

Art inheritance: Revitalizing traditional material culture motifs through innovative graphic design and artistic expression

ABSTRACT

Orang Ulu's culture and traditions are adapting to modernization and finding new ways to thrive amidst changes that have influenced various aspects of their lives and material culture in Malaysia. This paper highlights the exciting potential for Orang Ulu's material culture to flourish through the development of motif design and presents the first Orang Ulu woven fabric in a 3D graphical view. Motif design is a beautiful way to preserve and promote the rich cultural identity of Orang Ulu through graphical expression. It also has the potential to boost the local economy by providing employment opportunities for skilled artisans. The paper highlights the importance of Orang Ulu motif design in their material culture, emphasizes the value of art as a tool for cultural expression and preservation, and outlines the development of these designs through graphic design and research. This study has adopted mixed-methods research to achieve its goal. The accomplished method for this study is categorized into three phases: research and inspiration in Orang Ulu's material culture market; 2D motif design conceptualization; and 3D artistic creation. This study recommends exploring the potential for incorporating Orang Ulu motifs in apparel products. The findings showcase the exciting potential for small and medium enterprises to preserve and promote the Orang Ulu cultural heritage and sustainability while providing economic benefits for the community.

KEY WORDS

Artistic expression, cultural heritage, graphic design, material culture, motif design

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Introduction

The Orang Ulu community constitutes an indigenous population residing in the upriver areas of Sarawak, Malaysia. The group is recognized for their multifaceted and varied material culture, which encompasses elaborate beadwork, weaving, wood carving, and other customary handicrafts. The art and design of the Orang Ulu community are distinguished by elaborate patterns and motifs that mirror their spiritual convictions, everyday existence, and environment. The designs of Orang Ulu motifs are distinctive and possess noteworthy cultural and spiritual connotations. By developing these designs into art products, the Orang Ulu people can preserve

their cultural heritage and traditions and pass them down to future generations. Moreover, it can provide economic opportunities for the Orang Ulu people. The production and sale of these art products can create jobs and income for the community, particularly for women and young people, who are often marginalized. Orang Ulu's art and design are aesthetically pleasing and can attract tourists to the region. This can create opportunities for the Orang Ulu people to showcase their cultural heritage, promote their art products, and generate income from tourism-related activities. Suhaimy & Abdullah (2019) stated that developing Orang Ulu motif designs into art products can also create opportunities for cultural exchange and dialogue between the Orang

Ulu people and people from other cultures. This can promote greater understanding and appreciation of the Orang Ulu culture and foster greater cross-cultural collaboration and cooperation, such as using Orang Ulu motifs in *songket* weaving.

According to Sahari, Durin & Sangin (2016), the Orang Ulu community comprising Kayan, Kenyah, Badeng, Bhu-kat, and Penan in the Sungai Asap Resettlement Scheme of Belaga, Sarawak, is experiencing alterations in the physical landscape due to development initiatives in the area. The aforementioned factors exert an impact on conventional craft-making endeavors and have appeared as the primary obstacles for Orang Ulu artisans in preserving their customs and legacies. The support of traditional handicrafts can be achieved through three distinct strategies: conventional product reproduction using alternative raw materials, innovation of traditional products, and the involvement of youth in craft-making. It is thus hoped that this study will help designers and scholars better understand the role art plays in building cultural material, with a focus on the Orang Ulu's art and motif design, which they can then apply to their products.

Furthermore, this project facilitates the expression of varied perspectives through innovative means while promoting an artistic discourse that is enhanced by a multitude of viewpoints, including the viability of traditional crafts in the production of Orang Ulu handmade products. Orang Ulu culture and traditions are at risk of disappearing and are affected by modernization, which has influenced various aspects of their lives and material culture (Sahari et al., 2018). Hence, the exploration of the design and art created by the Orang Ulu community as cultural adornment design should be further highlighted to the public; therefore, the unique art produced by Orang Ulu's society may be known and promoted in the national and international market (Suhaimy & Abdullah, 2019). Moreover, Sahari & Hasan (2016) stated that there is no documented Orang Ulu material culture database to adequately cater to tourism and educational purposes. Indeed, there is limited information on Orang Ulu material culture for scholars and curators to study, making it difficult to understand this ethnic culture and product design. Additionally, the production of Orang Ulu cultural objects shows that there have not been many changes in the design and artistic look development in the last decades. On the other hand, new designs and products with mixed motifs inspired by Orang Ulu culture have been accepted into the market (Sahari & Hasan, 2016).

