

## UTILIZATION OF BLACU FABRIC MATERIAL WASTE AS AN ALTERNATIVE MATERIAL FOR FAST FASHION PRODUCTS

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### ABSTRACT

In today's fast fashion era, the fashion industry has experienced many developments supported by technological advances in the current digital era accelerating the development process in the fashion industry. In addition, the fast fashion trend is also bad for the environment, continuous product production even tends to increase the fast fashion trend produces large textile waste and requires a long time in the decomposition process. Therefore, the purpose of this study is to find out what the utilization of blacu fabric waste produced by the fashion industry looks like. This research uses qualitative research methods with an exploratory study approach which is a good method to collect information about the perception of entrepreneurial intentions. The result of this study is that blacu fabric waste can be reused and become an alternative material for making fast fashion in the form of bag bags or tote bags, the utilization is done using the upcycling method and patchwork processing method, this is because the production costs are economical when compared to other fabric waste processing techniques and produce product textures that have distinctive characteristics because they go through the process of preparation and sewing between fabrics

**Keywords:** Material Waste; Blacu Fabric, Fast Fashion

### Introduction

In the age of fast fashion Currently, the fashion industry has experienced quite rapid progress. The progress of the rapid development of fashion trends is commonly referred to as fast fashion with many and complete facilities by Brand Retailers that have a reputation for good names with economical prices quality standards of materials and general stitching. The increase in the lifestyle of consumptive people is caused by a tendency in the selection of clothing styles that refer to public figures. This has led to the frequent buying of these people. This is one of the adverse effects caused by the trend of fast fashion. In addition, trends in fast fashion also have an impact on the environment with continuous product production even tends to increase trends fast fashion produces large textile waste and requires a long time in the decomposition process (Hervianti & Nursari, 2018). Market demand is a lot and does not keep changing following trends making the fashion industry grow rapidly. A fashion industry strategy that produces products in large quantities and quickly to meet market demand is called fast fashion. The majority of people consume fashion products only to follow tendencies and styles by not observing the sustainable side that has the potential to pollute the environment (Ardinigrum et al, 2023).

In Indonesia, fashion has always experienced rapid development. Various motifs and models of clothes are constantly created. Consumers are attracted by the wide variety of fashion model innovations designed. Not a few people also make fashion a necessity other than staple food and home, that's why the fashion industry business is increasingly in demand. From 2000 to 2020, clothing manufacturing in the world has increased, doubling from previous years. Thus increasing the amount of consumption by up to 60% (Nayoan et al, 2021).

. Through the increase in fashion consumption in several countries, it is no stranger to the amount of used clothing waste that accumulates in the trash (Nayoan et al, 2021).

The largest contributor to textile fabric waste is the fashion industry. This is in line with the opinion contained in his journal (Tertiyus et al, 2021)., that the fashion industry is one of the industries with the largest pollution emitters in the world which is the same level as the coal industry (Tertiyus et al, 2021). Fashion fabric waste, is capable of damaging the environment, such as polluted water, and soil, and forming greenhouse gas emissions that can cause climate change. The fashion industry participates in providing waste to the surrounding environment, an industry that operates rapidly in line with its market demand. Within one year this industry has produced 42 models of pakaian, if in the production process there is an excess or failure then the failed clothing product must be destroyed and carried out the combustion process. If every season its own latest model appears that is not the same, you can imagine how much fabric waste is produced due to excess or failure at the clothing production stage which then the waste is disposed of and only ends up in landfills (Wika, 2022). Even though the process of burning fabric waste results in air pollution which hurts environmental and human health (Santoso et al, 2017).

One way to minimize textile waste generated by the fashion industry is to apply the concept of production-zero waste. This concept is a strategy and application to reduce fabric waste resulting from production results from the first formation process to the final process. Technique pattern making is one way that can be applied, namely planning and placing patterns effectively. Eugenia is one of the designers from the United States who uses the method of zero waste, to maximize the waste of fabric residue, he uses the method of up-cycling. Each fabric waste generated from fashion production will be recycled back into additional detail, using a strategy Patchwork (Hervianti & Nursari, 2018).

