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The Development of Cultural Products From Southern Ancient Bead Patterns

การพัฒนาสินค้าทางวัฒนธรรมจากศิลปะลวดลายลูกปัดโบราณภาคใต้

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Paweekorn Suraban[1]
ปวีณ์กร สุรบรรณ์
Pornpan Khemakhunasai[2]
พรพันธุ์ เขมคุณาศัย
Natthapong Chitniratna[3]
ณฐพงศ์ จิตรนิรัตน์

Abstract

This research aims to study the ancient beads in southern Thailand, design patterns based on beadwork gathered from several sources, and develop shawls as a multi-purpose product using the bead patterns. The data were collected from books, related documents, and interviews with 13 informants who were staff members in cultural museums situated in communities, bead intellectuals, and bead collectors in Songkhla and Krabi Provinces. The obtained information was used as fundamental knowledge in the designing process and the development of multi-purpose shawls. The satisfaction with the products was evaluated by 400 tourists through an online questionnaire. The study found that there are three distinct types of southern ancient beads reflecting the unique southern context: monochrome glass beads, beads of the sun gods, and seashell beads. Hence, the identities of those three beads were brought to create patterns and design multi-purpose shawls. The analysis of the tourists' responses showed that the sun god pattern shawls were the most satisfying ones, followed by the monochrome glass bead pattern shawls and the seashell bead pattern shawls.

Keywords: ancient beads, design, cultural products

บทคัดย่อ

การศึกษาวิจัยครั้งนี้มีจุดมุ่งหมายเพื่อศึกษาองค์ความรู้เกี่ยวกับลูกปัดโบราณภาคใต้ ประเทศไทย ออกแบบและพัฒนาลวดลายผ้าคลุมไหล่อเนกประสงค์ โดยใช้วิธีการศึกษารวบรวมข้อมูลจากหลักฐานทางโบราณวัตถุ

[1-3] ***Affiliation:*** Faculty of Humanities and Social Sciences, Thaksin University, Thailand
หน่วยงาน : คณะมนุษยศาสตร์และสังคมศาสตร์ มหาวิทยาลัยทักษิณ ประเทศไทย

Corresponding Author: Paweekorn Suraban
E-mail: Paweekorn.s@rmutsv.ac.th

การเก็บข้อมูลจากหนังสือ เอกสารที่เกี่ยวข้อง และการสัมภาษณ์เจ้าหน้าที่ในพิพิธภัณฑ์ ผู้มีความรู้เกี่ยวกับลูกปัด และนักสะสมลูกปัด ในจังหวัดสงขลาและกระบี่ จำนวน 13 ท่าน นำข้อมูลที่ได้จากการศึกษามาเป็นฐานความรู้ เชื่อมโยงไปสู่กระบวนการในการสร้างสรรค์ลวดลายและพัฒนาเป็นผ้าคลุมไหล่อเนกประสงค์ และการประเมินผลความพึงพอใจของกลุ่มตัวอย่างนักท่องเที่ยว จำนวน 400 คน ที่มีต่อผ้าคลุมไหล่อเนกประสงค์ โดยใช้แบบสอบถามออนไลน์ ผลการวิจัยพบว่า ลูกปัดโบราณในภาคใต้ที่มีความโดดเด่น สะท้อนถึงบริบทของภาคใต้มีสามชนิด ได้แก่ ลูกปัดลูกลม ลูกปัดสุริยะเทพ และลูกปัดเปลือกหอย ผู้วิจัยได้นำอัตลักษณ์ของลูกปัดทั้งสามชนิดมาสร้างสรรค์ลวดลายและพัฒนาเป็นผ้าคลุมไหล่อเนกประสงค์ ผลการวิเคราะห์ระดับความคิดเห็นของนักท่องเที่ยวที่มีต่อสินค้าทางวัฒนธรรม พบว่า มีความพึงพอใจต่อผ้าลวดลายสุริยะเทพมากที่สุด รองลงมา คือ ผ้าลวดลายลูกปัดลูกลม และผ้าลวดลายลูกปัดเปลือกหอย ตามลำดับ