According to Ball (2009), the beliefs that nowadays new generation is not able to use unique motifs due to having some symbolism and spiritualism concepts in the patterns are not entirely true. Omar, Lepun & Alan (2016) found that the gap between generations' styles has resulted in the decline of the development of unique Orang Ulu motif designs. Indeed, there has not been

much development in Orang Ulu cultural motif designs, and some Western motifs and simple patterns were mixed with their patterns to meet market demand (Ball, 2009). The present endeavor amalgamates erudition and ingenuity to examine material culture through the lens of art and graphic design to stimulate scholars to scrutinize and artistically represent material culture.

In this paper, the researcher will investigate how the elements of Orang Ulu motifs can be adapted into new productions and developed. The community's involvement in documenting and organizing this material culture is essential to instilling a creative way of thinking that can be extended across generations. Hence, this paper attempts to move beyond merely an introspective activity and aims to create an awareness of art's role in developing adornment design as a part of cultural material that can be applied to the products. Hence, this paper aims to investigate and classify the Orang Ulu motifs in adornment design through art and develop a motif design that reflects the changing status of Orang Ulu handicrafts as an indicator of transformations in society. Thus, it furnishes the means to participate in a creative pursuit and articulate oneself through artistic discourse regarding a particular matter.

Eisner (2008) states that the utilization of art in research is a clever approach that can be likened to a profound dialogue. This method facilitates the emergence of numerous perspectives instead of seeking a solitary solution to a given problem. In contrast to scientific investigation, the realm of art provides researchers with the opportunity to adopt a personal stance on matters and respond in a subjective manner that is comprehensible to themselves and conceivable to others. This study facilitates the emergence of varied perspectives in innovative manners, thereby enhancing artistic discourse through numerous lenses, including the durability of handicrafts.

This research project provides an opportunity for the scholar to gain a comprehensive understanding of the historical context of Orang Ulu products, as well as the associated art and graphic design work. By examining handmade products across various periods, a more inclusive and nuanced portrayal of these items can be developed. The hands-on artistic exercises enable the researcher to engage with the subject creatively, experiment, play, and pick, thus looking for and introducing their narratives. Finally, the researcher developed a motif from critical views and acquired knowledge. The researcher gains insight into the importance of adornment design as a part of material culture, is exposed to the spatial relationships they are involved with and explores their creative abilities to present an artistic statement on a selected subject. The project offers an opportunity to stop and observe the importance of the adornment design of the Orang Ulu community as a signifier of a transforming self and society.

Literature Review

Orang Ulu Material Culture

The Orang Ulu, a group of people residing in Central Borneo, exhibited social stratification through the regulation of ornamentation, limiting the types of adornments that were permissible for individuals to utilize and don.

According to Rosli et al. (2021), the term "Orang Ulu" refers to a collection of 26 distinct ethnic groups, including but not limited to the Kenyah, Kayan, Kelabit, Kajang, Murut, Penan, Saban, Tabun, Ukit, Punan, and others.

Historically, the Orang Ulu people have been known for their hunting and gathering practices as well as their subsistence agriculture. They practiced shifting cultivation and lived in longhouses, which were communal dwellings that housed multiple families. The longhouses were often decorated with intricate carvings and designs that reflected the community's spiritual beliefs and natural surroundings. The Orang Ulu people also had a rich artistic and cultural tradition that included intricate beadwork, weaving, wood carving, and other traditional crafts. Orang Ulu's art and design were characterized by intricate patterns and motifs that reflected the community's spiritual beliefs, daily life, and natural surroundings.

Prown (1982) describes that material culture is studied through artefacts that reflect the beliefs of a particular community or society at a given time. According to Miller et al. (2005), self-knowledge and self-actualization are contingent upon our ability to examine the historical context that has been shaped by our predecessors, as reflected in the material mirror. Indeed, this world confronts us as a material culture and continues to evolve through us.

Due to the wide-ranging cultural diversity of objects, Prown (1982) suggested that the classification of things should be according to functions for cataloging purposes and the convenience of accessing information. He explained that the six classifications are art (paintings, drawings, prints, sculpture, photography), diversions (books, toys, games, meals, theatrical performances), adornment (jewelry, clothing, hairstyles, cosmetics), modifications of the landscape (architecture, agriculture), applied arts (furniture, furnishings, receptacles), and devices (machines, vehicles, musical instruments, implements, scientific instruments), of which the investigation on adornment design of Orang Ulu culture is selected for this study.

Being part of the third-largest island in the world, Borneo, Sarawak has a vast culture that has yet to be explored. Sarawak's Indigenous and unique ethnicities have made their culture colorful and exciting to explore.

