

Designing Resort Wear for Plus Size Women through Kumo Shibori Applications

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ABSTRACT

Plus-size women continue to face limited fashion options that accommodate body proportions while offering diverse aesthetic expressions. Existing plus-size fashion designs are often dominated by visual slimming approaches, resulting in limited exploration of alternative design perspectives. This study aims to create a resort wear design for plus-size women through the application of Kumo Shibori and crochet techniques as forms of contemporary textile *craftsmanship*. The study employed an artistic creation method consisting of Observation, Experimentation, Reflection, and Formation stages. Observation focused on the characteristics and needs of plus-size women as well as the exploration of resort wear, Kumo Shibori, and crochet techniques. Experimentation and reflection were conducted to determine the most appropriate design solution before being realized into a wearable garment during the formation stage. The result of this study is a resort wear design that integrates Kumo Shibori and crochet textures to create visual rhythm, textile expression, and handcrafted character. User evaluation conducted with the plus-size model who wore the garment indicated positive responses regarding comfort, mobility, visual appearance, and confidence while wearing the design. The study demonstrates the potential of textile craft techniques as an alternative approach to developing more inclusive, expressive, and representative fashion products for plus-size women.

Keywords: resort wear, plus-size-women, shibori, crochet.

INTRODUCTION

The prevalence of overweight and obesity among women continues to increase, including in Indonesia. According to the National Clinical Guidelines for Adult Obesity Management, women in the Asia-Pacific population are categorized as obese when they have a Body Mass Index (BMI) above 25 kg/m² or a waist circumference exceeding 80 cm (Kementerian Kesehatan RI, 2025). This condition contributes to the growing demand for clothing that accommodates diverse body proportions and user needs.

In the fashion industry, plus-size refers to clothing sizes above standard ready-to-wear sizing, generally beginning at UK size 14 or its equivalent XXL (Stellarosa & Iwanti, 2017). However, many plus-size fashion products are still developed by enlarging standard patterns without adequately considering the anatomical characteristics of larger bodies. As a result, plus-size women often experience difficulties in finding garments that meet their needs in terms of fit, mobility, and aesthetic preference (Pramesiwi, 2025).

Current plus-size fashion design is frequently dominated by visual slimming approaches that aim to create the illusion of a slimmer body through silhouette, color, and motif arrangements (Clarissa et al.). While this

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approach may enhance confidence, it also limits the diversity of aesthetic expression available to plus-size women. Therefore, alternative design approaches are needed to provide more inclusive and representative fashion experiences. This approach is also relevant to contemporary textile design practices that integrate traditional craftsmanship with innovation and cultural sustainability (Arafah, 2025).

One fashion category that remains relatively underexplored for plus-size women is resort wear. Resort wear is designed for leisure activities and is characterized by lightweight materials, relaxed silhouettes, and comfortable construction that support user mobility (Vinka & Febriani, 2019). Despite its growing popularity, representations of resort wear are still largely dominated by idealized slim body imagery, resulting in limited design alternatives for plus-size consumers.

To address this issue, this study explores the application of Kumo Shibori and crochet techniques as a textile craft approach in resort wear design. Kumo Shibori produces radial organic patterns that create dynamic visual rhythms, while crochet contributes texture, flexibility, and handcrafted qualities to the garment (Yusrina & Ramadhan, 2018; Rosidana, 2018). Based on these considerations, this study aims to create a resort wear design for plus-size women through the application of Kumo Shibori and crochet techniques. The study seeks to offer an alternative approach to plus-size fashion that emphasizes inclusivity, textile craftsmanship, and aesthetic expression beyond conventional visual slimming strategies.

METHOD

The creative method used in this project is the artistic creation method. According to Dharsono Sony Kartika (2016:46), the process of artistic creation involves experimentation, reflection, and formation. In the context of this work, the creator approaches this method by adding several stages, resulting in a four-stage creative process: 1) Observation, 2) Experimentation, 3) Reflection, and 4) Formation.

