brand gotekai is more widespread in various circles. Media branding for marketing backpack products ecoprint is using social media. Product utilizing technological advances for selling a product of social media branding backpack gotekai brand the first from Shopee marketplace which is used to market backpack products ecoprint is Shopee. In store Shopee displaying the brands and pr visited the gotekai store 3 to 7 time among:

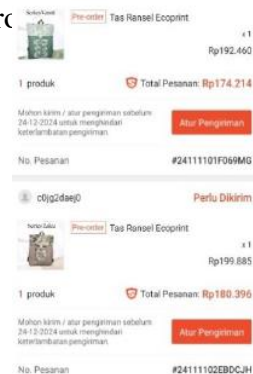


Figure 20. Marketing product by Shopee

The second application WhatsApp which is used to market backpack products ecoprint is WhatsApp Bussines. By displaying the brand, address, and products offered. Conducting regular promotions on story WhatsApps, which was viewed more than 20 times.

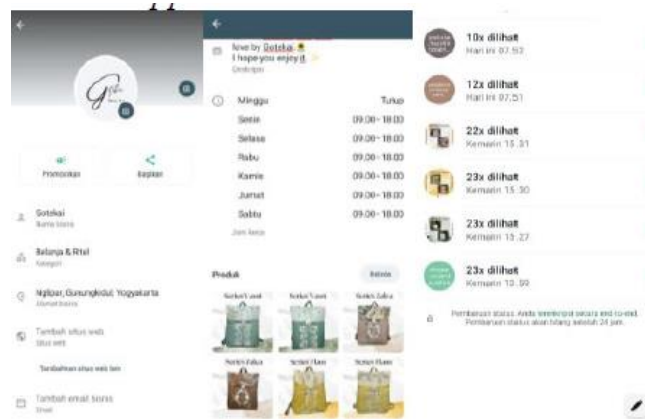


Figure 21. Marketing product by Whatsapp

The third application marketing is Instagram on account brand gotekai to market backpack products ecoprint. By displaying the brand name, logo, and links in the form of media branding in other applications, to make it easier to communicate. Instagram conduct regular promotions on feed, reels, and story. So that it has been shared feed as many as 18 times and produced 6 followers. The show was viewed 319 times and interacted with 31 times, among:

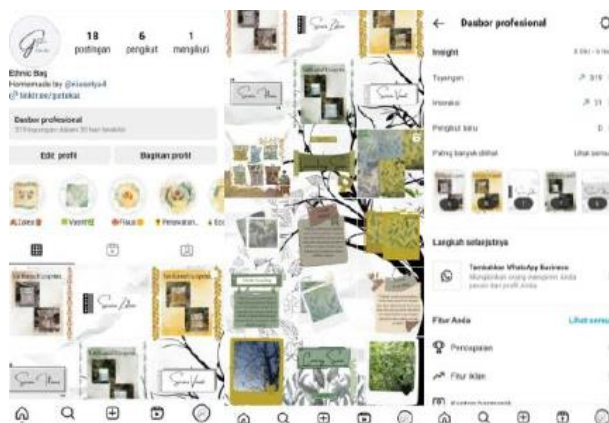


Figure 22. Marketing product by Instagram

The four marketing from YouTube used to share the videos you have made ecoprint and video of the results of making backpack products ecoprint. Video display of the results of the production ecoprint viewed 113 times and liked 5 times, while the video shows the results of making backpack products ecoprint as many as 7 times and liked 4 times.

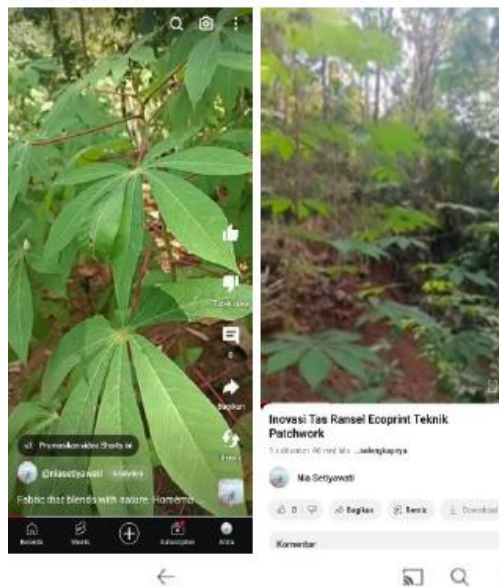


Figure 22. Marketing product by Youtube

CONCLUSION

Based on the results of the discussion of the patchwork technique ecoprint backpack innovation, it can be concluded that:

1. The creation of an ecoprint backpack design which is the main focus for the creation of this final project chooses a type of daypack backpack which is designed for everyday use, has the characteristic of a medium-sized bag shape, a variety of colors ,material The ones used vary, they can be plain or patterned, have a few pockets on the outside and inside of the bag, and the strap at the back can be adjusted. Daypack can be used when going to school, working, or other activities. Create one same design for 6 products, but have differences in each product regarding 2 different types of materials, 3 colours applied, and 6 leaf motifs ecoprint on each product will be different. The process of making backpack product designs ecoprint done digitally with the application Ibis Paint X. And using 5 image presentation techniques, namely: sketch design, production design, presentation design, illustration design, and three-dimensional design.
2. The process of making a backpack, with several stages such as: the initial stage of making a plan for the backpack making process ecoprint which is in accordance with the source of the idea and the concept planning that has been made. The next stage of the process of making cloth ecoprint, with the following steps: preparation of tools and materials scouring cloth, mordant cloth, post mordant, placing leaves on cloth, doing the technique pounding, cloth winding, doing techniques steaming and techniques boiled, releasing leaves on cloth, drying the results ecoprint and fixation. The next stage is the design process, pattern making, material design and

create a price plan. The production technology process, with the following steps: preparation of tools and materials, preparation of patterns, cutting of fabric, and sewing techniques. The final stage of the backpack making process ecoprint is finishing as a process quality control backpack ecoprint and process finishing carry out cleaning and heating steps for the backpack ecoprint after the production process.

3. Branding ecoprint backpack that forms DNA branding, consisting of: name brand "Gotekai", picture logo, 5 colors, and 2 types of packaging. Media branding used backpack products ecoprint, consist of: WhatsApp, Instagram, Shopee, And YouTube. From the results branding of these, 6 backpack products were successfully sold ecoprint successfully sold in a way online and offline, with each of the 3 products. Products series both of them were sold out online, product series Both of their flaws were sold out offline, and products series zalea sold out online and offline. The purpose of buyers in buying backpack products ecoprint diverse, for school, work, and traveling.

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