คำสำคัญ ลูกปัดโบราณ การออกแบบ สินค้าทางวัฒนธรรม

Introduction

Ancient beads, the small inventions known to be made by humans in several regions around the world since the pre-historic era, were creatively made of raw materials in everyday life such as wood, stone, minerals, bones, shells, corals, plant seeds, clay, and glass. These materials were sometimes dyed or colored. Some materials were polished, melted, and placed in molds to form various physical appearances before drilling a small hole for stringing (Pongpaiboon, 1986). They were found in many regions around the globe. They varied in terms of appearance, shape, size, color, and pattern, depending on several factors such as raw materials, manufacturing techniques and technology, and creativity and imagination of the creators. Knowledge of bead production has been accumulated and transferred between local groups as well as regions. In addition, roles of the beads invented by humans differed in each area. They could be used as body ornaments, social status indicators, protective talismans, tools in ceremonies, a medium of exchange, or a significant product in trading from the past until the present time.

Thus, beads are one of the vital pieces of evidence indicating the relationship between trade, society, cultures, and people in the past. Both domestic and international scholars in history and archeology considered beads as archeological and cultural objects in relation to people in the different fields of history, economy, and cultures which reflect the traces of prosperity occurring in the past between communities in Southeast Asia and other regions around the globe (Borell et al., 2014; Glover et al., 2014; Gosh, 2018; Jedeetha, 2015).

In Thailand, conservation and management of cultural heritage and wisdom have been implemented through collecting and displaying beads at museums in order to preserve their value and meaning. The narratives of the bead origins and examples that have been discovered in the areas are on display so that those interested can visit to learn and enjoy the activities about the beads and related items. Museums and learning centers which present particular narratives about southern beads are Klongthom Museum and Andaman Bead Museum inside the Andaman Culture Learning Centre in Krabi Province. Moreover, there are other places that display bead narratives alongside other forms of knowledge such as national museums, local museums, and folklore museums inside the Institute for Southern Studies, Songkhla Province.

Nowadays, although beads are conserved and managed as a valuable cultural heritage of society, younger generations generally know little about ancient beads and their importance is even being compromised due to the invention of artificial beads. Also, groups of people smuggle, sell, and possess ancient beads. These vulnerable antique items are regarded as in danger of disappearing. Currently, beads not only hold cultural value in terms of identity value, relative artistic/technical value, and rarity value, but they also create contemporary socio-economic values. These values are elements of the cultural resource evaluation criteria of Feilden and Jokilehto (1998, as cited in Lertcharnrit, 2011). Southern beads have been the focus of many researchers who studied, designed patterns from beads, and created products to regenerate the value of the beads. For instance, Rattanapan (2018) created souvenirs from Nora beads; Santajit et al. (2019) used beads as parts of jewelry; Kaewareelap and Kritsanapan (2018) incorporated ancient bead patterns into batik design; and Kednaramol (2012) designed areas in a health center for the elderly using the characteristics obtained from the beads such as colors, patterns, and arrangement.

A survey was completed by 400 tourists and the results pointed out that a multi-function body accessory with bead patterns was preferred. As a result, the researchers decided to develop multi-purpose shawls using patterns that resemble the southern ancient beads. These shawls are useful as they keep the users warm and are eye-catching with nice unique patterns and colors, making a good body accessory. At the same time, the shawls with bead patterns can work to enhance the economic value of the ancient, beads. In fact, the purchase of ancient beads is prohibited nowadays. Integrating bead patterns on daily items such as shawls can be seen to revive the utilization of the beads and maintain the value of their cultural heritage

Objectives

The study aimed to:

1) study the ancient beads found in southern Thailand.

2) design shawl patterns inspired by southern ancient beads.

3) develop multi-purpose shawls as cultural products based on the southern beads.

Research Methodology

Both qualitative and quantitative research approaches have been applied in this study to analyze patterns of ancient beads which are outstanding in southern Thailand. Data collection and research tools are described below.

1. Participants

There were two main groups of participants participating in this study: the informant group and the designer group.

