

# The 2nd Conference on Management, Business, Innovation, Education, and Social Science (CoMBInES) Taichung, Taiwan 3-6 March, 2022

## BATIK MOTIF DESIGN WITH CHARACTERISTICS TIONGHOA CULTURE USING VECTOR ART TECNIQUE

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### ABSTRACT

Batik motif is a work of art from traditional time till now, one example of tradition batik motif which is the Tionghoa cultural. See from our techonology now, can design by using one of the technology drawings aplication system. In this case study, the purpose was to design batik motifs in Tionghoa cultural by using a drawing application system, which is Adobe Illustrator CS6 and use vector art techniques. This research uses the R&D method where at this stage the design will be designed, validated, revised, and product tested. The final result will be a photo in the form of a JPEG or PNG that has been designed in the application.

**Keyword:** Batik motif, Tionghoa cultural, design, vector art, Adobe Illustrator CS6

### INTRODUCTION

From time to time, art is born in various forms of motifs. Art is a picture that shows the aesthetics of Indonesian culture. One of them is the art of batik. Batik or *ambhatik*, comes from the Javanese word “*ambha*” and “*dot*” which means width and point. In general knowledge, batik is a work of traditional painting that combines or depicts dots into a line which in the end forms a picture of motif. The basic of make batik is by using with canting tools, like a candle or people used to call “*night*” dipped into the canting container.

The history of batik which is start from a Mataram kingdom, and expanded to Indonesia (Trixie et al., 2020). Early batik motifs were made with several kinds of motifs or patterns created by each culture, one of which was Chinese culture. According to history, the appearance of batik motifs in Chinese culture is recorded in the history of the origins of Cirebon kingdom in 1490 years that is also at that time, Admiral Cheng Ho was on mission to spread Islam in

Southeast Asia. The initial arrival of Admiral Cheng Ho to Cirebon was only to find the material that need for the ship that led by him. To find material took a long time so that he decided to spread Islam lesson to the people of Cirebon and at the end a friendship emerged between Admiral and people of Cirebon, namely gifts in the form of jars and plates containing the word monotheism with the core of learning Islamic religion (Rizky, 2019). At that time, Cirebon was known as a place for transactions between trade to exchange with the economy.

Cirebon is also famous for its batik production where the batik depicts the story of the journey of meeting Admiral Cheng Ho in Cirebon (Komunikasi & Wimba, 2020). The origin of Chinese batik is in the Cirebon kingdom which has the impression of Chinese culture. The arrival of Admiral Cheng Ho is one of the history of the creation of Chinese batik which symbolizes the pink bird or phoenix motif (Rizky, 2019).

Over time, batik has grown to be wider and has been used in various functions, starting with the existence of the old cloth into a batik-

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patterned garment, doors that are carved in accordance with various cultural decorations, objects that have motifs on them. or batik patterns to be resold as souvenirs. Even through technology that continues to develop, batik can also be done using drawing techniques using a special software system for designing vector art.

Multimedia is divided into two words, namely multi and media which is a means of communication in delivering information by combining text, images, sound, animation, audio, and video into a medium through a computer. Multimedia is a combination of several elements in the form of text, images, sound, animation, audio, and video with a computer or manipulated digitally and can be delivered interactively (Arnada & Putra, 2018)

In the delivery of information, there are several media used, such as in print media in newspapers or magazines, news media, learning media, and others. Submission of information can be in the form of text or images which are referred to as interactive multimedia used as learning media. Can also access by link to a link called hyperactive multimedia. Linear multimedia includes video, text or audio elements.

Multimedia can be found anywhere. It can be on the internet with a website full of pictures or text, access to search for book information, watch videos or films, and can also be used as a tool and material when presenting a particular project.

Graphic design is a form of visual communication that uses text or images to convey information or messages (Gunawan et al., 2021). One of the graphic designs is vector graphic design. Vector art is a graphic design consisting of a line or curve and combined into a particular image or object. The result of a vector art in the form of a depiction of an image or photo as a reference material and at the end the image is created into a design as expected.

