

# PAWUKON WUKU WUKIR ALMANAC AS A MOTIF FOR DIGITAL BATIK INDUSTRY PRODUCT DESIGN

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## Abstract

Raden Wukir is a wise puppetry character and the first son of Prabu Watugunung. Wukir is the third wuku of the Pawukon calendar. Wuku Wukir is designed into a digital batik motif. Wukir is a mythical symbol of wisdom that carries Javanese local culture, but it has yet to be utilized in product design. The problem raised in this research is how the visualization of the Wuku Wukir batik motif is adapted from Pawukon. This research aims to identify Wukir and realize it in industrial design. This research uses a descriptive qualitative method, with data collection techniques through literature study, observation, and documentation. Data analysis was conducted descriptively to record the transfer of form from the textual calendar of Pawukon into the visual concept of the Wuku Wukir batik motif with double diamond theory. The result shows that Wuku Wukir can be adapted into a digital batik motif design without leaving the original cultural content. This research concludes that the visual transfer of Pawukon into the Wuku Wukir digital batik motif has excellent potential to be developed in industrial product design, contributing to cultural preservation in Indonesia.

**Key words:** Pawukon, wukir, industrial product design, Double Diamond, digital batik

## INTRODUCTION

The topic of the Pawukon almanac in this study was chosen based on several essential backgrounds related to cultural, spiritual, and practical aspects of Javanese society. Raden Wukir is a mythological figure known for his wisdom in

puppetry. As the eldest son of Prabu Watugunung, he has a significant position in Javanese stories and traditions. In the traditional Javanese calendar system known as Pawukon, Raden Wukir inspired the third wuku, Wuku Wukir. This wuku depicts wisdom and symbolises myth thick with local Javanese cultural values. Although it has excellent symbolic potential, the Wuku Wukir motif has been widely used in commercial product design.

As an effort to preserve cultural heritage, the Wukir motif was adapted into the form of digital batik. This innovative step seeks to revive the wisdom and beauty of Javanese culture in a more modern form accessible to the broader community. This digital batik design adds to the richness of batik art and introduces local values into a more global creative industry. Several kinds of literature are used in this study, including the discussion of the History and Development of Pawukon. (Iswara, 2009) This article discusses the origins and development of the Pawukon calendar system, which the Javanese people have used for centuries. A discussion of the structure of Pawukon, including wuku, dina, and market, as well as their use in daily life, is elaborated in depth.

In a discussion of the structure and function of the Pawukon, Suwito explained that the structure of the Pawukon calendar consists of 30 wuku, each of which has a unique name and characteristics. This article discusses how Pawukon determines good and bad days in Javanese tradition. (Suwito, 2015) The philosophical and social meaning of Pawukon is specifically substantively extracted from a journal entitled "Philosophical Meaning in the Pawukon Calendar". This study examines the intellectual and symbolic meaning of the Pawukon calendar in the context of Javanese culture. (Widiastuti, 2018) It was also discussed how this calendar system reflects the cosmological views of the Javanese people. Meanwhile, the discussion of Pawukon in the Modern Context, a book entitled Pawukon and Its Relevance in the Modern Era, explores the relevance of the Pawukon calendar in the modern era, especially how contemporary Javanese society integrates this traditional calendar with the international calendar system that is more commonly used today. (Santosa, 2020) The History

and Origin of Pawukon are discussed in the book Kedjawen. This book examines the history of the development of the Javanese calendar, including the origins of the Pawukon calendar system that has existed since the time of the kingdom in Java. The Pawukon calendar is a dating tool and an essential part of Javanese culture and tradition. (R.M.Ng. Poerbatjaraka, 1940)

The discussion on how to design a product design, related to the Double Diamond theory as one of the approaches to developing industrial products; Magda's thinking in her paper "The Double Diamond Model: In Pursuit of Simplicity and Flexibility" that Double Diamond was created through extensive research on the methodology used by designers in large companies. This model outlines the design process in four phases: Discover, Define, Develop, and Ship. Each phase is designed to guide designers through a structured yet flexible approach to problem-solving and innovation. (Magda et al., 2022)

