

**Batik Pattern Design and Development Inspired by Flowers in The Story of Phra Abhai Mani, Thai Literature**

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**Abstract**

The objective of this research was to design batik patterns using the shapes of flowers in The Story of Phra Abhai Mani, Thai Literature as an inspiration and develop them to batik products utilizing fund from the Research and Development Institute, Phuket Rajabhat University, Phuket province, Thailand. Since batik clothes are famous products from Southern Thailand especially, in Phuket and provinces along the Andaman coastline; therefore, at present, competition in the batik market is very high on both pattern and design. This study was a cultural renaissance through the design of batik pattern corresponding to the four-year-term government policy on promotion, preservation, and advancement of Thai arts and culture in all aspects including local Thai arts, culture, and wisdom. Prototype design principles involved data collection of documents and fieldworks for present-day batik patterns used in Thailand. Shapes of Thai flowers appeared in The Story of Phra Abhai Mani, Thai Literature were examined. Twenty types of flowers were selected according to their distinctive size and form. Pattern design theory employed blossom in front and side of the flowers, buds, and leaves. Three patterns: plain, specific, and edge reviewed by pattern designing experts and batik manufacturers were developed for batik home textile prototypes, then were used in satisfaction assessment of the target group comprising 400 Thai and foreign tourists. Findings from the valuation indicated that 60 appropriate patterns could be applied on the batik products. The producers of batik products could utilize those patterns to further for new designs. This promoted creativity in design by using Thai arts and culture. The results from target group's satisfaction assessment also revealed very high satisfaction on the patterns and product prototypes. Especially for foreigners, they were interested in the researcher's application of natural colors in the batik products instead of chemical colors. In addition, the researcher innovated patterns which obtained from this study on fabric products for apparels by using digital printing technique as well.

**Keywords:** pattern, motif, batik, flowers in Thai literature

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## **Introduction**

There is no definite evidence for the origins of making batik. Batik is a Javanese word meaning a “resist” process for making designs on fabric. Wax is used in this process to prevent dye from penetrating the cloth and leave “blank” areas in the dyed fabric. This was-resist process followed by dyeing can be repeated over and over to create complex multicolored designs (Wichai Lilawitwong, 1998). Batik techniques are very famous in Pulau Jawa, Indonesia, and have spread to Malaysia and onto southern Thailand. At present, batik is a famous product in the south of Thailand, especially in Phuket. The batik has been used in various popular products, such as handkerchiefs, scarves, garments, etc. These products can create value and income for entrepreneurs who work with batik.

The development of batik products in the South has been continuously developed and supported by businesses, so the current batik market is very competitive with regard to both products and patterns. Batik in the South is made up of natural patterns which refer to tropical climate, fish, dolphins, palm trees and flowers incorporated into lavish scenes or geometric shapes. However, other design concepts, such as Thai wisdom, are not applied in patterns for example; flowers in Thai literature.

Thai literature is made up of valuable literary works, in which the natural beauty that influenced the author of the novel is represented. One of them is Phra Aphai Mani, a poem written by Thailand's national poet, Sunthorn Phu, also known as "the Bard of Rattanakosin". It is considered to be one of Thailand's national epics and contains many mythical creatures and the supranatural Kusumal Sutthilaor (2003).

Therefore, the researcher recognized the development of batik patterns as interesting, using Phra Aphai Mani as an inspiration to create Thai-style batik patterns. This is in line with the four-year government policy regarding promotion and preservation of Thai culture, including local arts and Thai wisdom. To make progress, research reconstruction and development along with restoration of cultural resources has been carried out. Learning among the people can be further developed by promoting knowledge of local fabric design as well as creative and innovative entrepreneurship. The National Economic and Social Development Plan No. 11 (2012-2016), 2011, 75) can also be used as a guideline for entrepreneurs to develop batik patterns and products.

## **Objectives:**

The study aimed to:

1. Study flower patterns in a piece of Thai literature, namely Phra Aphai Mani.
2. Design and develop patterns of batik using inspiration from the flowers in a piece of Thai literature, namely Phra Aphai Mani.
3. Design and develop products of batik that are inspired by the flowers in a piece of Thai literature, namely Phra Aphai Mani.
4. Evaluate consumer satisfaction with batik products designed and developed using inspiration from the flowers in a piece of Thai literature, namely Phra Aphai Mani.