Motif Design in Orang Ulu's Material Culture through Art and Graphic Expression

Motif design is a significant aspect of Orang Ulu's material culture because it reflects the community's cultural identity, values, and beliefs. Orang Ulu motif designs are characterized by intricate patterns and symbols that are rich in meaning and often draw inspiration from the natural world. The designs are commonly utilized in diverse forms of conventional art, including but not limited to beadwork, weaving, wood carving, and body embellishment. The motif designs of the Orang Ulu are emblematic of the cultural identity of the community. Cultural artefacts serve as a means of conveying a community's distinctive historical, traditional, and moral characteristics and are a significant medium for articulating and disseminating their cultural identity to external parties.

In addition, the motif designs frequently possess spiritual connotations and are purported to possess safeguarding or therapeutic capabilities. These objects are utilized in diverse rituals and ceremonies and are perceived as a means of establishing a connection with the spiritual realm. The motif designs of the Orang Ulu community possess a significant cultural heritage, characterized by a lengthy and profound historical background. The cultural artefacts have been transmitted across successive generations and are regarded as a means of safeguarding the community's historical and traditional legacy. Art plays a significant role in both expressing and safeguarding culture, as it provides a platform for individuals and communities to convey their experiences, values, and traditions through creative and meaningful mediums. The provision of art materials offers a means for both individuals and communities to creatively articulate their distinct experiences, emotions, and viewpoints potently and distinctively.

Art serves as a means for individuals to convey their cultural identity and safeguard their heritage for posterity. Art assumes a pivotal function in the conservation of cultural legacy through its documentation and commemoration of the customs, convictions, and rituals of society. Additionally, it serves as a mechanism for intergenerational communication, facilitating the transfer of knowledge, abilities, and traditions from older to younger generations. Artistic expressions such as weaving, pottery, and carving require a significant amount of time, effort, and skill and are often passed down through families or apprenticeships. Art fosters a sense of identity and pride within a community, allowing individuals to connect with their cultural heritage and feel a sense of belonging. Artistic expressions such as clothing, jewelry, and body adornment are often used to symbolize cultural identity and pride. Rosli et al. (2021) assert that motifs constitute the primary focus in the design of adornments and art within ethnic communities, serving to enhance

the aesthetic appeal of the artwork. The production of hand motif art by ethnic groups in Sarawak is characterized by meticulous, delicate, and unique craftsmanship. Hence, it is imperative to emphasize the distinctiveness of the motif art crafted by the community to enhance its comprehensibility among the general populace.

"High-ranking" motifs applied in Orang Ulu culture are the human figure, hornbill, tiger, or leopard. The Orang Ulu were bead connoisseurs who incorporated beadwork into their costumes and belongings; a person could only use beaded items according to their social stratum. Today's bead worker produces not only for their own family but also for the souvenir market, so they feel free to apply any designs that please the buyer (Munan, 1995), which has led to forgetting cultural motif design as a part of cultural heritage (Ball, 2009).

The three subgroups of Orang Ulu, namely Kayan, Kenyah, and Penan, are renowned for their exceptional craftsmanship. According to Fogel & Sellato (2013), the decorative patterns, or kalong, utilized in the handicrafts of these ethnic communities are frequently named after components derived from their local environment. The nomenclature of motifs may be attributed to various sources, such as the inventor of the motif, legendary figures, significant historical occurrences, or neighboring ethnic communities (Fogel & Sellato, 2013). Sahari (2013) posits that the traditional basketry produced by a particular group serves as a means of expressing their wealth, culture, technology, and intellectual prowess. This is achieved using intricate patterns and motifs, as well as the careful selection of materials and manufacturing techniques. The craft makers of traditional basketry are required to possess a comprehensive understanding of the art of basketry, which encompasses knowledge of raw materials, production processes, techniques, and the application of patterns and motifs (Sahari, Durin & Sangin, 2016).

Additionally, it is widely recognized that the Orang Ulu community is characterized by a prevalent decorative pattern, commonly referred to as kalong, as documented by Suhaimy & Abdullah (2019). Various forms and functions of kalongs have been developed in Kalong. Each of these kalongs holds a significant meaning within the Orang Ulu community. According to Suhaimy & Abdullah (2019), certain components serve to safeguard the proprietor of the kalong and embellish their handiwork. Hence, the assertion that contemporary generations are gradually losing touch with the significance of patterns' symbolism is not entirely accurate and warrants further inquiry. The baby carrier is one of the adornment designs of Kenyah and Kayan, as both the motifs decorating it and the small objects attached to it are not only protective devices against spiritual danger (for the child carried in it) but also indicators of social status (for the family owning and using it) (Sahari & Hasan, 2016).

However, new designs have been woven in mixed motifs, which are not similar to this concept (Ball, 2009).