Data were collected through literature review, visual observation of existing plus-size fashion products, anthropometric measurements of the selected plus-size model, documentation of the experimentation process, and semi-structured interviews conducted after garment fitting and fashion presentation. The collected qualitative data were analyzed descriptively by comparing findings from each stage of the artistic creation process with the design objectives and the Function Theory framework proposed by Victor Papanek.

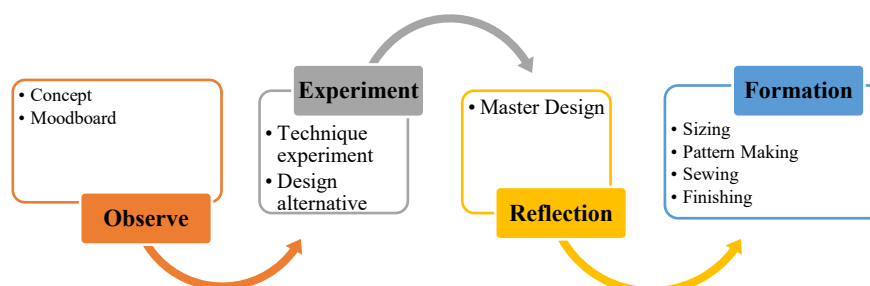


Figure 1. Scheme of Artistic Creation Method

Observe

As the initial phase of the artistic process, the observation stage utilizes emic and etic data to identify user needs and design objectives (Kartika, 2016). In this context, plus-size refers to women whose body measurements exceed standard ready-to-wear sizing, generally beginning at UK size 14 or its equivalent XXL (Stellarosa & Iwanti, 2017). According to the National Clinical Guidelines for Adult Obesity Management, women in the Asia-Pacific population are categorized as obese when they have a Body Mass Index (BMI) above 25 kg/m² or a waist circumference exceeding 80 cm. These anthropometric characteristics require garments that consider body proportions, mobility, and fit beyond simple size enlargement.

In addition to physical considerations, plus-size women often experience body dissatisfaction due to dominant beauty standards that prioritize slim body ideals (Kusumaningtyas, 2019). Consequently, many plus-size fashion products employ visual slimming strategies through silhouette manipulation, color arrangements, and optical illusion techniques to create a slimmer appearance (Clarissa et al., 2020; Dewi et al., 2020; Pramesiwi, 2025). While these approaches may improve confidence, they also limit opportunities for alternative aesthetic expressions that celebrate body diversity. The observation stage also examined the resort wear category, which is characterized by lightweight materials, relaxed silhouettes, and mobility-oriented designs suitable for leisure activities (Vinka & Febriani, 2019). However, representations of resort wear remain largely associated with idealized body imagery, resulting in limited alternatives for plus-size consumers.

To address these issues, a visual concept was developed through a moodboard entitled PLUSH. Serving as a creative guide (Anggraini et al., 2020), the moodboard utilizes semiotic analysis to translate the Quiet Artistry philosophy from the 2025–2026 Indonesia Trend Forecast into specific visual elements. Each signifier—color, texture, silhouette, and textile craftsmanship—was curated to communicate inclusivity, artisanal quality, and aesthetic expression while remaining functional for plus-size users.



Figure 2. Indonesia Trend Forecasting 2025-20
(Source: Fashion Trend Forecast “Strive 2025-2026”)

The "PLUSH" moodboard serves as a conceptual map that translates the Quiet Artistry philosophy into inclusive resort wear design. Semiotically, the plus-size figure is positioned as the primary signifier to explicitly convey self-acceptance and inclusivity. Tropical floral icons and beach settings function as visual markers for a relaxed, feminine, and warm vacation narrative.



Figure 3. Moodboard

Experiment

The experimentation stage involves testing materials, techniques, tools, and visual arrangements to express the artistic concept (Kartika, 2016). In this study, the experimentation stage focused on exploring textile manipulation techniques and materials suitable for plus-size resort wear. Textile experimentation plays an important role in developing contemporary fashion products that combine aesthetic, cultural, and material innovation (Arafah, 2025). The process involved testing several Shibori techniques and crochet stitch variations to identify textile characteristics capable of supporting the design objectives established during the observation stage. The experimentation process was conducted in two phases:

- [1]. Exploratory Phase: Testing Kumo Shibori pattern variations on 30 × 30 cm rayon twill fabric swatches to determine the most effective binding tension, motif formation, and dye absorption. Pattern and color experiments were conducted at this stage using rayon twill as the primary material to evaluate color intensity, motif clarity, and fabric compatibility with the Shibori technique.