Fashion industry waste can be classified into three groups, namely pre-consumer, post-industrial fabric waste, and consumer waste. In Indonesia alone, of the total 64 million tons of waste produced, 2 million tons of waste are textile waste (Wulandari et al, 2022). Therefore, the purpose of this study is to find out what the use of fabric waste, especially blacu fabrics produced by the fashion industry, from efforts to utilize the waste is expected to be a form of effort to minimize the fabric waste produced and be able to reduce adverse impacts on the environment

## Research Method

This research uses qualitative research methods with an exploratory approach, namely data search methods to study social problems based on overall observation or holistic, made through words and obtained through proportional conditions (Kusnadi, 2021). Meanwhile, Apriani (2014) in his journal stated that qualitative research is to interpret a phenomenon from the part of the meaning that is brought closer to humans (Apriani et al, 2014). Exploratory studies are a good method to gather information or news about perceptions of entrepreneurial intentions, but data collected from several personal cases can limit the generalization of findings. Therefore, research findings must be taken carefully (Kania & Februadi, 2021).

The data collection process uses literature and documentation methods (Kusnadi, 2021). Also obtained from the results of research that has been published in the form of scientific journal articles that can be reached online (Burhan, 2018). Interpretation of literature results based on things related to the title of the article (Endrayana & Retnasari, 2021).

## Result And Discussion

### Textile Waste

Waste is the waste of production both household and industrial that hurts human survival and the environment, waste also has a small size that is not fixed and its distribution has long-term effects (Krulinasari & Yusnandi, 2022). Textile waste is usually in the form of cloth can also be yarn as a result of the rest of making clothes from the fashion or textile industry. This waste is generally in the form of pieces of cloth or excess yarn, rope, and so on. According to Muthu fabric waste can be categorized into three groups based on the process. Here are the categories:

#### a. Pre-consumer Waste

This pre-consumer waste is product waste that has never reached the hands of consumers. This waste is also created directly by the factory. For example, the rest of the process of spinning fiber, knitting yarn, weaving, pieces of fabric, to the production of clothing or clothing.

#### b. Post-Industrial Waste

Post-industrial waste is waste generated from the initial formation process of the product. Usually, this waste starts from and is used as production materials, the rest of the use of rubber, to the waste left over from the polymerization process and other plastic commodities.

#### c. Post-Consumption Waste

Post-consumption waste is waste created by the consumers themselves. Usually, this waste is in the form of textile waste from a product that is no longer used and disposed of. Post-consumer waste includes recycling accessories or plastic waste which is then created into polyester (Wulandari et al, 2022).

### **Fabric Type**

According to Jacquie fabric is no different from everything that includes products or commodities that use textile materials in the manufacturing process. Here are the types of fabrics:

a. Cotton Fabric

Cotton cloth is a fabric that is purely derived from cottonseed fibers. This cotton fabric has a character that can absorb water or sweat, with a yellowish-white fabric color, and has a cool and comfortable feeling when worn. This cotton fabric is widely used as a work uniform material or just daily clothes in the process of using it because this type of cotton fabric also has a price that is not too high, therefore many clothing products use this type of fabric as the main material for making it (Novita & Marniati, 2017).

b. Polyester Fabric

This polyester fabric is a fabric formed from man-made fibers, namely polyester which is a combination of chemicals with one type of plastic material called Polyethylene Terephthalate. This polyester fiber has been used both for clothing and non-clothing since the mid-twentieth century. Dacron is the selling name of this type of fabric made of terephthalic acid and ethylene glycol, the character of Polyester fabric itself can absorb water up to 0.4% and is heat resistant up to 200 ° C with a melting point at a temperature of 250 ° C, this type of fabric also has a high level of elasticity so it is not easily wrinkled (Sitorus & Arumsari, 2019).

