USER KNOWLEDGE AND EXPERIENCE ON THE EXISTING BATIK FABRIC LAYOUT FOR WOMEN'S CLOTHING

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ABSTRAK

Batik fabric holds a significant cultural and historical place in Malaysia, and its incorporation into women's clothing has evolved over time. The research investigates the user knowledge and experience among individuals who are not in the fashion, batik, or tailoring fields with regard to current batik fabric layouts for women's clothes. A quantitative survey was conducted involving 50 respondents with no professional background in fashion, batik, or tailoring. The questionnaire consisted of five sections covering general knowledge, layout understanding, clothing preferences, and user experiences. Data were analyzed using descriptive statistics, including mean scores, via SPSS software. The findings indicate that a majority of respondents lacked knowledge of batik fabric measurements and layout placement, with 44 out of 50 respondents unaware of the two main layout types (general placement and full-pattern layout). Mean score analysis revealed moderate understanding of motif positioning on garments (M = 3.44), but lower comprehension of bodice and skirt arrangement (M = 3.14). Respondents showed a higher preference for *baju kurung moden* (M = 3.86) and reported frequent issues related to motif cut-off and inaccurate placement during garment construction. The results highlight the need for clearer and more structured batik fabric layouts, including improved motif placement, sizing guidance, and cutting references. Such improvements could enhance user understanding, reduce fabric wastage, and support better garment construction practices. This study contributes novel insights by focusing on non-industry users' perspectives, an area that remains underexplored in batik research. The findings offer practical value for designers, batik producers, and educators by informing the development of more user-friendly and sustainable batik fabric layout designs for women's clothing in Malaysia.

INTRODUCTION

Batik fabric, deeply embedded in Malaysia's rich cultural heritage, represents a significant expression of the nation's artistic legacy. As this traditional textile continues to evolve within contemporary fashion, especially in women's clothing, it embodies a fusion of cultural authenticity and modern design sensibilities. Today, batik is not only valued for its aesthetic and symbolic meanings but is also widely incorporated into everyday and formal wear, reflecting its enduring relevance in Malaysian society.

While batik fabric is widely recognized for its cultural significance and visual appeal, existing studies have predominantly concentrated on its historical development, motif symbolism, production techniques, and perspectives of designers and producers. Comparatively less scholarly attention has been given to how end users, especially individuals outside the fashion, batik, and tailoring industries, understand and experience batik fabric layouts used in garment construction. Issues related to motif placement, fabric measurement awareness, and garment usability remain underexplored from the user's perspective.

In current industry practice, batik fabrics for women's clothing are commonly produced in standard lengths with generalized or full-pattern layouts that are not designed according to specific garment sizes or cutting guides. Consequently, users and tailors are often required to interpret motif placement independently during garment construction. This practice may lead to challenges such as motif cut-offs, inefficient fabric usage, and dissatisfaction with the final garment outcome. Despite the practical implications of these issues, empirical research examining users' knowledge and experiences in relation to existing batik fabric layouts remains limited.

Previous research on traditional textiles has largely focused on cultural meanings, sensory experiences, and emotional connections associated with fabric. However, studies that specifically investigate user comprehension of batik fabric layout, particularly in terms of measurement awareness, pattern placement, and garment visualization are scarce. This gap is especially evident among non-industry users, whose perspectives are crucial for understanding usability challenges and identifying opportunities for improving existing batik fabric layout practices.

Therefore, this study aims to examine users' knowledge and understanding of existing batik fabric layouts for women's clothing, with particular attention to fabric measurement, motif placement, and garment layout. In addition, the study explores users' experiences, clothing preferences, and perceived needs for improvement regarding the use of current batik fabric layouts. By focusing on user perspectives, this research seeks to contribute empirical insights that support more user-centered, efficient, and aesthetically coherent batik garment design while maintaining the cultural integrity of batik as a traditional textile.