Another aspect of Orang Ulu adornment designs is the basketry produced in the longhouses (Munan, 1995). The hats, baskets, and mats show complex patterns, a range of colors, and the use of multiple natural materials (Munan, 1995). Many of the groups among the Orang Ulu were socially stratified, with an upper class or aristocracy, a type of commoner, and one of the enslaved people. The use of some of the Orang Ulu designs, in particular those showing human forms, was restricted to the aristocratic class, while other designs could be used by all (Ball, 2009). Therefore, Ball (2009) stated that the beliefs that nowadays new generation is not able to use unique motifs due to having some symbolism and spiritualism concepts in the patterns are not entirely true. Historically, Orang Ulu individuals have abstained from using symbols that are deemed unsuitable for their particular social class. The tiger was a popular and esteemed emblem, representing dominance, although the inhabitants of Borneo solely possess secondhand knowledge of the sovereignty of the Malayan Forest as tigers are non-existent in their locality (Leibrick, 1989).

The Orang Ulu employ the kelawit motif in their basketry weaving techniques, which is inspired by the blade design of swords utilized for clearing vegetation. The incorporation of patterns in basketry is a common practice among various individuals, particularly weavers within the community. However, the interpretation and significance of these patterns exhibit variability depending on the respondent. The proliferation of names assigned to the motifs by diverse ethnic communities, as well as variations in nomenclature from one village to another and among individuals, was identified as the root cause of this phenomenon (Ball, 2009). Numerous patterns have lost their nomenclature because of this phenomenon. Apart from that, many utility objects utilized by the Orang Ulu community do not pertain to the realm of art.

Rather, these objects were created solely to assist them in carrying out their routine activities. The basket's woven patterns incorporate minimalistic symbols that possess limited interpretive potential. According to Ball (2009), the nature of woven patterns is primarily decorative and lacks traditional spiritual or class-based connotations. Previous researchers have not yet classified the motif designs in question.

The term motif refers to any element in a design. It typically applies to a repeated element, but we'll use the term for non-repeated elements as well. It's hard to believe, but pattern design involves only three broad categories of motifs: geometric, floral, and novelty which can be narrowed down to two: abstract (geometric) and representational (encompassing both floral and novelty). But floral motifs have been

so prevalent throughout eras and cultures that they have been granted a class of their own. Some of the common categories of motif types in the art include:

- Geometrical motif: These motifs are based on geometric shapes and patterns such as squares, circles, triangles, and spirals.
- Floral or scroll motif: These motifs are based on the shapes and patterns of flowers, leaves, and other plant forms.
- Novelty or abstract motif: These motifs are based on shapes and patterns that are not representational of any specific object or image.
- Animal motifs: These motifs are based on the shapes and patterns of animals, such as birds, fish, and insects.
- Mythological and cultural motifs: These motifs are based on the myths and stories of different cultures, often featuring figures such as gods, goddesses, and heroes (Ball, 2009; Leibrick, 1989; Munan, 1995; Omar, Lepun & Alan, 2016; Sahari, 2013; Sahari & Hasan, 2016; Suhaimy & Abdullah, 2019).

When people think of geometrics, the first idea that probably comes to mind is the classics: polka dots, stripes, plaids, checks, and diamonds. Geometric patterns can be simple or complex, regimented, random, straight, curvy, or anywhere in between. Some geometric patterns and motifs have real-world associations, but those associations tend to be loose and mutable. For example, tartan plaids originated in and are still strongly associated with Scotland, but they are used so widely that the association is often lost. As such, geometrics are the most versatile and universal of prints. Florals and scroll motifs from cherry blossoms to cabbage roses to ultra-graphic blooms, floral prints and patterns are an inextricable part of nearly every design tradition—and just about every fabric collection too. Flowers are feminine, beautiful, and classic, and because of their universal appeal, it's no wonder they get a category all to themselves. And it's a category with more gravitational pull than geometrics; if you toss daisies over a polka-dot background, it's considered a floral print, not a geometric print. Novelty, or "conversational," prints encompass virtually everything else that doesn't fall into the geometric or floral categories. The theme of the motifs (trains, planets, and cities) narrows the potential audience for the fabric, but novelties tend to speak more loudly than the other two types, both visually and as an emblem of identity for the wearer or user of the fabric.

And speaking of gravitational pull, the novelty category has the strongest of all. If you throw a duckling in with those daisies and dots, you've got a novelty print. While several classic themes, like the old west, kitchen, nautical, zoo, and holiday motifs, will always enjoy an audience, the popularity of others can fade in and out

with fashion. Motifs are a common feature in many forms of art, and they can be categorized into diverse types based on their characteristics and origins.

