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Development of *batik* scarf design based on the architecture of the great mosque of Gresik as a representation of local cultural identity

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ABSTRACT

Contemporary *batik* design research has extensively addressed the preservation of traditional motifs, the transformation of regional icons, and the utilization of digital technologies. However, studies that specifically translate the religious architectural elements of the Great Mosque of Gresik into *batik* scarf designs remain limited, particularly those that integrate reflections on creative practice, structured evaluation, and prototype realization. This study aims to develop the Agung Prasaja *batik* scarf design based on the architecture of the Great Mosque of Gresik and to elucidate its contribution to culture based textile design. The method employed is Practice led Research, supported by descriptive quantitative evaluation. The research stages include visual context exploration, architectural element mapping, motif stylization, digital composition development at 160 × 35 cm, design evaluation, and the realization of three selected *batik tulis* (hand-drawn batik) scarf prototypes. The evaluation instrument utilized a 1–5 scale with 11 indicators grouped into the aspects of aesthetics, symbolic cultural legibility, application potential, and user appeal. The evaluation involved 30 informed design assessors/users. The findings produced eight primary motif units and ten design alternatives. The three designs prioritized for *batik tulis* scarf prototype realization were *Agung Prasaja* 5, *Agung Prasaja* 4, and *Agung Prasaja* 8. The findings indicate that design strength is determined not solely by the beauty of motifs but also by visual hierarchy, the legibility of architectural symbols, and suitability for the scarf format. The contribution of this research lies in offering a measurable, reflective, and applicable model for transforming local religious architecture into contemporary textile design, thereby supporting the development of Gresik *batik* products.

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1. Introduction

Batik constitutes a textile cultural heritage that integrates technique, symbolism, social function, and identity value. Recent *batik* scholarship describes Indonesian *batik* as a cultural textile practice that combines technique, symbolism, production knowledge, and innovation in response to contemporary creative industry needs [1]. In its development, *batik* is understood not merely as a traditional fabric but also as a design medium that continually negotiates with the demands of fashion, creative products, and contemporary identity expression [2], [3]. Consequently, motif innovation must be undertaken with care: formal renewal should generate new utility and aesthetic value while preserving connectedness to the cultural context from which it originates. The trajectory of *batik* research reveals two major currents. First, research that positions batik as a national icon and a medium for cultural narrative, such as discussions on the formation of *batik* as Indonesian identity, batik preservation through education, and the sustainability of *batik* culture within local communities [3], [4], [5]. Second, research that emphasizes design innovation, whether through motif exploration, creative design approaches,

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or the use of digital technology to maintain the integrity of traditional motifs in modern applications [6], [7], [8], [9]. Both currents are significant, yet they have not fully addressed the need for systematic design of new motifs derived from local religious architecture.

In the context of Gresik, *batik* possesses a strong opportunity to represent the identity of a coastal city that is both religious and has a long Islamic history. The development of Gresik *batik* motifs has thus far been largely associated with local icons, specialty products, flora and fauna, and city cultural symbols. However, the Great Mosque of Gresik, as a religious building and a community social space, has not been widely used as a primary visual source for *batik* scarf products. This statement is not intended to suggest that mosque architecture has never been studied; several studies have examined the meanings of mosque architectural elements, Islamic ornamentation, and religious symbolism within the context of buildings [10], [11], [12], [13]. The gap lies in the insufficiently robust bridge between mosque architecture studies and textile design practice, particularly in the format of *batik* scarf accessories. The urgency of this research stems from the need to expand Gresik *batik's* visual vocabulary by drawing on a more specific source of ideas, the architecture of the Great Mosque of Gresik. Elements such as the dome, minaret, *limasan* roof, pillars, stained glass, chandeliers, windows, and geometric ornaments contain potential in terms of form, rhythm, color, and spiritual meaning that can be processed into motifs. Simultaneously, the scarf format demands compositional considerations distinct from those of sarong length fabric or apparel, as it features an elongated field, dominant edge areas, and motif legibility that changes when folded, wrapped, or worn.