c. Kenaf Cloth

Kenaf cloth is a cloth made from the Kenaf plant, a plant with the Latin name *Hibiscus Cannabinus L.* That is a plant that is not difficult to cultivate in tropical regions such as Indonesia for example. Kenaf fiber is one of the organic fibers made from kenaf plant goods or stalks that have gone through several processing processes, in general, the color of this type of fabric is yellowish white and can be used as raw material for products such as paper, fiber drain, or other products (Rusmini et al, 2019).

d. Hyacinth Fiber

Hyacinth fiber is the fiber produced by hyacinth plants of the type *Limnocharis Flava*. In the processing process, hyacinth plants are sorted with the same height approximately 30 cm. Hyacinth plants are then cleaned by washing and then sorted again according to the size of the diameter. The process of making water hyacinth fiber is done by joining the fibers alternately which can produce jagged motifs and textures.

e. Synthetic Leather

Synthetic leather is a leather material created by humans that is not produced naturally from the skin of animals or living things. This leather is made as similar as possible to real leather. Currently, patterns, colors to finishing have been developed even better and have their motifs. This synthetic leather is usually made of polyvinyl chloride with the outside covered with polyester or cotton fabric to obtain a texture and motif like genuine leather (Wulandari et al, 2022).

f. Blacu Fabric

Blacu fabric is a fabric formed from cotton that has not gone through the dyeing and processing process. The blacu fabric is also a basic fabric, namely more cloth that has not reached the bleaching process (Sedana et al, 2015).

### **Fast Fashion**

Fast fashion is a term used to describe an occurrence of industrial phenomena Fashion at this moment. The fashion industry is one of the creative industries that is not fixed or always changing. Rapid changes in trends improve lifestyles, and high market consumerism has an impact on the rapid production of the fashion industry sector suppressing various kinds of existing resources. Changes in the fashion industry have occurred in the last 20 years. The modern term used by the clothing industry or fashion in referring to clothing designs that change from show to store in a short time to acquire new tendencies in the market is fast fashion (Azizah, 2023). Fast fashion is a concept applied in the ready-to-wear textile industry that aims to form fashion trends quickly and widely (Malcheni Sangrawati et al, 2022). Fashion trends are something that continues to develop from time to time. However, with today's technological advances, fashion trends can develop very quickly again and tend to be shorter (Endrayana & Retnasari, 2021).

The phenomenon of fast fashion hurts environmental sustainability. One of the impacts is the wearing time of fashion products. Changing tendencies and quality of industrial products Mass Product Or mass production is a factor in the short wearing time of clothing by consumers. The problem faced is that clothes that are no longer used will later become fabric waste that hurts the environment. That is why the fashion industry is one of the industries with the largest producer of textile waste that can pollute the surrounding environment (Azizah, 2023). Waste with plastic and cloth will be difficult to melt and decompose, therefore waste that cannot be destroyed will hurt the environment (Purwasih et al, 2020).

The emergence of various trends continuously and quickly makes people who use goods in their consumptive habits not infrequently their awareness and can even negate their awareness of what is appropriate and needed (Shinta, 2018). Here are some characteristics that can make it easier to find out the product fast fashion: First, product fast fashion has a variety of designs. Second Fashion models are changing rapidly. Third Manufacturing is done in a developing country including Indonesia, where workers are given low wages. Fourth The raw materials used are of low quality and are not durable (Diantri, 2021).

### **Utilization of Blacu Fabric Waste as an Alternative Material for Fast Fashion Products Upcycling**

Upcycling It is a reprocessing of waste or waste material that is not valuable into value and has better quality at the service life of the two materials. The concept was developed by William McDonough and Braungart. Concept upcycling This aims to minimize the excessive use of resources or materials that have the potential to be recycled again to

become raw materials for a new product. These recycling activities can reduce the use of new raw materials when creating a new product, so it is expected to reduce energy use, pollution to greenhouse gas emissions (Wulandari et al, 2022). Fabric waste has various advantages if used or used for recycled products. Therefore, waste reuse is the best way to minimize fabric waste (Putri et al, 2023)

