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Aesthetic Morphological Study of Zero Waste Pattern in Men's Shirt Design

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ABSTRACT

Aesthetic morphology studies can be carried out on men's shirt fashion design using the Zero Waste Pattern technique as one of the more varied men's shirt model design ideas. The study of Aesthetic Morphology by Thomas Munro is a study through the description, comparison, and analysis of the structure of the shape of an art object scientifically and systematically on the elements of art, design principles, and expressions resulting from the elements that form an art object. The purpose of this study is to examine the Aesthetic Morphology of men's shirt design using the Zero Waste Pattern technique, so as to find a shirt design whose product can be visualized and in accordance with aesthetic principles. The method used in this study is qualitative descriptive, the purpose is to understand the study of Aesthetic Morphology with research practices that emphasize exploratory aesthetics to describe the visual form, style, and visual expression of men's shirt design using the Zero Waste Pattern technique. The results of creative exploration resulted in 2 men's shirt designs, one of which is a Fit To Body design with a Casual Style with fabric waste of 2.1% and a Regular Fit Men's Shirt design with a Retro Style with fabric waste of 1.7%. The results of the study found that the 5 main criteria for designing using the Zero Waste Pattern technique, namely Aesthetics, Comfort, Cost, Sustainability, and Manufacturability, are known to consider psychological and sociology factors of art. A study using description, comparison, and analysis on the Zero Waste Pattern technique can find a men's shirt design line that is more varied, practical, supports sustainable trends, and is in accordance with aesthetic principles.

KEYWORDS

Men's Shirt
Aesthetic Morphology
Zero Waste Pattern

INTRODUCTION

Aesthetic Morphology by Thomas Munro (1970:5) is a branch of aesthetics that focuses on the description, comparison, and analysis of the structure of the shape of an art object scientifically and systematically to the elements of art, design principles, and expressions produced through the structural and functional aspects of an art object. Structural and functional aspects can be recognized from the types and forming elements in terms of elements, details, parts, materials, ideas, and expressions produced through the shape of the object. The study using Aesthetic Morphology is scientific and systematic because the study focuses on the product, and involves the psychology, sociology of art, individual makers, and individuals who use, so as to reduce the analysis of art objects in a biased and subjective manner.

According to Thomas Munro (1970:5), descriptions using Aesthetic Morphology must be logical and scientific, not judged based on the emotional and subjective aspects of the creator or art

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connoisseur. The focus of Aesthetic Morphology on the process of comparison refers to the level of similarity and difference as the process of identifying art objects. Aesthetic Morphology also focuses on the systematic analysis of characteristics of art objects to reveal the relationship of similarities, differences, as well as the analysis of characteristics in accordance with aesthetic principles, thereby reducing biased judgments and subjectivity (Ningsih & Budianto, 2023:83). The purpose of description, comparison, and analysis in Aesthetic Morphology is to facilitate the description of visual forms, styles, and expressions of various forms of artworks both natural and man-made such as sculptures, buildings, paintings, dances, and fashion products.

The study of Aesthetic Morphology can be carried out, one of which is in the design of men's shirt fashion using the Zero Waste Pattern technique. This is because men's shirt models from year to year never change and always look simple, in contrast to women's fashion which is more flexible and stylish. The difference in fashion models is based on the fact that men's postures are different from women's postures, thus affecting the fashion models that will be worn (Fadillah & Adriani, 2019:38). Another reason for the simple men's shirt model, is that most men avoid complicated and impractical fashion designs (Aldrich, 2015:9). Sustainable shirt design lines using the Zero Waste Pattern technique is one of the more varied ideas for designing men's shirt models.

According to Fadillah and Adriani (2019:38), the shirt is a top garment to cover body parts in the form of hands, shoulders, chest, and stomach. Shirts have details in the form of structural components and decorative components. Structural components on shirts such as collars, sleeves, cuffs, buttons on the midsection of the face, pleats, kupnats, pockets, yokes, and pleats. The decorative component is a visually appealing design such as the application of fabric types, colors, motifs, and other decorations (Yuningsih et al., 2020:37).

The process of making clothes requires a pattern to make the process easier. According to Hidayah and Yasnidawati (2019:223), there are several ways to make fashion patterns that can be used, including printed patterns, standard patterns, and construction patterns, and these patterns are included in the conventional pattern method. However, according to Gwilt (2020:74), conventional pattern making results in pattern pieces that are often difficult to place efficiently on the length and width of the fabric, which then leads to the creation of textile waste and unavoidable extravagance during the fashion manufacturing process.