The informant group consisted of two groups of specific informants chosen as the research samples based on their qualifications and how they were related to the beads: key informants and casual informants. The first group, key informants, consisted of 13 informants who were staff members in cultural museums situated in communities, bead intellectuals, and bead collectors. Interviews about the

narratives of the southern beads were organized and group discussions were conducted to find out guidelines for product development. The second group, casual informants, consisted of 800 informants including tourists, consumers, and the public who were chosen by the simple random sampling method. The designer group consisted of five experts or experienced designers specializing in historical art who evaluated the bead patterns used in cultural product development.

2. Research Tools

There were five research instruments in this research.

1) An unstructured interview was carried out to obtain knowledge on beads through narratives connected with local people in the southern region of Thailand.

2) A group discussion was conducted to exchange opinions among museum staff, bead intellectuals, and bead collectors in order to create guidelines for cultural product development from their knowledge of beads and to increase the value of cultural tourism.

3) A questionnaire was created to ask for opinions of the sample group towards the cultural product developed from knowledge of beads.

4) An evaluation form was designed to evaluate the bead-driven patterns used in cultural products. This is a tool used to collect experts' responses for data verification and determine its consistency with the focus of the study. Also, the tool is used to ensure its value towards cultural tourism before the information is revised and used in the development process.

5) A satisfaction survey was constructed to measure the satisfaction level of the sample group with the cultural products developed from bead inspiration.

3. Collection of Data

There are five phrases necessary for the data collection in this research.

1) Background information on southern ancient beads from the collected beads, books, and related documents was studied. Interviews were also conducted to obtain specific information about beads including general characteristics, identity, appearance, and narratives.

2) Patterns that would be used for the prototype development of the product were designed, and the designed patterns were evaluated by five designers.

3) Group discussions were arranged for the local experts to brainstorm ideas in order to indicate guidelines for designing the prototype of the bead-inspired cultural products.

4) An online questionnaire was conducted to ask the opinions of 400 tourist samples about the guidelines for cultural product development from beadwork. This information was used as the criteria for product design and development.

5) A prototype of the product was created, and an online questionnaire was conducted to determine the satisfaction level of another 400 samples toward the product.

4. Data Analysis

The data analysis procedures are as follows.

1) Information from all papers and interviews was examined.

2) Percentage, mean ($\bar{x}$), and standard deviation were calculated from the evaluation completed by the designer group on the bead patterns used for the cultural products. The analysis and interpretation were used as guidelines for improving the bead patterns before the finished products were developed.

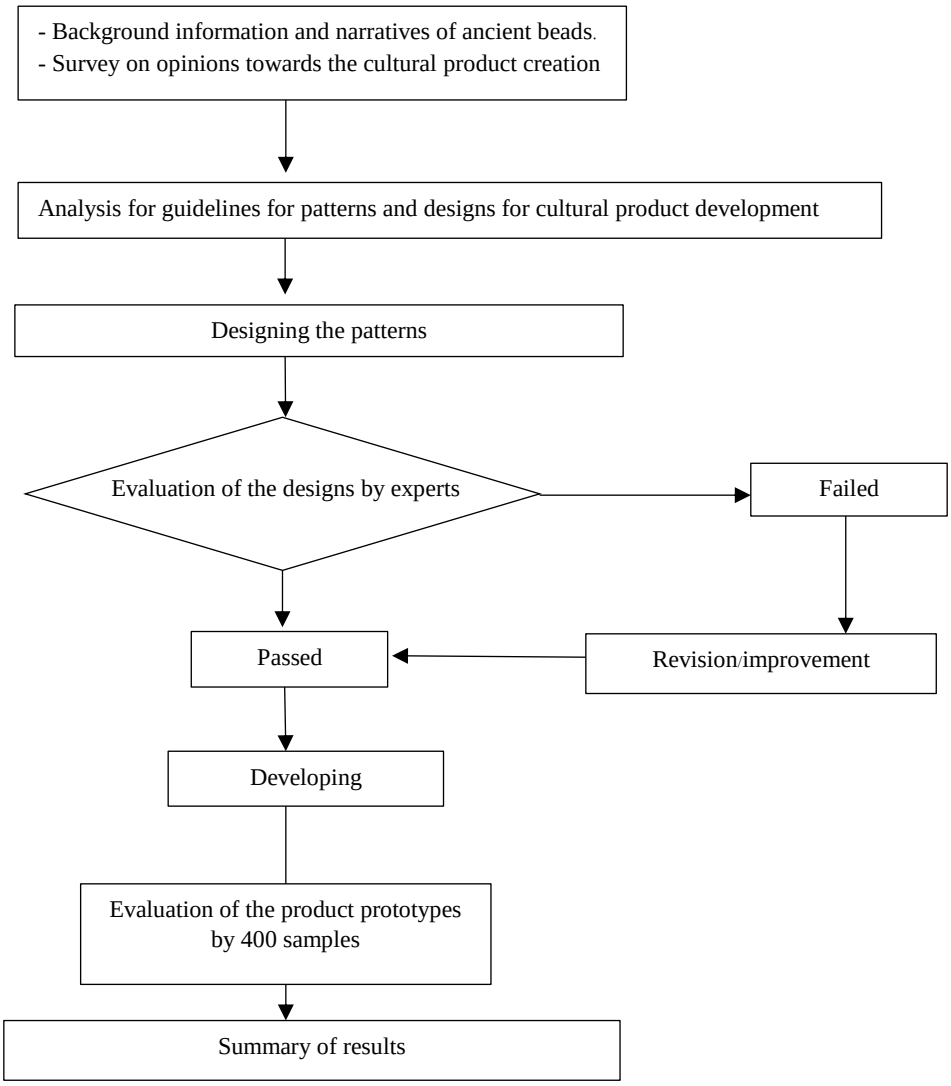
3) Opinions from experts were considered and used as criteria and guidelines for product design and creation.