Textile upcycling can be done by using fabric waste or usually by using clothes that are no longer used. This is done without having to go through a process of making new raw materials, existing textile raw materials are processed back into a new product that has selling value. In carrying out the upcycling process several steps require consideration such as the following:

1. Sorting the type of fabric waste
2. Reviewing damage to fabric
3. Design planning
4. Fabric usage considerations
5. Fabric making
6. The meaning of a product created or created

In the process of upcycling, the strategy used does not have any restrictions or conditions. This is because recycling activities depend on the direction of the goal rather than the result. However, when recycling waste there are three strategies, namely, First, combining two or more waste materials. Second, change the shape. Third, multiply elements or parts. Several upcycling methods can be used in recycling fabric waste such as the following:

a. Patchwork

Patchwork is the art of uniting pieces of fabric by sewing them until a certain pattern or design is formed. Patchwork is a technique of connecting pieces of fabric with different colors and patterns with various shapes such as geometry, landscape shapes, and other shapes when it is connected as a whole to form a pattern applied to the base of the fabric to be decorated (Mahardika & Karmila, 2020)

b. Zero Waste

Method Zero Waste It can optimize in utilizing fabric width. This method has been applied since ancient times throughout the world through simple geometric shapes because it can use the entire surface of the fabric thoroughly (Eria & Nursari, 2020).

c. Recycled Fabric

Recycled yarn or fabric is yarn created from a process of rework by a machine on textile waste fabric. Usually, the fabrics are recycled impulsively. However, the quality of recycled fiber will not be the same as the initial quality. The characteristic properties of fabrics or textiles created tend to be softer, this is because they have gone through various stages of spinning continuously, so the quality of the fibers is easily brittle and not durable. To get a certain specific color, usually the color is extracted from the rest of the existing fabric and formed liquid, this results in the color produced from one another differently.

d. Merch

Merchandise is a product as a creative medium or campaign from a company or brand product. Merchandise can be souvenirs or souvenirs for tourists, another function of this merchandise is to increase audience awareness about tourist attractions or whatever it is. There are many items created and included in the merchandise category as follows (Ramdani, 2022):

- 1) A T-shirt or plain T-shirt is a type of clothing that covers part of the arms, chest, and stomach.
- 2) A bag is a place or container of goods that is usually created from fabric. Bags can be used for various purposes and, therefore require strong materials such as canvas, nylon, and other strong fabrics. The types of bags that are commonly used as merchandise are tote bags, sling bags to pockets.
- 3) A hat is one type of covering or head protection that is always worn by someone. In its use, hats are intended for various reasons, such as clothing accessories, for example, can also be used to protect from sunlight as its actual function (Maesaroh & Prasetyaningtyas, 2019).

### **Blacu Fabric Waste as an Alternative to Fast Fashion Product Material in the Form of Tote Bag**

From the results of case study research that has been conducted by Wulandari, Pambudi, and Azhar (2022) at a shoemaking workshop in the Kopo area, Bandung, West Java. In the production process, the shoe workshop is carried out manually. Usually, this workshop gets orders for a stock system or a lot of production with a minimum of making shoes as many as 100 pairs of shoes. After research and observation fabric waste is produced after the process of cutting fabric that has been drawn patterns before. The amount of fabric waste created depends on the ability to visualize patterns on the fabric. Usually, the easier the shoe design to be produced, the less fabric waste will be created. That is because the basic model of the shape of a shoe can be made or printed on fabric as optimally as possible. Intricate pattern designs will produce fabric-cut waste, many of which occur because fabric cutting must follow the direction of the pattern that has been described, resulting in a lot of fabric-cut waste. After observation, it was found that the data on fabric material waste at the shoemaking workshop in Bandung, West Java is as shown in the table below.

