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Original Article

Architectural Heritage as Inspiration for Batik Design: Visual Transformation of the Wringin Lawang Gateway

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Abstract

Batik represents an important medium for expressing Indonesian cultural identity; however, contemporary batik development is often dominated by the reinterpretation of natural motifs such as flora and fauna, while architectural heritage remains underutilized as a source of visual inspiration. This study aims to explore how the architectural elements of the Wringin Lawang gateway, a significant Majapahit-era monument in Trowulan, East Java, can be transformed into contemporary batik motif designs. The research employs a practice-based design approach consisting of four stages: visual exploration, design development, prototype realization, and expert evaluation. Architectural characteristics of the gateway, including geometric structure, vertical rhythm, and symmetrical composition, were stylized into batik motifs and developed into three long-cloth design alternatives. The feasibility of the designs was evaluated by three design experts using a Likert-scale assessment based on functionality, cultural identity, aesthetics, and creativity. The evaluation results indicate that all three designs achieved a "very high" feasibility category, with Design 2 obtaining the highest average score of 57 (95%). The findings demonstrate that architectural heritage can be effectively transformed into batik motifs while maintaining cultural meaning and aesthetic coherence. This study contributes to expanding heritage-based design innovation by showing that architectural artifacts can serve as valuable visual resources for contemporary textile design while strengthening the cultural identity of Majapahitan batik.

1. Introduction

Batik is one of Indonesia's most important cultural expressions and serves as a medium for transmitting historical narratives, symbolic meanings, and aesthetic traditions across generations. Majapahitan batik reflects the cultural identity of the Majapahit Kingdom through motifs inspired by historical symbols, local philosophies, and regional cultural elements. Previous studies have shown that batik motifs often function not only as decorative elements but also as representations of cultural narratives and national identity embedded in traditional textile practices (Febriani et al., 2023; Wang, 2019).

In recent decades, the development of batik has also been influenced by creative experimentation and innovation in motif design to support cultural preservation and contemporary creative industries (Guntur et al., 2023; Syed Shaharuddin et al., 2021). However, despite these developments, many contemporary batik designs remain dominated by the reproduction of classical ornamentation or natural elements such as flora, fauna, and regional icons (Sugiarto et al., 2020; Mulyanto et al., 2022).

One underutilized source of inspiration in batik design is architectural heritage. Architectural structures often contain distinctive geometric forms, spatial rhythms, and symbolic meanings that can be translated into visual design languages (Tarajko-Kowalska, 2023; Putra & Octavia, 2024). Among the most significant architectural artifacts of the Majapahit era is the Wringin Lawang Gateway located in Trowulan, East Java. This

monumental structure, characterized by its symmetrical red-brick composition, vertical proportions, and distinctive bent-gateway form, represents an important symbol of Majapahit architectural identity and cultural authority (Colless, 1975; Kieven, 2017). Although the Wringin Lawang gateway has been widely discussed in historical and archaeological studies, its visual potential as a source of inspiration for contemporary textile design has received limited scholarly attention.

The primary issue emerging from existing literature is the limited integration of architectural heritage into batik motif development. Most batik innovation studies focus on reinterpretations of natural motifs, regional symbols, or socio-cultural narratives rather than architectural forms (Sugiarto et al., 2020; Kaewareelap et al., 2021). Similarly, research on Majapahit heritage has largely concentrated on archaeological documentation, historical analysis, and cultural conservation rather than exploring its transformation into design-based applications (Colless, 1975; Kieven, 2017). While these studies contribute significantly to heritage preservation, they rarely address how architectural elements can be translated into contemporary visual design practices. As a result, the creative potential of Majapahit architectural structures, including the Wringin Lawang gateway, remains underexplored in textile design.

From a theoretical perspective, architectural heritage offers rich visual resources for contemporary design innovation. The geometric structures, rhythmic patterns, and symbolic meanings embedded in historical architecture provide strong foundations for developing new visual motifs (Tarajko-Kowalska, 2023; Putra & Octavia, 2024). Research on cultural design transformation also demonstrates that heritage elements can be effectively reinterpreted into new creative forms through contextual and culturally sensitive design processes (Rismantojo et al., 2024; Nursanty & Wulandari, 2023). Nevertheless, existing batik studies still emphasize motif innovation through the iconographic reinterpretation of natural elements, leaving architectural structures relatively unexplored as a source of design inspiration (Mulyanto et al., 2022; Sugiarto et al., 2020). This situation highlights a significant knowledge gap, namely the scarcity of research that systematically extracts architectural elements from Majapahit heritage and translates them into batik motifs. In addition, there is also a methodological gap, as relatively few studies apply practice-based research approaches to transform architectural heritage into textile design.