Table 1. Kumo shibori pattern experiment










No	Process	Result
1		
2		
3		

Table 2. Color experiment

Dye Material	Composition	Immersion Frequency	Result	Evaluation
Remasol	50 g : 500 mL water	1x		Good motif visibility but lower color intensity
Wantex	100 g : 5 L boiling water	30 min		Good color depth, motif less visible
Indigofera	250 g : 2.5 L water	2x		Good natural appearance but lower saturation
Indigofera	1 kg : 5 L water	4x		Strong color depth and visual quality
Naphtol ASBO + Diazo Black B	30 g + 60 g : 3 L water	1x		Good color consistency
Naphtol ASBO + Diazo Black B	30 g + 60 g : 3 L water	2x		Selected for final design application

[2]. Implementation Phase: Applying the selected Kumo Shibori technique onto a full-scale 2x1.5 m fabric rayon twill fabric using Naphtol ASBO (60 g) and Diazo Black B (120 g), representing twice the concentration used in the initial experiment. The increased dye concentration and double immersion process were applied to obtain stronger color saturation and a more consistent indigo-blue appearance. The evaluation focused on motif formation, color consistency, visual rhythm, and suitability for garment application.

Table 3. Shibori result

Result	Evaluation Criteria	Observation
	Motif Clarity	Well defined radial motifs
	Color Absorption	Even color penetration on rayon twill
	Visual Rhythm	Dynamic and balanced
	Fabric Compatibility	Suitable for rayon twill
	Garment Application	Suitable for pattern layout and final construction

During this stage involved evaluating the experimental results and alternative design developments based on conceptual, aesthetic, and functional considerations. Four alternative designs were generated from the PLUSH moodboard and assessed according to silhouette suitability, Kumo Shibori placement, crochet integration, and compatibility with plus-size body proportions. The evaluation aimed to identify the design that most effectively represented the Quiet Artistry concept while fulfilling the requirements of inclusive resort wear.



Figure 4. Alternative Design

Reflection

The reflection stage is a phase of deep evaluation and critical assessment of the experimental results (Kartika, 2016). During this process, Design 2 was selected as the master design. The design combines an asymmetrical silhouette, Kumo Shibori textile applications, and crochet embellishments that collectively express the Quiet Artistry concept. The selected design also provides a balanced visual composition suitable for plus-size body proportions and resort wear applications.



Figure 5. Selected master design

Formation

Formation is the realization of the design into a physical structure (Kartika, 2016). This stage began with body measurements of the selected plus-size model, whose body dimensions exceeded standard ready-to-wear sizing and corresponded to the plus-size category. The model's measurements included a body weight of 98 kg, waist circumference of 110 cm, and clothing size of 3XL. These measurements served as the basis for pattern development to ensure proportional fit and mobility. The construction process continued with fabric cutting, garment assembly, crochet application, fitting, and finishing. The previously prepared Kumo Shibori rayon twill fabric was incorporated according to the master design, resulting in the final resort wear garment.

RESULT AND DISCUSSION

The final outcome of this study is a resort wear ensemble designed for plus-size women through the application of Kumo Shibori and crochet techniques. The ensemble consists of a long outer, a crochet bralette inner top, and short pants. Rayon twill fabric was used as the primary material due to its lightweight and fluid characteristics, while Kumo Shibori and crochet applications were incorporated as the main visual elements of the design. The dominant indigo-blue color was achieved through the application of Naphtol ASBO and Diazo Black B dyes, reflecting the calm and refined aesthetic direction of the Quiet Artistry concept. The completed ensemble was adapted to the body proportions of the selected plus-size user and realized according to the selected master design.