**Table 1. Fabric Waste Data**

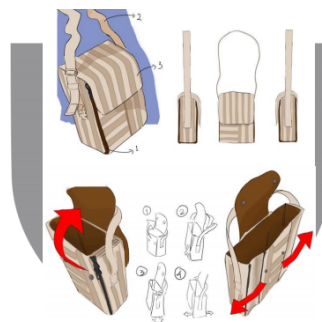
| <b>Material Name</b> | <b>Characteristic</b>                           | <b>Waste per-meter (gr/m)</b> |
|----------------------|---|-------------------------------|
| Cotton Fabric        | Thin, slippery, and not heavy                   | 340gr/m                       |
| Polyester Fabric     | Very thin, very slippery and abrasion-resistant | 300gr/m                       |
| Kenaf Cloth          | Quite thick, has a texture, and soft            | 670gr/m                       |
| Synthetic Fabrics    | Thick, inflexible, waterproof, and easy to grow | 550gr/m                       |
| Blacu Fabric         | Hollow, rather rough, brittle, thin, and light  | 210gr/m                       |

|                |  |          |
|----------------|--|----------|
| Hyacinth Fiber | Line-patterned, hollow, thick and textured | 1220gr/m |
|----------------|--|----------|

The table above shows that the most fabric waste is kenaf fabric waste and water hyacinth fiber, the waste is generated from the production process of high-upper sneakers. This is because fabric as the main raw material has a striped model that must be positioned horizontally on the shoe. Therefore, shoe models cannot be placed carelessly, which ultimately leads to a lot of waste pieces of fabric.

In the process of utilizing fabric waste in their journals Wulandari et al, (2022) used the upcycling technique, the use of this technique is not without reason, the technique is considered the most effective to apply because the upcycling process produces less waste, which is why this technique is used in the recycling process. The fabric processing technique also uses the patchwork processing method, this is because the production costs are economical when compared to other fabric waste processing techniques, but the production speed of this method is a bit longer compared to other fabric waste processing methods. This is because the process goes through the preparation and sewing stages first, but precisely because the process will give the appearance of a fabric with distinctive characteristics.

After going through a comparative analysis of fabric types to help the durability of a bag product, to maintain the main raw materials, namely water hyacinth and kenaf fabric, a layer of fabric is needed to remain sturdy and strong. The result is that you can use blacu fabric as a layer, this is done to maintain more strength.



**Figure 1. Final Concept**  
Source: Wulandari et al, (2022)

Because the existing kenaf and hyacinth fabric has many holes the cloth will be coated first with blacu cloth to cover the existing holes then the cotton cloth will be used for the curing layer of the bag, so that in the final visualization the white strap contained in the body of the bag is made of blacu fabric waste (Wulandari, et al, 2022). The blacu fabric is one of the most suitable and comfortable fabrics so it is suitable to be used as raw material for making fashion products such as shoes and tote bags (Retno et al, 2022).



Current usage of tote bags It has been massively used, especially in the retail industry which is used as food bags or groceries purchased by the public (Yusvita et al, 2021). This is also supported by government programs to reduce alternative plastic waste, namely by using tote bags as a substitute for plastic bags as grocery containers (Fadhli et al, 2023). Fabric or textile waste has been widely used by some people and academics and is used as products in the form of clothing accessories and bags (Faizah et al, 2022).

### **H&M's Steps in Overcoming the Adverse Effects of the Fast Fashion Industry**

As an industry engaged in the world of fast fashion, H&M Group tries to make profits through the business sector it does, but in its business process, the facts show that the fast fashion industry hurts people's lives in the environmental area as well as humanity. Therefore, the company carries out activities in the form of corporate social responsibility through a new concept, namely creating shared value as an effort to prevent negative effects resulting from the fast fashion industry in the environmental and humanitarian areas. The following programs are made by H & M as a form of effort to overcome its negative effects:

1. H& M Sustainable which is the application of the vision and positive ideals of H&M Sustainable there are 3 missions made by H&M Sustainable in the Company's production areas, namely leading the change, curricular and climate positive, and fair and equal. All of these missions have participated or contributed to points in the Sustainable Development Goals, and
2. H&M Foundation Namely a foundation created and financed by the family of the internal person to work on humanitarian missions as well as instruments of Corporate Social Responsibility from H &M which includes three programs namely H &M Global Program for Education (Global Program for Education), H&M Global Program for Water (Global program for water), and H&M Global Equality Program. All of these programs are carried out in all countries that have related problems (Fransiska et al, 2022).

