

# Dance Costume Innovation Through Abstract Batik Collaboration: MSME Mentoring Model Based on Performing Arts and Design

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**Abstract:** Innovation in the development of abstract batik-based dance costumes is a strategic effort to strengthen collaboration between performing arts and textile crafts while empowering batik MSMEs. The background of this activity is the challenges faced by MSMEs in product diversification and creative market access, as well as the need for performing arts for costumes that are not only functional, but also have high artistic value. This research aims to create a collaborative design model that integrates the expression of dance movements with abstract batik motifs through a practice-based and participatory approach. The method used involves students from the dance, fashion design, and batik craft study programs, together with MSME partners, to produce batik fabric with splash, spontaneous, and color gradation techniques, which are then realized into contemporary dance costumes. The process starts from identifying the concept of dance movements, designing abstract motif visuals, making batik fabrics, to the production and testing of costumes in performances. The results showed that abstract batik motifs were able to strengthen the visual and expressive dimensions of the costumes, in harmony with the dancers' body dynamics. The resulting costumes not only meet aesthetic and comfort aspects, but also enrich the visual experience of the audience. The evaluation showed a positive impact on MSME partners, especially in building design capacity, daring to explore non-traditional motifs, and openness to new market segments. This collaboration also proves that the cross-disciplinary synergy-based mentoring model is able to produce innovative products while empowering creative economy actors. This activity recommends replicating similar programs in various regions with different local potentials, in order to expand cultural influence and strengthen the national creative economy ecosystem.

**Keywords:** Abstract Batik, Dance Costumes, Design Collaboration, MSMEs, Cultural Innovation.

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## I. INTRODUCTION

The development of batik and performing arts in Indonesia reflects the dynamics of culture, national identity, and creative innovation that continues to take place. Batik has evolved from a local tradition to a symbol of national identity, while performing arts serves as an adaptive and collaborative medium of cultural expression. Batik initially developed among ordinary people and immigrant communities, especially in the colonial era, then became a symbol of urban and national culture after independence [1], [2]. Batik motifs now combine cultural elements from various regions, strengthening national identity and pride in Indonesia's diversity [3], [4]. Batik has been recognized by UNESCO as an Intangible Cultural Heritage since 2009, encouraging the preservation and promotion of batik as part of the national creative industry policy [5], [6]. Batik continues to innovate, both in terms of techniques (e.g., Shibori techniques, songket

batik) and collaborations with performing arts and other creative products [7]–[9].

Performing arts include dance, drama, music, and often collaborate with fine arts such as batik for costumes and property [9]. Batik artists and performing arts support each other, enrich their works and expand cultural meaning [10]. Both batik and performing arts contain expressive, psychological, and spiritual values that strengthen people's identities [11]. Batik and performing arts in Indonesia are developing dynamically, reinforcing each other as symbols of national identity, educational media, and cultural innovation. Collaboration and adaptation are both the key to the preservation and development of Indonesian culture in the modern era.

Batik MSMEs in Indonesia face major challenges in product diversification and access to creative markets. Limited

innovation, technology adoption, and market understanding are the main obstacles to developing and competing in the digital and global era. Product development based on local wisdom, iconic ethnic designs, and eco-friendly diversification increases competitiveness and marketing performance [12], [13]. Training and adoption of digital technologies (e-commerce, digital catalogs, social media) expand market reach and improve operational efficiency [14], [15]. Collaboration with designers, governments, and communities accelerates innovation and market access [16]. Innovation, marketing, and business management training is essential to increase competitiveness [17], [18]. The main challenges for batik MSMEs in product diversification and creative market access are the limitations of innovation, technology adoption, and marketing strategies. Effective solutions include local-based product innovation, marketing digitalization, cross-sector collaboration, and human resource capacity building so that batik MSMEs are able to compete in the national and global creative markets.

Higher education institutions have a central role in fostering culture-based innovation by creating an ecosystem that supports creativity, collaboration, and knowledge development. Innovative organizational culture, visionary leadership, and cross-sector collaboration are key to growing and sustaining culture-based innovation. The implementation of an innovation culture is often hampered by bureaucracy, lack of incentives, and limited resources [19], [20]. Building an award system, strengthening cross-disciplinary collaboration, and integrating local cultural values in curriculum and research [21], [22]. Higher education institutions play a key role as a key driver of social, economic, and cultural innovation through research, curriculum development, and partnerships with various stakeholders [23], [24].

