

THE APPLICATION OF SURABAYA BATIK WITH THE THEME “*JEMBATAN MERAH*” AS A SUSTAINABLE APPROACH IN READY TO WEAR FASHION

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ABSTRACT

Keywords:

Fashion
Jembatan Merah
Pleats
Ruffles
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Surabaya Batik

This research aims to explore the process and results of applying Surabaya's Jembatan Merah batik in ready-to-wear fashion through pleats and ruffle fabric manipulation techniques. The Discover phase involved analyzing the meaning, history, and visual characteristics of the Jembatan Merah batik motif. In the Define phase, design challenges related to preserving motif authenticity while achieving functionality and aesthetic appeal were identified. The Develop phase focused on the application of pleats and ruffles to enhance texture and visual dimension. In the Deliver phase, a ready to wear women's garment prototype in the form of a blouse with five design variations was produced. The findings of this study provide practical implications for future research and vocational fashion design development, particularly in exploring sustainable fabric manipulation techniques and the innovation of local batik motifs for market oriented ready to wear products.

INTRODUCTION

Batik is a part of Indonesia's cultural heritage, possessing profound meaning and high aesthetic value. Over its development, batik has undergone significant transformation, transforming it not only as traditional clothing but also as a key element in the international fashion world. Since its recognition by UNESCO as a Masterpiece of Oral and Intangible Heritage of Humanity in 2009, Indonesian batik has gained increasing recognition and appreciation internationally. Its use is no longer limited to formal or traditional occasions, but has now penetrated various aspects of daily life, including more practical modern fashion (Suryani, 2020).

Along with the development of the fashion industry, batik has become a popular material among young designers for application in various clothing collections, including the ready-to-wear category. Ready-to-wear batik is a concept of batik clothing that can be worn immediately without the need for a lengthy customization process, providing convenience for consumers who want practical batik clothing that still exudes cultural values. This reflects how batik continues to adapt to changing times and increasingly dynamic market demand (Setiawan, 2019).

Surabaya is one of Indonesia's cities renowned for its rich culture and history. Surabaya played a crucial role in Indonesia's independence and is known as a bustling trading center. The city is also renowned for its cultural diversity, culinary delights, and arts, including its signature Surabaya batik, which embodies a blend of tradition and modern influences. Surabaya batik is increasingly sought after, both locally and internationally, as part of efforts to preserve Indonesian culture and the city's identity. One example of this batik is the "Jembatan Merah" themed batik.

The application of Jembatan Merah batik in ready-to-wear fashion focuses on design adaptations that combine rich traditional motifs with more practical and contemporary styles. This combination aims to make batik more relevant to modern society, especially the younger generation who desire clothing products that are not only fashionable but also possess cultural

value. The innovative design process and the use of Jembatan Merah batik fabric create an elegant impression, yet remain lightweight and easy to wear in everyday life (Indriani, 2022).

Thus, the application of Jembatan Merah Batik to ready-to-wear clothing not only opens up opportunities to preserve Indonesian batik culture but also introduces Indonesia's distinctive identity in a more global and modern form. This study will discuss how Jembatan Merah Batik is applied to ready-to-wear clothing, as well as the challenges and opportunities faced by designers in combining traditional and modern aspects to create attractive and practical clothing products (Wahyuni, 2023).

RESEARCH METHOD

The method chosen in this research is the double diamond model. This double diamond model research method consists of four stages: Discover, Define, Develop, and Deliver (Indarti, 2020). The first stage, Discover, is the initial phase where designers seek inspiration and gather information. Next, the Define stage serves to determine design priorities. Then, the Develop stage includes design development and prototype testing. Finally, the Deliver stage is the product completion process (Indarti and Harini, 2023). Based on this Double Diamond Model method, the steps in creating a fashion product will be outlined as follows.