LITERATURE REVIEW

Batik Background

The origins of batik can be traced to the 12th century on the Javanese islands, from where it spread across Nusantara, including the Malay Peninsula. In the early 20th century, batik production, especially in the Malaysian states of Kelantan and Terengganu, entered a significant phase of expansion. Over time, batik has evolved into a cherished craft among Malaysians, symbolizing cultural identity (Lias & Abd Hamid, 2020). The Malaysian batik industry encompasses four main types: Batik Blok, Batik Tulis, Batik Skrin, and Batik Pewarnaan Asli, each marked by distinctive techniques and features (Hassan et al., 2018). The term "batik" is derived from Javanese words such as ambatik and tritik, with the suffix 'tik' signifying "creating small dots." Currently, the predominant methods used in Malaysian batik production are hand-drawn batik (batik canting) and stamped batik (batik terap/blok) (Syed Shaharuddin et al., 2021), with Kelantan and Terengganu being key hubs of corporate batik production.

In the mid-20th century, a group of forward-thinking arts and design graduates redefined Malaysian batik by introducing batik yardage into the batik cap (stamped batik) sector, significantly shaping the industry's identity (Yunus, 2011). Malaysian batik features a broad range of designs, including swirling patterns, abstract forms, and floral motifs (Blankenship & Tan, 2020). Recent trends in the local batik industry reflect a shift toward brighter colors and bolder motifs, driven by the need to cater to changing market demands (Noorizan et al., 2015).

Batik's appeal extends beyond its cultural roots, attracting not only Malays but also non-Malays in both formal and casual settings. This inclusive demand has supported the steady growth of the batik industry, positively impacting Malaysia's economy (Khairi et al., 2018). Malaysian batik is also popular among tourists, who often purchase it as a prized souvenir (Rosman et al., 2021). The market offers a wide variety of batik products, including sarongs, pareo, batik shirts, and baju kurung made from batik fabrics. Despite the uniqueness inherent in handmade batik, many producers are hesitant to experiment with new materials, styles, and marketing approaches (Blankenship & Tan, 2020).

Batik Fabric in Malaysia
The handicraft, fashion, and textile industries, classified under the Creative Arts and Culture Industry (Ministry of Information, Communication, and Culture, 2009), play a pivotal role in stimulating Malaysia's economy, particularly through Small and Medium Enterprises (SMEs). This vibrant craft sector encompasses textiles such as *songket*, Tenun Pahang Diraja, digital printing fabrics, silk-screened fabrics, and batik, which is widely owned by Malaysians.

In recent years, demand for batik has surged, prompting the government to encourage entrepreneurs and the craft community to produce high-quality, innovative, and contemporary batik fabrics (Ketua Pengarah Kraftangan Malaysia, Ainu Sham Ramli, 2022). Malaysia now offers a diverse range of batik products, from sarong batik and pareo batik to batik fabrics in various lengths and forms. The evolution of motif placement in batik fabric design, beginning with the structured layout of sarong batik motifs, plays a key role in shaping these products. Essential elements of sarong batik design include the *kepala kain* (head), *kaki kain* (border), *badan kain* (main body), and *tepi tutup kepala kain* (Mohd Shari, 2016).

As described by Md. Noor (2014, p. 3), a sarong is a two-meter piece of cloth sewn into a cylindrical form, traditionally worn from the waist down, allowing for individual comfort and styling. Among Malays, particularly women, sarongs are tied using techniques like *ombak mengalun* and *tindih kasih*. Batik sarongs, crafted using resist printing or stenciling methods, feature intricate designs, with the head panel often showcasing bamboo shoot or floral patterns, while the main panel includes various grouped motifs. The strategic placement of motifs, coupled with delicate flora and fauna themes along the fabric's edges, enhances the elegance of batik garments, reflecting the gentle and graceful image of women as a whole.

Figure 1

Batik Sarong Structure Layout (Yunus, 2012, p. 37)
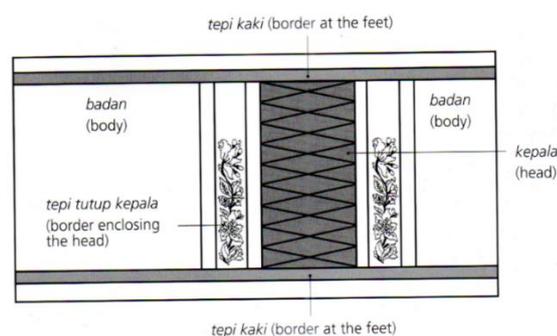
The key structural elements that define the overall composition of the fabric are the *kepala kain, kaki kain, badan kain*, and *tepi tutup kepala kain*, as shown in Figure 1. This layout serves as the foundation for being recognized as a visual embodiment of the Malay aesthetic in textile design. A notable example is the frequent incorporation of *pucuk rebung* (bamboo shoots) motifs by batik artisans, particularly in the *kepala kain* section of batik terap (Mohd Shari, 2016).