Adobe Illustrator is an application for designing graphics specifically in digital illustration graphic design. Adobe Illustrator is a vector-based image processing software (Wijaya, 2016). In graphic design, it can be in the form of logo designs, digital illustrations, product packaging, and others. Adobe Illustrator

has a lot of icons, including text, shapes, coloring, and more. In addition, it can also output the results of graphic designs into photo formats in the form of *JPEG* or *PNG*.

Based on the background explanation above, the author plans to design batik motif art using vector art techniques with elements of Chinese culture where the results of the motif design can be used and used in daily life by containing aesthetic elements of Chinese decoration with the title "Batik Motif Design with Characteristics Tionghoa Culture Using Vector Art Tecnique".

## PROPOSED INNOVATION

The innovation of this project is do some design motif batik by using application draw in computer. Before start draw, first to do is doing some research in local area, which is at Batam area. The target audience is the specially to Chinese people community by introducing batik motifs. In this study, the researcher used the Adobe Illustrator CS6 application using the R&D (Research and Method) method, starting from data search, product design, validation, improvement and finally product testing. The design will use vector art technique different from old tradition. After that, the result design will be post on internet which is can upload at one of the Website that can upload photo and many people can see it.

## METHODS

The R&D method or called Research and Development is one of the research methods used to produce certain products and test their effectiveness (Sugiyono, 2013).

In this research, the methods that will be use are R&D methods (*Research and Development*) which is divided into six categories such as potential and problems, data gather, design product, design validation I, fix design, design validation II, and finally test product. The following explanation of each categories:

### 1. Potential and Problems

In terms of potential and problems, it can be explained the emergence of a problem that appears in the research and a potential that can be used to complete the research. According to

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Sugiyono, potential is anything that arises if it can be used as added value. In these researchers, it can be seen that the average batik user still does not know the existence of the origin of batik in each culture. With today's technological advances, there are applications that specifically design motifs with a technique called vector art. In the problems obtained, in the form of problems arising in the middle of a road, can occur in the search for references in the community in the use of batik motifs. Search references can also be in other people's research or documentation of reports related to this research. In this stage, the potential that get in this research is being able to design batik motifs using computer devices that have been provided by using a drawing application on a computer. The problem is that they don't have an idea what to design for batik motifs, especially in Chinese culture.

## 2. Data Gather

In this stage, seek and collect data related to the research. The data can be in the form of articles or supporting journals that can be used as reference material. Data gather can also look for some batik motifs as ideas that will be made. In collecting data, it can also be in the form of observing where the available batik motifs are. The reason for collecting data so that at the stage of doing the design the author can design batik motifs is related to this research.

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The data collection stage is divided into two stages, such as:

### a. Observation step

In this stage, the author can observe observations directly to the place to find the data information needed in making the research report.

### b. Material step

In addition to observation, the author can also look for some references that can be

found on the internet. Examples of references that can be searched are examples of Chinese batik motif designs, symbols used and colors.

## 3. Design Product

At this stage begins designing batik motifs using a software application, namely *Adobe Illustrator CS6* using vector art techniques. The design starts from the shape of the paper size used, the tools used are available in the application, using coloring and using duplication techniques to form a pattern.

The following is an initial view of the Adobe Illustrator CS6 application and the tools used:

### 1. *Adobe Illustrator CS6*

In this researcher, the author uses the Adobe Illustrator CS6 application to draw batik motif designs with vector art techniques. This application is very suitable for designing vector art. For the paper format, use the landscape side with a paper size of 600 x 400 pixels. After this, the result will be as shown below. You can see the appearance of Adobe Illustrator CS6 with the display of the tools box placed on the left side with different functions, the artboard area with a predetermined size as a place to draw objects and above there is a menu bar with different commands

**Figure 1.** *Adobe Illustrator CS6*



### 2. *Pen Tool*

The author uses one of the tools as a tool, namely the pen tool. Here the author can create an object independent of one by connecting line to line by connecting point to point. The author uses the pen tool to draw line to line by

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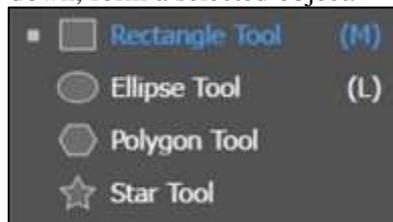
clicking per stage so that an object is formed that you want to draw.