## **Expected Results**

1. The design of products with Thai identity can be integrated into a course which follows the lesson plans of Product Design, at the Faculty of Science and Technology, Phuket Rajabhat University.
2. Batik business operators can continue to develop patterns as commercial products.
3. Creativity in design can be promoted by using the arts and culture of the Thai nation.
4. Increased knowledge of the design of batik patterns by using inspiration from the flowers in a piece of Thai literature, namely Phra Aphai Mani.
5. Increased value of batik products for community enterprises, small and medium enterprises

## **Research Methods and Results**

In the research on the design and development of batik patterns by using inspiration from the flowers in a piece of Thai literature, namely Phra Aphai Mani, the researcher conducted the following.

1. Data collection
2. Population and sample selection
3. Utilization of research tools
4. Data organization and analysis

### **Data collection**

The design and development of batik patterns was carried out by using inspiration from the flowers in a piece of Thai literature, namely Phra Aphai Mani. The researcher aimed to understand the basic information and to study concepts, theories and relevant research papers, including information from media sources, as a guideline for framing research ideas. The main topics are as follows: 1.) Pattern design principles, 2.) The importance of batik, 3.) Flowers in Thai Literature: Phra Aphai Mani, and 4.) Related Research.

Pattern design consists of creativity, composition, and art, which is consistent with the evolution of clothing, including cultural influences on clothes. However, a design pattern is derived from the basic design based on the layout, which is consistent with lines in various directions, such as strip patterns, and horizontal, zigzag or oblique lines. The type of sheet or pattern space is based on how the pattern is joined together to fill the space; most of them are usually divided into geometric shapes and stripes. In addition to the type of pattern, the designer must also consider the concepts used to convey the story of each pattern.

Thai pattern design is usually found in Thai fabrics or architectural patterns in the temple. The pattern is made from natural flowers from different foliage, such as lotus, jasmine flowers, java cassia, pudtan flowers, etc. These are fortunate flowers. (Patipat Daradad. 1996, p. 147).

The process of creating designs for a fabric pattern is similar to that of a typical pattern. Thinking structure and physical structure are merged. In other words, textile design fulfills a variety of purposes in our lives. On the other hand, each textile creation must be different and beautiful as well. This part of the research is regarding the design of a batik pattern for the production of textile products. Therefore, the researcher has reviewed the literature and analyzed the data on the batik pattern for this purpose.

The design of the batik pattern was originally influenced by the Malaysians and Indonesians, with patterns incorporating items such as flowers, leaves and animals. Later, the pattern was developed using identity and

belief. Tradition and culture helped to create a pattern on the fabric. Today, batik products in the South are popular with tourists. The most popular designs sold in each province generally reflect their tropical climate, with fish, dolphins, palm trees and flowers incorporated into lavish scenes which are colorful and extremely eye-catching, and serve as perfect souvenirs from Thailand. The researchers surveyed patterns and batik products from the Kiriwong village, Nakhon Si Thammarat, and from communities in Koh Lon, Phuket. Both are eco-friendly tourist destinations. Kiriwong village products have been designed from local native plants, such as fern leaves and flower leaves, and mixed patterns of geometric shapes and natural patterns. Cotton and muslin linen are the mainstay and natural extracts are used. Popular batik products include fabric, shirts, pants, handbags and hats. Communities in Koh Lon focus on products for tourists. The most popular pattern is one of octopuses, produced by using candle printing techniques and wooden templates on T-shirts. Cotton and muslin are also used in the production of batik products.

## **Population and sample selection**

### **Population**

The population consisted of Thai and foreign tourists who visited Phuket. According to official figures, the averaged over five months (Jan 59 - May 59), was 1,268,989.2 (Tourism Department, 2559).

### **Sample**

The sample consisted of Thai and foreign tourists who come to Phuket. According to official figures, the averaged over five months (Jan 59 - May 59), was 1,268,989.2 (Tourism Department, 2559). Yamane sample size, at 95% reliability and a sample size of  $\pm 5\%$ , was equal to 400; it was sampled by using accidental sampling at batik outlets in Phuket, at a rate of 100 people per week. Therefore, it took four weeks in total to complete the sampling.

### **Research Instruments**

The research instruments were an interview form, draft assessment, and satisfaction assessment.