Methodology

Developing motif designs in Orang Ulu's material culture through graphic design and art for small and medium-sized enterprise products can be a complex process that involves several steps. The accomplished method for this study is categorized into three phases: (1) research and inspiration in Orang Ulu's material culture market; (2) design conceptualization and motif; and (3) artistic creation in Orang Ulu's material culture. This study has adopted mixed-methods research to achieve its goal. The researcher has done observations for phase one in five different places from October 1, 2022, until March 14, 2023, at the Sarawak Cultural Heritage Museum located in Kuching, Sarawak. Handicraft, located in Miri; Miri Handicraft Center, located in Miri; Mujan Handicraft Center, located in Miri; and Sungai Asap, located in Bintulu, Sarawak. For the second and third phases, the researcher used Adobe Illustrator and CLO3D software to develop and simulate the motif and fabric designs.

Findings

Research and Inspiration in Orang Ulu's Material Culture Market

The first step in developing Orang Ulu motif designs is to research the community's history, traditions, and values. The subject matter pertains to the examination of customary designs and themes employed in diverse art forms, including but not limited to weaving, beadwork, and wood carving. Orang Ulu designs frequently incorporate elements from the natural world, including flora, fauna, and topography, as sources of inspiration. During this phase, the researcher identified various motif classifications within the Orang Ulu material culture.

The Orang Ulu people employ a varied range of motifs that are indicative of their relationship with the natural world, spiritual convictions, and cultural customs. The patterns are frequently observed in the textiles, wood carvings, and beadwork of the group in question. Distinct variations can be observed between Orang Ulu motifs and Iban motifs concerning their provenance, connotations, and configurations. The motifs of the Orang Ulu are frequently emblematic of the Orang Ulu community's affiliation with nature, spiritual convictions, and cultural customs. The Orang Ulu community employs figurative motifs in their customary handicrafts and textiles to communicate diverse connotations that hold paramount importance to their cultural legacy and spiritual convictions.

Other popular motifs include the "Kenyalang", or hornbill, which is a sacred bird to the Orang Ulu people and is often depicted in their textiles and carvings. The Orang Ulu people also use a lot of soft geometric patterns in their designs, such as triangles, diamonds, and zigzags, which are believed to symbolize fertility, protection, and good luck.

On the other hand, Iban motifs are very sharp and complicated geometric shapes. These patterns are often used in their textiles and wood carvings and are believed to stand for the balance and harmony of nature. These are some observations and interviews that have been conducted with local people and sellers in the Orang Ulu material culture market.

- Dragon, tiger, and human faces are the most popular in Orang Ulu culture.
- Human figures often represent ancestors, spirits, or mythical creatures that are significant to their spiritual beliefs. The full-figure human motif was reserved for the aristocracy.
- "Higher" animals (hornbills, humans, and leopards) belong to the topmost branches.
- Middle-class families used modified half-figures, masks, and less conspicuous creatures like dogs or dragons.
- The tiger, a symbol of power, was a popular high-class design (despite Borneo having no tigers).
- The hornbill is a sacred bird to the Orang Ulu community, and it is often depicted in their motifs as a symbol of protection, good luck, and fertility.
- There is no sketch, and they memorized the motifs. It is extremely hard to make curvature motifs on baskets.
- There is no special fabric for Orang Ulu clothing. There is no difference between men and women in choosing motifs and colors in Orang Ulu culture.

The description of Orang Ulu products gathered from interviews and observational research in the five places mentioned above is written in the following Table 1.

Table 1 (part 1)

Classification of Orang Ulu's Motifs and their Properties (All photos taken by author)


Classification of Orang Ulu's Motifs and their Properties	
Classification	Geometrical
Photo	
Name	Basket with hudok pusung tubak
Description	Inspired by snake

Table 1 (part 2)

Classification of Orang Ulu's Motifs and their Properties (All photos taken by author)


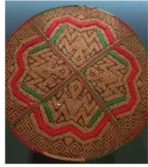



Classification of Orang Ulu's Motifs and their Properties	
Classification	Geometrical
Photo	
Name	Rattan basket
Description	Inspired by snake
Classification	Geometrical and Novelty
Photo	
Name	Kenyah lepo keh hat
Description	/
Classification	Geometrical
Photo	
Name	Belanyat, carrying baskets for clothing and traveling
Description	/
Classification	Novelty
Photo	
Name	Aristocratic baby carrier (ba') for high-class family
Description	Inspired by the dragon in straightforward design
Classification	Geometrical
Photo	
Name	Large orang ulu beaded basket
Description	Orang ulu people believe that it uses seldom in design and is named "Weng"

Table 1 (part 3)

Classification of Orang Ulu's Motifs and their Properties (All photos taken by author)