### **Conclusion**

Through the research above, it can be concluded that the rapid development of the fashion industry is supported by technological advances today also with the term fast fashion is realized, able to cause negative effects on the environment and humanity, the use of fabric waste is needed to minimize blacu fabric waste. After being researched, blacu fabric waste can be used and used as an alternative material for fast fashion. Like a shoe workshop located in Bandung, West Java. Blacu fabric material waste left over from shoe production can be reused as the main alternative material in making Tote Bags or bag bags that have selling value. The process of recycling blacu fabric waste is also able to suppress the production of fabric waste, to help in overcoming the adverse effects of fashion industry waste on the environment and humanity.

### **Bibliography**

Apriani, L., Kasmirah, & Yulianti, N. R. (2014). Hambatan perawat anak dalam

- pelaksanaan ATRAUMATIC CARE DI RUMAH SAKIT DI KOTA SALATIGA. *Keperawatan Anak*, 2(3), 65–71.
- Ardinigrum, A., Putri, S. A., & Pambudi, T. S. (2023). PERANCANGAN SEPATU BOOTS DENGAN MATERIAL KULIT VEGAN BERBAHAN DASAR KULIT KOPI. *E-Proceeding of Art & Design*, 10(1), 529–549.
- Azizah, D. N. (2023). PERANCANGAN DESAIN TOTE BAG DENGAN NUANSA BATIK MENGGUNAKAN KONSEP UPCYCLE STUDI KASUS UMKM “BREEZE” PADA PT LACORRE LOKA MAYA. UNIVERSITAS DINAMIKA.
- Burhan, A. B. (2018). Utilization of Information and Communication Technology for Development of. *Jurnal Komunikasi Pembangunan*, 16(2), 233–247.
- Diantri, N. K. Y. (2021). Fast Fashion Sebagai Lifestyle Generasi Z di Denpasar. *SANDI: Seminar Nasional Desain*, 1, 98–104.
- Endrayana, J. P. M., & Retnasari, D. (2021). Penerapan Sustainable Fashion Dan Ethical Fashion Dalam Menghadapi Dampak Negatif Fast Fashion. *Prosiding Pendidikan Teknik Boga Busana*, 16(1), 1–6.
- Eria, S. D., & Nursari, F. (2020). Pengolahan Kemeja Pria dengan Tenun Lurik menggunakan Metode Zero Waste. *Telkomuniversity. Ac.Id*, 7(2), 2824–2830.
- Fadhli, K., Nur Qomariyah, S., Indah Yuliana, A., Ni, A., Rahmatika, M., Cahya Ningrum, R., Ardiyanti, R., A Wahab Hasbullah, U. K., Wahab Hasbullah, K. A., & Syariah, E. (2023). Pelatihan Kewirausahaan Pembuatan Totebag dengan Teknik Ecoprint sebagai Alternatif Peluang Usaha Ibu Rumah Tangga. *JURNAL PENGABDIAN MASYARAKAT Vol.*, 4(2), 2774–8537.
- Faizah, M., Azzahro, S., N, I. L. S., & Himmah, F. (2022). Pemanfaatan Limbah Kain Perca menjadi Dotapouch. *Jurnal Pengabdian Masyarakat*, 3(2), 101–104. <https://doi.org/10.36456/abadimas.v1.i1.a674>
- Fransiska, M., Nugraheni, O., Windiani, R., & Wahyudi, F. E. (2022). Tanggung Jawab Kapitalis: Strategi H&M Menanggulangi Dampak Negatif Industri Fast Fashion. *Journal of International Relations*, 8, 396–407.
- Hervianti, D. F., & Nursari, F. (2018). Perancangan Busana Zero Waste Dengan Teknik Draping Pattern Making Pada Pola Kimono. *Jurnal ATRAT*, 5(3), 276–285.
- Krulinasari, W., & Yusnandi, Y. (2022). Tinjauan Limbah Kain Sisa Produksi Menurut Hukum Internasional dan Hukum Nasional. *Prosiding Seminar Nasional Penelitian Dan Pengabdian Kepada Masyarakat*, 2(1), 57–64. <https://doi.org/10.24967/psn.v2i1.1481>
- Kusnadi, L. M. (2021). Peran Teknologi Informasi Dan Komunikasi Pada Program Kemitraan Pt Tanifund Madani Indonesia (Tanifund). *Jurnal Pembangunan Manusia*, 2(1). <https://doi.org/10.7454/jpm.v2i1.1015>
- Malcheni Sangrawati, Pongky Adhi Purnama, & Ratih Candrastuti. (2022). Fashion Campaign Limbah Tekstil Dalam Fotografi Ilustrasi. *Jurnal Dimensi Seni Rupa Dan Desain*, 19(1), 49–68. <https://doi.org/10.25105/dim.v19i1.15154>
- Nayoan, J. R., Gema Fitri, A. N., Umaroh, C. F., Maharani, D. A., Farhan, F., & Irianti, A. H. S. (2021). Pembuatan Busana Berkualitas Dari Limbah Tekstil Melalui Brand Ciclo.Th Menggunakan Teknik Mixed Media. *Fashion and Fashion Education Journal*, 10(2), 63–67. <https://doi.org/10.15294/ffej.v10i2.49681>