1. The interview form is a guideline for interviewing those who have knowledge and experience related to flowers in Thai literature and ancient trees, and people who are skilled in drawing batik patterns. It was used to analyze the design of batik by using inspiration from the flowers in a piece of Thai literature, namely Phra Aphai Mani. There are three sets of the interview form.
2. The draft assessment was used to assess the suitability of creating Batik patterns by using inspiration from the flowers in a piece of Thai literature, namely Phra Aphai Mani. The suitability was reviewed by experts who are knowledgeable about the flowers in that piece of Thai literature. There are three sets of the draft assessment.
3. The satisfaction assessment was used to assess consumer satisfaction with batik patterns designed by using inspiration from the flowers in a piece of Thai literature, namely Phra Aphai Mani. There are 400 sets of the satisfaction assessment.

## **Scrutinization and Analysis of Data**

When scrutinizing the data, the researcher divided the information from the interviews into topics based on the research objectives and the research framework.

In the data analysis, interview forms and satisfaction assessments were analyzed. The researcher used the information from the interviews to study purpose and scope by facilitating the following.

- Flower patterns in a piece of Thai literature, namely Phra Aphai Mani, were analyzed by interviewing those who have knowledge and experience related to flowers in Thai literature or batik painting. This relates to the purpose of the research in that it produces descriptive information.

- The design of patterns was analyzed by means of secondary and primary data analysis.

- Batik patterns produced using flower patterns from a piece of Thai literature, namely Phra Aphai Mani, were assessed by people who are experienced with and knowledgeable about flowers in Thai literature, and experts in batik product design. The resulting data was analyzed. The results of the draft design patterns, as judged by experts with knowledge of flowers in Thai literature and batik design experts, were analyzed to obtain a set of patterns that can be used in the design of batik products and is actually one set of 20 patterns.

- A draft for batik patterns using flower patterns from a piece of Thai literature, namely Phra Aphai Mani, was analyzed. A set of home textile products consisting of two cushions and a curtain was used in assessing consumer satisfaction.

- The researcher assessed the satisfaction and summarized the results. Consumer satisfaction with batik patterns using flower patterns from a piece of Thai literature, namely Phra Aphai Mani, was analyzed. Both Thai and foreign tourists visiting Phuket were asked about their satisfaction. The results of the data analysis are as follows.

### **1. Study of the flower patterns in a piece of Thai literature: Phra Aphai Mani.**

In the study of the pattern of Thai flowers in a piece of Thai literature, namely Phra Aphai Mani, it was found that researchers have summarized 20 species of flower according to shape and structure. The species consist of roses, snowy orchid tree, white popinac, white champak, champak, water lily, butterfly lily, bullet wood, cape jasmine, jasmine, angel-hair jasmine, carambola, damask rose, magnolia coco, crown flower, temple flower, blue necklace, desmos, flame tree and philippine violet were used as 20 patterns. Batik techniques can be applied in producing the design patterns, which are divided into three types: basic pattern, specific pattern, and striped pattern.

### **2. Design and development of batik patterns by using inspiration from the flowers in a piece of Thai literature: Phra Aphai Mani.**

Researchers have designed batik patterns based on the design patterns. Using the bind method – which is defined as an element pattern consisting of natural shapes and patterns produced by the bind method – defines the direction which makes it relevant. We designed a pattern category appropriate for application of batik techniques, which is divided into three categories: basic pattern, specific pattern, and striped pattern which can be used to create 60 new patterns from 20 different flowers. Five experts in textile design, batik products, and batik weaving assessed the products and summarized the results according to the type of pattern.

In the evaluation of the base pattern, it was found that blue necklace had the best value. Its mean is 4.48. The second best was desmos pattern; its average value of 4.28 means it is regarded as very good. The third best was the pattern of damask rose and the pattern of the carambola; it had an average value of 4.16, which is very appropriate. The crown flower patterns had the average of 4.04 it was very good. And white popinac patterns had the average of 3.96.

In the evaluation of specific patterns, it was found that the best pattern was the crown flower patterns had the average of 4.36. The second best were blue necklace and philippine violet had the average of 4.28 it is regarded as very good. The third best specific patterns were the desmos and Leelawadee had an average of 4.20, which means they are regarded as very appropriate. The fourth best specific were angel-hair jasmine and butterfly lily had the average of 4.12. And jasmine had the average of 4.08 which means very good, respectively.

In the evaluation of striped pattern, it was found that the damask rose pattern was the best pattern; it had the average of 4.76, which means it is most appropriate. The second best were desmos and angel-hair jasmine; it had the average of 4.64, which means it is appropriate. The third best was the magnolia coco; it had a mean of 4.56, which is regarded as high value. The fourth best was flame tree pattern, which had an average of 4.48, followed by the crown flower pattern with a mean of 4.40, both of which are regarded as very good.