According to Nadir et al (2022:38), the concept that can be applied by the fashion industry as an action to reduce economic losses, reduce textile waste, and environmental pollution is the use of the Zero Waste Pattern technique in its production system. The Zero Waste Pattern technique is to integrate pattern cutting into the design process so that not much fabric is wasted. According to Rissanen and Mcquillan (2016:87), the Zero Waste Pattern technique is claimed to be an effort to avoid environmental pollution and is one of the right alternatives to reduce a maximum of 15% of the remaining fabric from the total fabric production by minimizing the use of fabric. The Zero Waste Pattern technique has 5 (five) main criteria in the design process, namely:

- Aesthetics, ensuring that the visuals of the resulting products are pleasing to consumers.
- Comfort, ensuring the suitability and comfort of using the product.
- Cost, ensuring the appropriate production and sales price.
- Sustainability, ensuring waste-free production, use of good fiber types, impact of product use, visual durability against trend development, product durability, and transformability.
- Manufacturability, ensure the product can actually be produced.

According to Dieffenbacher (2021:32), the process of designing clothes using the Zero Waste Pattern technique has production potential, where the design begins with designing a pattern marker whose pieces will blend together like a puzzle, and when disassembled and rearranged, will form a garment. According to Garlufi and Nursari (2018:228), the application of the Zero Waste Pattern has existed since the time of Ancient Greece and was applied to traditional clothing. The Zero Waste Pattern technique has begun to be redeveloped by several experts such as Timo Rissanen, Holly McQuillan, Julian Roberts, and so on. Some of these experts developed several types of Zero Waste Patterns, namely:

- Geometric by Timo Rissanen, in the form of developing abstract fashion patterns using the combination of various geometric shapes such as squares, rectangles, triangles, and others.

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- Zero Waste convectional by Holly McQuillan, in the form of the development of conventional patterns that are dismantled and rearranged in such a way that they produce a Zero Waste Pattern.
- Subtraction Cutting by Julian Roberts, in the form of the development of abstract patterns arranged by draping, where new fashion designs can be made after the fashion has been formed and arranged.

According to Garlufi and Nursari (2018:228), the technique of making clothes using Zero Waste Patterns in Indonesia has not been developed much due to the lack of publications and awareness of the Indonesia people towards the environment. However, as time goes by and trends, according to the Ministry of Tourism and Creative Economy of Indonesia (2023:79) , Sustainable Fashion Design lines are considered to be a trend in creative economy production, especially in Indonesia. One of the reasons that supports sustainability is due to the increasing consumer awareness of the adverse effects of Fast Fashion and Conscious Consumption. Men's shirt design using the Zero Waste Pattern technique is one of the design ideas to support the publication of the Zero Waste Pattern technique and increase awareness of Sustainable Fashion Products.

Based on the prediction of the Creative Economy Sector (Asthu et al., 2023:79) related to Sustainable Product trends due to increasing consumer awareness of the adverse effects of Fast Fashion and Conscious Consumption, researchers know that there is potential to design men's shirts that are more varied and practical using the Zero Waste Pattern technique which is in accordance with aesthetic principles. The purpose of this study is to examine the Aesthetic Morphology of men's shirt design using the Zero Waste Pattern technique, so as to find a shirt design whose product can be visualized and in accordance with aesthetic principles that are logical, scientific, and systematic because it concerns the aspects of psychology, sociology of art, individual makers, and individuals who use it, especially men. The results of this research can be used as information to increase awareness of Sustainable Fashion Products, support the publication of Zero Waste Pattern techniques, and contribute to the trend of sustainable men's shirt design production to improve the creative economy, especially in Indonesia.

METHOD

The method used in this study is qualitative descriptive, the purpose is to understand the study of aesthetic morphology which focuses on description, comparison, and analysis that is logical, scientific, and systematic in accordance with aesthetic principles. The research practices carried out emphasize the aesthetics of exploration. The aesthetics of exploration were obtained based on observations from data collection of literature studies, observations, interviews, and explorations. According to Zam et al (2022:308), the exploration process was carried out as an effort to find innovative sources to give birth to meaningful forms. The emphasis on exploratory aesthetics is carried out in order to achieve the goal in the form of data that is presented descriptively to describe the study of the Aesthetic Morphology of Zero Waste Pattern in men's shirt designs that can be visualized and in accordance with aesthetic principles.