- Purwasih, R., Anita, I. W., & Afrilianto, M. (2020). Pemanfaatan Limbah Kain Perca untuk Mengembangkan Media Pembelajaran Matematika bagi Guru SD. *Jurnal SOLMA*, 9(1), 167–175. <https://doi.org/10.29405/solma.v9i1.3650>
- Putri, A., Riyani, M., Juliati, J., & Ayudia, I. (2023). Pemanfaatan Limbah Kain Melalui "Patchwork" Di Pkk Bate Ie Puteh. *Journal Of Human And Education ...*, 3(3), 49–53.
- Retno, D., Nurrohmah, S., & Wahyuningsih, E. (2022). FASHION AND FASHION EDUCATION JOURNAL Studi Kenyamanan Sepatu Kain Blacu. *Ffej Journal*, 11(2), 61–68.
- Santoso, F., Wijaya, F. T., & Ibrahim, S. (2017). Produk Pelengkap Fashion Dan Elemen Interior. *Simposium Nasional RAPI XVI –*, 1(1), 214–221.
- Shinta, F. (2018). Kajian Fast Fashion dalam Percepatan Budaya Konsumerisme. *Jurnal Rupa*, 3(1), 62. <https://doi.org/10.25124/rupa.v3i1.1329>
- Tertiyus, T. D., Damayanti, M. N., & Muljosumarto, C. (2021). Perancangan Fashionhasil Upcycle Sisa Kain Produksi Massal. *Prosiding Seminar Nasional Desain Dan Arsitektur (SENADA)*, 4, 344–351.
- Wika, W. (2022). TEKNIK ECOPRINT, PENGEMBANGAN MOTIF KAIN YANG RAMAH LINGKUNGAN ECOPRINT TECHNIQUE, DEVELOPMENT OF ENVIRONMENTALLY FRIENDLY FABRIC MOTIFS. *Garina*, 02, 275–291.
- Wulandari, A., Pambudi, T. S., & Azhar, H. (2022). Upcycling Limbah Kain Produksi Sepatu Menjadi Tas Sebagai. *E-Proceeding of Art & Design*, 9(1), 643–657.
- Yusvita, G., Rinjani, I., Arum Suminar, L., Resa Andira, E., Wahyudin, W., & Puspa Sari, R. (2021). Analisis Usaha Tote Bag Ramah Lingkungan sebagai Solusi Guna Mengurangi Sampah Plastik. *Go-Integratif : Jurnal Teknik Sistem Dan Industri*, 2(01), 12–23. <https://doi.org/10.35261/gijtsi.v2i01.5254>