**Figure 2.** Pen tool

### 3. *Shape tool*

In Adobe Illustrator CS6, Shape tools have several objects that are already provided in the system, there are rectangles, ellipses, polygons, and stars. To design the batik motif that has been thought out, the author uses the shape tool as an additional object. The shape tools used in the batik motif design are the rectangle tool and the ellipse tool. The rectangle tool makes objects in the form of squares or rectangles freely, while the ellipse tool forms a round or round circle. To create an object by selecting a shape and clicking on the artboard and holding the cursor down, form a selected object.



**Figure 3.** Shape tool

### 4. *Pencil tool*

The author uses the pencil tool to draw objects manually like normal drawing freely. In the design of batik motifs, the author uses the pencil tool to draw objects freely without using other tools.



**Figure 4.** Pencil tool

### 5. *Color*

In the design of batik motifs, the author of course uses color to color the objects that have been made. For the color part, the author uses bright colors that match the Chinese batik motif on the closed object. For lines such as outlines use color in the second part.



**Figure 5.** Color

### 4. Design Validation I

After doing the design, the results will be validated and assessed whether the design is feasible to be displayed or used. At this stage, you can find out whether there are advantages or disadvantages, the effectiveness of batik motifs lasts a long time or not. Design validation can be done by collecting the designed results to experts who are experienced in the design field to assess the design. When validated, the researcher can make revisions or improvements to the design.

At the validation stage, the author shows the design results to the supervisor in the design field to determine the feasibility and suitability for using the design results that have been seen as research material. In validation, it will be very useful as a supervisor in re-checking the design results that have been made by the author.

### 5. Fix Design

After design validation, the next step is to revise or improve the design where deficiencies will be corrected to become more perfect. Design improvements according to the validation that was informed, identify any weaknesses and try to eliminate errors made. Design fixes worked great before being shown live. This is done to show the seriousness of the researcher to this research and to maintain the aesthetics of *Tionghoa* cultural values.

In this step, after the supervisor re-checked, the results of the revision were in the form of doing several additional designs and in the design, more showed that the batik motif was more towards *Tionghoa* culture, one of which was by adding *Tionghoa* cultural symbols and colors to the batik motif design.

### 6. Design Validation II

After making revisions, the author designed three examples of Chinese cultural batik motif

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designs with different symbols and colors. After completion, the results will be re-evaluated by the supervisor. After being evaluated, the three design results can be used in the study.

## 7. Test Product

After making improvements to the design and then conducting product trials. In test product, it can be done by assessing the results of the design whether the results can attract the attention of the public and comparing the value and usefulness in its use. In the trial, researchers can distribute the design results on a website call *Shutterstock*.

In the test product, *Shutterstock* account users or internet users can search for the photo and can also download it for their respective functions, examples can be as room decoration posters, can be used as laptop wallpapers, or can also be used as reference material for others research. With these photos, print outs can also be produced to be used as packaging products or can be used as textures in designing a product.

## DESIGN

The following are the step by step in *adobe Illustrator CS6*.

1. First to design Chinese batik motifs, the author uses the Adobe Illustrator CS6 application. When you open the application, it appears as follows. This view the author can change the size of the paper format.



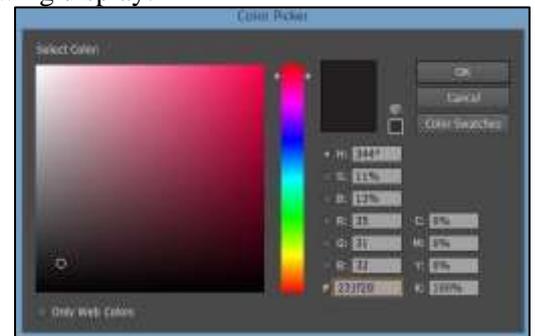
**Figure 6.** Interface *adobe Illustrator CS6*

2. To make a rectangular object, the author clicks and holds and presses shift hold on the keyboard while moving the mouse to the bottom side so that a rectangular object is formed as shown in the following image.



**Figure 7.** Shape rectangle

3. After that, scale the shape close the artboard and give color. The color given is black with the color code #231f20 given in the following display.