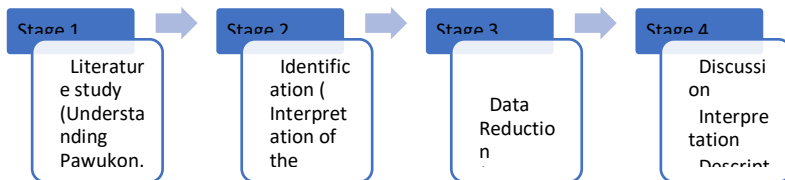
Furthermore, in the presentation "Wicked Strategies: Comparing Evolved Double Diamond for Strategy Creation for Wicked Problems in Service Design," it was stated that it emphasizes a structured approach to problem-solving through four phases: Discover, Define, Develop, and Deliver. Evolved models are adept at tackling the intricacies of evil problems by allowing for iterative refinement and flexible adaptation during the design process. (Kotaniemi et al., 2023) The book "Analysing the Double Diamond design process through research & implementation" (Gustafsson, 2019) explains that the Double Diamond process consists of four phases: Discover, Define, Develop, and Deliver. Each phase is detailed to show how they contribute to the overall design process. The research also offers essential insights for budding designers, especially those in an ever-changing market. Although unrelated to digital batik design, these studies can provide insights into how the Double Diamond model is used in industrial product design, exploring its flexibility and application in various design projects. From the approach of multiple sources above, the research and design entitled Calendar Pawukon Wuku Wukir as a Motif for the Design of Digital Batik Industrial Products has

the dimension that the creation of innovative digital batik designs based on traditional motifs from Pawukon, especially Wuku Wukir, deserves to be continued.

This research provides a model for cultural heritage adaptation into the creative industry, supporting cultural preservation through innovation and technology. Furthermore, the central gap between the literature review and this design is that the source of the manuscript focuses more on documentation and historical-cultural understanding. These library sources contribute to preserving and documenting cultural knowledge, while Wuku Wukir's research offers a new way to appreciate and utilize traditional motifs in a modern context. The visualization of Wuku Wukir focuses on practical applications and design innovations in the digital batik industry.

## RESEARCH METHOD

The method section is a crucial component. It explains how the research is carried out. Here are some of the main contents of the method in a study:



**Figure 1:** Research stages  
Source: Research Team 2024.

## Research Design

Research design refers to the overall framework used to conduct research. Type of Research: this study uses a qualitative descriptive approach. Research Approach: using content analysis, where wuku in the Pawukon Almanac is the object of research.

1. Population and Sample
2. Population: Pawukon Almanac located at the Radya Pustaka Surakarta Museum Jl. Slamet Riyadi No.275, Sriwedari.

3. Sampling: The sampling method from the population, the selection of wuku objects, uses the purposive sampling technique by determining the previous criteria.
4. Research Instruments.

Data Collection Tools: Instruments used to collect interviews and observation data. Validity refers to the extent to which a measuring tool or research method measures what is supposed to be measured. Content Validity is used as an instrument for this research. This technique measures the extent to which an item in a measuring instrument can cover all aspects of the measured concept.

This method can also be determined through expert judgment, which evaluates whether the items in the measuring tool cover all relevant factors.

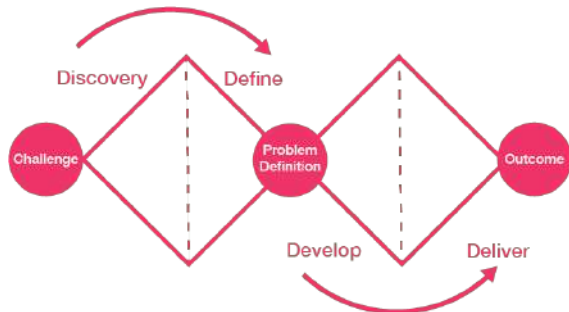
1. Data Collection Procedures
2. Data Collection Steps: a detailed description of how the data will be collected is taken from the Radya Pustaka library, Mangkunegoro Palace.
3. Time and Location of Data Collection: The research was conducted in Surakarta in February 2024.
4. Data Analysis Technique: data Analysis Method Factor Analysis (Factor Analysis) is used to identify hidden structures in data by grouping correlated variables.