Strengthening the culture of innovation on campus has been proven to improve the quality and speed of innovation, as well as strengthen national competitiveness [25]. Higher education institutions play an important role in fostering culture-based innovation through the creation of innovative organizational cultures, supportive leadership, cross-sector collaboration, and human resource development. This effort strengthens the innovation ecosystem that is relevant to the needs of society and the development of the times. For this reason, this research aims to carry out a collaborative process that can produce abstract batik-based dance costume innovations while strengthening the capacity of MSMEs.

## II. THEORETICAL FRAMEWORK

### ➤ *Costume Design Theory in Performing Arts.*

Costume design theory in the performing arts addresses how costumes are not only a visual complement, but also as an active element that shapes the meaning, expression, and experience of performance. Costume design plays an important role in building character, supporting narratives, and creating interactions between bodies, materials, and space. Costumes should take into account the physical and psychological comfort of the player, as well as support the movement and expression of the character. Inconvenience or

user-friendly design can affect a player's performance and emotional engagement [26]. Costume design must be aligned with the director's vision, scenography, and other performance elements to create a unity of style and visual meaning [27], [28]. Costumes are seen as active agents that affect the player's body and actions, not just a reflection of the character. The theories of "agency" and "embodiment" emphasize the dynamic interaction between costume, body, and space [29]–[31].

The design process involves collaboration between designers, choreographers, and performers. The "co-creation" and "listening through costume" approaches emphasize the importance of listening to the player's experience of the costume to discover the hidden performative potential [32]. Costumes are used to convey the symbols, metaphors, and subtexts of the play, reinforcing the characters and messages of the show [33]. The concept of visual dramaturgy places costumes as an integral part of visual narrative and character development on stage [28]. Costume design theory in the performing arts emphasizes the active role of costumes as agents of expression, identity, and narrative. A collaborative approach, understanding ergonomics, and the use of technology are key to creating meaningful costume designs and supporting the power of performance.

### ➤ *Aesthetic Principles in Contemporary Batik Abstract Motifs.*

Aesthetic principles in contemporary batik, especially abstract motifs, emphasize freedom of expression, visual innovation, and the blending of traditional values with modern styles. Abstract motifs in contemporary batik are no longer tied to the representation of certain flora/fauna, but rather highlight the beauty of ornaments, compositions, and the exploration of shapes and colors. Classical motifs are processed into dynamic geometric shapes, lines, or brushstrokes [34], [35]. The use of layering, brushstroke, and digitization techniques enriches visuals and textures (Legino et al. 2024). The value of beauty takes precedence over attachment to traditional meanings [37]. Contemporary batik with abstract motifs prioritizes aesthetic principles in the form of freedom of form, color exploration, and engineering innovation. These abstract motifs reinforce batik's modern identity while still opening up space for symbolic meaning and cultural philosophy.

## III. METHOD

The method used in this activity is a practice-based participatory collaborative method, which involves students, supervisors, and MSME partners. The activity began with observation and identification of partner needs, followed by the preparation of a dance costume design that integrated abstract batik motifs as the main visual element. This process involves intensive cross-disciplinary discussions between students from the dance, fashion design, and textile craft study programs to harmonize the aesthetic concepts of motion and textiles.

The next stage is the production of abstract batik fabrics through written and splashed batik techniques. Coloring is

done with a gradation approach and exploration of non-geometric motifs to create expressive visual effects. Students and partners carry out the entire process from patching, dyeing, shoveling, to drying. The resulting fabric is then constructed into a dance costume using patterns adapted to the needs of contemporary dance movements and narratives.

After the costumes are finished being produced, trials are carried out through rehearsals and dance performances. Evaluation was carried out directly on the aesthetic aspects, comfort, and durability of the costume when used in dynamic movements. Feedback from dancers, supervisors, and partners is used to make improvements. This method not only produces innovative products

#### IV. RESULTS AND DISCUSSION

##### ➤ *Collaborative Process of Dance Costume Design*

The collaborative process of designing dance costumes in this activity is a very important initial stage because it is a meeting point between two different worlds of expertise: performing arts and textile crafts. This collaboration brings together students from the Dance, Batik Fashion Design, and Batik Craft Study Program ISI Surakarta, as well as MSME partners as the main actors in abstract batik production. In this process, creative ideas from the dance world are translated into visual forms of textiles that are then developed into performance costumes that have both artistic and functional functions.