This study aims to develop a *batik* scarf design named "*Agung Prasaja*," inspired by the architecture of the Great Mosque of Gresik, using Practice led Research, to evaluate design feasibility based on structured assessment, and to identify the three best designs for realization as product prototypes. The novelty of the research lies in: (1) mapping the religious architectural elements of the Great Mosque of Gresik into a *batik* motif lexicon; (2) utilizing creative practice reflection as a source of design knowledge, not merely as a visual production process; (3) integrating quantitative evaluation to select design alternatives; and (4) realizing scarf prototypes as design outputs ready for testing in subsequent product development stages. The contributions of this research encompass both theoretical and practical dimensions. Theoretically, this study enriches culture based textile design approaches by demonstrating how local religious architecture can be translated into a measurable motif structure, composition, and visual narrative. Practically, this research provides a reference for artisans, batik designers, and creative industry actors in Gresik to develop accessory products grounded in local identity without losing the legibility of their cultural meaning.

2. Method

2.1. Research Approach

This research employs a descriptive qualitative approach using the Practice led Research method. In Practice led Research, creative practice is positioned as the primary driver of knowledge discovery; design knowledge emerges through visual decisions, process documentation, reflection, revision, and artifact evaluation [14], [15], [16], [17]. Thus, this study does not merely position the artifact as final evidence but rather uses the process of motif and scarf creation to understand how the architecture of the Great Mosque of Gresik can be translated into contemporary textile design. This method is complemented by descriptive quantitative evaluation to assess the quality of ten design alternatives. The integration of these two techniques was undertaken because the primary objective of the research is design development, while respondent assessments serve as the basis for selection and for reinforcing empirical arguments. In other words, user evaluation is not an independent focus but rather a tool for assessing the visual, symbolic, and application feasibility of the designs.

2.2. Practice led Research Procedure

The research procedure was implemented in five stages. The first stage involved visual and literary context exploration. The researchers collected visual documentation of the Great Mosque of Gresik and reviewed literature on *batik*, motif innovation, mosque architecture, color, and contemporary textile design. This stage produced a list of visual elements suitable for motif

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development, namely the dome, minaret, *limasan* roof, pillars, stained glass, chandeliers, windows, spatial dividers, and geometric structures. The second stage was visual mapping and reflection. Each element was selected based on four operational criteria: (1) visibility of form; (2) strength of symbolic association with the mosque; (3) capacity for stylization into repeatable patterns; (4) and suitability for the scarf field. Reflection was conducted through process notes, sketch comparisons, and internal evaluation of formal transformations from architectural source to *batik* motif. Process documentation was treated as data because it reveals the rationale behind design decisions, rather than merely serving as a technical archive. The third stage was stylization and motif arrangement. Architectural elements were not copied literally but simplified into decorative forms appropriate to the *batik* character. This stage yielded eight motif units, *Bayang Agung, Gunungan Nur, Damar Sekar, Soko Guru, Pelangi Cipta, Rata Madyantara, Cakra Cendhela,* and the *isen-isen* (filler motif) *Semburat Sinar*. The fourth stage involved the development of ten digital composition alternatives sized 160 × 35 cm using CorelDRAW. This format was selected as it corresponds to the elongated scarf dimensions and allows for the division of areas for primary motifs, supporting motifs, isen-isen, borders, and tumpal (end ornaments). As can be seen in Fig. 1.

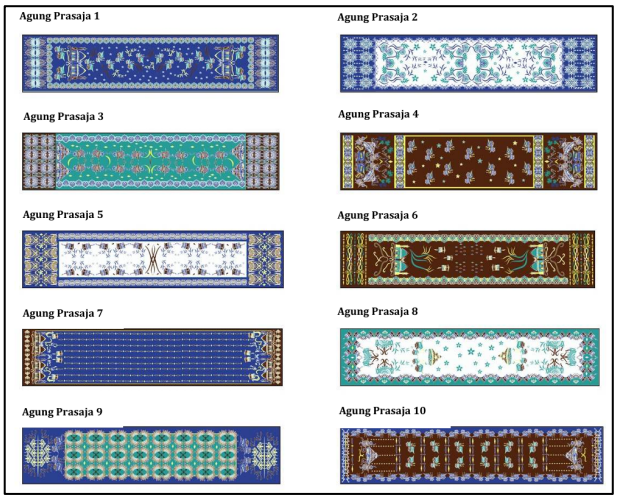

Fig 1. Ten Alternative *Batik* Scarf Designs

The fifth stage comprised evaluation, selection, and prototype realization. The ten designs were assessed using a 1–5 scale instrument. Following design evaluation, the three selected designs in the very high category were realized as *batik tulis* scarf prototypes, namely *Agung Prasaja* 5, *Agung Prasaja* 4, and *Agung Prasaja* 8. Thus, the realization stage in this research does not conclude with digital simulation but proceeds to the embodiment of selected products. Product images are not placed in the method section, as this section only explains the realization procedure, whereas prototype visuals and their analysis are presented in the Results and Discussion section, following the design evaluation data.