Figure 2

Batik Sarong Fabric (Yunus, 2012, p. 49)

The graceful and gentle nature traditionally attributed to Malay women is often associated with the way they secure the sarong around their body. The Malay batik sarong, tied in the *tindih kasih* style, is well-suited for pairing with modern *Baju Kebaya*, while the *ombak mengalun* style complements the *Baju Kurung*. For Malays, the batik sarong (see Figure 2) functions as both a complementary accessory or a complete outfit, distinctly representing femininity in both formal occasions and casual settings. Its charm is further accentuated when paired with accessories like a shawl and an elegantly styled bun, emphasizing the refined and captivating qualities of the Malay woman (Md. Noor, 2014, p. 7).

The designs adorning batik sarongs are deeply rooted in the expressions, traditions, and lifestyles of the Malay people, with the sarong serving as a canvas to convey ideals of harmony, balance, elegance, and strength. It visually encapsulates the unique Malay way of life. Malay batik sarongs often feature floral and wildlife motifs along their decorative borders. Despite their small size, these motifs exhibit intricate details and compact patterns, displaying interconnected and flowing compositions of various shapes and colors.

The batik sarong has evolved into a versatile fabric that plays multiple roles in the daily lives of Malays. It is significant across different life stages, from being used as a swaddle for newborns and a 'baby swing,' to being worn in both formal and informal settings. Moreover, it holds cultural importance as a gift and as a shroud for the deceased (Md. Noor, 2014, p. 43).

Figure 3

Batik Pario Fabric (Md. Noor, 2014, p. 20)

A pario is a two-meter-long unseamed fabric, characterized by its expansive designs and motifs, as shown in Figure 3. Silk pario is often paired with contemporary clothing, reflecting the fashion trends of popular local performers from the 1980s (Md. Noor, 2014, p. 20).

Existing Batik Fabric Layout for Women's Clothing
The current landscape of batik fabric layouts for women's clothing in Malaysia skillfully blends traditional motifs with modern design aesthetics. Patterns inspired by nature, folklore, and geometric shapes are intricately integrated into the fabric, creating a visual harmony that resonates across generations. This fusion of tradition and modernity has made batik a staple not only in cultural events but also in everyday wear. However, as fashion trends evolve, it is essential to reassess existing batik fabric layouts to ensure their continued relevance and appeal to a diverse user base.

Currently, batik textiles for women's clothing are predominantly produced in two standard lengths: 4 meters and 4.5 meters, while men's clothing typically uses 2.5 meters of fabric. Notably, these textiles do not follow standard clothing sizes such as S, M, or L; instead, they adopt a free-size approach, meaning that the same piece of fabric is intended to fit a range of body sizes. Additionally, the placement of patterns on batik fabrics generally adheres to a conventional, full-pattern layout with minimal variation. This standardization in fabric size and pattern placement has long been a defining characteristic of the batik textile industry, catering to the broad preferences of consumers.