4) Frequency, percentage, mean ($\bar{x}$), and standard deviation were obtained from the analysis of an online questionnaire to assess the demand for cultural products from consumers and tourists and their satisfaction with the cultural products

The process involved in the data collection was described by the diagram in Figure 1 below.

Figure 1

The Process of the Bead-Inspired Shawl Development



Source: Original photograph by Paweekorn Suraban, November 8, 2022

Findings

This study analyzed information on three types of ancient beads by examining related documents, textbooks, and articles. Theoretical principles in design were utilized to classify basic information on beads of each kind such as production materials, color, production techniques, patterns, general characteristics, appearance, and identity. The local bead narratives obtained from interviews were also analyzed. The three main findings of the study, including characteristics of the ancient beads, patterns obtained from the ancient beads, and the development of the multi-purpose shawls based on the bead patterns, are presented as follows.

1. Obtained Information and Narratives of Ancient Beads

1.1 Monochrome Glass Beads

Materials: Colored glass, rock, or rock-forming minerals such as carnelian, sard, agate and onyx, citrine, amethyst, crystalline quartz, ruby, and jade

Color: Brick-red, yellow, green, light blue, blue, and black

Production techniques: Glass melting and pulling methods are relied on in producing monochrome glass beads. A melted glass cube is stretched into a long tube and cut into pieces. A long-cut glass tube is called a "morning glory-stalk glass tube," while a short-cut glass tube is called a cylinder or short cylinder, round-chopping board or short round bar shape. An oblique or sloping appearance caused by uneven cut of the tip is chamfered by heat to make spherical shape beads and become monochrome glass beads.

Patterns: none

General Characteristics: The entire bead has the same color. They are in different shapes and forms such as round, cylinder, and flat. It is called according to its colors such as light blue wind beads, yellow wind beads, blue wind beads, honey wind beads, or copper wind beads. The sizes vary from small (1-3 millimeters, some scholars called it a mosquito's eye), to medium (8-9 millimeters), and sometimes could be up to 14 millimeters.

Assumption: Monochrome glass beads were originally from India and were exported to Southeastern regions via trading between the regions. In those days, Indian merchants sailed and needed to depend on seasonal winds in order to blow the ships back and forth between India and other cities. This has become the name of the bead in Southeastern regions "Indo-Pacific Beads or Trade Wind Beads".