## Design Procees

The Double Diamond theory used in this research and design is the brainchild of the UK Design Council, which was introduced in 2005. This model was created after an in-depth study of the design process used by various large companies. Richard Eismann and Clive Grinyer were two key figures in the development of this model. The goal of the creation of Double Diamond was to provide designers and other stakeholders with a clear and easy-to-understand visual framework, facilitating the design process from initial concept to final implementation. (Magda et al., 2022)

Four phases in the design process of the double-diamond framework (Figure 1):

1. Discover/Research the phase of finding problems.  
Output: The results of the research, documentation, and findings are unstructured.
2. Define / Synthesis is the phase of analyzing the problem.  
Output: A summary of what needs to be improved, including any emerging research questions or strategies.
3. Develop / Ideation is the phase of presenting possible solutions, including evaluation at the end, to determine the selected solution. Output: Ideas, concepts, visions, initial prototypes.
4. Deliver/Implementation is the phase of implementing a suitable solution to solve the problem, including the Build/Prototype process.



**Figure 2.** Four phases Double Diamond Model.  
Source: <https://mgearon.com/ux/double-diamond-model/>

**Table 1. Wuku Wukir visual data**

<i>Wuku Wukir 1</i>	<i>Wuku Wukir 2</i>	<i>Wuku Wukir 3</i>	<i>Wuku Wukir 4</i>

Source: Research Team 2024.






**Table 1 Translate the illuminations that frame the text:**



Transfer from Script Table 1 Column 1 into Javanese	Language Translation from Javanese to Indonesian
[27] <u>Dite Legi Wuku Wukir kang lumampah, kala ginelar sami gambar candrane sadaya.</u>	Hari Minggu Legi, Wuku Wukir waktunya mulai berjalan, bila dijelaskan dengan gambar semuanya sebagai berikut
<u>Candrane nuju gunung asri. Larangane ing Dipati, tegese yen dinulu ewuh kelakuhane, seke lahir batine.</u>	Perumpamaannya bagaikan gunung yang indah. Pantangan bagi Adipati, artinya bila dirasa kelakuannya tidak sopan, berbeda antara lahir dan batinnya.
<u>Yen dipeksa ora ana suwalane. Setibane kudu amrentah sepadhane jalma, tur kajen keringan, akeh kang dhemen.</u>	Bila dipaksa tidak bisa menghindar. Sewaktu-waktu memerintah sesamanya, dia terhormat sehingga banyak yang menyukainya.
<u>Rada kagungan, kumaluhung, kuminsun. Lengus, agedhe angkuhe, Lumuh asor dhirine, kudu ameryayi.</u>	Agak sombong, merasa paling mampu dan bisa. Pemalu, sangat angkuh. Rendah budinya, karena selalu merasa sebagai priyayi.
<u>Dewane Sangywang Bethara Mahayekti.</u>	Dewanya Sangywang Bethara Mahayekti.
<u>Kayune nagasari.</u>	Kayunya : Nagasari.
<u>Gedhonge ngarsa.</u>	Rumahnya di depan.
<u>Kang sarta angadhep toya ana jembangan.</u>	Menghadapi air di dalam lembangan.
<u>Manuke manyar.</u>	Burungnya : Manyar.
<u>Sangywang Bethara Mahayekti wateke mendhita, meryayi, teberi prihatin, aneng sepi, agedhe atine, ora dhemen jagongan lan wong akeh, ambek kumingsun .</u>	Sangywang Bethara Mahayekti berwatak pandhita/guru, seperti priyayi, rajin prihatin, suka menyepi, percaya diri, tidak suka berkerumun dengan orang banyak, karakternya sombong.
<u>Kayu nagasari : awuled, akeh kang dhemen, aredi lungguhe, awangi ambune, tur pinilala wong agung, nanging kedhik gawene.</u>	Kayu Nagasari : kuat, banyak yang menyukai, berada di gunung, baunya harum, dipelihara para pembesar, tetapi sedikit manfaatnya.
<u>Gedhong aneng ngarsa : ber budine, abot tata, ....kasugihane,.... sugih kaya.</u>	Rumah di depan : budinya baik, mengetahui tatakrama, kekayaannya, melimpah.
<u>Kang toya jembangan : ajang karsane, adhem parentahe, kang sarta lumintu begiane, ora kurang sandhanga pangane.</u>	Air lembangan : kemauannya baik, perintahnya menyejukkan, rejekinya mengalir terus, tidak kekurangan sandang pangan.
<u>Wuku Wukir yen manggih bilahi, den kaniaya.</u>	Wuku Wukir, mengalami musibah celaka, bila dianiaya.
<u>Sidhekahe : sega wuduk, amung beras sapitrah, ulame pitik putih kang mulus sawayahe, den lembarang lan endhog , krupuk, sambel poncot, lan janganan warna pipitu.</u>	Sedekahnya : nasi uduk satu fitrah, daging ayam putih polos yang sudah berumur, dibuat wutuh dan telur, krupuk, sambel poncot, dan sayuran tujuh macam.
<u>Dungane : mulya, umur, selamat.</u>	Doanya : doa kemuliaan, doa umur, doa selamat.
<u>Selawate : seprapat dhuwit anyar.</u>	Uang wajib, selawat, seperempat uang baru.