Various batik fabrics for women's clothing are available in the market, featuring standard 4-meter lengths for the canting technique and full-pattern designs for the block technique, as illustrated in Figures 4 and 5.
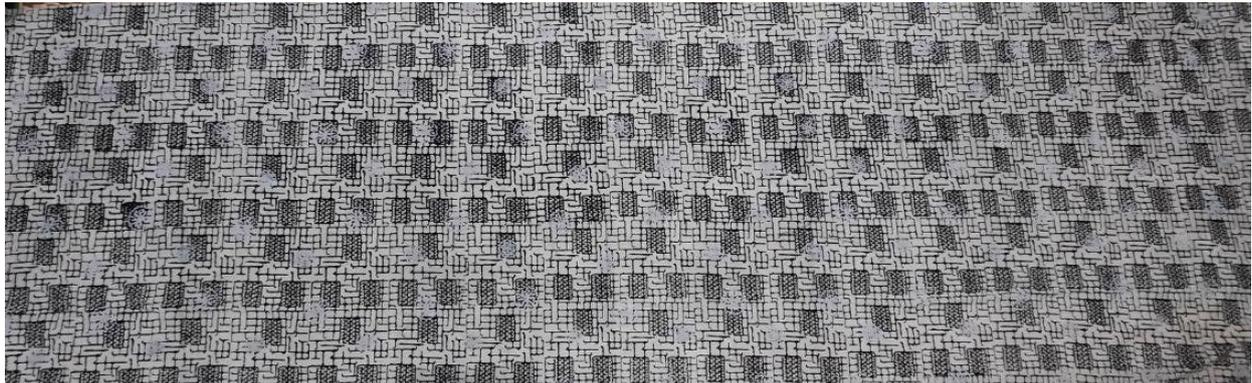
Figure 4

Women's Batik Fabric in Standard Pattern Arrangement (Canting Technique)

Figure 5

Women's Batik Fabric in Full of Pattern (Blok Technique)

Primarily, the current batik fabrics for women are used to create traditional baju kurung, *baju kurung moden*, and the elegant baju kebaya. The standard pattern layout typically includes five main components: the bodice (front and back), sleeves (right and left), and the skirt. Notably, batik fabrics featuring repetitive full patterns from the block technique lack a specific arrangement, offering tailors the flexibility to position the designs according to their preferences.

However, this flexibility in arranging the repetitive fabric can lead to increased material waste, as tailors are not restricted by the border motifs commonly seen in more structured fabric layouts. This may result in less efficient fabric usage, but it also allows for more creative and aesthetically unique garments when employing the block technique.

User Knowledge and Experience with Traditional Fabrics
Research on user experiences with traditional fabrics has gained prominence within the broader field of textile studies. Previous studies have investigated how users perceive, engage with, and derive satisfaction from textiles with cultural significance (Song, 2020). These studies explore sensory aspects, cultural associations, and the emotional bonds users form with traditional fabrics, providing valuable insights into the relationship between heritage textiles and modern lifestyles.

Existing literature on Malaysian batik has largely emphasized its historical evolution, motif symbolism, production techniques, and designer-led practices. Studies on traditional textiles have also explored cultural meanings, sensory attributes, and emotional connections associated with fabric use. However, limited scholarly attention has been directed toward the structural layout of batik fabrics in relation to garment construction, particularly in terms of fabric measurement systems and motif placement considerations.

In particular, empirical evidence concerning non-industry users' understanding of batik fabric layout, especially regarding fabric measurement, motif placement, and garment visualization remains scarce. The lack of user-centered investigations highlights a critical gap in existing literature, particularly in understanding how standardized batik fabric layouts influence fabric usage efficiency, motif integrity, and user satisfaction in women's clothing. Addressing this gap is essential to support the development of more informed and user-oriented batik fabric layout practices that align traditional aesthetics with contemporary garment needs.

METODOLOGY

This study employed a questionnaire survey distributed to 50 respondents who were not involved in the fields of fashion, batik, or tailoring. The objective was to assess their ability to visualize existing batik fabric layouts for women's clothing when presented with vertical and horizontal indicators on a standard 4-meter fabric. The survey was administered online via Google Forms. A purposive sampling method was adopted to ensure that participants possessed characteristics relevant to the research objectives (Campbell et al., 2020).

The questionnaire comprised a combination of open-ended questions and predominantly 5-point Likert scale items, organised into five sections. Section A focused on demographic information, Section B examined general knowledge, Section C addressed types of layouts in existing batik fabric, Section D explored types of apparel, and Section E investigated user experiences. The questionnaire items were developed based on an extensive review of the literature related to traditional textiles, user experience, and fabric layout design, as well as current issues in batik fabric usage. To ensure content validity, the questionnaire was reviewed by subject matter experts in fashion design and textile studies, and minor revisions were made to improve clarity and relevance. A pilot test was conducted with a small group of respondents to assess the comprehensibility of the questions prior to the final survey distribution.