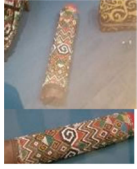

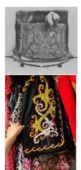
Classification of Orang Ulu's Motifs and their Properties	
Classification	Novelty
Photo	
Name	Beaded box decorated
Description	Inspired by the dragon in straightforward design
Classification	Geometrical and Novelty
Photo	
Name	Beaded orang ulu headdress worn during festive occasions
Description	/
Classification	Geometrical
Photo	
Name	Beaded box decorated
Description	/
Classification	Novelty
Photo	
Name	Baby carrier for a high-class family
Description	Inspired by the human figure and "Kenyalang" or hornbill
Classification	Geometric
Photo	
Name	Baby carrier for a middle-class family
Description	Inspired by a dragon in a plain design

Table 1 (part 4)

Classification of Orang Ulu's Motifs and their Properties (All photos taken by author)

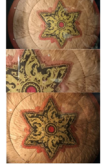




Classification of Orang Ulu's Motifs and their Properties	
Classification	Novelty
Photo	
Name	Orang ulu beaded sunhat decorated with traditional motif
Description	Inspired by a dragon in a straightforward design
Classification	Novelty combines scroll
Photo	
Name	Beaded panel for sunhat
Description	Decorated with spiritual dragons and aso' motifs (dog motifs)
Classification	Novelty
Photo	
Name	Beaded sunhat
Description	Inspired by the dragon in straightforward design
Classification	Geometric
Photo	
Name	Kayan beaded sunhat
Description	Very seldom among Orang ulu people
Classification	Geometric
Photo	
Name	Kenyah 19 th century woven hat
Description	/

Table 1 (part 5)

Classification of Orang Ulu's Motifs and their Properties (All photos taken by author)







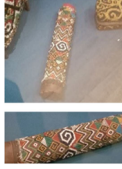

Classification of Orang Ulu's Motifs and their Properties	
Classification	Geometric and Novelty
Photo	
Name	Orang Ulu beadwork
Description	/
Classification of Orang Ulu's Motifs and their Properties	
Classification	Geometric and Novelty
Photo	
Name	Seat mats of beaten bark or woven rattan attached to the loincloth
Description	/
Classification of Orang Ulu's Motifs and their Properties	
Classification	Geometric and Novelty
Photo	
Name	Cylindrical container
Description	Inspired by a dragon
Classification of Orang Ulu's Motifs and their Properties	
Classification	Geometric and Novelty
Photo	
Name	Beadwork panels from Kayan baby carriers with human figures and dragon head
Description	Inspired by the human figure and "Kenyalang" or hornbill
Classification of Orang Ulu's Motifs and their Properties	
Classification	Geometric and Novelty
Photo	
Name	Beadwork panels from Mahakam Kayan baby carriers
Description	Inspired by tiger head and human (kelunan) means people

Table 1 (part 6)

Classification of Orang Ulu's Motifs and their Properties (All photos taken by author)

Classification of Orang Ulu's Motifs and their Properties	
Classification	Geometric and Novelty
Photo	
Name	Kayan man's beaded cap (above) Women's beaded headdress panel (below)
Description	Inspired by the human figure and "Kenyalang" or hornbill
Classification of Orang Ulu's Motifs and their Properties	
Classification	Geometrical
Photo	
Name	Beaded box decorated
Description	/
Classification of Orang Ulu's Motifs and their Properties	
Classification	Geometric and Novelty
Photo	
Name	Beadwork panels Ramo Sengro
Description	Inspired by Tiger feet

Motif Design Conceptualization

Once the research and inspiration have been gathered, the next step is to conceptualize a design. This involves creating sketches or digital renderings of the motif, experimenting with different shapes, colors, and patterns, and refining the design until it reflects the community's cultural identity and aesthetic values. This study adopted the main character in the Orang Ulu motif design, which is a spiral and curvy shape as shown in Table 2 and inspired by a decorated baby carrier and beaded box wallet and utilized in most material culture Orang Ulu products.

Motif One: Decorative baby carriers serve as the inspiration for this element. The designer has taken the same element, and in the first combination, the element is repeated in a 60-degree rotation based on the designer's vision. One piece of this combination has been cut, as shown in Table 2. Afterwards, the cut element is copied and placed on a vertical axis, and

the process is repeated for the second combination. In this repetition, the design unit is projected in the direction of the vertical axis, and a mirror design is repeated in the vertical direction. Finally, in the third combination, a new element is rotated and repeated ("120-Degree Rotation Repeat") as shown in Table 2.

Motif Two: In the second design, this element is also inspired by decorated baby carriers. The designer has taken the same element, and in the first combination, the element is repeated in a 60-degree rotation, and based on the designer's vision, two pieces of this element are cut separately as shown in Table 2. Afterwards, the cut elements are copied and placed in a vertical axis repeat for the second combination, which is named "Four-Way Mirror Repeat". Finally, in the third combination, a new element is created with placement from both new cut motifs, as shown in Table 2. In this repetition, the design unit is projected and repeated by the vertical axis at first, and then both units are projected under the horizontal axis.