## Define / Synthesis

At this stage (Table 2.), the design team takes all the insights and data collected during the Discover phase and begins to organize them to identify patterns, themes, and critical insights. The main goal is to sift through information and craft a clear and focused statement of the problem. Some identifications found from the post-discovery stage are used to recommend the following plan or stage. The recommendations at the synthetic stage are implemented in the description presentation, which contains how visual elements will be realized, including the question of how the strategy will be raised.

Table 2. Visual description of <i>Wuku Wukir</i> calendar Objek Visual	Description
	This figure is the main motif in this batik motif. The figure's movement on the <i>Pawukon fiber</i> barely undergoes a visual transformation, which emphasizes the character of the <i>Batara Mahavekti</i> figure. The details of the distillation appearance and the costume part is simplified to adopt the three <i>cecek</i> three <i>isen</i> . The figure is positioned not from head to toe but only from the head to the torso. The visual form of <i>Pawukon fiber</i> , <i>Wuku Wukir</i> in <i>coloring</i> is more contrasting, not following the <i>coloring</i> scheme in Solo batik, namely brownish, and dark brown.
	The object of the house in <i>pawukon</i> is transformed into the main object of the batik motif which is metaphorized as good morals, knowing the manners, wealth, and abundance. The <i>coloring</i> of the roof of the house from green is transformed with yellow and black.
	The figure of Raden Wukir in <i>Pawukon fiber</i> has a rather arrogant character, feeling the most capable and capable. Shy, very arrogant. He is humble, because he always feels like a <i>privayi</i> . <i>Coloring</i> figures does not undergo a transformation in <i>coloring</i> because it is to strengthen the character of a figure.
	The object of the tree with the <i>Nagasari</i> type of wood is metaphorized as strong, many like, being on the mountain, smelling good, maintained by the dignitaries, but with little benefit. The green <i>color</i> is not transformed into another <i>color</i> , only the stem part is dyed with moss green.
	The visual object of <i>Pawukon fiber</i> is in the form of a <i>Manyar</i> bird object, small in shape, metaphorized as a useful and clever bird, in accordance with expectations, and its partner is patient. This visual object undergoes a visual transformation by being simplified and made repetitive with an up-and-down composition on the batik and placed along the horizontal.

Source: Research Team 2024.