The design combines traditional textile craftsmanship with contemporary resort wear aesthetics. Kumo Shibori motifs create radial patterns with soft gradations that generate visual rhythm across the garment surface, enhancing the dynamic appearance of the ensemble. These motifs are strategically distributed throughout the outer garment to establish visual balance while complementing the silhouette. In addition, bamboo cotton crochet is applied to the bralette and decorative details, introducing texture, transparency, and handcrafted value. The combination of flowing rayon twill, Kumo Shibori motifs, and crochet embellishments contributes to a visually layered composition that reflects the concept of inclusivity, craftsmanship, and aesthetic expression within contemporary plus-size fashion.



Figure 6. Finished look result

Design Analysis

The design was analyzed using Function Theory proposed by Victor Papanek and discussed by Hendriyana (2019). This theory was employed as a framework to examine the relationship between functional, technical, aesthetic, and socio-cultural aspects within the design. According to Victor Papanek, as cited in Hendriyana (2019), Function Theory consists of six interrelated aspects: Need, Association, Telesis, Method, Aesthetic, and Use. These aspects were utilized to analyze the final resort wear design developed for plus-size women through the application of Kumo Shibori and crochet techniques.

Need

The design addresses the need for inclusive resort wear by accommodating larger body proportions without relying solely on visual slimming strategies. The loose silhouette and lightweight material support comfort and mobility, while the handcrafted textile applications provide aesthetic value that allows users to express their identity confidently.

Association

The design is associated with contemporary inclusive fashion movements that encourage body positivity and self-acceptance. Rather than concealing body dimensions, the design celebrates body diversity through textile expression, color composition, and handcrafted surface decoration.

Telesis

The design responds to current developments in the fashion industry where inclusivity has become an important consideration. By integrating traditional Kumo Shibori and crochet techniques into resort wear, the design offers an alternative product that combines cultural craftsmanship with contemporary market needs.

Method

Kumo Shibori was applied as the primary textile manipulation technique, while crochet was incorporated as a decorative element. Color experimentation resulted in the selection of Naphtol ASBO and Diazo Black B to achieve the desired indigo-blue appearance.

Aesthetic

The aesthetic quality is achieved through the combination of an asymmetrical silhouette, indigo-blue color palette, Kumo Shibori motifs, and crochet textures. The asymmetrical silhouette creates vertical visual movement that helps balance larger body proportions. The strategic placement of Kumo Shibori motifs generates focal points that distribute visual attention across the garment surface, while crochet details contribute handcrafted character and visual richness. Collectively, these elements support the Quiet Artistry concept while promoting aesthetic expression beyond conventional slimming approaches.

Use

The garment functions as a resort wear ensemble intended for leisure and vacation activities. The lightweight rayon twill fabric supports comfort in warm climates, while the loose construction allows freedom of movement. These functional considerations are particularly important for plus-size users who require garments that accommodate mobility without compromising aesthetic quality.

Expert Validation

Expert validation was conducted by a lecturer from the Fashion Design Department of ISBI Bandung with expertise in apparel design, garment construction, and fashion product development. The evaluation focused on silhouette suitability, textile application, craftsmanship quality, and compatibility with resort wear characteristics.

Table 4. Expert evaluation summary

Aspect	Expert Evaluation
Silhouette	Suitable for plus-size body proportions
Kumo Shibori Application	Successfully creates visual rhythm
Crochet Application	Enhances handcrafted character
Resort Wear Concept	Appropriate for leisurewear
Overall Design	Consistent with the Quiet Artistry concept

The expert further noted that the integration of Kumo Shibori and crochet techniques successfully enhanced the visual identity of the garment while maintaining proportional balance for plus-size body shapes. According to the expert, the design demonstrates the potential of traditional textile techniques to be adapted into contemporary inclusive fashion products.

User Evaluation

User evaluation was conducted with the plus-size model who wore the garment during the fashion presentation. The evaluation focused on the overall wearing experience, including silhouette suitability, mobility, visual appearance, and confidence while wearing the design.