To address these gaps, this research adopts a practice-based research approach, which positions creative design practice as a central method for knowledge generation in art and design research (Candy & Edmonds, 2018). This approach enables the systematic exploration and transformation of architectural elements into visual motifs through stages of exploration, conceptualization, design development, and evaluation. Previous studies have demonstrated that practice-based methodologies are effective in integrating cultural heritage into contemporary design innovations while maintaining cultural authenticity (Rismantojo et al., 2024; Guntur et al., 2023). By applying this approach, the architectural characteristics of the Wringin Lawang gateway—such as geometric structures, spatial rhythm, and symbolic meaning—can be translated into batik motifs that retain cultural identity while responding to contemporary design needs.

Therefore, this study aims to identify, extract, and transform the visual elements of the Wringin Lawang gateway into contemporary batik motif designs through a systematic practice-based design process. The research seeks to develop batik motifs that integrate Majapahit architectural heritage into textile design while maintaining aesthetic quality, cultural meaning, and functional applicability. Through this process, the study contributes to expanding the methodological framework of heritage-based design and demonstrates how architectural heritage can serve as an innovative source of inspiration for contemporary batik design. Ultimately, this research strengthens the role of batik as a dynamic cultural medium capable of preserving historical values while supporting the development of the creative industry and cultural identity in contemporary contexts.

2. Literature Review

2.1 Batik as Cultural Heritage and Design Innovation

Batik has long been recognized as an important form of intangible cultural heritage that reflects social identity, historical narratives, and aesthetic traditions in Indonesian society. Studies on batik emphasize its dual role as both a cultural artifact and a medium for artistic innovation. Wang (2019) highlights that batik functions as a cultural knowledge system in which motifs embody historical memory, cultural values, and local identity through visual symbolism. Similarly, Febriani et al. (2023) argue that batik motifs are not merely decorative patterns but also serve as narratives that contribute to the formation of national cultural identity.

In the context of contemporary creative industries, batik has undergone a significant transformation through the incorporation of modern design approaches and technological developments. Guntur et al. (2023) note that innovation in batik motif design increasingly involves experimentation with new visual concepts while maintaining references to traditional cultural values. Likewise, Syed Shaharuddin et al. (2021) emphasize that modern batik production in Indonesia and Malaysia has expanded through creative reinterpretation and adaptation to contemporary market demands. These developments demonstrate that batik design is dynamic and capable of evolving alongside social and cultural changes.

However, many contemporary batik innovations remain centered on reinterpretations of natural motifs such as flora, fauna, and regional symbols (Sugiarto et al., 2020; Mulyanto et al., 2022). While such motifs contribute to visual diversity, they also indicate a recurring pattern of design inspiration that may limit exploration of other potential cultural sources. Consequently, there is a need to broaden the scope of design inspiration in batik development by incorporating alternative cultural references, including architectural heritage.

2.2 Architectural Heritage as a Source of Visual Inspiration

Architectural heritage represents an important cultural resource that embodies historical knowledge, aesthetic principles, and symbolic meanings. Architectural structures often contain distinctive geometric compositions, spatial rhythms, and ornamental systems that can be translated into various forms of visual design. Tarajko-Kowalska (2023) explains that architectural elements such as structure, proportion, and color relationships can serve as a foundation for visual expression across different design disciplines. Similarly, Putra and Octavia (2024) demonstrate that architectural ornamentation carries symbolic meanings that reflect cultural identity and can be reinterpreted into contemporary visual forms.

In the context of Southeast Asian cultural heritage, architectural artifacts from historical periods frequently contain rich symbolic narratives. The Majapahit era, for instance, produced architectural structures characterized by strong geometric patterns, monumental forms, and symbolic spatial arrangements that represent political authority and cosmological beliefs (Colless, 1975; Kieven, 2017). Among these artifacts, the Wringin Lawang gateway in Trowulan stands as a prominent example of Majapahit architecture, characterized by distinctive visual features, including symmetrical brickwork and vertical spatial compositions.

Despite the richness of these architectural elements, most studies on Majapahit heritage focus primarily on archaeological documentation and historical interpretation rather than exploring their potential as sources of inspiration for contemporary design practices (Colless, 1975; Kieven, 2017). As a result, architectural heritage remains largely underutilized in the development of modern textile design. This situation highlights the need to reconsider architectural artifacts not only as objects of conservation but also as creative resources that can inspire new visual expressions.