Motif Three: A beaded box wallet serves as the inspiration for the third design's element. The designer has taken the same element, and in the first combination, the element is repeated in "Horizontal Mirror Repeat," and based on the designer's vision, three pieces of the combination element are cut separately as shown in Table 2. In this type of repeating, the design unit is projected under the horizontal axis only once, and it creates a mirror image in the horizontal axis. Afterwards, the cut elements are copied and placed together. Finally, in the third combination, a new element is created with placement from all three new cut motifs and placed in a vertical axis repeat for the third combination. In this repetition, the design unit is projected in the direction of the vertical axis, and a mirror design is repeated in the vertical direction as shown in Table 2.

Artistic Creation in Orang Ulu's Material Culture

With the motif design completed, the next step is to create the artwork using the medium, such as weaving, beadwork, wood carving, or painting. For this step, the designer decided to use handloom weaving to show a piece of artwork that can present the look of *songket* fabric weaving with the developed motifs due to the lack of any specific Orang Ulu fabric. *Songket* weaving is a traditional handwoven fabric technique that is popular in Southeast Asia. The fabric is known for its intricate patterns and metallic threads, which are often made of gold or silver. The first step in the process is to design the pattern. This involves creating a detailed drawing of the pattern on paper, which will serve as a guide for the weaver. After the loom is prepared, the weaver ties the developed pattern onto the warp threads using a technique called "ikat". Ikat involves tying sections of the warp threads with string or other materials to create a resist. When the threads are dyed, the areas that are tied will resist the dye, creating the pattern. Hence, designers use the laser machine to create the paper or plastic stencil on a different scale to enhance the actual size.

After that, the designer installed the cotton threads in the traditional loom and dyed the threads based on the developed motifs.

Therefore, after removing the blocks, the patterns were placed on the loom, and designers started to weave the fabric using gold weft thread. Once the warp threads are tied to the pattern, the weaver begins weaving the fabric; however, it can be woven on a digital weaving loom. This involves passing the weft threads, which run horizontally across the loom, over and under the warp threads to create the fabric. However, the designer has not added weft threads for experimental study.

Table 2

Process of creation of the developed Orang Ulu Motif using graphic design expression

No.	Inspiration	Character/Element	Process Development			
			First Combination	Cut-Out	Second Combination	Third Combination
1						
2						
3						

As the fabric is woven, the weaver adds metallic threads, which are often made of gold or silver. After the fabric is woven, it is removed from the loom. The process for creating the piece of artwork is shown in Figure 1. As mentioned before, in the apparel and clothing sector, there are no small and medium enterprises that have successfully incorporated Orang Ulu motif designs into their apparel products. For example, *Pua Kumbu* is a weaving cooperative in Sarawak that produces handwoven textiles featuring traditional motifs and patterns of the Iban people.

Hence, in this study, the songket weaving patterns with developed Orang Ulu motifs were established primarily, and thereafter they were simulated in a 3D version via CLO3D software. A simulated and fabricated fabric in CLO3D software with different properties is shown in Figure 2. As shown in Figure 3, the developed 3D Orang Ulu fabric was simulated based on pattern weaving. Hence, the designer developed patternmaking for each motif separately. Then, a pattern was developed from the combination of these three new motifs, and the designer created a new pattern for the woven fabric.



» **Figure 1:** *Process of Artistic Creation of Developed Orang Ulu Motif*



» **Figure 2:** *Simulated 3D Orang Ulu songket weaving fabric*



» **Figure 3:** *3D simulation of Orang Ulu fabric designs and weaving patterns*

Finally, pattern weaving was applied in CLO3D software to simulate a constructed fabric with gold threads to show how the *songket* weaving looks.

As shown in Figure 3, a fabric can be created based on the developed Orang Ulu's motifs and using *songket* weaving techniques in the Malaysian fabric and textile market. On the plus side, preserving the Orang Ulu motif by using a weaving technique to create a new pattern can be a challenging task. This is because the weaving process may alter the motif's shape, size, or orientation, leading to a loss of its identity. The best technique used to preserve motif identity is called double weaving. In this technique, two layers of fabric are woven at the same time, allowing for the creation of two separate layers of design. By carefully manipulating the warp threads and selecting the right color combinations, it is possible to create a new pattern while preserving the identity of the original motif. Hence this study will propose using the double-weave *songket* technique to create the first orang ulu fabric.

Discussion and Conclusion

The generation and dissemination of knowledge are fundamental drivers of innovation and play a crucial role in fostering the growth of regional cultural heritage. The competencies of a designer have the potential to enhance their social efficacy and aid in addressing contemporary challenges. Developing motif design in Orang Ulu's material culture through art and graphic design can help preserve the rich cultural heritage of the Orang Ulu people. Designers have the potential to act as agents of change and facilitate the growth of local craft industries by utilizing their expertise to develop novel and inventive business models.