RESULT AND DISCUSSION

Results of the First Zero Waste Pattern Men's Shirt Exploration

The First Zero Waste Pattern Exploration work was carried out on a 110cm x 100cm fabric with a reference to a Geometric Pattern by Timo Rissanen and produced 2.1% waste. The silhouette from the results of the First Zero Waste Pattern Exploration produces a silhouette that Fits the Body, because the size of the pattern used is the standard conventional size of Indonesia men which is in the M (Medium) category.

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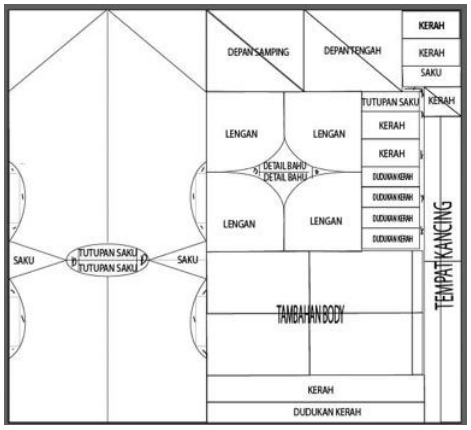

Figure 1. Exploration of the First Zero Waste Pattern
(Puspawati, 2024)

The visual displayed is in the form of a short-sleeved shirt with a firm silhouette of cut lines in the form of a pattern structure and a decoration structure that integrates into the pattern of the men's shirt. It has details consisting of a collar, short sleeves, buttons on the midsection of the face, and pockets. The details of the pattern structure and decoration structure on the body pattern and pockets use static straight lines. It has collar details without using a stand to produce a simple and casual shirt impression. Curved decorative details are added to the shoulders and sleeves to balance between the static and dynamic silhouette lines of the shirt's look. The style emphasized is in the form of a Casual Style Men's Shirt, which is a formal style appearance but also seems relaxed at the same time. The fashion style of casual men's shirts comes from the emphasis on the integration of the use of dynamic curved lines and bold static lines arranged in such a way that the appearance of the resulting fashion pattern is balanced. The visual expression of the First Zero Waste Pattern Men's Shirt Exploration work uses art elements in the form of vertical, horizontal, and diagonal static and dynamic straight lines arranged in such a way based on the principle of balance design on each side of the right pattern and the left pattern of the shirt. The visual expression displayed is in the form of Geometric Patterns with the size of the Fit to Body fashion pattern, so as to give the appearance of men's shirt fashion that is firm or formal but still simple and casual at the same time.

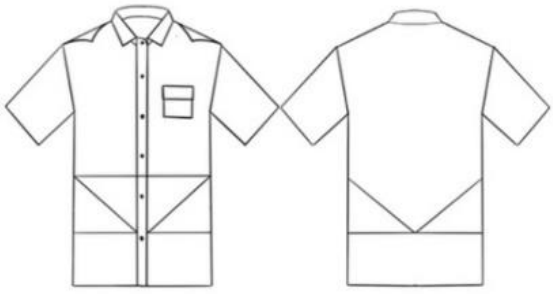

Figure 2. Results of the First Zero Waste Pattern Exploration
(Puspawati, 2024)

Results of the Second Zero Waste Pattern Men's Shirt Exploration

The Second Zero Waste Pattern Exploration work was carried out on a 150cm x 150cm fabric plane with a reference to the Geometric Pattern by Timo Rissanen and produced 1.7% waste. The silhouette from the results of the Second Zero Waste Pattern Exploration produces a Regular Fit shirt silhouette, the size of the pattern used produces a fitting look, not loose or narrow, according to the conventional size of Indonesia men's standard which is in the M (Medium) category

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Figure 3. Exploration of the Second Zero Waste Pattern
(Simamora M, 2024)