2.3 Cultural Transformation and Heritage-Based Design

Recent research in cultural design emphasizes the importance of transforming heritage elements into contemporary creative practices. Cultural transformation in design involves the reinterpretation of traditional forms, symbols, and narratives into new visual languages while maintaining their cultural significance. Rismantojo et al. (2024) demonstrate that heritage-based design approaches can successfully integrate cultural identity into textile innovation through structured reinterpretation methods. Similarly, Nursanty and Wulandari (2023) argue that transforming traditional cultural elements into contemporary design forms can enhance both cultural sustainability and the development of the creative industry.

In the field of batik design, several studies have explored how cultural elements can be adapted into new motif structures. For example, Kaewareelap et al. (2021) highlight the role of color experimentation and design reinterpretation in modernizing batik products for community-based creative industries. Meanwhile, Nurcahyanti et al. (2021) emphasize the role of artisans in maintaining cultural continuity while adapting batik motifs to evolving aesthetic preferences. These studies suggest that heritage-based design innovation can create a balance between tradition and modernity in textile development.

Nevertheless, most existing studies on batik innovation focus primarily on reinterpretations of natural symbols or local cultural narratives rather than structural elements derived from architectural heritage. Consequently, the potential of architectural forms as a visual foundation for batik motifs remains relatively unexplored within current design research.

2.4 Practice-Based Research in Design Development

Design research increasingly adopts practice-based approaches to generate knowledge through creative processes. Practice-based research positions the act of design itself as a method of inquiry, enabling researchers to explore visual concepts, test design prototypes, and evaluate creative outcomes systematically. Candy and Edmonds (2018) emphasize that practice-based research allows artistic and design practices to function as primary sources of knowledge production, particularly in fields where visual experimentation plays a central role.

In textile design studies, practice-based research has been applied to explore new motif development, color experimentation, and material innovation. Guntur et al. (2023) demonstrate that creative experimentation in design practice can yield innovative motif structures while maintaining cultural authenticity. Similarly, Wesnina et al. (2025) highlight the integration of digital

techniques with traditional batik design processes as a strategy for expanding creative possibilities.

In addition, methodological tools such as design evaluation and perception analysis can support systematic assessment of creative outputs. Harpe (2015) explains that Likert-scale-based evaluation methods are effective in measuring expert perceptions and design feasibility, particularly in studies involving creative prototypes. Such approaches allow researchers to assess both aesthetic and functional aspects of design outcomes within a structured evaluation framework (Augood, 1973).

Although practice-based research has been widely used in art and design studies, its application in transforming architectural heritage into batik motif development remains limited. This indicates a methodological gap in existing research, particularly regarding how architectural structures can be systematically translated into textile design through creative design processes.

Based on the literature discussed above, several gaps can be identified. First, while numerous studies examine batik as a cultural and artistic medium, most focus on motif development derived from natural elements, regional icons, or cultural narratives rather than architectural structures (Sugiarto et al., 2020; Mulyanto et al., 2022). Second, research on Majapahit architectural heritage predominantly concentrates on archaeological documentation and historical analysis rather than exploring its potential as a source of design inspiration (Colless, 1975; Kieven, 2017). Third, although practice-based research methodologies have been widely adopted in art and design studies, their application in transforming architectural heritage into batik motifs remains limited (Candy & Edmonds, 2018; Wesnina et al., 2025). These gaps suggest the need for research that integrates architectural heritage, cultural transformation, and practice-based design methodologies in the development of contemporary batik motifs.

3. Materials and Methods

This study employs a practice-based research approach, which positions creative practice as the primary mechanism for generating knowledge in design research (Candy & Edmonds, 2018). This approach is appropriate for exploring how architectural heritage can be translated into textile design because it integrates cultural analysis with iterative creative experimentation. Through this method, the geometric and symbolic characteristics of the Wringin Lawang gateway are systematically transformed into batik motifs through stages of visual exploration, conceptual design, prototype realization, and design evaluation. Practice-based approaches have been widely applied in art and textile studies to develop innovative visual concepts

while maintaining cultural authenticity (Guntur et al., 2023; Wesnina et al., 2025). The research procedure consists of four main stages: pre-design, design, realization, and presentation–evaluation.

3.1. Pre-Design Stage

The pre-design stage focuses on identifying visual and conceptual sources derived from the architectural characteristics of the Wringin Lawang gateway and the aesthetic principles of Majapahitan batik. Architectural studies indicate that Majapahit buildings are characterized by geometric structures, symmetrical compositions, and proportional spatial arrangements, which provide potential visual elements for stylization in design (Colless, 1975; Kieven, 2017; Putra & Octavia, 2024).

