

A Survey of Public Preferences on Patterns of Terengganu Batik for Digital Exhibitions

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Received: 26 June 2025; Accepted: 31 August 2025; Published: 1 September 2025

ABSTRACT

Batik is one of Malaysia's most valued cultural heritages, yet public engagement particularly with regional variations such as Terengganu Batik remains limited. Despite its artistic significance, modern audiences often overlook its traditional value due to limited exposure, changing design preferences, and underutilisation of digital presentation methods. This study aimed to explore public preferences toward Terengganu Batik patterns and their potential to be showcased through digital exhibitions that incorporate interactive and immersive elements. A quantitative approach was adopted through an online questionnaire, distributed to Malaysian respondents aged 18 years old and above. The survey collected data on Batik familiarity, motif and color preferences, and interest in digital exhibition formats. A total of 121 valid responses were gathered, exceeding the recommended sample size based on Cohen's sample size table. Findings revealed that while most participants were familiar with Batik in general, fewer recognised the uniqueness of Terengganu Batik. Respondents preferred floral patterns and pastel tones and expressed strong interest in digital exhibition features such as storytelling, ambient sound, and interactive projections. The study concluded that aligning Batik design with public preferences and presenting it through immersive digital formats may enhance cultural appreciation and ensure its continued relevance.

Keywords: Terengganu Batik, Digital Exhibitions, Batik Pattern



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1 INTRODUCTION

Batik is a significant element of Malaysia's intangible cultural heritage, particularly in the eastern states such as Terengganu and Kelantan. Among the diverse styles of Malaysian Batik, Terengganu Batik is distinguished by its hand-drawn motifs, traditional craftsmanship, and symbolic patterns that reflect the cultural values and aesthetics of the Malay identity (Legino, 2018, Azman, 2020). Despite its historical and artistic value, Batik has faced a gradual decline in public attention due to shifts in consumer behavior, the influence of global fashion trends, and the rapid pace of digital lifestyle integration (Mohd Yusof & Ahmad, 2023, Samah & Khalid, 2019).

The decreasing engagement with traditional art forms, including Batik, poses a threat to cultural continuity. If this pattern continues, Malaysia may experience a weakening connection between its younger population and traditional heritage, which could eventually lead to the erosion of national

identity and loss of artisanal knowledge (Zubir, 2021). While traditional exhibition formats such as museums and craft showcases have attempted to sustain public interest, their reach and engagement remain limited, particularly among digital-native audiences (Rahman & Noor, 2022).

The integration of digital technology into cultural presentation such as through immersive exhibitions, motion design, and interactive experiences has been identified as a promising method to bridge the gap between tradition and contemporary media consumption (Ibrahim, 2021). However, the effectiveness of such initiatives depends on how well they align with public preferences, visual expectations, and cultural awareness.

Therefore, this study aimed to explore public preferences toward Terengganu Batik patterns and their suitability for presentation through digital exhibitions, with the goal of promoting cultural heritage through immersive design. The findings will contribute to the revitalisation of Terengganu Batik through audience-centered digital strategies that honor tradition while embracing innovation.

1.1 Research Objectives

The objective of this research was to identify the most recognised and preferred Terengganu Batik patterns among the general public.

1.2 Problem Statement

Although Batik had remained a key element of Malaysia's cultural identity, public engagement with it particularly among younger audiences had gradually declined. This decline was driven by several factors, including the influence of fast fashion, shifting aesthetic preferences, and a lack of meaningful exposure to Batik beyond formal or ceremonial contexts. As a result, Terengganu Batik, known for its hand-drawn motifs and traditional craftsmanship, faced diminished visibility despite its heritage value (Yusof, 2020, Azman, 2020).

This issue was the underutilisation of digital platforms for promoting Batik patterns. While technologies such as virtual galleries and immersive media had emerged globally, their use in Malaysian textile preservation remained limited and often lacked user-centered design (Ibrahim, 2021). Furthermore, public awareness of the diversity of Batik patterns, including regional differences, remained insufficient, creating a cultural disconnect between tradition and modern appreciation (Zubir, 2021).