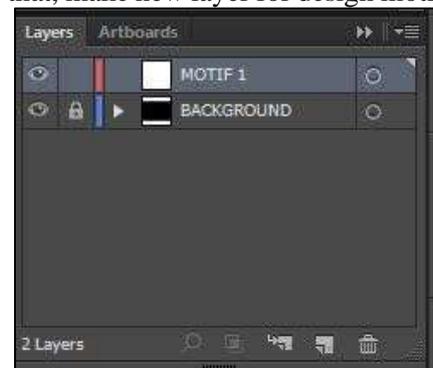
**Figure 8.** Color object

4. Then the result become like this.



**Figure 9.** Result color object

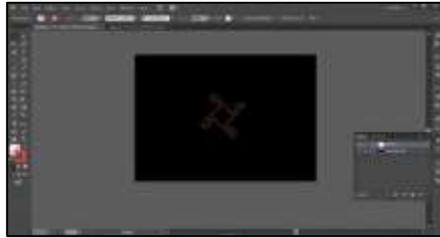
5. After that, make new layer for design motif.



**Figure 10.** New layer

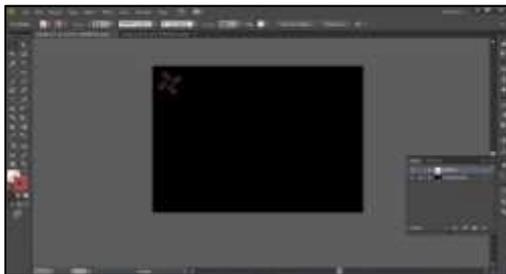
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6. To draw a motif, author use pen tool to make a object by draw line to line. After that chage it's color to red.



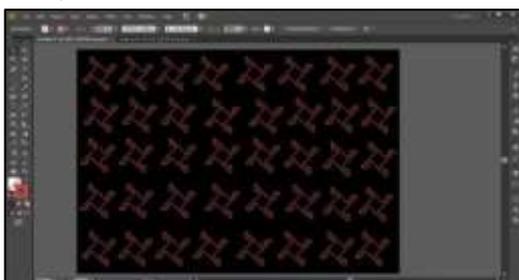
**Figure 11.** Shape 1

7. Next, the author selects the object using the selection tool on the left menu by selecting a black cursor, clicking on the object, making the object smaller by selecting the point at the bottom, clicking and holding down the click while holding down shift on the keyboard so that the reduction is evenly distributed.



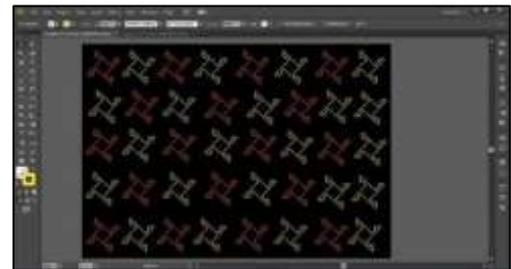
**Figure 12.** Move object

8. After shrinking, the next step is to duplicate the object by clicking on the object, holding down the alt key on the keyboard and clicking on the object while holding and pointing to all areas covering the background so as to produce a duplicate object.



**Figure 13.** Duplicate object

9. Next, the author chooses several motifs to change the color to make it more interesting by pressing the motif while holding down shift on the keyboard. The author uses a light color, namely yellow with the color code #fff100.



**Figure 14.** Color object

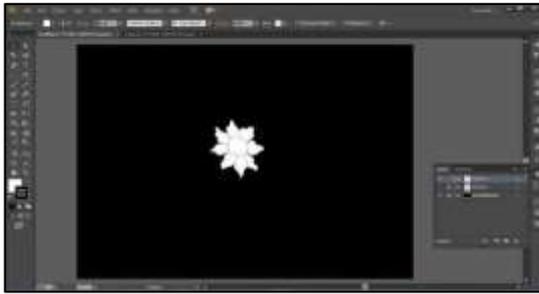
10. Save the design, lock the layer so that won't be changed by accident. After that, also make new layer for another new motif.



**Figure 15.** New layer

11. To draw, author use another tool like pen tool to draw a flower for next motif. After selecting the tool, the author makes a floral motif as shown in the following image using white and black outlines.