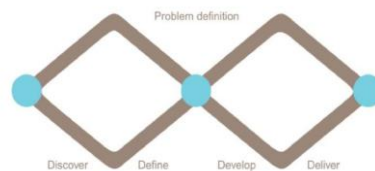


Figure 1. *Double Diamond Model*
(Source: Ledbury, 2017)

Discover

In language, discover can be interpreted as opening or searching for something that can be used as a source of ideas. Researchers conducted research and observations related to the Jembatan Merah batik motif, understanding its meaning, history, and potential application in the context of contemporary fashion. This motif is interpreted in various visual elements such as bold lines and dynamic geometric shapes, which symbolize strength and stability. Therefore, Jembatan Merah Batik is not just a visual design, but a narrative that connects the past with the present, providing a deep emotional dimension for anyone who wears it. With the Jembatan Merah Surabaya motif, researchers applied the motif to ready-to-wear clothing combined by manipulating fabric folds and ruffles. This design can be realized in a blouse model that is suitable for various events, both formal and casual. The design is easy to combine with accessories or other fashion items, making this garment versatile and can be worn on various occasions.

Define

The second stage is Define, in this case define can be interpreted as selecting design priorities. The theme/idea of this ready-to-wear collection is clothing that can be worn for various occasions, both casual and formal. In the define stage, the author then visualizes the source of the idea in the form of a moodboard. A moodboard is a form of inspiration board by displaying sources of ideas into a composition of design images, styles, and materials that will be realized in the creation of a fashion

design collection (Nur' Afifah, 2021). Create a moodboard of images that will serve as inspiration for ready-to-wear clothing. In this stage, the author created a moodboard by taking several images such as the Jembatan Merah batik motif, manipulating fabric pleats and ruffles, and several ready-to-wear clothing styles that will be developed. The combination of the Jembatan Merah batik motif and also pleats and ruffles while still prioritizing the values of tradition and originality which are the main selling points of these two things, so that the clothing resulting from the collaboration or application of batik fabric and the manipulation used can achieve the goal of creating an original ready-to-wear fashion collection.

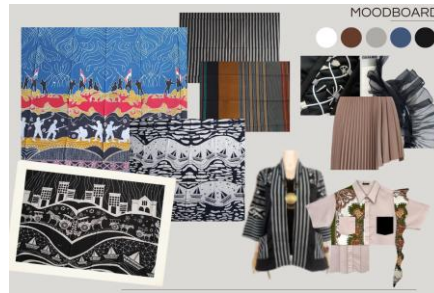


Figure 2. Moodboard

Develop

The Develop stage is a phase in the design process where ideas are developed, tested, reviewed, and refined (Fonseca Chagas & Mezabarba, 2019). In this stage, five design concepts were created using different applications of manipulating fabric and placement of Jembatan Merah batik motif, with the aim of refining the final product and providing design variations to achieve forms suitable for a ready-to-wear fashion collection.



Figure 3. Design

Deliver

The final stage is the Deliver stage. This is the stage of product completion or the final phase of the double diamond model. In this stage, feedback is gathered, the prototype is selected and approved, and the product is finalized (Angela & Indarti, 2023). The Deliver stage is carried out by conducting active consultations with individuals who have extensive knowledge in the ready-to-wear fashion category. This ensures that the final result can be as effective and optimal as possible.

RESULTS AND DISCUSSION

Jembatan Merah, located in the heart of Surabaya, holds a rich history and stands as a symbol of the Indonesian struggle for independence. This bridge is often used as inspiration in various forms of art, including batik. The "Jembatan Merah" motif in Surabaya batik depicts the iconic shape of the bridge along with historical elements associated with it. The motif features strong geometric designs, with lines representing the structure of the bridge and colors inspired by the history and symbols of Surabaya City.

Each of the three batik designs incorporates different motif elements. The first batik motif design highlights elements from Arek-arek Suroboyo, featuring figures carrying bamboo spears as symbols of resistance, along with colonial soldiers armed with rifles. At the center of the motif is a depiction of the moment the red and white flag is raised, which serves as the focal point of the design. This is combined with ukel and bayam raja motifs. To complete the composition, the structure of the Jembatan Merah and various stylized elements are also included.

The color palette used is inspired by bright tones, with a split complementary combination consisting of red, burnt orange, and blue. The red represents the Jembatan Merah in Surabaya, while also symbolizing the bravery of the Arek-arek Suroboyo in fighting for independence. Blue depicts the sky and river, while the burnt orange evokes a nostalgic atmosphere of the past. To harmonize the overall design, black is added as a balancing element.