The first step in this collaboration is the identification of the dance theme that will be realized through the costumes. Dance students propose narrative concepts and movement atmospheres that they want to convey in the performance, such as themes about freedom, change, or emotional dynamics. The concept was then discussed together with the batik design team to find a visual equivalent that could represent the expression of movement in an abstract manner. This is where abstract batik motifs are the right choice because of their non-representational nature and flexibility in visual interpretation.

In the collaborative discussion session, batik craft students introduced various techniques and approaches to abstract batik visuals, such as splashing techniques, spontaneous scratches, and gradation coloring that can present dynamic visual nuances according to the rhythm of the dance. The motifs chosen do not follow a traditional symmetrical pattern, but are more expressive and organic, reflecting the dancer's body gestures. This process becomes a form of complementary synergy, where the idea of movement is translated into the lines, colors, and textures of batik, while batik motifs provide new inspiration for dance choreography.

After the visual concept and motif were agreed, the fashion design team developed a fashion pattern that suited the needs of contemporary dance movements. The pattern design considers the flexibility of the body, the fall of the fabric, and the placement of the motif to look harmonious when worn by the dancer on stage. The design was created with the dancer's body shapes, movement types (jumping, twisting, crouching),

as well as the play of volume and fabric layers to keep the visual effects alive during the performance.

The team also conducted a simulation trial by making a prototype of the experimental material, to see how the fashion pattern works when worn in dance movements. This process involves direct observation of the dancers moving using the initial pattern, which then becomes the basis for the revision and refinement of the design. The end result of this collaborative process is a dance costume design that is not only aesthetically beautiful, but also functionally effective to support body expression in performance.

Through this cross-disciplinary collaboration, students and partners not only create products together, but also expand their understanding of other fields. Dance students learn to know the visual language of batik and textile techniques, while batik partners understand the importance of movement and dramaturgy in designing costume materials. This synergy is the main foundation in the success of the creation of innovative abstract batik-based dance costumes.

##### ➤ *Abstract Batik Creation Techniques*

The technique of creating abstract batik in this activity is an important part that underlies the birth of distinctive visual characters in dance costumes. Different from traditional batik which tends to rely on repetitive and symmetrical patterns, the abstract batik used in this project emphasizes spontaneity, freedom of form, and boldness in visual experimentation. This is in accordance with the spirit of contemporary dance which is not bound by a certain movement pattern, but expresses emotions and ideas freely through the body and space.

The batik process begins with the preparation of mori cloth as the main medium. MSME partners and students apply the *spontaneous written batik* technique, which is drawing motifs directly on fabric without a standard pattern. Canting is used to make stripes. This technique demands artistic sensibility because the resulting strokes are a direct reflection of visual expression from the maker.

Once the wrapping stage is complete, the fabric goes through a dyeing process with two main approaches: *gradation* and *splashing* techniques. The gradation technique is done by gradually dipping a specific part of the fabric into a dye solution, creating a smooth color transition from light to dark or between contrasting colors. This technique produces a visual effect that gives depth and volume to the fabric, very useful for bringing out the illusion of movement when worn by the dancer.

Meanwhile, the splashing technique is carried out by pouring or spraying dye on the surface of the fabric using a brush, brush, or hand. This splash of color creates a random shape that is expressive and gives it a strong visual texture. The combination of gradation and splashing techniques creates abstract motifs that are unpredictable, full of surprises, and have dynamics that are in line with the characteristics of contemporary dance.

Once the dyeing process is complete, the fabric is dipped in a fixative solution to lock in the color so that it does not fade. The final stage is pelorotan, which is boiling the cloth in boiling water to remove the night layer and reveal the motif in its entirety. The fabric is then dried in the shade to maintain the color quality.

The expressive value of this abstract batik motif becomes a visual element that blends with the dancer's body. When worn in performances, abstract lines and splashes of color move along with the dynamics of the body, creating a vivid and ever-changing impression. Gradation colors add visual depth that can amplify the dance's emotions, such as anxiety, freedom, or inner conflict.

This abstract batik creation technique has been proven to support the power of dramaturgy in dance, not only as a fashion decoration, but as part of narrative and expression. This collaboration of craft techniques and movement aesthetics makes dance costumes not just a visual complement, but the main element that strengthens the meaning of the performance.

#### ➤ *Costume Production and Testing*

After the design and creation process of abstract batik fabric is completed, the next stage is the production and trial of dance costumes. This stage is a concrete manifestation of the integration between visual design and functional needs in the performance. The implementation team consisting of Batik Fashion Design students, Dance students, and MSME partners worked together to realize abstract batik fabrics into dance costumes that are ready to be used on stage.