The visual displayed is in the form of a short-sleeved shirt with a bold silhouette of the lines of the pattern structure and the decorative structure of the shirt pattern forming pieces. It has details consisting of collars, short sleeves, buttons on the midsection of the face, yokes, and scarves as other accessories. The details of the pattern structure of the body, arms, collar, and scarf use static straight lines. The application of decorative details on the shirt face and scarf face uses visual elements in the form of pieces of fabric lines statically, then arranged in such a way that it looks more abstract. The pattern-forming static stripes used give the shirt a firm look but have a Regular Fit when used. The style emphasized is in the form of Retro Style Men's Shirts, which is a style that reminds of the aesthetics of some or all of the details of the fashion style that carried the fashion of the 20 to 30 years ago, with classic fashion pieces that seemed cheerful and crowded. The visual expression of the Second Zero Waste Pattern Men's Shirt Exploration work uses artistic elements in the form of vertical, horizontal, and diagonal static straight lines arranged in such a way, so as to form a field. The formed planes are then arranged in such a way based on the principle of balance design for the preparation of the right and left body planes. The small areas used as decorations are arranged in such a way based on design principles, variations and proportions to display an abstract impression so as to give a more classic impression of shirts and accessories in the form of scarves. The visual expression displayed gives the appearance of Retro Style shirt fashion, namely classic fashion pieces look simple, neat, and stable at the same time, plus the application of patterns for scarves as accessories to support the appearance.

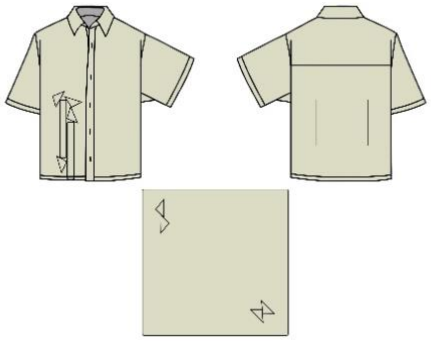

Figure 4. Results of the Second Zero Waste Pattern Exploration
(Simamora M, 2024)

To scientifically and systematically find out the aesthetics of the men's shirt fashion design line using the Zero Waste Pattern technique, the role of Aesthetic Morphology is needed. The way of Aesthetic Morphology is carried out by identifying 2 (two) design objects from the results of

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exploration of men's shirt design using the Zero Waste Pattern technique. The way to identify Aesthetically Morphologically is divided into 3 (three), namely:

1. Description

The Zero Waste Pattern technique focuses on emphasizing a maximum of 15% of the remaining fabric from the total fabric, with the design process meeting 5 (five) main criteria. The 5 (five) main criteria of the Zero Waste Pattern are:

a. Pleasant aesthetics,
b. Appropriate and decent comfort,
c. Production and selling costs accordingly,
d. Sustainability by minimizing production waste, good fiber use, good use impact and durability, resistance to trend development, and transformability,
e. Manufacturability is ensure the product can actually be produced.

The 5 (five) criteria for designing using the Zero Waste Pattern technique are known to consider the focus on the psychology and sociology side of art, be it individual makers, users, observers, connoisseurs, researchers, and others. Focusing on the psychology and sociology of art certainly interacts between styles and characteristics related to background, certain groups, knowledge, and personal experiences. Considerations to find out the design line of the Zero Waste Pattern technique in men's shirt fashion design are in line with the main focus of Aesthetic Morphology by Thomas Munro.

2. Comparison

Aesthetic Morphological considerations on the criteria for the Zero Waste Pattern Design process are the pattern and design of men's shirts. According to Hidayah and Yasnidawati (2019:225), the elements that need to be considered when making clothes are patterns and designs (models). Generally, the body shape of each human is different from one another, so not all pattern systems and designs are suitable for all body shapes. Differences in body shape are caused by several physical factors such as ancestry, ethnicity, race, and food. Not only body shape, designing men's shirts needs to pay attention to human aesthetic motivation in dressing which is caused by several psychological factors and sociology of art. The factors in question are in the form of factors to beautify the body, increase physical attractiveness, meet the needs of exploration facilities, and the will to convey certain meanings.

The conventional pattern and Zero Waste Pattern pay attention to psychological and sociological factors of art in each art object. However, there is a difference in the fulfillment of criteria between the conventional pattern and the Zero Waste Pattern. Conventional patterns pay attention to pleasant aesthetics, appropriate production and selling costs, and manufacturability, but lack in paying attention to sustainability by minimizing production waste, good fiber use, good use impact and durability, resistance to trend development, transformability, and appropriate and decent comfort. Instead, the Zero Waste Pattern must pay attention to the 5 (five) main criteria in the design process.