Figure 4. Jembatan Merah Batik Motif 1

Desain motif batik kedua menggabungkan unsur-unsur alat transportasi perniagaan pada masa kolonial Belanda, seperti delman, kapal, dan gedung-gedung yang mengelilingi kawasan Jembatan Merah sebagai elemen utama. Di samping itu, terdapat motif pelengkap berupa tanaman dan gelombang air. Untuk motif pelengkap, digunakan elemen seperti cecek, rawan, ukel, dan bayam raja. Palet warna yang diterapkan dalam desain ini adalah monokrom hitam dan putih. Pemilihan warna monokrom ini dilakukan karena daya tariknya yang tak lekang oleh waktu, di mana motif ini selalu memiliki peminat, meskipun tidak sedang tren.



Figure 5. Jembatan Merah Batik Motif 2

Meanwhile, similar to the previous design, the third batik motif also illustrates commercial transportation in the form of boats constantly moving along the river beneath Jembatan Merah. The supporting motifs in this piece include ukel and bayam raja, while additional decorative elements consist of flowing water or bubbles, along with carefully crafted stylizations. The color palette used is monochromatic blue and white, with blue representing the sky and the river beneath Surabaya's Jembatan Merah.

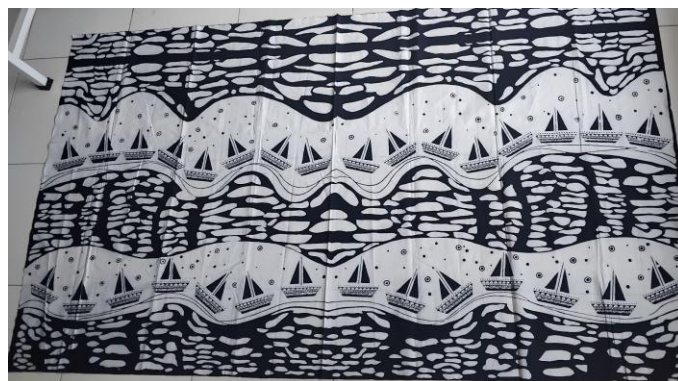


Figure 6. Jembatan Merah Batik Motif 3

The Jembatan Merah batik motif is crafted as batik tulis (hand-drawn batik) by local artisans in Surabaya, using hand techniques that require high levels of skill and precision. Inspired by a historical icon of the city, this motif portrays the beauty of Jembatan Merah, widely known as a symbol of struggle and pride for the local community. Each stroke of wax in the batik-making process creates a design rich in detail, blending traditional and modern elements into a meaningful work of art. The local Surabaya batik artisans involved in this process use natural dyes prepared through traditional methods, resulting in vibrant and long-lasting colors. The process of creating batik tulis takes considerable time, from drawing the pattern by hand to multiple stages of dyeing to achieve the perfect result. Moreover, each piece of Jembatan Merah motif batik holds a story and historical value, connecting the art of batik with Surabaya's rich heritage. Through the Jembatan Merah motif, this batik becomes more than just an artwork—it serves as a symbol of local pride and a medium to preserve and promote Surabaya's cultural identity to the world. The Jembatan Merah batik motif is a popular choice for those who wish to wear garments with a meaningful and elegant local touch.

The Jembatan Merah batik motif can be combined with other fabrics such as lurik, which is characterized by vertical stripes and rich texture. The combination of the Jembatan Merah batik motif with lurik fabric results in a harmonious blend. Lurik, known for its strength and durability, adds an elegant touch that complements the beauty of the hand-drawn details in the Jembatan Merah motif. The use of lurik as a complementary fabric in this batik design adds depth and uniqueness, where its simple yet distinctive pattern balances the complexity and narrative richness of the Jembatan Merah motif. Lurik fabric is also often produced locally, supporting the sustainability of Indonesia's traditional textile industry. The fusion of Jembatan Merah batik and lurik creates a stylish appearance. This combination not only highlights the beauty of Indonesian culture but also reflects innovation in local fashion design by blending traditional heritage with a contemporary touch.