Literature on Majapahit heritage and traditional textile practices also examines the cultural narratives and iconographic meanings associated with these practices (Febriani et al., 2023; Wang, 2019). Previous research demonstrates that cultural heritage elements, including architectural ornaments and traditional symbols, can be translated into contemporary design without losing their cultural meaning (Nursanty & Wulandari, 2023; Rismantojo et al., 2024). Through this exploration, key visual components of the Wringin Lawang gateway, such as geometric structure, vertical rhythm, and symbolic spatial form, are identified and simplified into initial motif sketches. The outcome of this stage is a conceptual visual map that serves as the foundation for the subsequent design process.

3.2. Design Stage

The design stage involves transforming architectural elements of the Wringin Lawang gateway into batik motif modules through a stylization process. Structural characteristics such as symmetrical composition, vertical brick patterns, and geometric proportions are translated into repeatable visual units suitable for textile patterns (Tarajko-Kowalska, 2023). The design development applies principles of batik aesthetics, including balance, repetition, rhythm, and visual hierarchy, to ensure the motifs function effectively within the long fabric format (Sugiarto et al., 2020).

Color composition is also considered to maintain visual harmony and cultural relevance, as color symbolism plays a crucial role in conveying aesthetic and historical meanings in textile design (Kaewareelap et al., 2021). Through iterative sketching and digital visualization, the design stage produces structured motif compositions that integrate architectural forms with supporting ornamental elements while maintaining the cultural identity of Majapahitan batik.

3.3. Realization Stage

The realization stage focuses on developing prototypes. Based on the previous design exploration, three batik long-cloth design prototypes are produced that incorporate stylized visual elements derived from the Wringin Lawang gateway. The creative process combines digital design techniques for geometric accuracy with manual batik-inspired visualization to maintain the artistic characteristics of traditional textiles (Wesnina et al., 2025).

During this stage, motif composition is adjusted to ensure proportional balance and visual continuity across the textile surface. Color experiments are also conducted to identify harmonious combinations aligned with the historical character of Majapahit culture (Kaewareelap et al., 2021). In addition, symbolic interpretations of the gateway—such as its representation of spatial transition and cultural authority—are incorporated through dominant vertical structures and geometric modules within the motifs. The outcome of this stage is a set of three batik design prototypes representing different visual interpretations of the architectural elements.

3.4. Presentation and Evaluation Stage

The final stage involves presenting and evaluating the design prototypes to assess their aesthetic quality and functional feasibility. The evaluation employs parameters adapted from design research and development frameworks, including composition balance, motif readability, color harmony, and functional suitability for long-cloth textiles (Augood, 1973). Data collection is conducted through expert evaluation using a Likert-scale assessment, which allows systematic measurement of perceptions regarding the visual and functional aspects of the designs (Harpe, 2015). Evaluators with expertise in batik design and visual arts review the prototypes to provide objective feedback. The evaluation process considers three main criteria:

1. Aesthetic quality, including visual harmony, rhythm, and composition balance;
2. Functional suitability, referring to the adaptability of motifs for long-fabric textiles;
3. Cultural relevance, ensuring that the designs maintain the symbolic identity of Majapahitan batik.

The results of this evaluation serve as a quality control mechanism, enabling the identification of the most effective design concept and confirming the feasibility of the developed batik motifs for further application.

4. Results and Discussions

The results of this research demonstrate that the visual transformation of the Wringin Lawang gateway produces three long-cloth batik designs characterized by consistent visual identity, innovative elements, and strong connections to local cultural values. The transformation process is achieved through stylization techniques emphasizing form simplification, rhythmic repetition, and geometric composition typical of batik patterns. This approach ensures that architectural elements are not represented literally but are translated into symbolic visual forms while maintaining their cultural significance.

The findings indicate that architectural heritage can serve as an effective source of inspiration for the development of batik motifs. Through the systematic application of practice-based design methods, the architectural features of Wringin Lawang, such as geometric structure, symmetry, and vertical rhythm were successfully reinterpreted into contemporary batik designs. As a result, the produced motifs demonstrate how architectural heritage can be integrated into textile design while preserving cultural meaning and aesthetic integrity.

The results confirm that transforming architectural elements into batik motifs not only contributes to the preservation of cultural values but also expands the aesthetic possibilities of batik as a dynamic cultural medium. Furthermore, the design process illustrates how heritage-based innovation can support the development of culturally meaningful textile products that remain relevant in contemporary creative industries.