2.3. Instrument, Respondents, and Data Analysis

The assessment instrument was developed to address the research title, namely, to evaluate the extent to which the *batik* scarf design based on the architecture of the Great Mosque of Gresik can serve as a representation of local cultural identity. Therefore, the assessment criteria were directed not only at user appeal but also at the quality of architectural transformation, visual aesthetics, symbolic cultural legibility, suitability to the scarf format, technical feasibility for *batik tulis* products, and application potential. The criteria development drew upon the FEA Consumer Needs Model, which positions functional, expressive, and aesthetic needs as the foundation for fashion or textile product evaluation [18]. This framework was reinforced by studies on visual/product evaluation, consumer co-creation, functional aesthetic symbolic product design, product aesthetics, perceived quality, and purchase intention [19], [20], [21], [22], [23]. In the context of this research, the functional aspect was translated as suitability to the scarf format, user comfort, and feasibility for *batik* tulis technique realization. The expressive aspect was translated as the motif's capacity to convey Gresik's cultural identity,

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religious values, and reference to the architecture of the Great Mosque of Gresik. The aesthetic aspect was translated as color harmony, compositional balance, rhythm, proportion, visual neatness, and motif uniqueness. Thus, the instrument does not merely measure whether respondents like the design but also whether the design merits being called a batik scarf based on mosque architecture and a representation of local cultural identity. Criteria and indicators for the assessment of *Agung Prasaja batik* scarf designs/prototypes can be seen in Table 1.

Tabel 1. Criteria and indicators for the assessment of Agung Prasaja *batik* scarf designs/prototypes

Assessment Aspect	Operational Indicator	Assessment Focus	Theoretical Basis and Relevance to the Title
Transformation of the Great Mosque of Gresik Architecture	Representation of dome, minaret, *limasan* roof, pillars, stained glass, chandeliers, windows, and ornaments; accuracy of stylization; relationship between motif form and architectural source	The design visibly reflects the architectural idea source, but does not become a literal illustration of the building	Addresses the phrase "based on the architecture of the Great Mosque of Gresik"; relates to contemporary *batik* ornamentation and the articulation of visual identity in appearance [24].
Representation of Local Cultural Identity	Conformity of motif philosophy with Gresik's religious and cultural values; legibility of local character; the motif's capacity to distinguish this scarf from general batik motifs	The design conveys local cultural identity through meaning, symbol, and visual narrative.	Addresses the phrase "representation of local cultural identity"; aligns with the expressive dimension of FEA and research linking product aesthetics/appearance to perceived product quality and consumer attitudes [18], [22].
Visual Aesthetics	Color harmony; compositional balance; rhythm/repetition; motif proportion; visual unity; neatness of *isen-isen*; uniqueness and creativity of form	The design possesses strong visual quality as a contemporary textile product and does not appear overly dense or random.	Based on research on aesthetic pleasure in visual representations, apparel visual-aesthetic preference, and product aesthetics related perceived value [25], [26], [27].
Suitability to Scarf Format	Suitability to the 160 × 35 cm field; legibility of motifs when the scarf is folded, wrapped, or worn; strength of end areas; function of borders and tumpal as visual frames	The composition works in the scarf form, not merely as a flat image	Aligns with the functional needs of FEA and evaluation criteria for apparel/accessory products [18], [28].
Technical Feasibility for Batik Tulis Products	Feasibility of motifs for canting (hand drawing); line precision; legibility of *isen-isen* after dyeing; motif size suitability to fabric; neatness of execution; limited production potential	The design can be realized as a *batik tulis* prototype without losing the primary motif structure.	Affirms the research output as a batik scarf product; relates to functional quality and product use experience [18], [28].
Application Potential and User Acceptance	Appeal for use; purchase interest; suitability for formal/informal activities; potential as a cultural identity accessory or institutional accompaniment to uniforms	The design has potential for use, recommendation, and development as an identity based accessory product.	Relates to product aesthetics, perceived quality, consumer attitudes, and purchase intention oriented user response [22], [23].