Data collection was conducted in July 2022, and data analysis was carried out using SPSS software (Habes et al., 2021). Reliability analysis was performed to assess the internal consistency of the questionnaire items using Cronbach's alpha coefficient. The results exceeded the acceptable threshold of 0.70, indicating satisfactory reliability of the measurement scales. Descriptive statistical analyses, including frequency distributions, percentages, mean scores, and standard deviations, were employed to summarise respondents' knowledge, experiences, and preferences related to existing batik fabric layouts. Mean score interpretation was used to identify dominant trends and patterns across the questionnaire sections, providing insights into participants' perceptions and experiences (Nguyen et al., 2021).

Ethical considerations were observed throughout the research process. Participation in the survey was voluntary, and respondents were informed of the purpose of the study prior to participation. All responses were collected anonymously, and the data were used solely for academic research purposes.

RESULTS AND ANALYSIS

The questionnaire results reveal that respondents generally possess limited knowledge regarding the measurements and placement of existing batik fabric layouts. Despite this, they showed a reasonable understanding of how batik fabric influences clothing design. The respondents also expressed distinct clothing preferences, encountered occasional challenges in garment making, and identified specific areas where improvements could be made in batik fabric layout. These findings highlight both gaps in knowledge and areas where respondents demonstrated a more informed and discerning perspective on batik fabric within the context of women's clothing.

Section A: Demographics

The study involved 50 respondents, all of whom were outside the fashion, batik, and tailoring sectors. Of these, 7 were male and 43 were female, representing a range of professional backgrounds. This gender distribution and diverse occupational representation were purposefully selected to ensure a broad and inclusive perspective on user knowledge and experiences with batik fabric layout for women's clothing. This demographic diversity aimed to provide a comprehensive understanding of viewpoints across different sectors and gender contexts.

Section B: General Knowledge

Section B was a general knowledge about the existing batik fabric for women's clothing. This question was in "Yes" or "No" answer.

Table 1

Analysis for the respondent general knowledge on the existing batik fabric layout for women's clothing.

Section B	Statements	Yes	No
Based on your general knowledge about the existing batik fabric for women's clothing.	Do you know the measurement of a piece of existing batik fabrics sold in the market?	22	28
	Do you know how long the measurement of existing batik fabric is suitable for your pair of clothes?	23	27
	Do you know existing batik fabrics have particular parts made for shirts and skirts?	16	34
	Do you know that existing batik fabrics have two types of placements, namely general placement layout and full pattern?	6	44

n=50

Analyzing the scores from Table 1, an assessment of respondents' general knowledge about existing batik fabric for women's clothing was conducted. The highest score revealed that 44 respondents lacked awareness that existing batik fabrics have two types of placements, namely general placement layout and full pattern. Conversely, the lowest score indicated that 27 respondents were unaware of the suitable measurement length of existing batik fabric for their pair of clothes. Therefore, it appears that respondents generally lack knowledge about the measurements and placements on existing batik fabric.

These findings indicate that non-industry users generally possess limited to moderate knowledge regarding existing batik fabric layouts, particularly in relation to fabric measurement and layout placement. This result directly addresses Research Objective 1, which aims to examine users' knowledge and understanding of existing batik fabric layouts for women's clothing. Similar patterns have been reported in previous studies, where users demonstrated familiarity with traditional textiles but limited technical understanding of fabric layout and garment construction (Rise, 2020).

Section C Type of Layout on Existing Batik Fabric.

Based on respondent's knowledge, when respondents look at this existing batik fabric layout for women's clothing in figure 6.

Figure 6

Existing batik fabric layout

Mean score analysis using SPSS was used to examine the highest and lowest score of each section accordingly to the respondent preferences. The following table outlines the mean score analysis for this research.

Table 2

Mean score analysis for the respondent personal knowledge on the given batik fabric layout for women's clothing.

Section C	Statements	M	SD
Based on your knowledge, when you look at the existing batik fabric layout for women's clothing	Can you imagine what kind of clothing can be made?	3.16	1.35
	Do you understand which section is for the bodice and skirt arrangement?	3.14	1.48
	Do you understand which part is for the front and back layout?	3.20	1.41
	Do you understand which part is for the sleeve layout?	3.32	1.32
	Do you understand and imagine, how the motif is positioned on clothing for women?	3.44	1.36

n=50.