If left unaddressed, these challenges risk the erosion of traditional knowledge, weakening of cultural identity, and the loss of potential for Batik to evolve through modern creative expression. Therefore, this study aimed to examine public preferences on Terengganu Batik patterns to support the development of more engaging and digitally immersive Batik exhibitions that honor cultural heritage while appealing to contemporary sensibilities.

2 LITERATURE REVIEW

2.1 Definition of Batik

Batik had long been regarded as an important form of traditional textile art across Southeast Asia, particularly in Indonesia and Malaysia, where it carried significant social, cultural, and symbolic meaning. In Malaysia, Batik was more than just a form of clothing, it represented artistic identity, spiritual expression, and community heritage (Legino, 2018, Zakaria & Aziz, 2020). The creation of Batik involved the use of wax-resist dyeing techniques, resulting in unique layered patterns that reflect natural elements such as flora, fauna, and landscapes. These designs often conveyed local stories, beliefs, and customs. Batik functioned historically not only as apparel but also as a tool of

storytelling and intergenerational cultural transmission (Abdul Latif & Ismail, 2021). However, as modernisation accelerated, the deeper meaning behind Batik diminished in public consciousness, especially among younger, urban populations (Zubir, 2021).

2.2 Types of Batik Patterns

The patterns found in Malaysian Batik had evolved significantly across regions, influenced by local materials, religious beliefs, and environmental surroundings. Terengganu Batik was widely recognised for its hand-drawn motifs featuring symmetrical, organic patterns, such as floral and marine themes, often created without the use of stamping tools (Azman, 2020). In contrast, Kelantan Batik frequently included more vibrant color palettes and incorporated modern printing methods to meet commercial demand (Ismail & Jusoh, 2019). The absence of anthropomorphic and zoomorphic elements in Terengganu Batik was largely guided by Islamic cultural values, further shaping its visual identity (Hamid & Omar, 2017). As noted by Haron (2020), while Batik had adapted to fashion and tourism markets, public understanding of its stylistic diversity remained limited. The distinction between regional Batik types was often overlooked by consumers, particularly those who lacked direct exposure to traditional crafting processes (Mohd Yusof & Ahmad, 2023).

2.3 Digital Exhibition

Digital exhibitions had gained attention in recent years as a method of cultural preservation that responded to changes in audience behavior and expectations. The use of technologies such as virtual reality (VR), augmented reality (AR), projection mapping, and motion tracking allowed institutions and artists to create engaging narratives around traditional art (Ibrahim, 2021, Noor & Shahrin, 2020). For example, immersive galleries enabled audiences to experience Batik patterns in multi-sensory formats that simulated texture, movement, and sound. According to Rahman and Noor (2022), digital platforms were particularly effective in attracting tech-savvy audiences who were less likely to attend conventional heritage events. However, the success of digital exhibitions depended on the extent to which they aligned with public preferences and provided meaningful interaction. Studies by Jamaludin (2019) emphasised that user-centered approaches in exhibition design had a positive impact on visitor engagement, especially when coupled with interactive storytelling. Despite growing experimentation with digital tools in the heritage sector, there remained a lack of research on how specific content such as Batik patterns should be selected or displayed based on audience preferences. This gap indicated the need for studies that investigated public perspectives to guide content curation in digital Batik exhibitions.

2.4 Batik in the Context of Digital Exhibitions

The application of digital exhibitions to Batik, however, remained underexplored. While some museums and craft initiatives introduced virtual galleries, few integrated interactive or immersive features such as audio design or floor-based motion interaction. Rahman and Noor (2022) emphasised that digital experiences must be both culturally authentic and technologically engaging to succeed. Without public-centered design, even visually rich exhibitions could fail to resonate with target audiences.

3 RESEARCH METHODOLOGY

3.1 Research Design

This study adopted a quantitative descriptive survey design to investigate public preferences regarding Terengganu Batik patterns in the context of digital exhibitions, suitable for gathering quantifiable data to identify trends, preferences, and relationships among variables within a specific population (Creswell & Creswell, 2018). The design enabled the collection of measurable and

comparable data from a broad sample, providing a clearer understanding of visual preferences, familiarity levels, and attitudes toward digital cultural presentations (Kumar, 2019). By using structured questionnaires, the study facilitated a systematic approach to data collection and analysis, aligning with the goals of exploring public engagement with cultural heritage in digital contexts.