4.1 Visual Exploration
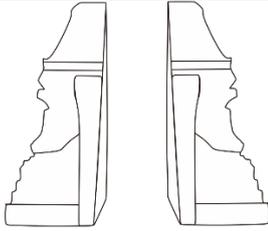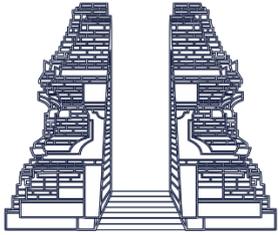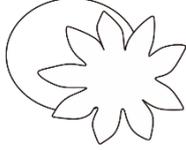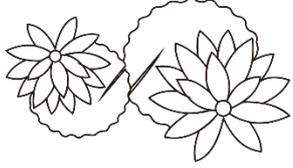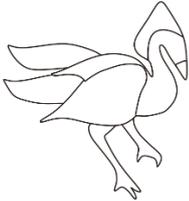
4.1.1 Sketch and Stylistic Motif Development

During the concept refinement stage, the design process focused not only on forming motif structures and compositions but also on strengthening the visual identity representing Majapahitan aesthetics. The initial visual exploration involved sketching and stylizing forms derived from several cultural elements, including the Wringin Lawang gateway, lotus motifs, lung-lungan (tendril ornaments), and bird symbols. These elements were selected because they represent key symbolic components of Majapahit cultural aesthetics.

To consolidate the design's aesthetic and philosophical orientation, the resulting motif concept was named Batik Wijayaloka Sukmaarum. The name combines four elements: wijaya (victory), loka (world or space), sukma (soul), and arum (root or essence). Together, these meanings symbolize a living cultural space that nurtures achievement through a soul deeply rooted in noble cultural values. This conceptual identity reflects the integration of architectural symbolism and cultural philosophy embedded in the design.

In this composition, the Wringin Lawang gateway represents transition, authority, and cultural grandeur, while the lotus motif symbolizes purity and spiritual clarity. The lung-lungan ornament represents the continuity and flow of life, and the bird motif signifies harmony and protection within the cosmic order.

Together, these visual elements form a narrative structure that expresses cultural continuity and the enduring values of Majapahit heritage.

Table 1. Sources of Ideas, Sketches, and Stylistic Motifs

Sources of Ideas	Sketch of Motifs	Stylistic Motifs
Gapura Wringin Lawang		
Lotus		
Bird		
Lung-lungan		

Note: The images in the "Sources of Ideas" column are displayed only for visual elements that have concrete form references (Gapura Wringin Lawang and lotus). The bird and lung-lungan motifs do not include source images because they are conceptual forms developed through a stylization process based on the meanings and visual characteristics of Majapahitan.

Table 1 presents a series of visual references that served as the basis for motif sketch development and stylization. Through this process, architectural elements were simplified into structured visual modules while maintaining proportional balance between aesthetic expression and symbolic meaning. The stylization process reflects the architectural characteristics of the Wringin Lawang gateway, particularly its principles of symmetry, order, and monumentality, which were translated into batik composition. Through this integration of architectural inspiration and batik aesthetics, the resulting motifs demonstrate a coherent visual structure that strengthens the cultural identity and aesthetic cohesion of the overall design.

4.1.2. Design Exploration

The visual development process resulted in three alternative batik shawl designs through variations in motif composition and color scheme arrangement (Figure 1). Each design incorporates geometric elements derived from the structure of the Wringin Lawang gateway, combined with stylized Majapahitan ornamental motifs, thereby creating a visual character that contextually reflects the cultural identity of Majapahit.
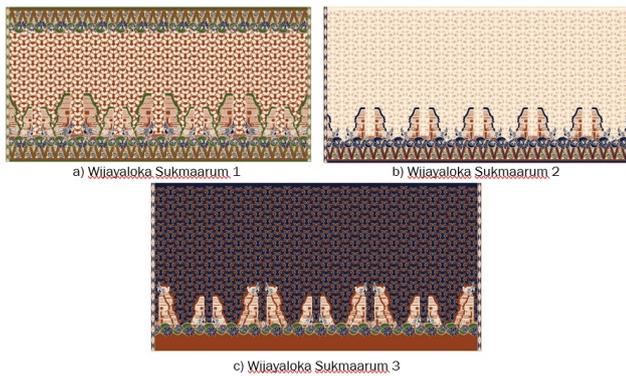
Figure 1. Batik Design (a) Wijayaloka Sukmaarum 1, (a) Wijayaloka Sukmaarum 2, (c) Wijayaloka Sukmaarum 3

4.2. Evaluation and Design Selection

The evaluation phase assessing the feasibility of the three Majapahitan batik designs was conducted through a quantitative assessment involving three experts with academic competence and professional experience in fashion design. The assessment employed four indicators, measured on a Likert scale from 1 to 5, with the following categories: strongly agree (5), agree (4), neutral (3), disagree (2), and strongly disagree (1). The use of this scale enabled a systematic evaluation, ensuring that the quality of each design aspect could be consistently measured.