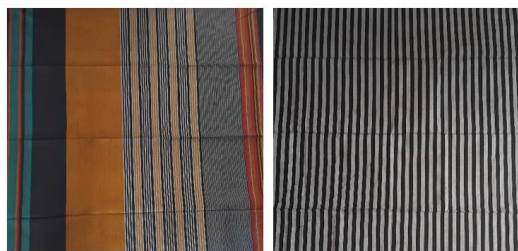


Figure 7. Lurik Fabric

The manipulating fabric techniques used are pleats and ruffles, adding dimension and more interesting texture to the design. The fine pleating technique creates an elegant volume effect, while ruffles add a dynamic and feminine impression. The combination of these elements results in a unique blend of traditional beauty and modernity in fashion. The manipulation of pleats and ruffles on the Jembatan Merah batik also gives a more dramatic impression and is rich in detail. The structured pleats and flowing ruffles add movement to the design, creating a livelier and more expressive appearance. This technique also enhances the character of batik as a fabric that is not only visually beautiful but also holds high artistic value. To facilitate the graphic representation in ready-to-wear fashion design, technical drawings are applied to convey important information about the garments. Below are the technical drawings of the five designs.

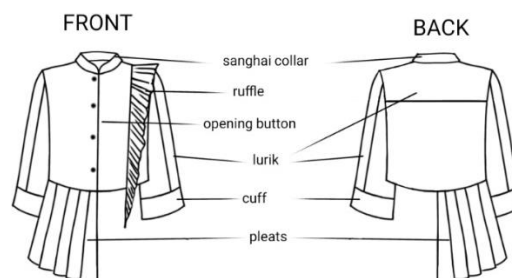


Figure 8. Technical Drawing Design 1

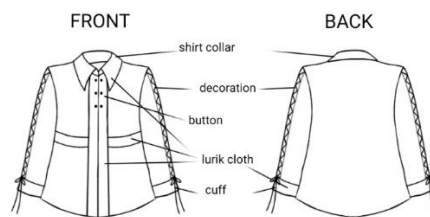


Figure 9. Technical Drawing Design 2

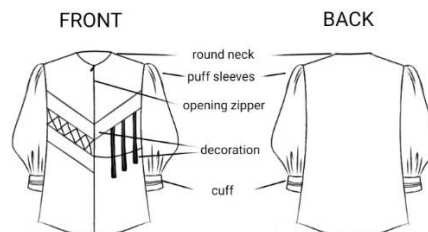


Figure 10. Technical Drawing Design 3

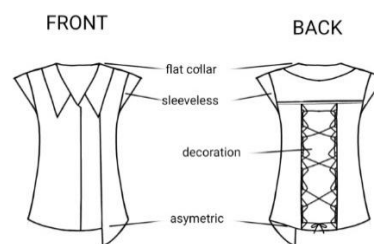


Figure 11. Technical Drawing Design 4

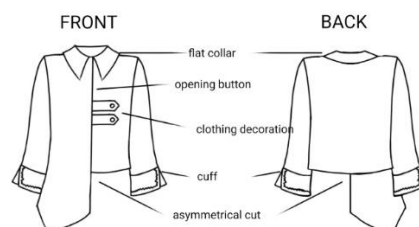


Figure 12. Technical Drawing Design 5

The next stage is the realization of the ready-to-wear garment by applying the Jembatan Merah batik motif along with manipulating fabric techniques using pleats and ruffles. First, for sewing pleated fabric, determine the desired size, then add extra fabric for the folds—typically 4 cm for the outer fold and 2 cm for the inner. After that, press the fabric to form the pleats, and for longer-lasting results, apply pleating spray. Second, the ruffle sewing technique starts by determining the length of fabric to be gathered, then doubling that measurement to create the ruffle. After adding the necessary length, stitch along the center of the seam using a wide stitch setting, so that the thread can be pulled to form the gathered ruffle. The patternmaking for this ready-to-wear garment uses a construction technique. According to Muliawan (2015:1), a construction pattern is made based on the individual's body measurements, drawn using mathematical calculations in

accordance with the pattern system being used. For this garment, the main material is Toyobo fabric, combined with Jembatan Merah batik fabric. Some pieces also incorporate lurik fabric in specific areas. The use of these materials supports both comfort and aesthetic appeal in the ready-to-wear design.