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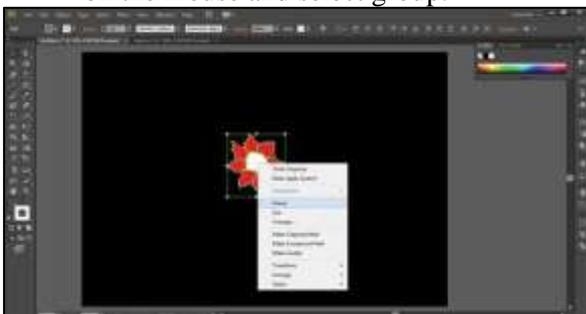
**Figure 16.** New motif

12. After that, change the color into red with the color code # ed1c24 and also changes the outline of the object to white with the color code #ffff because the background is black so that the flower object is visible.



**Figure 17.** Change color object

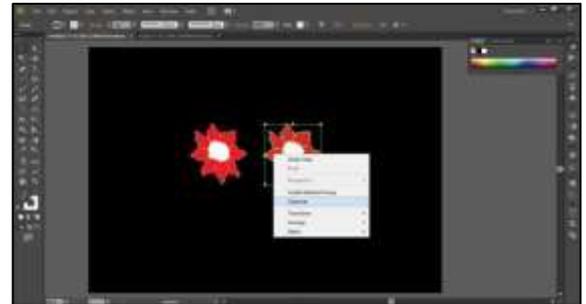
13. After successfully creating the flower object, the writer then combines the flower objects into one so that when the selection is made, they will immediately select all by selecting all the flower objects, right click on the mouse and select group.



**Figure 18.** Group object

14. After the group, the author then duplicates the object of interest again as in the previous stage. 30. For the second flower

duplication, the author changes the color the same as the previous stage by right-clicking the mouse and selecting ungroup so that can change the color of the flower object without changing the whole thing.



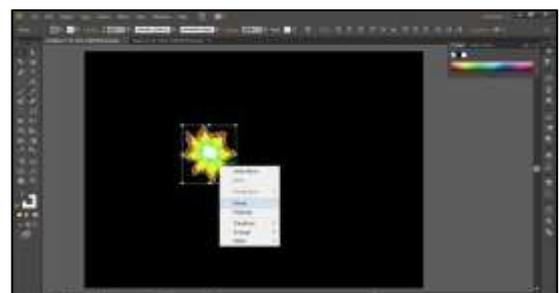
**Figure 19.** Ungroup object

15. Next, the author gives a yellow color with the color code #fff100 on the duplication of flowers. After selecting a color, the result will be as shown below.



**Figure 20.** Two motif

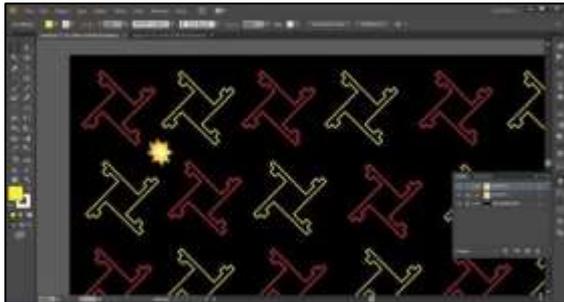
16. After doing the color, the object is regrouped in the same way as in the previous step After this, then next combine the duplicate flower object with the previous flower object by clicking the duplicate flower object and dragging to another flower object and adjusting the size and merging the objects into one.



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**Figure 21.** Merge object

17. Next, display the design object on the motif layer 1 and resize the flower object to small by selecting the flower object, click on the end of the point while holding shift on the keyboard.



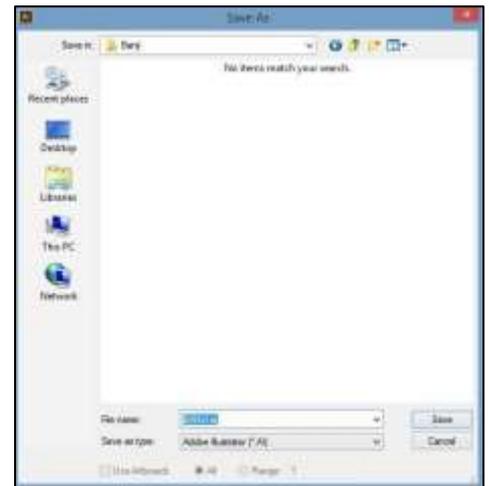
**Figure 22.** Small object

18. After this, the writer then duplicates the object of interest as in the previous stage. Done duplication it will be like in the following image.