Based on Table 2, the mean score analysis indicates respondents' level of personal understanding when interpreting the given batik fabric layout for women's clothing. The highest mean score reflects respondents' ability to understand and imagine motif positioning on women's clothing (M = 3.44, SD = 1.36), while the lowest mean score relates to their understanding of fabric sections for bodice and skirt arrangement (M = 3.14, SD = 1.48). Overall, these results suggest that respondents demonstrate a moderate level of understanding of how existing batik fabric layouts influence the construction of women's clothing.

This finding directly addresses Research Objective 1 by further illustrating users' ability to interpret layout elements such as motif placement and garment components. The moderate mean scores highlight a practical limitation of current batik fabric layout practices, particularly for non-industry users. Similar challenges have been identified in previous textile studies, emphasizing the importance of user-oriented layout guidance in heritage fabric design to improve garment visualization and usability.

Section D Types of clothing

Table 1

Mean score analysis for respondent clothes' preferences made using the existing batik fabric

Type of Clothes	M	SD
Baju Kurung Tradisional	3.78	1.09
Baju kurung moden	3.86	1.17
Baju Kebaya Tradisional	2.78	1.27
Baju Kebaya Moden	2.96	1.38
Baju Kebarung	2.80	1.29

n=50

An analysis of the mean scores in Table 3 reveals respondents' preferences for various types of clothing made using existing batik fabric. The highest mean score indicates a preference for *baju kurung moden* (M = 3.86, SD = 1.17), while the lowest mean score reflects lower preference for *baju kebarung* (M = 2.80, SD = 1.29). These results suggest that respondents demonstrate clearer preferences toward certain clothing styles, particularly modern interpretations of traditional attire.

This finding addresses Research Objective 2 by illustrating users' preferences for clothing types produced using existing batik fabric layouts. The higher preference for *baju kurung moden* suggests that contemporary garment styles may be perceived as more compatible with current batik fabric layouts in terms of pattern arrangement and garment construction. This observation is consistent with previous studies indicating that modern adaptations of traditional textiles tend to align more effectively with user preferences and contemporary fashion practices.

Section E: Experience

Table 2

Mean score analysis for respondent experience on making the clothes using existing batik fabric

Section E	Statements	M	SD
Based on your experience making the clothes using the existing batik fabric	Have you ever had the experience of having insufficient or excess batik fabric given to the tailor?	2.98	1.35
	Have you ever had a batik garment with a design placed on it that wasn't made exactly how you wanted?	3.04	1.34
	Have you ever experienced that a batik fabric that has been sewn seemed to have the design cut off?	3.02	1.38

n=50.

Based on the mean score analysis in Table 4, respondents' experiences in producing clothing using existing batik fabric indicate recurring challenges related to fabric utilization and motif placement. The highest mean score reflects experiences where garment designs were not positioned as intended (M = 3.04, SD = 1.34), while the lowest mean score relates to issues of receiving insufficient or excess fabric during garment construction (M = 2.98, SD = 1.35). Overall, these results suggest that respondents encounter moderate levels of difficulty when producing clothing using existing batik fabric layouts.

This finding addresses Research Objective 2 by highlighting users' experiences and perceived challenges associated with existing batik fabric layouts. The recurring issues related to motif cut-offs, fabric excess, and unintended design placement point to structural limitations in current batik fabric layout practices rather than individual tailoring skills. Similar findings have been reported in previous studies, which emphasize that inadequate layout guidance in traditional fabrics can lead to inefficiencies and reduced user satisfaction (Shin, 2013; Song, 2020).

Table 3

Mean score analysis for respondent experience on improving the aspect of the existing batik fabric layout

Section E	Statements	M	SD
Based on your experience, what aspects of the existing batik fabric layout, need to be improved?	To make it easier to understand, it needs improvement in terms of shape and layout	3.94	1.04
	Improvements should be made to pattern grading designs and fabric layouts based on sizing	4.12	.87
	To keep from having the motif cut off on the batik design fabric layout, the motif placement must be improved	4.22	.82
	By creating a guide for where to cut fabric and sew clothes correctly, layout must be improved	4.20	.93

n=50.