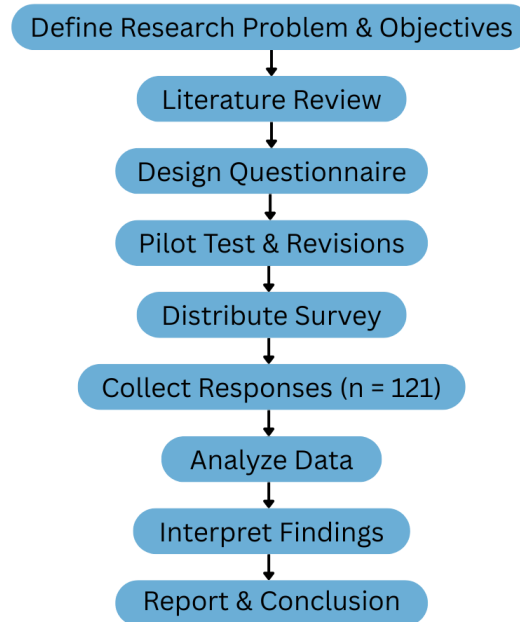


Figure 1 Research design flow

3.2 Instrument

The main instrument used in this study was a structured online questionnaire, designed in Google Forms to collect quantitative data efficiently from a broad respondent base. The questionnaire consisted of four sections: (1) demographic information, (2) exposure to Batik, (3) design preferences, and (4) preferences for digital exhibitions. It included both closed-ended and Likert-scale questions to ensure measurable and analyzable responses. Several items were measured using a 5-point Likert scale, which is commonly used in social science research to assess attitudes and levels of familiarity (Joshi, 2015).

The questionnaire was developed in both English and Bahasa Melayu to ensure clarity and inclusivity for Malaysian respondents. To enhance reliability and validity, the instrument underwent expert review by academic staff in the creative arts field, and a pilot test was conducted with 10 participants to evaluate clarity and technical functionality.

3.3 Sample Size Justification

The minimum sample size was determined using Cohen's sample size table for social science research. With a confidence level of 95%, power of 0.80, and a medium effect size, the recommended sample size for this type of descriptive survey was approximately 96 respondents. A total of 121 valid responses were successfully collected, exceeding the minimum threshold and enhancing the reliability of the findings.

3.4 Participants and Sample

Participants consisted of Malaysian citizens aged 18 years old and above, representing the digitally native and culturally active demographic. The study employed convenience sampling, whereby the questionnaire was distributed through social media platforms such as WhatsApp, Instagram, and X. A total of 121 responses were collected. This age group was selected because they were more likely to engage with digital cultural content and represent potential users of future digital exhibitions (Ibrahim, Jalil, & Nordin, 2021).

3.5 Data Analysis

Data collected from the questionnaire were analyzed using descriptive statistics, including frequency, percentage, and mean scores. The analysis was conducted using Microsoft Excel, which allowed the researcher to visualise trends and summarise public preferences effectively. Key variables included preferred Batik pattern types, style preferences (traditional vs. modern), color choices, and interest in digital presentation formats.

3.6 Ethical Considerations

Ethical considerations were observed throughout the study. Participation was entirely voluntary, and respondents were informed about the purpose of the research through a brief introduction on Google Form. No personal information was collected, and all responses remained anonymous and confidential. Participants were free to withdraw at any time without any consequence. The study complied with ethical guidelines for research involving human subjects set by the institution.

4 FINDINGS

4.1 Overview

This section presents the analysis of data collected from a total of 121 respondents, who completed a survey exploring their familiarity with Batik (especially Terengganu Batik), design preferences, color tone choices, and interest in digital Batik exhibitions. The minimum required sample size was determined using Cohen's sample size table for descriptive studies, with a 95% confidence level, 0.5 effect size, and power of 0.80, yielding a minimum recommendation of 96 respondents (Cohen, 1992). This study exceeded that threshold, improving the validity and reliability of the findings. The results are presented thematically, followed by tables, visuals, and relevant comparisons with prior research.