As shown in the results, by incorporating traditional motifs and designs into products, these enterprises can ensure that these designs and patterns are passed down to future generations. Developing these products can also contribute to the local economy by creating employment opportunities for artisans and craftsmen. This can help alleviate poverty and support the economic development of the region. Moreover, through the development of small and medium enterprise products that incorporate Orang Ulu motifs and designs, these enterprises can introduce Orang Ulu culture to consumers outside of the community, especially as a fabric that can be made into a garment and spread in the community.

Moreover, by creating products that are attractive to both local and international markets, these enterprises can contribute to the development of creative industries and the promotion of local entrepreneurship. This can foster a greater understanding and appreciation of cultural diversity and contribute to the broader

discourse on cultural preservation and heritage in society. Gaining entry into markets for such commodities can be difficult, especially when the business is operating in a geographically isolated location.

The restricted availability of transportation and infrastructure may impede the capacity of businesses to access broader markets and contend with alternative products. Furthermore, the process of creating and promoting these commodities may necessitate a substantial allocation of resources, including financial capital, machinery, and education. Small and medium-sized enterprises may encounter difficulties in accessing these resources, particularly when operating within a resource-constrained environment. Indeed, the idea of the designer using cultural motifs in innovative ways not only holds the potential for artistic and creative exploration but also serves as a strategic means for the Orang Ulu community to gain new rewards from their cultural heritage while maintaining control over the use of these motifs and to preserve them. Designers can produce products, art, or designs that appeal to a wider audience by reinventing these motifs, resulting in commercial benefits and cultural acclaim.

This strategy helps the Orang Ulu to recover ownership and preserve a sense of power over where and how their cultural motifs are used, thus preserving their cultural integrity. In doing so, they find a balance between preserving their legacy and adjusting to the ever-changing global creative landscape.

The integration of customary Orang Ulu patterns into the merchandise of small and medium enterprises can serve to preserve these motifs from potential extinction as younger generations increasingly distance themselves from traditional handicrafts. Furthermore, the success of these enterprises can inspire and motivate younger generations to appreciate and take part in traditional arts and crafts through graphic design, thus ensuring the continuation of Orang Ulu culture and traditions. In terms of the wider society, the development of Orang Ulu motif designs through art as small and medium enterprise products can supply a means for cultural exchange and appreciation. By incorporating these motifs into their products, small and medium enterprises can introduce Orang Ulu culture to consumers outside of the community and provide a window into the unique cultural heritage of the Orang Ulu people. This can foster a greater understanding and appreciation of cultural diversity and contribute to the broader discourse on cultural preservation and heritage in society.

This research is in line with the mission of the government to promote and conserve material cultural communities. According to the policies of creative industries, there is a shift in how art, design and culture play a significant role in the new economy in Malaysia.

In this way, the scope of cultural policy study and practice has been broadened. It is a sign of the democratization of material culture and its importance to society and the economy that there is a broader understanding of culture that includes the creative arts and preserves them.

Moreover, Sahari, Durin, and Sangin (2016) stated that the changing physical landscape due to development projects in the region has affected traditional craft-making activities and has become the main challenge for the Orang Ulu craft makers to sustain their material culture.

Thus, there are three strategies to support material culture: conventional product reproduction (using alternative raw materials), traditional product innovation, and youth participation in craft-making. Hence, the association of this study with the preservation of Orang Ulu culture is to help better understand the role art and design play in building cultural material, with a focus on Orang Ulu's art and motif design.

So, the development of motif designs in the Orang Ulu community would apply to small and medium enterprises to promote them in the market and sustain them, especially textile and fabric products. Therefore, the scarcity of knowledge about Orang Ulu material culture development is addressed by developing pattern and motif designs for small and medium enterprise products.

Moreover, this project highly recommends using either a digital or traditional weaving loom for the younger generation to enable diverse points of view in creative ways. This research shows that developing motif design in Orang Ulu's material culture through art and graphic design is significant as it can contribute to the preservation of the Orang Ulu cultural heritage, promote economic development, and foster cultural exchange.

However, it also presents challenges such as quality control, limited market access, a lack of resources, and the need for intellectual property protection. The resolution of these obstacles is imperative to guarantee the triumph and endurance of said enterprises. In general, the advancement of the Orang Ulu motif design possesses the capacity to yield a favorable influence on both the Orang Ulu populace and the broader society.

Through the provision of mechanisms for cultural preservation, economic advancement, and cultural interchange, these enterprises have the potential to safeguard the endurance and value of the Orang Ulu cultural legacy for future generations.

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