Content validity of the instrument was established through expert review involving three validators with competence in *batik*, textile design, or textile craft. The selection of three validators was based on recommendations for content validity development, which allow for the involvement of 3–10 experts to assess item relevance to the measured construct [29]. Expert assessment was directed at the clarity of item wording, indicator aspect conformity, relevance

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to research objectives, and scale appropriateness. The assessment can be calculated using the Content Validity Index (CVI), namely the item congruence index based on expert judgment; CVI usage is recommended to strengthen evidence of instrument content validity [30]. The primary respondent type in the design evaluation was informed design assessors/users, not general market respondents. This selection employed purposive sampling with specific criteria, as the research focuses on the initial evaluation of design feasibility, not on generalizing market preferences. Purposive sampling is appropriate when researchers require participants with exposure to or relevant information on the phenomenon under study [31]. In this research, respondents were selected because they had experience viewing, using, studying, or appreciating *batik*, fashion, or textile products, thereby enabling them to provide assessments of motifs, composition, color, and scarf usage potential. The sample size of 30 respondents was used as an adequate initial evaluation measure for reading score tendencies, assessment variations, and internal instrument reliability. In initial instrument development or pilot studies, Johanson and Brooks recommend approximately 30 participants as the minimum number suitable for testing an instrument before broader application [32]. Therefore, the evaluation results in this study are interpreted as a basis for design selection and empirical argument reinforcement, not as a claim of market generalization. Respondent criteria included a minimum age of 17 years, ability to read visual design displays, exposure to *batik* or fashion/textile products, and willingness to assess all design alternatives. As can be seen in Table 2.

Tabel 2. Basis for selection of respondent type and number for design evaluation

Characteristic	Number/Value	Basis and Description
Number of respondents	30 individuals	Used for initial/pilot design evaluation; aligns with the recommended minimum for initial instrument development [32].
Sampling technique	Purposive sampling	Selected based on exposure to *batik*, fashion, or textiles; aligns with information requirements in design evaluation [31].
Respondent status	Informed design assessor/user	Not claimed as formal *batik* experts; used to assess initial design feasibility and product application potential.
Age	Minimum 17 years	Respondents were considered capable of providing conscious visual assessments and product usage preferences.
Involvement criteria	Assess all 10 designs fully	Data were used only when all assessment items were completed so that design means could be calculated consistently.

Data were analyzed using means, feasibility percentages, standard deviations of respondent means, and interpretive categories. Feasibility percentages were calculated using the formula mean/5 × 100%. The categories used were very high (4.21–5.00), high (3.41–4.20), moderate (2.61–3.40), low (1.81–2.60), and very low (1.00–1.80). Because the instrument employed a 1–5 rating scale, the scores were used descriptively to identify tendency patterns, while internal consistency was interpreted through reliability literature on alpha and related coefficients [33], [34].

3. Results and Discussion

3.1. Transformation of Mosque Architecture into the *Agung Prasaja* Motif Lexicon

The initial stage results indicated that the architecture of the Great Mosque of Gresik possesses two groups of visual potential. The first group comprises easily recognizable structural elements, such as the dome, minaret, *limasan* roof, pillars, and windows. The second group comprises atmospheric and ornamental elements, such as stained glass, light, chandeliers, arches, and divider patterns. These two groups provide the foundation for motif development that is not only decorative but also directionally meaningful. Visual transformation was conducted according to the principles of simplification, repetition, and rhythm reinforcement. The dome and minaret were formulated into *Bayang Agung*, symbolizing the majesty of the mosque. The *limasan* roof was translated into *Gunungan Nur*, marking orientation toward light and spiritual steadfastness. The chandelier became *Damar Sekar*, a

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metaphor for blossoming and guiding light. The mosque pillars became *Soko Guru*, interpreted as the supports of faith, knowledge, and order. Stained glass and windows became *Pelangi Cipta* and *Cakra Cendhela*, as both relate to openings, light, and spatial connectivity. Meanwhile, spatial divider patterns were translated into *Rata Madyantara*, and the radiance of light was condensed into the *isen-isen Semburat Sinar*. Fig. 2 illustrates that the stylization process did not aim to copy architectural forms photographically. The original forms were condensed into lines, planes, and rhythms repeatable in the *batik* language. This decision is important because *batik* motifs must continue to function as textile patterns when viewed from both close and distant ranges. Thus, the architectural value of the mosque is not transferred as a building image but as a visual structure recognizable through symbols, colors, and layout.