4.2 Familiarity with Batik and Terengganu Batik

Respondents rated their familiarity with Batik on a 5-point likert scale. The majority were moderately to highly familiar, with 35 respondents selecting "neutral," 30 choosing "familiar," and 26 choosing "very familiar." Only 10 respondents rated themselves as "not familiar." This indicated a general awareness of Batik, though further questions revealed lower familiarity with Terengganu-specific motifs.

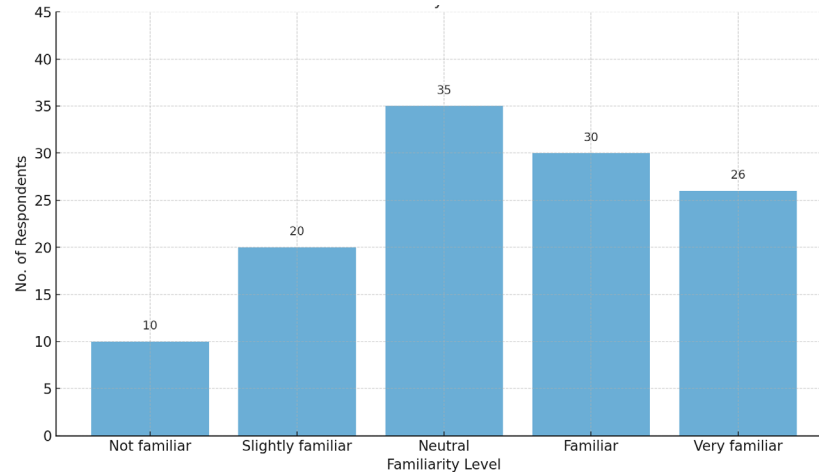


Figure 2 Familiarity with Batik

The present study revealed that while a significant majority of respondents were familiar with Malaysian Batik in general, their awareness of Terengganu Batik's unique characteristics such as hand-drawn motifs and regional identity was comparatively lower. This finding was consistent with the results of (Yusof, 2020), who examined the cultural awareness of traditional textiles among Malaysian youth. Their study indicated that although Batik is widely recognised as a symbol of Malaysian culture, public understanding of regional distinctions, especially those of Terengganu and Kelantan remains limited among younger demographics. This lack of differentiation may stem from the way Batik is commercialised and taught in mainstream education, where detailed exposure to regional heritage is minimal.

Similarly, (Azman, 2020) noted that the absence of cultural storytelling in Batik marketing and exhibitions contributes to a general lack of public knowledge. Therefore, the findings of this current study reinforced the need to enhance public education regarding specific styles such as Terengganu Batik, particularly through more interactive and engaging digital formats.

4.3 Pattern Preferences

When asked about preferred Batik motifs, respondents showed a strong preference for floral patterns (50), followed by mixed styles (26), geometric (25), and abstract (20). These results suggest that traditional natural motifs still resonate with modern audiences.

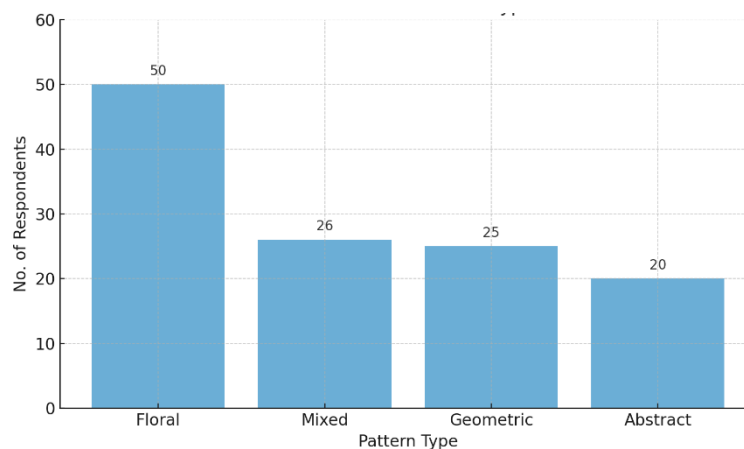


Figure 3 Preferred Batik Pattern Types

Respondents in this study favored floral patterns, followed by geometric and abstract motifs, with a strong preference for pastel and soft color tones. This preference is mirrored in the work of (Mazlan, 2019), who found that younger audiences tend to gravitate toward traditional floral motifs when they are presented in visually calming color schemes, as these are perceived as more wearable and aesthetically versatile.