4.2.1 Design Feasibility Aspects

Before detailing each indicator, the evaluation framework was designed to assess design feasibility across four main aspects: functionality, cultural identity, aesthetics, and creativity. These aspects were selected to ensure that the batik designs not only fulfill visual and functional requirements but also reflect the cultural identity of Majapahitan heritage, demonstrate strong artistic value, and present original and relevant ideas for future design development.

A. Functionality

1. The motif design aligns with its primary function as a long fabric, considering field proportions, orientation, and repetitive pattern structures suitable for textile use.
2. The design is suitable for both men and women (unisex).
3. The motif is appropriate for formal events, ceremonies, or institutional use.

B. Cultural Identity and Expression

1. The motif functions as a visual identity by incorporating philosophical values, symbolic meaning, or distinctive visual elements.

2. The motif represents Majapahitan culture or local wisdom.
3. The conceptual basis of the motif design is clear and conceptually accountable.

C. Aesthetics

1. The motif layout is proportional, balanced, and considers the visual rhythm of long-fabric composition.
2. The design appears neat, harmonious, and aesthetically pleasing in terms of form, line, motif repetition, and typography (if present).
3. The color combinations are harmonious, provide appropriate contrast, and remain legible when applied to long-fabric textiles.

D. Creativity

1. The design demonstrates distinctiveness as a representation of Majapahitan identity, distinguishing it from generic or commonly found motifs.
2. The motif reflects an innovative design concept that differs from existing designs.
3. The visual originality of the design is demonstrable and free from imitation or copyright infringement.
4. The overall visual composition maintains harmony, coherence, and aesthetic integrity.

4.2.2. Design Assessment Analysis

The assessment data were analyzed using mean score calculations to determine the feasibility level of each design, with the results interpreted according to the category classifications shown in the following tables.

Table 2. Summary of Assessment of Design Instrument Categories by Design Experts

Expert(s)	Design	Average	Percentage	Category
Expert 1	1	51/60 = 0.85	85	Very high
	2	57/60 = 0.95	95	Very high
	3	55/60 = 0.92	92	Very high
Expert 2	1	58/60 = 0.97	97	Very high
	2	56/60 = 0.93	93	Very high
	3	49/60 = 0.82	82	Very high
Expert 3	1	55/60 = 0.92	92	Very high
	2	58/60 = 0.97	97	Very high

3	51/60 = 0.85	85	Very high

Table 2 presents the summary of expert assessments regarding the feasibility of the three Majapahitan batik design alternatives. The evaluation was conducted by three design experts, who assessed each design against the established design instrument criteria. The results are expressed through mean scores, percentages, and corresponding feasibility categories. The evaluation results indicate that all three designs achieved scores in the "very high" category, demonstrating that the proposed batik motifs meet the required standards for functionality, cultural identity, aesthetics, and creativity. This outcome suggests that the design concepts successfully translate the visual characteristics of the Wringin Lawang gateway into applicable and culturally meaningful batik motifs.

From the perspective of Expert 1, Design 2 received the highest score, averaging 0.95 (95%), indicating a very strong alignment among motif composition, visual balance, and cultural representation. Design 3 received a score of 0.92 (92%), while Design 1 received 0.85 (85%), both falling within the very high feasibility category. These results indicate that although all designs were considered highly feasible, Design 2 was perceived as the most visually balanced and conceptually coherent.

The assessment by Expert 2 also demonstrated consistent results. Design 1 achieved the highest score of 0.97 (97%), reflecting excellent performance in design structure, motif readability, and functional suitability for long-fabric application. Design 2 obtained 0.93 (93%), while Design 3 received 0.82 (82%), which, although slightly lower than the other designs, still remained in the very high category. This evaluation indicates that Design 3, although visually strong, may require minor improvements in composition or visual harmony compared to the other two designs.

Similarly, the evaluation from Expert 3 showed that Design 2 achieved the highest score of 0.97 (97%), indicating superior performance in aesthetic quality, cultural representation, and creative originality. Design 1 received 0.92 (92%), while Design 3 obtained 0.85 (85%), both categorized as very high feasibility. These results reinforce the consistency of expert perceptions regarding the overall quality of the designs.