**Figure 23.** Duplicate small object

19. Then the batik motif design has been completed. Furthermore, to save the results of this design there are 2 ways. The first way is to save the work design by selecting the file menu at the top and selecting save as or you can use shift + ctrl + S on the keyboard.



**Figure 24.** Save design

20. After selecting save as, the following screen will appear. In the file name section, you can store any name. In this storage, using the AI format. After changing, click save.



**Figure 25.** Save artwork design

21. After this, a display like the following appears, click ok.



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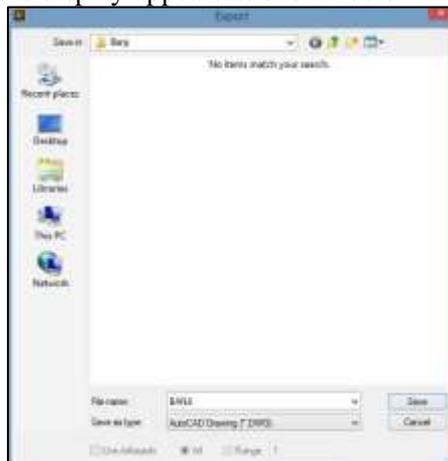
**Figure 26.** Option

22. The second way is to save the design result as a photo, then just click the file at the top and select export.



**Figure 27.** Save design choice 2

23. Then the display appears as shown below.



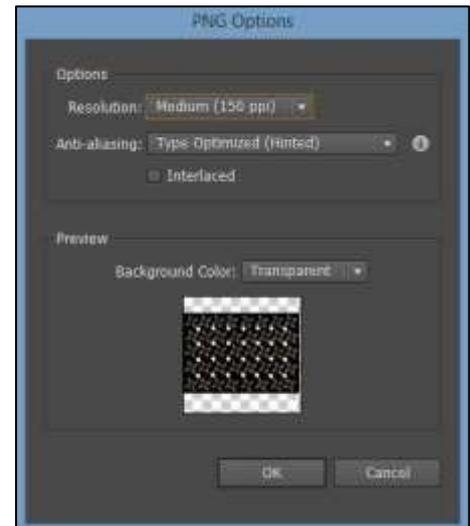
**Figure 28.** Save design

24. After this, select a folder and change the format you want to save. The author uses the *png* format to save the design results.



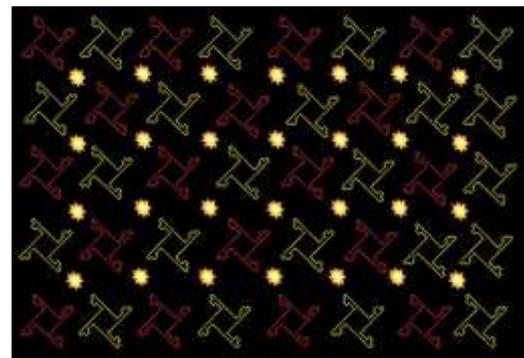
**Figure 29.** View of save design

25. The next option appears to change the png photo options as follows. Pick ok.



**Figure 30.** PNG option

That all step of make design. After that, the result after save as photo will be like below.



**Figure 31.** Photo as PNG

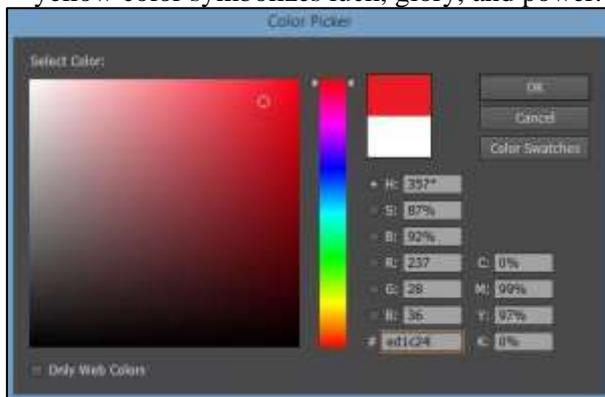
In this study, the author uses one of the batik motifs from Chinese culture, namely the banji batik motif. The word banji or banzi comes from Chinese, which is separated from two words, *ban* meaning thousand and *zhi* meaning ten. The banji motif symbolizes spiritual purity as protection from all kinds of dangers. There is also a saying that banji can bring wealth.