In creating batik compositions with Pawukon motifs, artisans must carefully arrange various main objects and supporting elements on batik fabrics. This process is inseparable from the deep attention to the aesthetic values that



want to be realized. When a batik designer or artist composes these elements, they focus on the visual arrangement and consider various other aspects, such as harmony, balance, and cultural symbolism that they want to present. These elements are then assembled to create a work of art that is visually appealing and rich in cultural meaning and relevance. Thus, batik art is not just a visual product but a complex expression of cultural heritage and traditional values passed down from generation to generation.

According to Dharsono, understanding aesthetics is not just about appreciating beauty; it also involves an in-depth study of various art forms, including design elements and principles. This understanding involves exploring how visual elements, such as lines, colours, shapes, and textures, can be arranged effectively. (S. Dharsono, 2016) The visual structure can be formed by carefully arranging these elements, along with applying design principles such as balance, contrast, rhythm, and proportion. In creating artwork, artists view every part of their work—from the smallest element to the overall composition—as a cohesive whole. This approach ensures that each component harmoniously interacts with each other so that the work can function optimally, conveying a specific message or emotion to the audience.

Thus, art not only plays a role as a visual object but also as a medium of communication that can touch and inspire the audience through its richness of meaning. In his book entitled *Feeling and Form*, Langer describes artwork as a form of expression that is often identified with art symbols. According to Langer, the symbol of art in each work not only functions as an aesthetic object but also has a symbolic role that goes beyond its surface functions. Each piece of art, in Langer's view, acts as a symbol that conveys deeper meanings and emotions. This means that art is to be seen or heard and to be felt and understood symbolically. Art symbols express ideas, feelings, or experiences that may be difficult to express through words. This allows art to communicate on a deeper level, allowing the viewer to connect with a work's emotional and intellectual aspects, making art an effective and meaningful means of

communication between the artist and their audience. (Langer, 1957)

According to the basis of aesthetic thinking and symbols described by Langer, there is a concept of discursive symbols that refer to symbols that can be understood rationally and analyzed through logical statements in stages. This means that each symbol in the artwork has a meaning that can be approached logically and structured. In this context, the visualization of the symbolic composition of wuku Wukir involves a visual form consisting of elements such as wuku itself, significant figures, and various accompanying equipment. Each component is described in detail, emphasizing its meaning, including the significance of each word, such as "Wuku," or certain attributes with a symbolic meaning. This includes why certain visualizations are used and how these elements convey a deeper meaning.

In the past, humans had a very close relationship with nature, and many of the symbols in Wuku were inspired by natural phenomena. Wuku serves as a sign of life that helps people determine the right time for activities such as farming and harvesting. In addition to wuku, other visual symbols displayed include gods, fish, trees, birds, water, and other natural symbols that symbolize different aspects of life. In this visual representation, are not only the figures of gods and wuku important, but also the completeness of the elements of the Pawukon composition, which includes various components such as trees and birds. In addition, other objects are also depicted, such as houses, banners, water containers, and weapons, all of which contribute to the symbolic perfection and depth of the composition. These symbols are not just decorations but an integral part of a visual narrative that conveys stories and deep cultural meanings.

### **Develop/Ideation**






As a composition composed of various elements, the composition of the Pawukon manuscript can also be studied from the explanation of the composition as an arrangement consisting of a pattern arrangement. The visual composition consists of the central motif, the filler motif (intertext), and the

pattern consisting of filler materials. Basic motifs are essential elements in the form of specific images or shapes. As one of the classical art forms, this subject includes philosophy or teaching. Supporting motifs, elements created on particular figures or shapes, are made to fill the space between the central motifs. This motif serves as a decoration. The filler motif (*isen*) is an element or elements that decorate the main or supporting motif. (Dharsono, 2016).

The composition of Wuku Wukir is a harmonious blend of wuku figures, birds, trees, houses, banners, water containers, and other elements in the form of flowers. Despite the object's location not being overtly visible, its equal distribution across the entire image area creates a sense of balance and harmony that seamlessly integrates with the space or image media used. Though not adjacent, the orientation of the gods' faces and the bird figures fosters tranquillity and interaction between the two objects. The visual composition of the central motif is the character of Raden Wukir carrying a weapon to stab the *keris* while facing *Batara Mahayekti*.