3. Analysis

The focus of Aesthetic Morphology analysis is in the form of creativity, characteristics, art objects, such as elements of silhouettes, designs, and styles. According to Zam et al (2022:307), creativity is the search for thoughts, ideas, and new forms that allow freedom in work by exploring in various aspects. Freedom in expressing ideas will give birth to works with artistic values of novelty that follow the times. Freedom of expression with the Zero Waste Pattern technique in men's shirt design needs to pay attention to the design lines. The design line in the study of the Aesthetic Morphology of Zero Waste Pattern in men's shirt design, namely:

a. Comfort, in the results of the First and Second Explorations, produced a design that is Fit to the Body and Regular Fit so that wearing remains simple, comfortable with the size, and the piece of clothing remains stylish (comfortable appearance and steals attention) with Casual and Retro decoration Style.

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b. Sustainability, it is known that the design and production of fashion using Zero Waste Patterns results in a reduction in waste up to less than 15% compared to the use of conventional patterns, especially the use of Timo Rissanen Geometric Pattern references which are considered to be able to maximize fabric dimensions (Nadir Et Al., 2022:38). The results of the Zero Waste Pattern exploration in the First Men's Shirt Design using Geometric Pattern reference produced 2.1% textile waste, and in the Second Men's Shirt Design using Geometric Pattern reference produced 1.7% textile waste.
c. Aesthetics, the exploration of Zero Waste Patterns in the First Men's Shirt Design uses elements of line art with the principle of balance design. The exploration of Zero Waste Pattern in the Second Men's Shirt Design uses elements of line art with the principle of balance design in the fashion pattern, as well as using the design principle of variation and proportion in the decoration pattern. Visual expression expressed through Casual and Retro Styles has a diverse impression on men's shirt designs. Casual and Retro Styles consider the psychological and sociological aspects of art from individual makers, users, observers, connoisseurs, researchers, and others. Considerations on this side are influenced starting from the background, certain groups, knowledge, and personal experiences that are contained in a certain style. Casual Style pours a formal but relaxed style look with a simple, fit to body, and casual shirt design line. Retro Style pours out the look of a fashion style that carries the fashion of the 20 to 30 years ago era with a simple, neat, stable, and classic shirt design line because of the addition of scarf accessories to the fashion pattern. According to Suwandi and Nelmira (2023:555), accessories are all objects that add beauty to the appearance of the wearer. The use of scarves along with shirts will add to the classic impression of a fashion. Casual and Retro Styles are styles that consider ideas, data, aesthetics, design, visuals, and functions, so that the fashion is feasible, can be presented, and used.

The results of the Aesthetic Morphological analysis carried out to find a more varied men's shirt design line using the Zero Waste Pattern technique are quite feasible, and can even affect in terms of production starting from promotion/presentation such as fashion shows and exhibitions, then affecting the branding process, fashion business, to manufacturability. The study of the Aesthetic Morphology of Zero Waste Pattern in Men's Shirt Design also supports the trend of Sustainability and is in accordance with the Aesthetic Morphology by Thomas Munro.

CONCLUSIONS

The study of Aesthetic Morphology by Thomas Munro is a study through the description, comparison, and analysis of the structure of the shape of an art object scientifically and systematically on the elements of art, design principles, and expressions resulting from the elements that form an art object. Men's shirt design using the Zero Waste Pattern technique is one of the right explorations to make a more varied men's shirt design. Men's shirt design using the Zero Waste Pattern technique involves a logical, scientific, and systematic aesthetic. The study of the Aesthetic Morphology of Zero Waste Pattern in men's shirt design must pay attention to the 5 (five) main criteria of designing, namely Aesthetics, Comfort, Cost, Sustainability, and Manufacturability, by considering psychological and sociological factors in the form of factors to beautify the body, increase physical attractiveness, fulfillment of the need for exploration facilities, and the will to convey certain meanings. The results of creative exploration using the Zero Waste Pattern technique resulted in 2 (two) men's shirt designs, namely a Fit to Body design with a Casual Style with 2.1% fabric waste and a Regular Fit Retro Style men's shirt design with 1.7% fabric waste.

The results of the Aesthetic Morphology study explain that the process of exploring and finding innovatively from visual forms, styles, and visual expressions, can find more varied and practical men's shirt design lines, especially using the Zero Waste Pattern technique. The results of the exploration of men's shirt design using the Zero Waste Pattern technique support the Sustainable Trend and in accordance with aesthetic principles using Aesthetic Morphology.

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