**Figure 32.** Motif banji

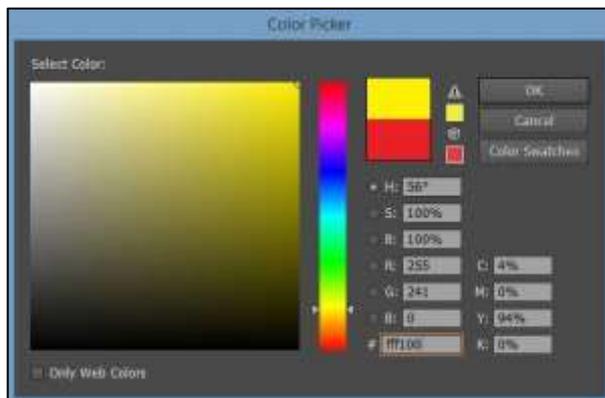
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In Chinese culture, the color of red symbolizes happiness and good luck. While the yellow color symbolizes luck, glory, and power.

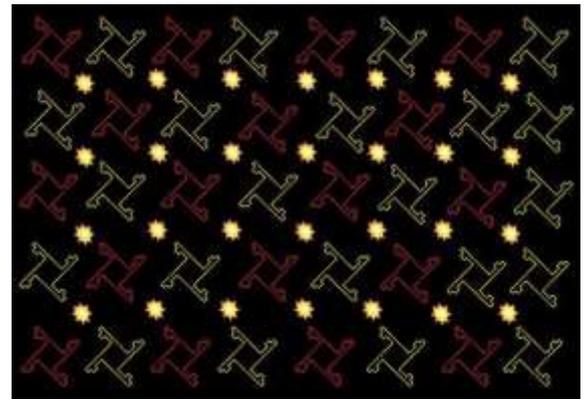


**Figure 33.** Red color



**Figure 34** Yellow color

After designing the Banji motif, it was added with floral motifs such as the example of chrysanthemums. Chrysanthemum flowers can symbolize friendship, peace, or prosperity. The colors used are the same as the banji motif, namely red and yellow plus white which symbolizes honesty.



**Figure 35.** Motif bunga krisan

For implementation, the author puts the design results into a website called the *Shutterstock* website. Shutterstock is a website that can upload photos with a clear resolution that meets the requirements for uploading photos. Here the author uploads the design results to the *Shutterstock* website in *JPEG* format.



**Figure 36.** Result after upload

In the trial phase, shutterstock account users or internet users can search for the photo and can also download it for their respective functions, examples can be as room decoration posters, can be used as laptop wallpapers, or can also be used as reference material for another research. With these photos, print outs can also be produced to be used as packaging products or can be used as textures in designing a product.

Based on the results of the research above, the impact given is in the form of good results with the advancement of the internet now and the

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development of several applications, especially designing, the results will be different from the previous technique. By conducting this research, it is possible to revive the *Tionghoa* cultural tradition in batik motifs and provide or share knowledge about vector art techniques in designing the batik motifs.

## LIMITATIONS

- This project focuses more on batik motifs specifically for *Tionghoa* culture.
- For the design, authors only use one application that is *adobe Illustrator CS6*.
- In gather data, there were many example batik motifs in *Tionghoa* tradition, so authors only gather one or two resource for design.
- See the *Tionghoa* culture, the color of object only use when it's has meaning on it.

## FUTURE WORK

After done the research of batik motif design with characteristics *Tionghoa* culture using vector art technique, there were some things that need to improve in future such as:

1. In future research, it is hoped that more designs can be made of several batik motifs, especially in *Tionghoa* culture.
2. To do design will need deeper search for which data is needed that are related to research.
3. In this research, it is hoped that it can be used as reference material for further research with the same topic.
4. The uploaded results are expected to reach more users with access to the *Shutterstock* website.

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