The filler motif (*interlude*) is depicted with 4 (four) *Manyar* birds perched. The *isen*/filler motif is manifested in a dense plant pattern, namely *Nagasari* branches and trees, as well as hanging flowers and fruits. This motif serves as a decoration. Supporting motifs are depictions of house buildings, banners, and water containers. The character's essential character is visualized in the pattern of the shape and colour of the face or face, namely in the visualization of the eyes, nose, mouth, face colour, and facial position, as well as in the position and comparison between elements. The character of Raden Wukir is described as sitting cross-legged facing the right, with a stout body and a "*singset*" body (looks thin but dense with muscles). Raden Wukir wore a crown-shaped headgear (*irah-irahan*) with accessories including *makutha*, *topong*, *songkok*, *supit urang loop*, *rivet loop* and *gimbangan hair*. Wearing clothes (*dodhot*, wet clothes worn by the bride and groom during the *Panggih* ceremony at Mangkunegaran Temple) is a type of gallantry, more often called "*jangkahan*". (Sunarto, 2000)

Judging from the direction of his view, the figure of Raden Wukir is facing to the right, meaning that Wukir has good dignity. (Junaidi, 1994). Raden Wukir is depicted in light brown, this is as it has become a reference in color psychology that the color is to give an impression of grace and elegance. (Banindro, 2018) His eyes are wide, which, in the language of the puppet, is called "eye of the arm," which means unpretentious, virtuous, agile, challenging, and always standing on the right side. His lips are described as "mesem mouth", which is defined with the condition when mesem or smile, as a sign that wuku Wukir is a person who is very pleasant if you get to know him at first glance. (Mulyono, 1987)

Table 3. Wuku Wukir Visual Digital Transformation Transformasi Visual	Description
	This figure is the main motif in this batik motif. The movement of the figure on the Pawukon fiber barely undergoes a visual transformation, this is to emphasize the character of the Batara Mahayekti figure. The details of the distillation appearance, and the costume part is simplified to adopt the three cecek three isen. The figure is positioned not from head to toe but only from the head to the torso. The visual form of Pawukon fiber, Wuku Wukir in coloring is more contrasting, not following the coloring scheme in Solo batik, namely brownish, and dark brown.
	The object of the house in Pawukon is transformed into the main object of the batik motif which is metaphorized as good morals, knowing the manners, wealth, and abundance. The coloring of the roof of the house from green is transformed with yellow and black.
	The figure of Raden Wukir in Pawukon fiber has a rather arrogant character, feeling the most capable and capable. Shy, very arrogant. He is humble, because he always feels like a priyayi. Coloring figures does not undergo a transformation in coloring because it is to strengthen the character of a figure.
	The object of the tree with the Nagasari type of wood is metaphorized as strong, many like, being on the mountain, smelling good, maintained by the dignitaries, but with little benefit. The green color is not transformed into another color, only the stem part is dyed with moss green.
	The visual object of Pawukon fiber is in the form of a Manyar bird object, small in shape, metaphorized as a useful and clever bird, in accordance with expectations, and its partner is patient. This visual object undergoes a visual transformation by being simplified and made repetitive with an up-and-down composition on the batik and placed along the horizontal.

Source: Source: Research Team 2024.

## **Develop / Ideation**

The develop stage, a crucial phase in problem-solving, aims to explore potential solutions after the problem has been clearly defined. At this stage, the team focuses on developing various ideas and concepts to meet the needs that have been identified.

Divergent: This stage is divergent, which encourages creating as many ideas and solutions as possible. The focus is on creativity/collaboration and exploratory/iterative.

1. Collaborative: Engage various stakeholders to gain diverse perspectives and improve the quality of ideas.
2. Iterative: Involves rapid iterations to test and modify ideas continuously.