1.2 Beads of the Sun God

Materials: Mosaic or Roman colorful glass
Color: Red, green, black, or white
Patterns: Similar to a human face with color stripes around the face

Production techniques: The bead is made of colored glass with a mosaic technique. The colored glass is melted together resulting in a streaked glass of different colors. Then, the glass is melted and

softened with heat. After that, it is stretched into a long tube resulting in a pattern of a human face and radial lines around the face spreading out like sunlight on the cross-section surface before being cut into slices. Lastly, a hole is drilled for stringing.

General characteristics: It is small in size, around 1.2 millimeters with a pattern like a human face with radial lines spreading out like sunlight.

Identity: This type of beads has a human face-like pattern with radial lines spreading out like sunlight around the face. Locals called this bead type "Human Face Bead or Indian Face Bead". Later, scholars who were interested in ancient beads assigned this type of beads the new name "Bead of the Sun God" which has been the most famous bead of Kuan Lookpad archeological site, Klongthom, Krabi province. Some of the beads found were in good condition, and some were broken like crescents.

Legendary: It is assumed that beads of the sun god were created during the Greek-Roman era in a small town named Alexandrea, situated on the Mediterranean coast in Egypt, Africa Continent. Due to its distinct human facial characteristics, it is claimed to be caused by the belief in the faces of Greek-Roman gods together with the respect towards the sun as the source of human beings, wealth, happiness, and suffering.

Narratives from people: It is believed that the beads which look like the sun were invented before pre-historic times. During that era, people regarded the sun and the moon as the inspiration for human well-being or suffering which everyone must worship (Participant No.1, Personal Communication, December 1, 2020).

Another story is that beads of the sun god are a combination of the sun and the moon. The sun is called Suriyan and the moon is called Chandra. Whoever has the sun god beads in his possession will be prosperous. Moreover, he would gain power in the universe. The Sun God is sacred all over the world in many religions such as Buddhism, Christianity, and Islam. If people have an item that can relate to the Sun God, it will definitely give them good luck (Participant No.2, Personal Communication, December 1, 2020).

1.3 Shell Beads

General characteristics: These beads are created from materials found in nature such as seashells which are sheared, polished, and drilled to create holes for stringing. Thus, their shapes vary according to their original states. Their color is usually off-white.

Identity of Money-Cowry Beads: These beads came from natural materials with their own beauty and durability. It was often found during the pre-historic archeological sites and in early history communities in almost every region of Thailand. It was popular for body ornaments or charms by stringing them with threads or ropes. In addition, this type of seashell was used as money or exchange for trading by people in ancient times dating back to China's Longshan Cultural Era (3000 BC). It was considered to be the first valuable item in society and was popular for collection.

The appearance of Money-Cowry Beads: It is a type of seashell with a single bract, hard, and a convex back. The belly is flat with a cavity showing small teeth-like squiggly marks. They vary in size ranging from as big as a thumb to as small as the tip of a little finger.

Legendary: Hindus believe that these seashells represent Goddess Lakshmi, the goddess of fertility, bringing in fortune, money, love, beauty, and prosperity to worshipers. The god is respected by the Brahmins as a symbol of power and a cult that worships female deities. According to Hindu mythology, Lakshmi originated from a sponge. While the gods and demons performed a great ritual, called stirring the sea to obtain elixir, Goddess Lakshmi was born with a lotus flower and believed to be one of the fourteen miracles. This event is a part of the Hindu Brahmin myth, Vaishnavism (Narayana incarnation). Later on, Lakshmi became the wife of Vishnu (Narayana incarnation). Vishnu acted as a person who helped take care of Lakshmi who is the creator of the world's perfection. A lot of people believing in Goddess Lakshmi often carry this seashell with them as a means of strengthening their finances and protecting against incoming harm.

The overall information about each type of ancient beads obtained from the analysis is presented in Table 1 below.