Table 5 User Profile

Variable	Description
Gender	Female
Age	30 years
Body Weight	98kg
Waistline	110
Clothing Size	3XL
Role	Plus Size model

Table 6. User Satisfaction Score

Indicator	Score (1-5)
Comfort	5
Mobility	5
Fit	4
Aesthetic Appearance	5
Confidence	5

The evaluation results indicate that comfort and mobility received the highest scores, suggesting that the material selection and garment construction effectively supported the functional requirements of resort wear. The slightly lower score for fit indicates that further adjustments to specific garment details may improve personalization for different body proportions. Overall, the findings suggest that the integration of Kumo Shibori and crochet techniques did not negatively affect wearability and instead contributed positively to user confidence and visual satisfaction.

Table 7. User evaluation summary

Variable	Description
Silhouette Suitability	Suitable for the user's body proportions
Mobility	Did not restrict movement during wear
Crochet Application	The material felt lightweight and comfortable against the skin
Visual Appearance	The design contributed to the user's confidence while wearing it
Overall Experience	The user reported a positive experience while wearing the garment

The evaluation indicated that the garment was generally perceived positively by the user. The silhouette was considered suitable for the user's body proportions, while the garment construction allowed sufficient mobility during wear. The user also reported feeling more confident while wearing the garment and noted that the crochet application felt lightweight and comfortable against the skin. Overall, the user expressed satisfaction with both the garment and the experience of wearing it.

In addition to the evaluation, the user provided general feedback regarding the garment. The Kumo Shibori motif and crochet details were perceived as distinctive features that enhanced the overall appearance of the ensemble. The user also reported feeling more confident while wearing the garment due to its silhouette and visual presentation. As a suggestion for future development, the user recommended increasing the length of the inner top straps to provide a more adjustable fit and improve wearing comfort. This feedback highlights the importance of considering individual body proportions during the development of plus-size fashion products.

Research Limitations

This study has several limitations. First, the evaluation was conducted with only one plus-size user, which may not fully represent the diversity of body shapes and experiences among plus-size women. Second, the study focused on the development of a single garment prototype and therefore cannot be generalized to all resort wear products. Third, the user evaluation was conducted qualitatively through observation and interviews without quantitative wearability testing. Future studies are recommended to involve a larger

number of participants, broader anthropometric variations, and more comprehensive comfort and usability assessments.

CONCLUSION

This study resulted in the development of a resort wear ensemble for plus-size women through the application of Kumo Shibori and crochet techniques using the artistic creation method consisting of Observation, Experimentation, Reflection, and Formation. The final design, consisting of a long outer, crochet bralette, and short pants, successfully integrated textile craftsmanship with contemporary resort wear aesthetics inspired by the Quiet Artistry concept. The application of Kumo Shibori contributed visual rhythm and textile expression, while crochet added texture and reinforced the handcrafted character of the garment. Based on the analysis using Function Theory, the design addressed the need for inclusive resort wear by considering body proportions, aesthetic expression, and wearability for plus-size women. User evaluation further indicated positive responses regarding silhouette suitability, mobility, confidence, material comfort, and overall wearing experience. These findings demonstrate that the integration of traditional textile craft techniques can serve as an alternative approach for developing more inclusive, expressive, and representative fashion products for plus-size women.

Academically, this study contributes to the discourse on inclusive fashion design through the integration of traditional textile craftsmanship and artistic creation methodology. Practically, the findings provide an alternative design approach for the development of plus-size resort wear products within the creative industry. In vocational fashion education, the project may serve as a reference for applying experimental textile techniques and inclusive design principles in garment development.

The findings of this study demonstrate the potential of integrating traditional textile craft techniques into contemporary inclusive fashion products. The application of Kumo Shibori and crochet techniques provides an alternative approach for developing resort wear specifically designed for plus-size women, a market segment that remains relatively underrepresented in fashion production. For the creative industry, the design process presented in this study may serve as a reference for incorporating handcrafted textile techniques into commercially relevant fashion products while addressing diverse consumer needs. In vocational fashion education, the project can be utilized as a learning example for combining textile experimentation, inclusive design considerations, and artistic creation methods within the garment development process.

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