Examining the mean scores in Table 5, an analysis was conducted on respondents' experiences in enhancing aspects of the current batik fabric layout. The highest mean score indicated a consensus among respondents to prioritize improving motif placement on batik fabric to prevent motif cut-offs (M = 4.22, SD = 0.82). Conversely, the lowest mean score suggested a relatively lower inclination among respondents to focus on improvements in terms of shape and layout (M = 3.94, SD = 1.04). Consequently, respondents collectively agree that there are specific aspects that warrant improvement in order to enhance the overall workmanship quality of garments made from existing batik fabric.

The results suggest that users' experiences with existing batik fabric layouts are influenced by factors such as motif arrangement, fabric measurement, and ease of garment visualization. This finding addresses Research Objective 2, which focuses on exploring users' experiences and perceived needs for improvement regarding existing batik fabric layouts. This observation is consistent with earlier studies highlighting that usability and visual coherence of traditional fabrics significantly affect user satisfaction.

Overall, the results provide empirical evidence that addresses the research objectives by highlighting users' knowledge, preferences, and experiences related to existing batik fabric layouts for women's clothing. These findings form a foundation for further discussion on improving batik fabric layout designs to enhance usability, reduce material wastage, and improve overall garment outcomes in contemporary batik apparel.

DISCUSSION AND IMPLICATIONS

This study set out to examine non-industry users' knowledge, preferences, and experiences related to existing batik fabric layouts for women's clothing in Malaysia. The findings provide empirical insights that extend existing literature on traditional textiles by shifting the focus from cultural symbolism and designer perspectives to the practical understanding and experiences of end users. Overall, the results demonstrate that while batik remains culturally significant and widely used, users encounter notable challenges in interpreting fabric layouts during garment production.

The findings related to users' knowledge reveal that non-industry users generally possess limited to moderate understanding of batik fabric measurements and layout placements. Although respondents were familiar with batik as a traditional textile, many lacked technical awareness of fabric layout elements such as section allocation, motif positioning, and suitability of fabric length for garment construction. This finding supports earlier studies that highlight a gap between users' cultural appreciation of traditional textiles and their technical comprehension of textile construction processes (Qin et al., 2025). It also reinforces the research gap identified in this study, where limited attention has been given to users' practical knowledge of batik fabric layouts, particularly among individuals outside the fashion and textile industries.

In terms of layout interpretation, the results indicate that respondents demonstrated a moderate ability to visualize garment components and motif placement when presented with existing batik fabric layouts. While users were relatively more capable of imagining motif positioning on garments, they experienced greater difficulty in identifying specific sections for bodice, skirt, and sleeve arrangements. This suggests that existing batik fabric layouts may not sufficiently support users' garment visualization processes. From a theoretical perspective, this finding contributes to discussions on user experience in textile design by highlighting fabric layout as a critical yet underexplored factor influencing users' interaction with heritage-based fabrics. Previous studies have emphasized aesthetic and emotional engagement with traditional textiles (Song, 2020; Azaharin & Abidin, 2025), but this study extends the discourse by foregrounding layout comprehension as a functional dimension of user experience.

The analysis of clothing preferences further reveals that respondents showed a stronger inclination toward modern interpretations of traditional attire, particularly baju kurung moden, compared to more traditional or hybrid garments such as baju kebarung. This preference suggests that contemporary garment styles may be perceived as more compatible with existing batik fabric layouts. Similar observations have been noted in prior research, where modern adaptations of traditional textiles were found to better align with current fashion practices and user expectations (Song, 2020; McKinney & Watanabe, 2025). These findings imply that the compatibility between fabric layout and garment style plays an important role in shaping user preferences, reinforcing the need for layout designs that support contemporary clothing construction.

Users' experiences in producing garments using existing batik fabric further highlight practical challenges associated with current layout practices. Respondents reported issues such as unintended motif cut-offs, receiving excess or insufficient fabric, and dissatisfaction with final garment outcomes. These challenges point to structural limitations in existing batik fabric layouts rather than deficiencies in individual tailoring skills. Consistent with earlier studies on traditional textile usability (Song, 2020), the findings suggest that the absence of clear layout guidance can lead to inefficiencies, increased material wastage, and reduced user satisfaction. This underscores the importance of incorporating user-oriented design principles into batik fabric layout development.