Table 1

Bead Classification

Bead type	Proto type image	Materials	Shape	Pattern	Color
-Monochrome glass bead -Trade wind bead -Indo-pacific bead -Single-colored bead		Colored glass, rock or rock-forming minerals such as carnelian, sard, agate and onyx, citrine, amethyst, crystalline quartz, ruby, and jade		Not Available	Brick red, yellow, green, light blue, blue, and black
-Bead of the sun god -Face of the sun bead -Human face bead -Indian bead		Mosaic or Roman colorful glass		Similar to a human face with color stripes around the face	Red, green, black, or white
-Seashell bead -Money-cowry bead		Seashell		Natural patterns	Off-white

2. Designing and Creation of Bead Patterns

To design and create the patterns for the shawl products, knowledge from narratives on the origin of each bead type, the outstanding pattern of ancient beads, principles of design, and art composition were employed as a concept for pattern design that conveys the identity of each ancient bead type, relying on the principles of unity, balance, and dominance. Similar images of the beads were arranged with the designed proximity using the techniques of continuation, repetition, and harmony. The principle of contrast of color was adopted in order to create a difference in color perception (Nimsamer, 2011). Also, the elements of the design (dots, lines, and shapes and forms) as suggested by Suttimusig (2011) were applied in the designing process of the patterns.

2.1 Patterns Derived from Ancient Beads

2.1.1 Pattern from Monochrome Glass Beads

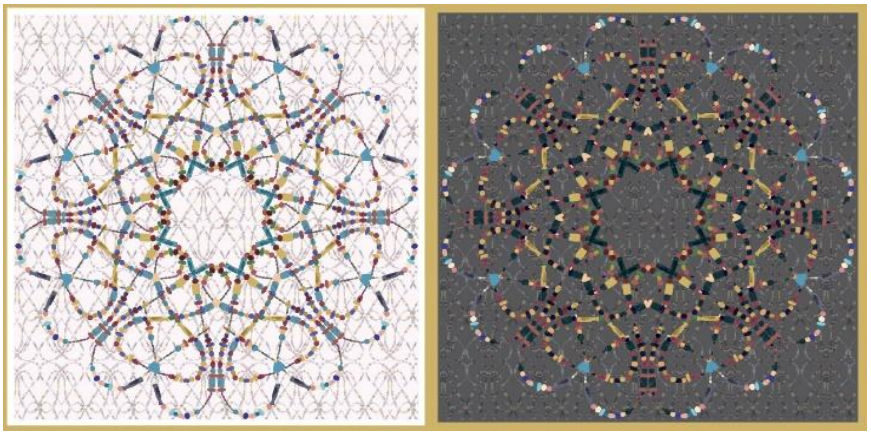
The major inspiration for the concept and pattern design of monochrome glass beads came from the single-color glass including colors like brick red, yellow, green, light blue, blue, and black which appeared throughout every archaeological site both in a pre-historic and early historic time of southern Thailand. This also extended to the Southeast Asia region. There was an assumption that the beads were invented by Indians and brought to Southeast Asia by Indian merchants, Arabs, and sea navigators who sailed along the southwest monsoon and waves in order to exchange goods. This is why this type of bead is called a trade wind bead. This bead was popular for stringing and using as a body ornament before it has been developed into Nora's shirts (Southern Traditional Dance Clothing).

During the designing process, the beads were arranged in a graphic pattern in order to interlace beads together, similar to stringing beads on Nora's shirts, which creates delicacy through circle composition. The background was designed in an overlapping pattern to create dimension and the main pattern becomes outstanding.

Colors on the pattern come from the identity of the beads such as brick red, yellow, green, light blue, blue, and black. Both dark opaque and translucent colors of the beads were chosen in order to reflect different raw materials used in production. For example, monochrome glass beads created from the rock will be opaquer than those made from glass. The white background was selected to convey the transparency of the monochrome glass bead and reflects the origin of this bead type as it came with the entry of trade in the past when sailors needed to rely on wind and sea waves to navigate for trading goods. Besides, greyish brown refers to the color of the soil in the deep layer of earth which is attached to the ancient beads when they were unearthed.

The pattern obtained from the analysis of the monochrome glass beads is shown in Figure 2 below.