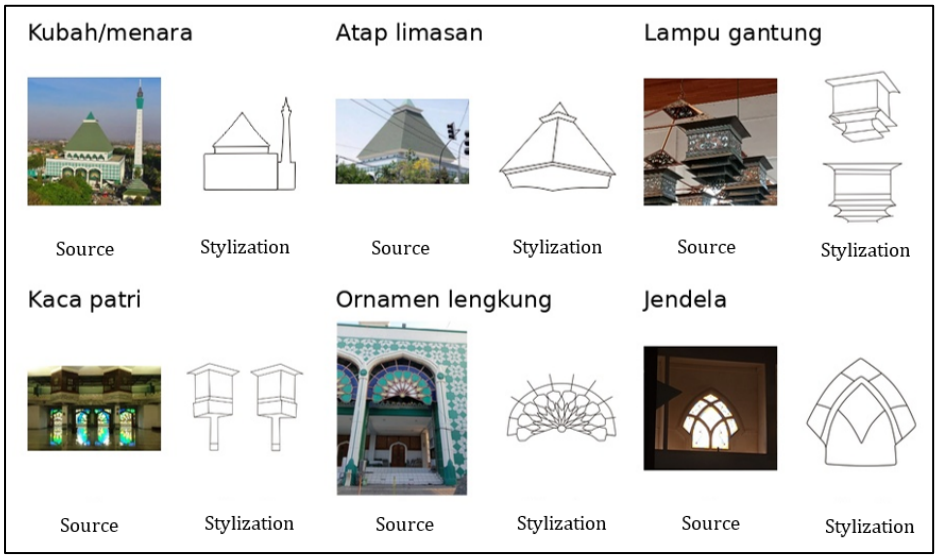

Fig 2. Mapping of visual sources from the Great Mosque of Gresik and initial stylization results

This finding reinforces the view that *batik* motif innovation is insufficiently understood as the addition of new ornaments but rather as a process of establishing relationships between visual sources, cultural context, and product function. Compared to motif development research originating from natural objects or regional icons, this study positions religious architecture as both a source of form and a source of value [6], [35]. In this way, the *Agung Prasaja* motif serves as a bridge between the spatial memory of the mosque and contemporary textile products.

3.2. Scarf Composition and Visual Principles of Ten Design Alternatives

The composition stage produced ten scarf design alternatives measuring 160 × 35 cm. All designs employed a horizontal orientation due to the scarf's elongated field. This orientation allows primary motifs to be placed in the central area or at both ends, while border and tumpal motifs serve as visual binders. These compositional decisions differ from sarong-length fabric designs, which typically prioritize broad fields and comprehensive repetition. Visually, the ten designs can be read through three strategies. The first strategy is a center-periphery structure, where the primary motif is placed as the focal point and reinforced by borders. The second strategy is an end center structure, where both scarf ends are given strong motifs to remain visible when the scarf is worn. The third strategy is a rhythmic repetition structure, where *isen-isen* and supporting motifs are used to maintain continuity. These three strategies address the functional requirements of the scarf: motifs must remain legible when folded, wrapped, or draped on the user's body. In terms of color, the palette of blue, white, green, brown, and yellow was selected to connect the design with the mosque's visual atmosphere. Blue and white convey calmness and cleanliness; green reinforces religious associations and freshness; brown presents historical warmth; yellow is used as a light accent. This palette determination aligns with studies of color in architectural space and spiritual experience, which demonstrate that color influences perceptions of atmosphere and meaning [36], [37].

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3.3. Design Evaluation and Determination of Three Scarf Prototypes

The evaluation results showed that all designs fell within the high to very high categories. This finding demonstrates that the architectural source of the Great Mosque of Gresik is acceptable as a basis for developing *batik* scarf motifs. However, the highest scores did not necessarily emerge from the busiest or most decorative designs. The designs that obtained the highest scores instead possessed a clear motif hierarchy, stable composition, and strong symbolic legibility. As can be seen in Table 3.