The final outcome of the five fashion designs consists of one type of garment, which is a women's blouse. The first design uses the Jembatan Merah motif fabric 1, combined with lurik fabric on the sleeves. Pleats are applied on the right side of the waist, while ruffles are placed on the left side of the chest. The opening used is fabric-covered buttons, and the collar is a Shanghai collar.



Figure 13. Final Garment Result

The second design uses the Jembatan Merah motif fabric 2, applied to the front and back parts, and is combined with black Toyobo fabric for the sleeves, as well as lurik fabric for the collar, cuffs, and front panel accents. The collar used is a shirt collar. This design is a blouse, so it features fixed fabric-covered buttons on the front. On the sleeves, pleats tuck manipulating fabric is applied, combined with ribbon ties to enhance the aesthetic of the sleeve area.



Figure 14. Final Garment Result

The third design still uses Jembatan Merah motif fabric 2, applied to the lower front and the full back area, combined with black Toyobo fabric for the puff sleeves, and batik motif fabric for the sleeve cuffs. Lurik fabric is applied on the front area. This design does not use a collar but features a round neckline finished with an inner lining, also known as a facing. On the right front side, there is a combination of batik motif fabric cut diagonally and added with crossing ties, while the left side is enhanced with plain fabric featuring decorative topstitching to add detail to the front design. The opening used is a jacket zipper.



Figure 15. Final Garment Result

The fourth design uses Jembatan Merah motif fabric 3, applied on the front, back, and collar, combined with navy Toyobo fabric for the front accents, full back, and sleeve embellishments. The collar used is a flat collar. On the back, pleats tuck manipulating fabric is applied, combined with ribbon ties to enhance the back detail. The opening used is snap buttons. This design can also function as a vest.



Figure 16. Final Garment Result

The fifth design still uses Jembatan Merah motif fabric 3, applied on the right front, back, sleeves, and collar. It is combined with navy Toyobo fabric for the left front and sleeve cuffs. The collar used is a flat collar. The opening features snap buttons and fabric-covered buttons on the accent area.



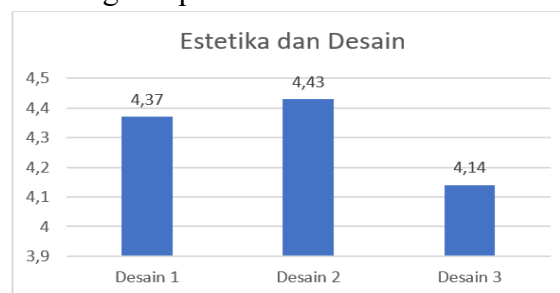
Figure 17. Final Garment Result

The combination of Jembatan Merah batik motif fabric, lurik fabric, and plain fabric creates a harmony rich in culture and aesthetics. Each of these fabrics carries a deep story and history, and when combined, they form a stunning piece of textile art. Fabric manipulation techniques such as pleats and ruffles add textural dimensions that enrich the design. The use of pleats and ruffles on Jembatan Merah batik, lurik, and plain fabrics not only enhances visual appeal but also creates texture and volume that add a dynamic impression. The soft movement of ruffles blends with the

structured elegance of pleats, creating a design that is not only visually captivating but also artistically expressive. The combination of these fabric manipulation techniques allows each element to blend beautifully, complementing each other in an elegant yet character-rich harmony. Overall, the fusion of Jembatan Merah batik, lurik, and plain fabrics, enhanced with pleats and ruffles, creates a piece that not only functions as clothing but also serves as a representation of the rich cultural and aesthetic heritage. The strength of the patterns, textures, and design techniques reflects the beauty of Indonesian culture intricately woven into every fiber of the fabric.