Figure 2
Monochrome Glass Bead Pattern Design



Source: Original photographs Paweekorn Suraban, April 20, 2022

2.1.2 Pattern from Sun God Beads

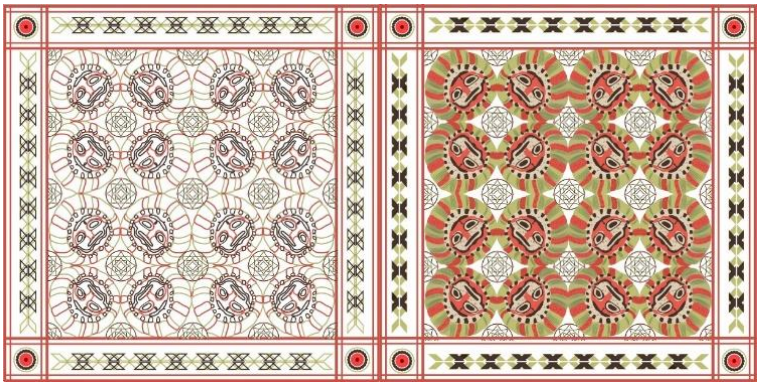
The concept and pattern design of this bead type was mainly inspired by Mosaic glass beads which create a human face pattern with color stripes around the face like radial lines of the sun. It is the most famous bead from Klongthom archaeological site in Krabi province. Scholars have given the name "Bead of Sun God or in Thai Suriyathep Bead" and assumed that it was first invented during the Greek-Roman era, Alexandrea, Mediterranean coast in Egypt, Africa. This pattern signifies respect towards the sun as the source of human wealth, happiness, and protection against suffering.

Hence, the outstanding characteristics of the beads were chosen for the pattern design in this study. In other words, the pattern contains beads that resemble a human face with curvy asymmetrical lines. The line from each face is connected with another like when they are strung together with a thread. It is arranged as a graphic pattern. Human faces are separated by circles consisting of overlapping radii that represent the rays of the sun. The four edges contain diamond squares connected like arrowheads of Indigenous African tribes. Each corner contains a pin that has a red circle surrounded by a black and green halo similar to the circle of the sun. The design is available in both stripes and color schemes.

The colors used in this pattern come from the color of glass which is shown on the actual beads including green, red, black, and white. The background color is white which would make the inner pattern distinguishable. This pattern signifies the way people show respect to the sun as a source of affluence, happiness, and safety. The graphic pattern design was chosen and the center of interest is on the human face beads with an asymmetric curve, which is the beauty of the sun god beads. The techniques of repetition, scale, and continuation were adopted in designing the patterns.

The pattern obtained from the analysis of the sun god beads was shown in Figure 3 below.

Figure 3
Beads of the Sun God Pattern Design



Source: Original photographs Paweekorn Suraban, April 20, 2022

2.1.3 Pattern from Seashell Beads

The concept and the pattern design of this bead type were mainly inspired by money-cowry seashell bead which is a natural material favored by ancient people as a body accessory and used as a medium for goods exchange. When it is combined with other natural patterns like waves and other seashells found in the oceans, a new pattern is developed.

White color is chosen for the shell in this pattern as it is the authentic color of the seashell. The colors of the background and surrounding patterns are relative tones of blue including indigo, ocean green, and gray to reflect the abundance of the sea.

The pattern obtained from the analysis of the seashell beads is shown in Figure 4 below.

Figure 4
Seashell Bead Pattern Design



Source: Original photographs Paweekorn Suraban, April 20, 2022

2.2 The Evaluation of the Patterns Derived from Ancient Beads for Cultural Product Development

The result of the evaluation from five experts presented in Table 2 shows that they were highly satisfied with all patterns. The highest satisfaction was given to the seashell bead pattern ($\bar{x}$ = *4.12)* followed by the bead of sun god pattern ($\bar{x}$ = *4.*05*)* and the least was the monochrome glass bead pattern ($\bar{x}$ = 3.92*).* The satisfaction was divided in the light of the suitability of the pattern, and the pattern with the highest suitability was the seashell bead pattern ($\bar{x}$ = *4.*20*)*, followed by beads of the sun god pattern ($\bar{x}$ = *4.00)* and the monochrome glass bead pattern ($\bar{x}$ = *4.00)*. When considering the attractiveness, the bead of the sun god pattern received the highest satisfaction ($\bar{x}$ = *4.10),* followed by the seashell bead pattern ($\bar{x}$ = *4.*05*)* and the monochrome glass bead pattern ($\bar{x}$ = 3.85*)*.