From a practical standpoint, the findings of this study offer valuable implications for batik producers, designers, and educators. By highlighting users' difficulties in interpreting fabric layouts, this research emphasizes the need for clearer layout structures, visual guidance, or standardized indicators that can assist users and tailors during garment construction. Such improvements have the potential to enhance usability, reduce fabric wastage, and improve overall garment outcomes while preserving the cultural integrity of batik designs. These insights are particularly relevant in the context of modern batik production, where traditional aesthetics must coexist with contemporary fashion demands (Sugiarto et al., 2023).

Overall, this study contributes to both theory and practice by addressing an underexplored research gap concerning user knowledge and experience with batik fabric layouts for women's clothing. By foregrounding non-industry users' perspectives, the research expands existing knowledge on traditional textiles beyond cultural and aesthetic considerations, offering empirical evidence that can inform future innovations in batik fabric layout design. The findings provide a foundation for further research on user-centered approaches in heritage textile development and support the advancement of more functional and user-friendly batik fabric layouts in the Malaysian fashion industry.

CONCLUSION

This study set out to examine non-industry users' knowledge, preferences, and experiences related to existing batik fabric layouts for women's clothing in Malaysia. The research objectives were achieved through a questionnaire survey involving 50 respondents, which provided empirical evidence on users' levels of understanding, garment preferences, and practical challenges encountered when using existing batik fabric layouts. Overall, the findings demonstrate that while users are familiar with batik as a traditional textile, they possess limited to moderate knowledge of fabric measurement, layout structure, and motif placement, which directly affects garment visualization and production outcomes.

In relation to the first research objective, the results revealed that non-industry users generally lack technical knowledge regarding existing batik fabric layouts, particularly in terms of section allocation, measurement suitability, and layout placement. Although respondents were able to recognize batik fabrics visually, their understanding of how layouts translate into garment components was limited. This finding highlights a gap between cultural appreciation and practical comprehension of batik fabric usage. The second research objective was addressed by examining users' experiences and preferences, which indicated

a stronger inclination toward modern garment styles such as baju kurung moden. Users' experiences further revealed recurring challenges, including motif cut-offs, fabric excess or shortage, and dissatisfaction with final garment outcomes, underscoring structural limitations in current batik fabric layout practices.

The findings of this study contribute to both theoretical and practical domains. From a theoretical perspective, the research expands existing literature on traditional textiles by incorporating a user-centered viewpoint, emphasizing fabric layout as a key component of user experience that has been underexplored in prior studies. From a practical standpoint, the results highlight the need for improved batik fabric layout designs that provide clearer guidance for garment construction, which may help reduce fabric wastage, improve motif placement, and enhance overall garment quality. These insights are particularly valuable for batik producers, designers, and educators seeking to balance cultural heritage with contemporary fashion and usability demands.

Despite these contributions, this study has several limitations. The sample size was relatively small and limited to non-industry users, which may restrict the generalizability of the findings to broader populations, including professional designers and tailors. Additionally, the study relied on self-reported data, which may be influenced by respondents' personal perceptions and experiences. The analysis was primarily descriptive in nature, focusing on mean scores and frequencies, without incorporating inferential statistical techniques.

Future research could address these limitations by involving larger and more diverse samples, including industry practitioners such as batik designers, producers, and tailors. Further studies may also explore comparative analyses between different batik fabric layout designs or investigate the effectiveness of alternative layout models through experimental or prototype-based approaches. In addition, qualitative methods such as interviews or observational studies could provide deeper insights into users' cognitive and practical interactions with batik fabric layouts. Such research would further strengthen the development of user-oriented and sustainable batik fabric layout practices.

In conclusion, this study provides empirical evidence on the importance of user knowledge and experience in understanding existing batik fabric layouts for women's clothing. By foregrounding non-industry users' perspectives, the research offers meaningful contributions to the advancement of more functional, user-friendly, and culturally responsive batik fabric layout designs within the Malaysian fashion industry.

ACKNOWLEDGEMENT

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