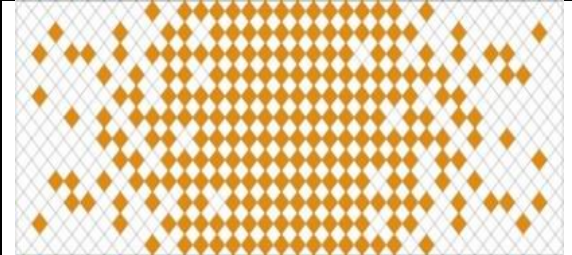


The realization of the design into a costume begins with cutting batik fabric according to the fashion pattern that has

been designed in the previous stage. The pattern is adjusted to the dancer's body shape and movement needs that demand flexibility, elasticity, and comfort. Batik fabric with abstract motifs that have gone through the process of coloring, gradation and splashing is carefully positioned so that the most expressive parts of the motif look dominant on the most active areas of the body.





The sewing process is carried out taking into account the quality of the construction and the durability of the material. Details such as fabric connections, waist elasticity, and costume open-close systems are designed to be practical yet aesthetically pleasing. Additionally, some accents such as asymmetrical cuts, additional tassel or the application of transparent fabrics are used to create the illusion of movement and visual depth as the dancer moves. Every element of the costume is designed to be not only visually beautiful, but also to support the performance of the body on stage.

After the costume is sewn, it is followed by a trial stage in dance practice. Dancers wear costumes in choreography sessions to see how the costumes adapt to body movements. This test is an important means to assess comfort, flexibility, and safety during fast movement, jumping, or making contact with the floor. As a result, in general, the costumes are considered quite comfortable and support movement. In addition to the technical aspects, the trial also assesses the aesthetic aspect when the costume is used in motion. The dancers' dynamic body movements reinforce the visual effects of abstract batik motifs. The color gradation that changes according to the direction of light and the splash of motifs that can be seen moving make the costume seem alive on stage. This effect makes a great contribution in strengthening the dance narrative as well as the visual experience for the audience. The entire process can be seen in table 1.

Table 1 The Process of Making Abstract Batik for Dance Costumes

	<p>Create a pattern. The stage of making patterns begins by translating the design of the dance costume into a flat pattern according to the size of the dancer's body. The pattern is arranged to follow the needs of movement, pay attention to the fall of the batik fabric, and ensure that the placement of abstract motifs remains harmonious when worn in the performance.</p>
	<p>Batik. The batik stage is carried out with abstract written batik techniques using canting and hot nights. Lines and shapes are spontaneously stroked on the mori fabric, creating a non-figurative motif.</p>
	<p>The result of batik is in the form of the desired pattern</p>

	<p>Measure fabric dyeing materials. The process of measuring fabric dye materials begins by determining the type and amount of color needed according to the design of the motif. Natural or synthetic dyes are weighed using digital scales, adjusted to the volume of water and the area of the fabric. The dye is then dissolved and stirred until homogeneous before being applied to the fabric.</p>
	<p>Basic color dyeing. The basic dyeing process begins with soaking the batik fabric in the first dye solution, usually light in color such as yellow or orange. The fabric is gently stirred so that the color is evenly absorbed. After soaking for a certain amount of time, the cloth is removed, drained, and then dried in the sun.</p>
	<p>Results of basic color dyeing</p>
	<p>Adding color with the splash technique. The process of adding colors with the splash technique is carried out after the basic color dyeing. The dye is prepared in a container, then splashed onto the surface of the fabric using a brush, brush, or hand at random. This technique produces spontaneous and expressive patterns that reinforce the abstract impression of batik motifs.</p>
	<p>Abstract coloring results</p>
	<p>Dyeing of dyeing fabrics into a dye liquid enhancer. The stage of dyeing the fabric into the color liquid booster is carried out after the dyeing process is completed. The fabric is put in a fixative solution to bind the color so that it does not fade. The cloth is soaked for 15–30 minutes, then removed, rinsed with clean water, and dried in the sun.</p>

	Dyeing results of color enhancer
	The process of polishing batik wax. The process of turning batik wax begins by boiling the cloth in boiling water mixed with detergent or soda ash. The cloth is boiled for 15–30 minutes until the wax melts and lifts off the surface of the fabric. After that, the cloth is rinsed with clean water several times and then dried in the sun until completely dry.
	Drying of fabrics. The process of drying batik cloth is carried out after the polishing and rinsing stages are completed. The fabric is laid out evenly in a shaded and well-ventilated place, not directly exposed to sunlight so that the color does not fade. Drying lasts until the fabric is completely dry and ready for use for the next stage.
	The result of batik cloth is worn by dancers