Tabel 3. Evaluation Results of Ten *Agung Prasaja Batik* Scarf Designs

Rank	Design	Mean	Percentage	Category	Standard Deviation of Respondent Means
1	*Agung Prasaja 5*	4.46	89.2%	Very high	0.584
2	*Agung Prasaja 1*	4.43	88.5%	Very high	0.514
3	*Agung Prasaja 4*	4.35	87.1%	Very high	0.582
4	*Agung Prasaja 8*	4.33	86.7%	Very high	0.636
5	*Agung Prasaja 2*	4.22	84.4%	Very high	0.606
6	*Agung Prasaja 10*	4.11	82.1%	High	0.705
7	*Agung Prasaja 7*	4.07	81.5%	High	0.731
8	*Agung Prasaja 6*	3.94	78.8%	High	0.672
9	*Agung Prasaja 3*	3.90	78.1%	High	0.662
10	*Agung Prasaja 9*	3.86	77.2%	High	0.631

Fig. 3 clarifies the score distribution across the ten designs. Numerically, *Agung Prasaja* 5 obtained the highest mean, followed by *Agung Prasaja* 1, *Agung Prasaja* 4, and *Agung Prasaja* 8. Therefore, the prototype selection must be explained not merely as a result of numerical ranking but also as a design decision that considers motif legibility, variation in visual character, readiness for *batik tulis* production, and the need for representing local cultural identity.

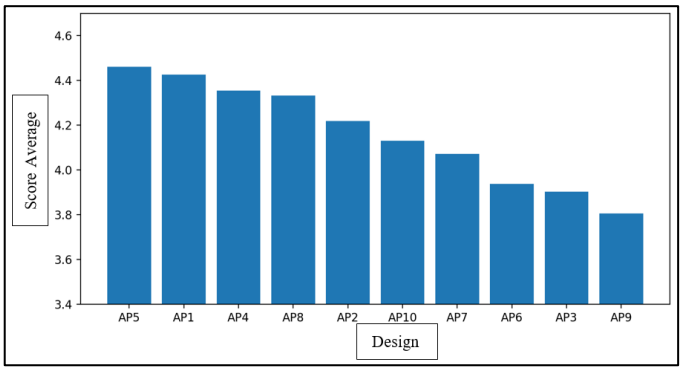

Fig 3. Mean Feasibility of Ten *Agung Prasaja Batik* Scarf Designs

Table 3 and Fig. 3 show that all designs fell within the high to very high categories. *Agung Prasaja* 5 was the highest scoring design, while *Agung Prasaja* 4 and *Agung Prasaja* 8 remained in the very high category and were selected as prototypes because they possess strong motif structures, different visual characters, and readiness for application in *batik tulis* techniques. Thus, the three designs realized as prototypes are determined not only by mean scores but also by considerations of compositional quality, architectural symbol legibility, and the product variation required in the development of *Agung Prasaja batik* scarves. Prototypes are presented immediately following the presentation of evaluation data so that the relationship between data, design decisions, and work realization can be directly read. Fig. 4 is placed in the Results and Discussion section because the prototypes are a direct outcome of the design evaluation and selection process. At this stage, the image does not serve as a supplementary illustration but as evidence of the realization of selected designs into batik tulis scarf products. Its presentation following the table and score diagram helps demonstrate the argumentative flow, assessment data generate selection decisions, and those decisions are subsequently realized in product prototypes.

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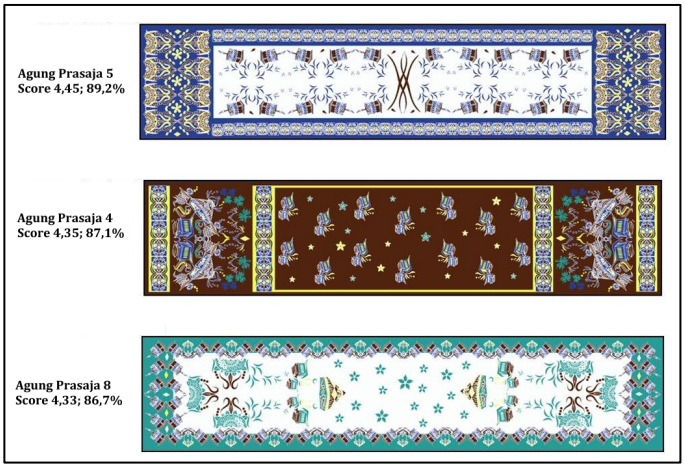