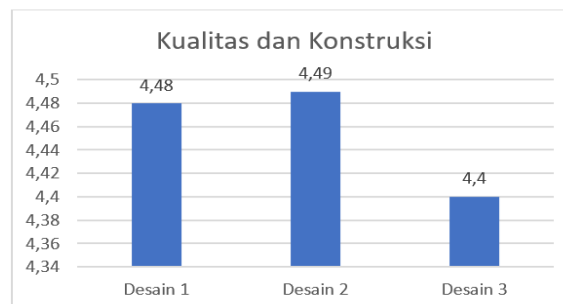
The final results of the five batik motif designs inspired by Jembatan Merah were evaluated by collecting data from observers, namely students who had completed batik and ready-to-wear courses, using questionnaires to obtain quantitative information in the form of mean/average scores. The assessment scale included the following aspects:

Table 1.1. Aesthetic and Design Aspects



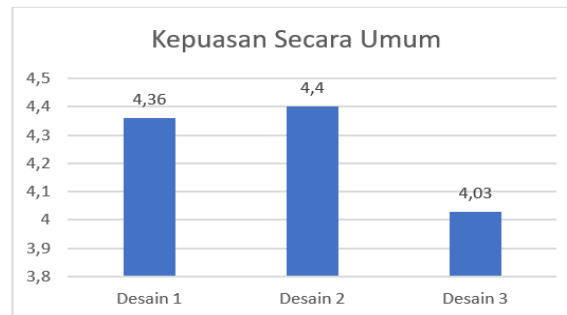
The data results in Chart 1.1, viewed from the Aesthetic and Design Aspects, show that motif 1 fashion design received a mean score of 4.37 (very good). Motif 2 fashion design received a mean score of 4.43 (very good). Motif 3 fashion design received a mean score of 4.14 (very good).

Table 1.2. Quality and Construction



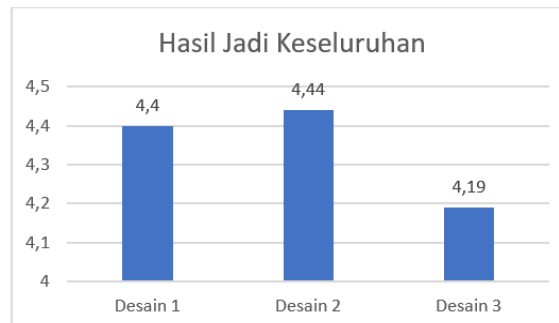
The data results in Chart 1.2, viewed from the Quality and Construction aspect, show that motif 1 design received a mean score of 4.48 (very good). Motif 2 design received a mean score of 4.49 (very good). Motif 3 design received a mean score of 4.4 (very good).

Table 1.3. Overall Satisfaction



The data results in Chart 1.3, viewed from the Overall Satisfaction aspect, show that motif 1 design received a mean score of 4.36 (very good). Motif 2 design received a mean score of 4.4 (very good). Motif 3 design received a mean score of 4.03 (very good).

Table 1.4. Overall Final Result



The data results in Chart 1.4, viewed from the Overall Final Result aspect, show that motif 1 design received a mean score of 4.4 (very good). Motif 2 design received a mean score of 4.44 (very good). Motif 3 design received a mean score of 4.19 (very good).

CONCLUSION

The application of Surabaya batik motifs with the theme "Jembatan Merah" in ready-to-wear fashion is an innovative step in combining cultural heritage with the modern fashion industry. The design, which highlights a historical icon of Surabaya, not only introduces batik to a wider market but also offers a modern touch that aligns with contemporary lifestyles. Thus, Surabaya batik, especially with the Jembatan Merah theme, has great potential to continue growing and become a fashion choice that is not only stylish but also meaningful. Through the use of this motif, we can gain a deeper appreciation of Surabaya's history and culture while enjoying the beauty of batik in wearable everyday fashion.

Fabric manipulation techniques such as pleats and ruffles add textural dimension that enriches the design. Pleats provide an elegant structural impression, while ruffles bring softness and dramatic movement. The combination of texture and pattern creates a design that is not only visually appealing but also conveys the dynamics and beauty of Indonesian culture. Overall, the fusion of fabrics and techniques not only results in stunning garments but also reflects the richness of Indonesia's meaningful artistic and textile craftsmanship heritage.

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