4.4 Color Preferences

Respondents selected pastel tones (60) as their highest color preference, followed by bright tones (40) and earthy tones (21). The inclination toward softer tones suggests a modern aesthetic sensibility that values subtle and wearable color schemes.

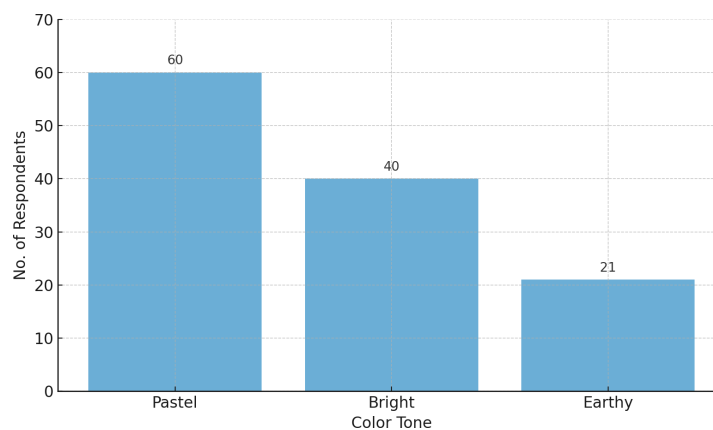


Figure 4 Preferred Batik Color Tones

In contrast, studies such as (Zulkifli & Mamat, 2018) found that commercial designers often use bold and vibrant Batik colors to appeal to tourists, creating a mismatch between what designers promote and what the local public actually prefers. The findings help bridge this knowledge gap by emphasising that contemporary audiences still value tradition but prefer it to be styled in a more modern, subtle aesthetic.

4.5 Interest in Digital Batik Exhibitions

Respondents showed strong interest in digital Batik exhibitions, with 51 choosing “very interested” and 35 selecting “interested.” Only 5 participants indicated no interest. Respondents found interactive features such as floor projections, ambient sound, and storytelling particularly appealing.

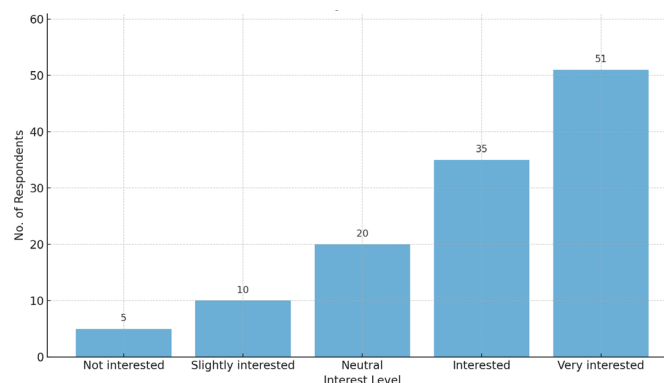


Figure 5 Interest in Digital Batik Exhibitions

A key finding of your study was the high level of interest shown in immersive digital Batik exhibitions. Respondents expressed strong enthusiasm for features such as interactive floor projection, sound design, storytelling, and virtual tours. These preferences align with the research of (Abdullah, 2022), who studied visitor behavior in virtual museum experiences. They concluded that immersive digital tools significantly enhanced emotional engagement and information retention, particularly among younger visitors aged 18–30.

Similarly, (Ibrahim, 2021) highlighted the role of interactive technology such as motion tracking and multimedia storytelling in making intangible heritage more accessible and relatable to modern audiences. This supports the notion that your project, which integrates projection mapping, immersive room experiences, and audio design, is well-aligned with current best practices in digital heritage presentation.

4.6 Platform Preferences

When asked how they preferred to experience Batik exhibitions, most respondents favored physical exhibitions enhanced with digital features, followed by hybrid exhibitions (both online and offline). Fully virtual formats were the least favored.