#### ➤ Evaluation and Impact

The evaluation stage is an important part in ensuring that the creation of abstract batik-based dance costumes is not only technically and aesthetically successful, but also has a social and economic impact, especially for Jiwa Jawi Batik MSME partners. The evaluation was carried out with a reflective and participatory approach, involving all parties involved, namely students, supervisors, dancers, and MSME partners. The assessment focused on four main aspects: aesthetics, functionality, quality of collaboration, and the impact that resulted from these activities.

In terms of aesthetics, the costumes produced are considered very successful in presenting expressive value through the use of abstract batik motifs. Smooth color gradations, spontaneous lines, and visual splashes create a dynamic and contemporary feel that blends into dance movements. Audiences and art observers alike have a high appreciation for the courage to explore non-traditional forms of batik as part of the show's identity. Abstract motifs that do not limit interpretation actually strengthen artistic value because they are able to convey various emotions visually.

Functionally, the costume has gone through the trial and revision stage to ensure comfort and safety when used. Evaluation of the pattern pieces, base materials, and fabric flexibility shows that costumes can optimally support contemporary dance performances. There are no significant obstacles in dance movements, and the batik fabric used remains comfortable when exposed to sweat or used for a long duration. This shows that design is not only visually appealing but also practically relevant in the context of performing arts.

Evaluation of the collaboration process shows that this activity has created a positive synergy between students and partners. Students learn to understand the world of small and medium businesses, the limitations of manual production tools and processes, as well as the values of local wisdom that exist in the batik tradition. Instead, partners gain new experiences in seeing batik from a performance art perspective, which they have never explored before. This knowledge exchange becomes a mutually enriching experience and increases the capacity of both parties.

The real impact can also be seen from the involvement of partners in the creative process and training. Partners not only act as service providers, but are active in design discussions, color tests, and motif production. This builds a sense of ownership of the joint work and gives rise to the desire of partners to develop similar products independently. In fact, the partner expressed interest in producing abstract batik as a new product line aimed at the art market, including dance communities, theater, and cultural festivals.

The potential for further product development is also very open. Abstract batik-based dance costumes can be developed in various design and function variants, ranging from stage costumes to contemporary fashion with ethnic nuances. In addition, this collaboration model can also be replicated in other regions by involving local MSMEs and art institutions. New market access is starting to open up through digital documentation, social media, and art community networks, which allow MSME products not only to circulate in the local market but also to reach a wider public.

Thus, this activity not only produces innovative art products, but also builds a collaborative ecosystem between academics and MSME actors, opens up new economic opportunities, and strengthens the position of batik as a medium of cultural expression that continues to develop.

## V. CONCLUSION

The creation of abstract batik-based dance costumes proves that the synergy between performing arts and textile crafts can produce innovations that not only enrich the artistic realm, but also have a real impact on creative economy actors, especially batik MSMEs. Batik, which was previously used more in the context of everyday and formal fashion, was raised to the realm of performing arts through an expressive and contemporary visual approach. Visual experimentation in the form of splash motifs and color gradation allows batik to appear more dynamic, adapting to the character of free and modern dance movements. This innovation creates costumes that are not only aesthetic, but also functional in supporting body expression on stage.

The mentoring model applied in this activity uses a participatory collaborative approach, where students, lecturers, and MSME partners are actively involved in all stages of the process — from concept formulation, batik production, fashion design, to costume trials in dance performances. Through this cross-disciplinary collaboration, there is a knowledge exchange that enriches the insights of the parties, while increasing the capacity of partners in terms of design exploration, understanding performance aesthetics, and product diversification strategies. MSME partners not only become technical implementers, but also transform into co-creators who have an important contribution to abstract batik visual innovation.

The results of this activity show that collaboration between higher education institutions and MSME actors has great potential to encourage the development of cultural-based creative products. Approaches that have proven successful in

these activities can be replicated in other areas, by adapting to the local context and the potential of existing communities. The main recommendation of this activity is the need for continuous support for MSMEs in the form of design training, facilitation of creative market networks (especially performing arts and cultural festivals), as well as documentation and promotion of products through digital media. Thus, innovations such as abstract batik-based dance costumes not only strengthen the nation's cultural expression, but also open up new sustainable economic opportunities.

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