When comparing the assessments across the three experts, Design 2 consistently achieved the highest or near-highest scores, indicating strong agreement among evaluators regarding its design effectiveness. This design demonstrates a balanced integration of architectural elements from the Wringin Lawang gateway with Majapahitan ornamental motifs, resulting in a composition that is both aesthetically coherent and culturally meaningful.

Thus, this study confirms that all three batik designs are considered highly feasible for application as Majapahitan batik motifs, with Design 2 showing the strongest overall evaluation performance. These findings support the effectiveness of the practice-based design approach in translating architectural heritage into contemporary batik design while maintaining both aesthetic quality and cultural identity.

Table 3. Result of Sequence Average Assessment by 3 Design Experts

Design	Average	Percentage	Category
2	57+56+58: 3 = 57	95.0	Very High
1	51+58+55: 3 = 54.67	91.1	Very High
3	55+49+51: 3 =51.67	86.1	Very High

Table 3 presents the ranking of the three Majapahitan batik designs based on the average assessment scores from the three design experts. The mean values were calculated by averaging the total scores assigned by each expert, and the results were then converted to percentages to determine the feasibility category for each design. The analysis shows that Design 2 achieved the highest overall score, with an average value of 57 derived from the expert scores (57 + 56 + 58) ÷ 3. This corresponds to a 95.0% feasibility level, which falls within the "Very High" category. This result indicates that Design 2 performs best across the evaluation criteria, including functionality, cultural identity, aesthetic quality, and creativity. The high score suggests that the composition of motifs, the balance of visual elements, and the integration of Majapahitan cultural symbolism were successfully achieved in this design.

The second-ranked design is Design 1, with an average score of 54.67, calculated from the expert scores (51 + 58 + 55) ÷ 3. This score corresponds to a 91.1% feasibility level, which is also categorized as "Very High." The results indicate that Design 1 possesses strong visual and conceptual qualities, although it is slightly less optimal compared with Design 2 in terms of overall balance and design effectiveness.

Meanwhile, Design 3 occupies the third position with an average score of 51.67, calculated from the expert scores (55 + 49 + 51) ÷ 3. This corresponds to a feasibility percentage of 86.1%, which also remains within the "Very High" category. Although Design 3 obtained the lowest score among the three alternatives, the evaluation results still confirm that the design meets the required criteria for aesthetic quality, cultural representation, and creative originality.

The ranking results demonstrate that all three batik designs are considered highly feasible according to

expert evaluation, with Design 2 emerging as the most suitable design alternative. These findings reinforce the effectiveness of the design development process in translating the architectural characteristics of the Wringin Lawang gateway into batik motifs that maintain both aesthetic coherence and cultural relevance.

5. Discussion

The results of this study demonstrate that architectural heritage can serve as a meaningful source of inspiration for contemporary batik design. The visual transformation of the Wringin Lawang gateway into batik motifs produced three design alternatives that successfully integrate architectural structures with traditional Majapahitan ornamental elements. The evaluation results show that all designs achieved a "very high" level of feasibility, indicating that the transformation process maintained both aesthetic quality and cultural relevance. These findings support previous studies emphasizing that cultural artifacts can be translated into new visual expressions through contextual reinterpretation and creative design processes (Rismantojo et al., 2024; Nursanty & Wulandari, 2023).

One of the key findings of this research is that architectural elements such as geometric structures, spatial rhythm, and symmetrical composition can be effectively adapted into textile motifs. The stylization of the Wringin Lawang gateway demonstrates that architectural forms possess strong visual potential when interpreted through design principles such as repetition, proportion, and balance. This finding aligns with studies in architectural design, which suggest that structural forms and spatial patterns can serve as valuable sources for visual innovation across creative disciplines (Tarajko-Kowalska, 2023; Putra & Octavia, 2024). The translation of these architectural characteristics into batik motifs indicates that heritage architecture can function not only as historical documentation but also as an active resource for contemporary design development.

Furthermore, the results reveal that integrating architectural elements with supporting motifs, such as lotus, bird, and lung-lungan ornaments, creates a layered symbolic narrative within the batik composition. These symbolic elements reinforce cultural meanings of purity, harmony, and continuity, deeply embedded in Indonesian artistic traditions. Previous studies have emphasized that batik motifs function as carriers of cultural narratives and philosophical values rather than merely decorative patterns (Febriani et al., 2023; Wang, 2019). Therefore, integrating architectural structures with symbolic ornaments in this research contributes to strengthening the cultural identity embedded in the motif design.