Fig 4. *Batik Tulis* Prototypes of *Agung Prasaja* 5, *Agung Prasaja* 4, and *Agung Prasaja* 8 as Realizations of the Three Selected Designs

Agung Prasaja 5 obtained the highest score because it possesses the clearest visual hierarchy. The *Soko Guru* motif is positioned as a strong focal point, while supporting motifs, *isen-isen*, borders, and *tumpal* form a center transition frame structure. The dominant white provides breathing room for the motifs, while blue reinforces calmness and visual boundaries. On a symbolic level, *Soko Guru* presents the mosque as a support for values, knowledge, and social order. Therefore, this design is the most communicative for a scarf that must remain legible when worn. *Agung Prasaja* 4 presents a different character through its dominance of brown and its narrative of light. *Damar Sekar, Gunungan Nur*, and *Isen-Isen* build a warm, historical, and spiritual impression. Its weakness is that the edge frame is not as strong as that of *Agung Prasaja* 5, but this design excels in the depth of its visual atmosphere. The brown color imparts closeness to material and historical memory, while the yellow accent reinforces the symbol of light. This design has potential for users who desire a scarf with a formal and mature impression. Agung Prasaja 8 has the lightest character due to its dominance of white and green. Its advantages lie in its clean, fresh, and easily combinable atmosphere. The motifs at both ends of the scarf maintain legibility when the product is worn, while the repetition of central elements prevents the field from feeling empty. However, the *tumpal* in this design is not as strong as in the two previous designs, rendering its visual structure somewhat softer. This finding explains why the score for *Agung Prasaja* 8 remains very high but falls below *Agung Prasaja* 5 and 4. If product feasibility validation by batik experts has been conducted in actual practice, the results can be concisely presented following the discussion of the three prototypes. Fig. 5 below is prepared as a simulated format for presenting feasibility data of the three batik tulis prototypes; this simulated data should be replaced with actual expert validation results before the manuscript is submitted.

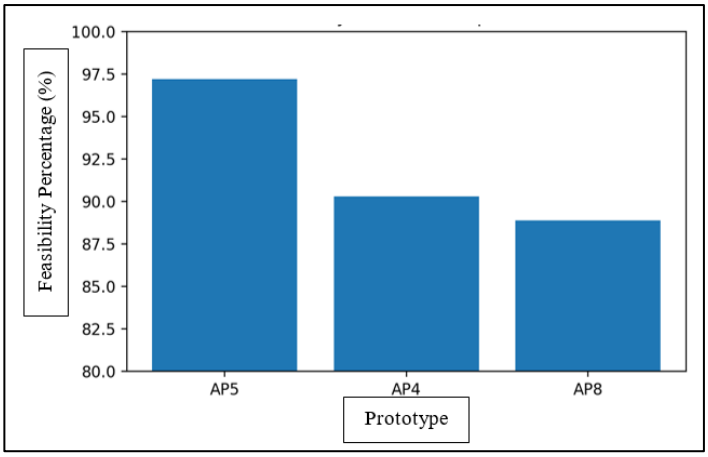

Fig 5. Feasibility of the three batik tulis prototypes based on expert validation

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The presentation of prototype feasibility must be separated from digital design assessment because the objects being assessed differ. Digital design assessment emphasizes visual harmony, motif legibility, and application potential, whereas batik tulis prototype validation must assess the accuracy of motif realization, *canting* line quality, color alignment after the dyeing process, finishing neatness, and product readiness for use. Through this separation, the research analysis becomes more structured and does not conflate design preference data with product quality data. And Analysis of the positioning of primary motifs, supporting motifs, *isen-isen*, borders, and tumpal in the three selected designs can be seen in Fig. 6,