Brainstorming: The brainstorming session is the core of this stage. Contains an explanation of thoughts on how digital batik will look later.

1. Design teams are encouraged to generate as many ideas as possible without judging or distilling ideas in the early stages.
2. Mind mapping, role-playing, and brainwriting are often used to spark creativity.

Prototype:

1. Turn an abstract idea into a rough sketch or a simple prototype.
2. Prototypes can be physical models, digital wireframes, or mockups that help visualize concepts.



**Figure 3.** *Wuku Wukir* in a classical puppet visualization.  
Source: Research Team 2024.



**Figure 4.** *Wuku Wukir* sketch batik layout  
with the visual composition of Raden Wukir on the left and Resi Batara  
Mahayekti on the right.  
Source: Research Team 2024.

## **Deliver / Implementation**

The Double Diamond model is the last phase that focuses on implementing and launching the final solution. The goal is to ensure that the solutions that have been designed and developed can be implemented effectively and positively impact the goals that have been set. They are applying the results of development into real solutions ready to use or access by end users. Ensure the solution works according to the design and meets the user's needs.





**Figure 5.** Wuku Wukir's digital batik design is made with computer graphics.

Source: Research Team 2024.



**Figure 6.** The final result of *Wuku Wukir's* written batik is made with finely written batik techniques.

Source: Research Team 2024.



**Figure 7.** The selected motif is the Pawukon Wukir digital batik design.

Source: Research Team 2024.

## DISCUSSION

With a visual composition of wuku Wukir (Figure 4), Batik is inspired by a story from Pawukon fibres, namely Raden Wukir, the third wuku of the Pawukon calendar. (Table 3) Raden Wukir got his name from Prabu Watugunung's eldest son. Individuals born in the Wuku Wukir period are believed to have unique and special character traits. They are considered not only to possess certain qualities but also to carry with them a prophecy about their life journey.

Their lives are expected always to be influenced by courage and wisdom, traits that they inherited from noble and authoritative ancestors. This ancestral heritage not only shapes their essential character but also guides them in facing various challenges in life. Every step they take is believed to be filled with profound wisdom, which allows them to overcome obstacles and achieve success with integrity. Therefore, being born in Wuku Wukir is considered to bring blessings, good luck, and the responsibility to maintain the noble traditions, which are passed down from generation to generation.

In the book Betaljemur Adamakna (1993) In traditional Javanese visualization, wuku Wukir is described as a period shaded by a protective deity, namely Batara Mahayekti. This god is believed to give notable influences and characteristics to those born in this wuku. One of's main features of wuku Wukir are its outstanding generosity and ability to be an exemplary leader. Individuals born in wuku are often seen as generous and wise figures who can lead justly and set an excellent example for others.

Despite the positive traits, wuku Wukir also presents certain weaknesses that should not be overlooked. For instance, there is a tendency to always want to be in control, which may not always be conducive to harmonious social interactions. Furthermore, individuals born under the influence of wuku Wukir may exhibit a propensity for infidelity and a habit of exaggerating their wealth or achievements. This showy nature can lead to conflicts if not managed wisely. Therefore, it is crucial for those born in wuku Wukir to be cognizant of their weaknesses and strive to balance these traits in their daily lives. (Soemodidjojo, 1993).

Wuku Wukir, often metaphorized for its botanical characteristics, shares a profound connection with the life of plants and trees. The Nagasari tree, a metaphysical wood embodying this wuku, possesses the power of 'life practice,' the art of living daily life with purpose and mindfulness. This tree, a symbol of life's continuous evolution, also represents resilience and unwavering strength in the face of life's adversities, inspiring us with its ability to endure.

In addition, wuku Wukir is also known for its nature, which is often concerned or shows an attitude of sensitivity to difficulties and suffering, both in oneself and others. In this case, the symbol of wuku Wukir is 'becik,' which means to look good or attractive from a distance, but when approached, it is often deceptive or deceiving. This reflects the nature of duality, where something that looks perfect may only sometimes be so when viewed closely. This duality serves as a reminder of the need for caution and discretion in judgment, as things are not always as they seem, and what appears perfect from a distance may reveal imperfections upon closer inspection.