Another important finding relates to the role of the practice-based research approach in generating design knowledge. The iterative process of exploration, stylization, prototyping, and evaluation enabled the systematic development of batik motifs derived from architectural heritage. Practice-based research has been widely recognized as an effective methodological framework in art and design studies because it allows creative practice to function as a form of knowledge production (Candy & Edmonds, 2018). In the context of textile design, this approach facilitates the integration of cultural analysis and visual experimentation, enabling researchers to translate heritage elements into innovative design outputs (Guntur et al., 2023; Wesnina et al., 2025).

The evaluation results also highlight the importance of expert-based assessment in validating design feasibility. The use of Likert-scale evaluation enabled the measurement of aesthetic quality, cultural representation, functionality, and creativity in a systematic manner. Such evaluation methods have been widely used in design research to ensure that creative outputs meet both conceptual and practical criteria (Harpe, 2015; Augood, 1973). The consistently high scores across all three design alternatives indicate that the developed motifs meet the requirements for visual harmony, cultural relevance, and usability in textile applications.

From a cultural perspective, the results of this study contribute to expanding the sources of inspiration used in contemporary batik design. Many previous studies on batik innovation have focused primarily on natural elements such as flora and fauna or regional symbolic icons (Sugiarto et al., 2020; Mulyanto et al., 2022). While these motifs remain important, this research demonstrates that architectural heritage also offers rich visual resources for motif development. By incorporating architectural structures into batik design, new aesthetic possibilities emerge while maintaining connections to historical cultural identity.

In addition, the findings support the broader argument that cultural heritage can play an important role in strengthening creative industries and cultural sustainability. Heritage-based design approaches allow traditional cultural elements to be reinterpreted in ways that remain relevant to contemporary contexts. Previous research has shown that integrating heritage values into design practices can enhance cultural competitiveness and strengthen national cultural identity (Pramono et al., 2025). Similarly, studies on Southeast Asian textile traditions highlight the importance of innovation in sustaining traditional crafts within modern cultural and economic environments (Syed Shaharuddin et al., 2021).

The results also suggest that architectural heritage can contribute to the diversification of batik motifs in the global design landscape. As batik continues to evolve within international fashion and design contexts, incorporating historical architectural elements may provide new visual narratives that distinguish Indonesian

textile design. In this regard, transforming the Wringin Lawang gateway into batik motifs demonstrates how heritage-based creativity can create distinctive visual identities while maintaining cultural authenticity.

Thus, the findings confirm that integrating architectural heritage and textile design through practice-based research can produce culturally meaningful and aesthetically innovative batik motifs. The success of the three developed designs indicates that the architectural characteristics of the Wringin Lawang gateway can be effectively translated into batik patterns without losing their symbolic meaning. This approach not only enriches the study of Majapahitan batik but also expands the methodological framework for heritage-based design innovation in art and textile research.

6. Conclusions

This study examined how architectural heritage can serve as a source of inspiration for contemporary batik design by transforming the visual elements of the Wringin Lawang gateway into Majapahitan batik motifs through a practice-based research approach. The results demonstrate that the gateway's architectural characteristics, particularly its geometric structure, vertical rhythm, and symmetrical composition, can be effectively stylized and translated into textile motifs while retaining their symbolic meaning. Through the stages of exploration, design development, realization, and evaluation, the research produced three batik long-cloth design alternatives that integrate architectural forms with traditional Majapahitan ornamental elements.

The expert evaluation results indicate that all three design alternatives achieved a "very high" level of feasibility, confirming that the developed motifs meet criteria for functionality, cultural identity, aesthetic quality, and creativity. Among the three alternatives, Design 2 obtained the highest evaluation score, indicating the most balanced integration of architectural inspiration, motif composition, and visual harmony. These findings demonstrate that architectural heritage can be translated into batik motifs in a manner that is both culturally meaningful and aesthetically coherent.

The findings also highlight the effectiveness of the practice-based research approach in design studies, enabling systematic exploration and iterative refinement of visual concepts derived from cultural heritage. By combining cultural analysis with creative experimentation, the research process allowed architectural elements to be transformed into batik motifs that remain adaptable for contemporary textile applications.

From a broader perspective, this research contributes to the development of heritage-based design innovation by demonstrating how historical architectural artifacts can be reinterpreted within textile design. The transformation of the Wringin Lawang gateway into batik motifs expands the range of visual sources available for

batik development and supports efforts to strengthen cultural identity through creative industries. In addition, the study provides a methodological reference for future research seeking to integrate architectural heritage into other forms of visual or textile design. The study confirms that architectural heritage possesses significant potential as a source of inspiration for contemporary batik design. By bridging architecture, cultural symbolism, and textile aesthetics, this research contributes to preserving cultural values while encouraging innovation in batik as a dynamic and evolving cultural medium.

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