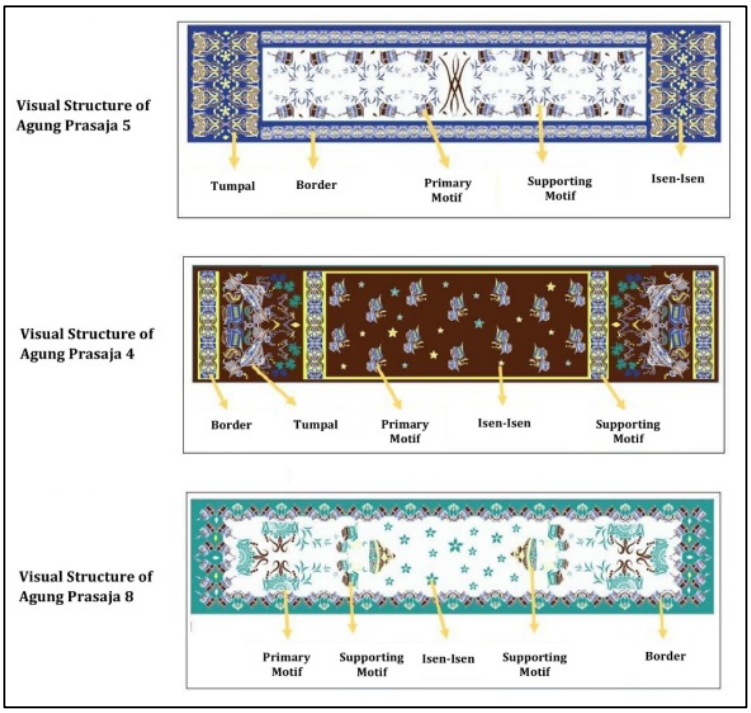

Fig 6. Analysis of the positioning of primary motifs, supporting motifs, *isen-isen*, borders, and *tumpal* in the three selected designs

Analysis of Fig. 6 reveals that scarf design quality is highly dependent on motif placement. The primary motif does not necessarily have to occupy the entire field; what is more important is how the primary motif is supported by secondary motifs and edge frames so that the visual narrative remains legible. In this context, the research findings offer a methodological contribution to textile design; the product format must be treated as part of the motif creation process, not merely as a final medium that receives pre-existing motifs.

3.4. Implementation of Findings

The primary implementation of this research is the development of three *Agung Prasaja batik* scarf prototypes that can serve as a basis for limited production, wear comfort testing, material testing, and exploration of *batik tulis* or *batik cap* (stamped batik) techniques. For artisans, the research results provide a reference for motifs, colors, and compositional structures that can be adapted without losing the identity of the Great Mosque of Gresik. For textile designers, this research demonstrates that local architecture can be translated into accessory products that are not superficial, as the design decisions are supported by visual reflection and structured evaluation. As an additional practical implication, the *Agung Prasaja batik* scarf has the potential to be developed as an institutional identity accessory to accompany uniforms at official events, for regional cultural promotion, during academic visits, or as part of institutional agendas. This position is not the primary objective of the research but rather a possible further application, as scarves are more flexible than full garments: they can be used by a wide range of users, are easily combined with formal attire, and are capable of carrying local symbols elegantly. The limitations of this research lie in the still limited number of respondents, the lack of detailed recording of respondent expertise backgrounds, and the absence of broader market testing. Therefore, further research needs to test material comfort,

color durability, user preferences from more diverse groups, and the effectiveness of motif application in batik tulis, batik cap, or combinations of digital and manual techniques.

4. Conclusion

This research produced the *Agung Prasaja batik* scarf design based on the architecture of the Great Mosque of Gresik through Practice led Research that combines visual exploration, practice reflection, structured evaluation, and prototype realization. The research gap was addressed by demonstrating that religious architectural elements, such as the dome, minaret, limasan roof, pillars, stained glass, chandeliers, windows, and divider patterns, can be transformed into eight motif units and ten scarf design alternatives measuring 160 × 35 cm. Evaluation by 30 design assessors as informed users showed that all designs fell within the high to very high categories, with the *Agung Prasaja* 5 design obtaining the highest score (4.46; 89.2%). The three designs realized as *batik tulis* scarf prototypes were *Agung Prasaja* 5, *Agung Prasaja* 4, and *Agung Prasaja* 8, as all three were in the very high category and represented the visual character variations most ready for product realization. The theoretical contribution of this research is a model for transforming local religious architecture into culture-based contemporary textile design, while the practical contribution is a motif and composition reference for the development of Gresik *batik* products. Further implications include potential for limited production, reinforcement of regional cultural identity, and application as an institutional accessory. The limitations of the research lie in the limited size and characteristics of the respondent sample, as well as the absence of material testing and broad market testing, necessitating further research to expand user evaluation and test prototype performance in real usage contexts.

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Declarations

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