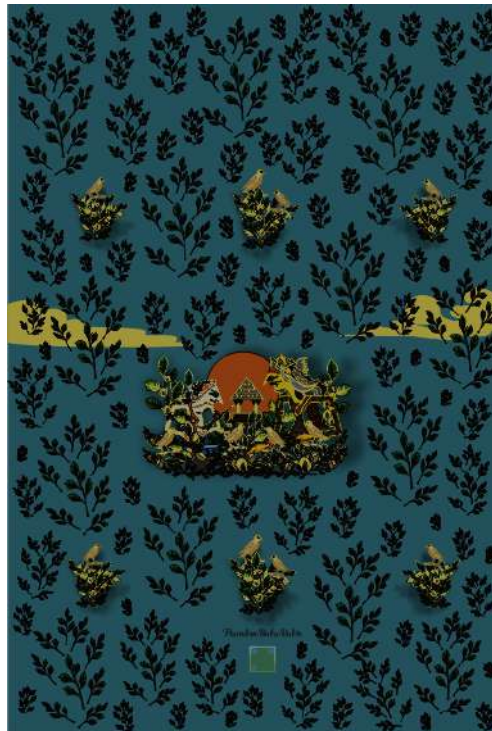
The water element in front of the Wuku Wukir symbol represents the concept of 'Prada,' a symbol of sincere and selfless giving without expecting anything in return. This water, a reflection of the profound nature of generosity and sacrifice, serves as a poignant reminder of the importance of supporting and assisting others with sincerity. This metaphor paints Wuku Wukir as a complex blend of apparent kindness, a readiness to sacrifice, and a crucial lesson about looking beyond the surface, leaving us in awe of its profound nature. (n.n, 2022).

Raden Wukir is depicted with a calm face, radiating a sense of peace and harmony. His face is bright and his body light brown. The main character that accompanies the birth of Wuku Wukir is his generosity, a trait that balances his considerable heart's desire. He is often seen wearing a headband, a shirtless body with clothes, stretching cross-legged, sitting cross-legged, and carrying a self-protection weapon in the form of a Pudhak Sategal keris.

Resi Batara Mahayekti is depicted in a beautiful brown dress, symbolizing her firmness and wisdom. Her headgear, a *Jamang Sungsun* crown, and a red sash with gold edges,

symbolize the light of the wise. The entire picture is composed symmetrically, with the moon in the middle of the field, house buildings, and water places covered with lush forest foliage of Nagasari trees and Manyar birds.

This research successfully adapted motifs from Almanac Pawukon Wuku Wukir into the design of Pawukon digital batik products, showing that traditional elements can be integrated into modern design innovations. This proves that cultural values derived from local traditions, especially those in Surakarta Palace, are still relevant and can be empowered in the context of today's creative industry. The use of digital technology in batik design enables the creation of more varied and complex motifs. Thus, digital batik can meet the growing market demand and present an attractive product to younger generation consumers who may not be interested in traditional batik.



**Figure 8.** The Pawukon *Wuku Wukir* motif is applied to the industrial

design of the bed cover set.  
Source: Research Team 2024.

## CONCLUSION

This research contributes to cultural preservation by documenting and utilizing traditional knowledge as design inspiration. This helps to keep cultural traditions from disappearing and remain part of the local cultural identity. The results of this research provide insights and recommendations for creative industry players to continue to look for ways to integrate traditional values with modern technology. Product development that combines traditional elements with technological innovation can increase product competitiveness in the global market.

The study acknowledged limitations regarding sample coverage and broader application of the design. Therefore, further research is needed to explore other uses of Pawukon motifs and test the successful implementation of this design in various market segments. This research emphasizes the importance of collaboration between cultural heritage and modern technology in creating products that are not only innovative but also culturally meaningful. The creative industry can take inspiration from these findings to continue developing products that respect tradition while meeting contemporary demands.

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