Table 1 Preferred Exhibition Format

Exhibition Type	General Preference
Physical & Digital Features	Highest
Hybrid (Physical & Online)	High
Fully Virtual (Online Only)	Lowest

Participants largely preferred physical exhibitions that incorporate digital features, followed by hybrid exhibitions that blend physical and online experiences. This is consistent with (Rashid & Wahid, 2021), who explored exhibition preferences among Malaysian museum visitors and found that fully virtual exhibitions lacked the tactile and social aspects of physical spaces, which many respondents still valued.

Their study emphasised that hybrid formats are more effective at balancing cultural authenticity with technological innovation. Your findings further confirm this by showing that respondents view digital tools as enhancements, not replacements, for the traditional gallery setting.

5 DISCUSSION

The findings of this study offered valuable insight into public preferences regarding Terengganu Batik patterns and their suitability for digital exhibition. While overall familiarity with Batik was relatively high, the survey revealed that respondents' knowledge of Terengganu specific motifs remained limited. This gap in regional familiarity was likely due to the lack of representation of Terengganu Batik in national media, formal education, and cultural campaigns, which often highlight Batik as a general national symbol rather than emphasising its regional distinctions (Zubir et al., 2021). Additionally, many commercial Batik products use simplified or hybrid patterns, further diluting public recognition of traditional hand-drawn styles unique to Terengganu (Azman et al., 2020).

The data also showed a strong preference for floral motifs and pastel tones, aligning with the findings of (Ismail & Jusoh, 2019), who noted that modern audiences are drawn to soft, nature-inspired designs that are both traditional and adaptable to contemporary fashion and digital displays. This suggests that while traditional aesthetics remain important, they must be presented in a way that resonates visually with current trends.

Public interest in digital Batik exhibitions was also significantly high, especially for features like interactive projection, soundscapes, and narrative immersion. This finding supports (Ibrahim et al., 2021), who asserted that digital heritage experiences improve user engagement and cultural appreciation, particularly among younger or tech-savvy audiences. Notably, respondents preferred physical exhibitions with digital enhancement over fully virtual formats. This echoed (Rahman & Noor, 2022), who emphasised that digital tools should complement, not replace, the sensory richness of physical heritage experiences.

Overall, the results confirmed that cultural appreciation can be enhanced when digital exhibition formats are designed with public preference in mind, integrating both traditional content and immersive technologies. These findings can guide cultural institutions, curators, and designers in developing meaningful Batik experiences that support both education and preservation goals.

6 CONCLUSION

In conclusion, this study provided valuable insights into public preferences for Terengganu Batik patterns and their potential presentation through digital exhibitions. The results showed that while Batik is generally well-known, specific regional styles like Terengganu Batik require greater public exposure and interpretation. Participants favored traditional floral motifs and pastel tones, highlighting the importance of maintaining cultural integrity while adapting to modern aesthetic expectations. The high level of interest in immersive and interactive exhibition formats indicated strong public support for incorporating technology into heritage promotion, particularly when used to enhance physical gallery experiences.

The study demonstrated that user-centered design and immersive digital integration are promising strategies for promoting Batik in the digital age. These findings could support stakeholders in museum design, cultural programming, and digital media in making Batik exhibitions more inclusive, interactive, and engaging particularly for young Malaysians. Future research may expand by including a more diverse age group or exploring in-depth qualitative feedback on interactive exhibition prototypes.

ACKNOWLEDGMENT

I am grateful to the Research Ethics Evaluation Committee of the College of Creative Arts Studies at MARA University of Technology (UITM) for permitting me to conduct this study (Number Research: CCA/SRGK/2025 (MR04)). Furthermore, I would like to extend my thanks to Prof. Madya Dr. Sharkawi Che Din for his valuable knowledge and support, as well as for being my supervisor throughout this journey. Additionally, I also wish to convey my heartfelt appreciation to my family and friends for their unwavering support and encouragement throughout this journey.

FUNDING

This research is self-funded.

AUTHOR CONTRIBUTIONS

All authors played equal contributions towards the production of this paper.

CONFLICT OF INTEREST

There is no conflict of interest.

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