In the evaluation of all three categories of pattern, it was found that the most suitable pattern was striped pattern; damask rose pattern. This research will lead to the development of batik products. For all three types of design, the overall averages are very good, fair and most appropriate, respectively. The patterns can be applied in all batik products. In addition, the 60 motifs created can also be added to the pattern elements by using dots, lines, and colors in batik techniques to make the pattern more complete and more attractive.

### **3. Design and development of batik products by using inspiration from the flowers in a piece of Thai literature: Phra Aphai Mani.**

We studied the flowers in a piece of Thai literature: Phra Aphai Mani. Then, we took approximately 20 kinds of Thai flower bouquet patterns from Thai literature and assessed their suitability. The beauty of the patterns used in the design and development of batik products made them more attractive. The evaluation of the striped pattern showed that the most appropriate for use in developing a batik product is damask rose pattern. The purpose was to design a batik pattern using inspiration from the flowers in a piece of Thai literature, namely Phra Aphai Mani, and try to produce a textile product set consisting of two cushions and a curtain, which could be used to assess consumer satisfaction. Therefore, the researcher determined the appropriate size as follows (Suparerk Thongprayoon, 2542, 18). The cushion cover should have a width of 18 inches and a length of 18 inches, and the size of the finished curtain, which can be used for a general window, should have a width of 140 centimeters and a length of 150 cm, as shown below.



**Picture 1 Cushion Design Guidelines**

**Source: Chanathinat Chaiyapoo (2017)**



**Picture 2 Curtain Design Guidelines**

**Source: Chanathinat Chaiyapoo (2017)**

#### **4. Assessment of consumer satisfaction with batik products which were designed by using inspiration from the flowers in a piece of Thai literature: Phra Aphai Mani**

The researcher used the sample to evaluate satisfaction with the prototype among Thai and foreign tourists who visited Phuket. A random sample of 400 people was taken at a tourist attraction with a batik shop, in Phuket. The results can be summarized as follows. With regard to the demographic data and basic information of the respondents, 61.5% of the respondents were female and 38.5% were male. The survey of previous usage of batik products found that the highest proportion of the sample (71.75%) sometimes used batik products, 23.75% never used them, and 4.5% used them regularly. Next, information on which batik products were most popular among consumers was analyzed. The most popular type of batik product was costumes (60.75%), followed by souvenirs (21.75%) and home furnishings (17.5%). Most of the consumers (98.75%) thought that batik products should be developed.

Analysis of consumer satisfaction with the batik product prototype showed us that using natural blueprints on batik products is appropriate. The consumers had the highest satisfaction with this aspect; the average value was 4.29, which means very satisfied. The next highest satisfaction was with the beautiful pattern on the model, with an average score of 4.09. Overall satisfaction with the prototype product was 4.07. The model of the prototype product was regarded as beautiful, with an average satisfaction with its beauty of 4.06. With regard to benefits of the prototype product, the average was 4.00, which means very satisfied. The product was regarded as durable; satisfaction with the product's durability averaged 3.90 which is very satisfied. The patterns was regarded as a product of batik had the average of 3.85 which means very satisfied.

#### **Conclusion**

This research aimed to study the use of the flower patterns in a piece of Thai literature, namely Phra Aphai Mani, as inspiration; the concept of batik design and its development; and assessment of consumer satisfaction with the batik patterns and products that were produced through the above design process.

For the pre-design analysis, researchers analyzed the structure of each flower, based on interviews with flower design experts and flower experts. The design of the motif was based on the frontal bloom. Side flowers boosted and enhanced the design of the pattern by adding shapes of leaves. In order to complete the motifs of each type of flower, all motifs were then used to design patterns, which are classified according to the theory and design principles of the three types of pattern. They are base pattern, specific pattern and striped pattern, which were evaluated by experts in the design of patterns. The total number of batik products designed was five, and the evaluation results of the 60 patterns were classified as very high, medium and high, respectively. These results can be used in the design batik products. Additionally, more batik pattern designers can design or decorate miniature designs in addition to their own patterned designs.

From analyzing the data on each of the topics in the consumer satisfaction assessment on the batik product prototype, it was found that most consumers, especially foreigners, were interested in using batik products dyed with natural indigo instead of chemical dyes. However, there are also important issues with natural dyed, it could make some distorted color on batik. On the other hand, The popular product of batik are shirts, pants,

skirts, shawls, scarves, hats, bags, etc. Phuket is the famous province of batik. It may also be the future development of non-chemical batik products.

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