Table 2

The Experts' Evaluation of Bead Patterns for Cultural Product Development: Suitability and Attractiveness

Issues	Satisfaction level					
	Monochrome glass bead pattern		Sun god bead pattern		Seashell bead pattern	
	$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.
Suitability of pattern						
1. The patterns can convey the appearance of beads.	4.20	0.447	4.20	0.836	4.40	0.547
2. The patterns can convey the meaning or belief carried by beads.	3.80	0.447	4.00	1.224	3.80	0.836
3. The patterns are suitable for the cultural product used as a body accessory.	4.00	0.707	4.00	0.707	4.40	0.547
4. The patterns are suitable for the cultural product of home decoration items.	4.00	0.707	3.80	1.095	4.20	0.836
Satisfaction level	4.00	0.577	4.00	0.965	4.20	0.691
	High		**High**		**High**	
Attractiveness						
1. The patterns are beautiful and can be developed into cultural products.	4.00	0.707	4.40	0.547	4.00	0.707
2. The identity of beads has been applied and can be clearly seen in the patterns of the products.	3.80	0.447	4.00	0.707	4.00	0.707
3. The patterns are creative.	3.80	0.836	4.00	0.707	4.20	0.836
4. The patterns are beautifully and properly arrang	3.80	0.836	4.00	0.707	4.00	0.707
Satisfaction level	3.85	0.70	4.10	0.667	4.05	0.739
	High		**High**		**High**	
Overall satisfaction	3.92	0.641	4.05	0.816	4.12	0.715
	High		**High**		**High**	

Based on the overall comments of the five experts, the created pattern obviously showed the identity of the actual beads, and the dimensional designs made the pattern more charming.

3. The Development of the Cultural Product Prototypes

3.1 Guidelines for the Management of Cultural Product Development from Knowledge of Beads

Based on the information obtained from the group discussion, guidelines for product development from the knowledge of ancient beads were formulated. The criteria for the design and model creation are shown in Table 3 as follows.

Table 3

Experts' Suggestions as Guidelines for Product Development

Issues	Suggestions
Selection of cultural products	1. The product should be different or distinct from other common products. 2. The knowledge of beads should be taken into account including the narratives, legends, and beliefs attached to beads. 3. Local materials should be used or applied for the further creation of cultural products. 4. Targets or consumer groups should be considered. 5. Cost and management constraints of museums should be considered.
Principles of cultural product creation from beadwork	1. Information about ancient beads from the Folklore Museum of the Institute for Southern Studies must be studied thoroughly including physical characteristics, background, bead's era, finding sites, appearance, identity, stories, or beliefs of the beads which leads to appropriate product design. 2. The elements of design and creation such as color usage and lines must be studied to ensure that beauty quality is reached. 3. The appropriateness of the cultural products in everyday use should be considered.

Data analysis from a survey asking for opinions towards the demand for cultural products from beadwork from tourists is described in Table 4 below.

Table 4

Opinions on the Value of Cultural Products in Cultural Tourism

Opinions	Number of people	Percentage
Demand for cultural product types that should be developed		
Clothing and accessories such as shirts, skirts, pants, shawls bags, and ornaments	255	63.80
Home decoration products such as lamps, mugs, glasses, picture frames, and table clocks	145	36.20
Total	**400**	**100**

According to Table 4, it can be concluded that more than half of the tourist samples (63.80%) show the demand for ornaments as cultural products from beadwork. Thus, this research applied the designed patterns to the creation of the cultural product prototype of a multi-purpose shawl (either shoulders or head covers) with three patterns as shown in Figures 5-7.

Figure 5

A Prototype of a Multi-Purpose Shawl with the Monochrome Glass Bead Pattern and Its Application



Source: Original photographs Paweekorn Suraban, May 3, 2022

Figure 6

A Prototype of a Multi-Purpose Shawl with the Bead of the Sun God Pattern and Its Application



Source: Original photographs Paweekorn Suraban, May 3, 2022

Figure 7

A Prototype of a Multi-Purpose Shawl with the Seashell Bead Pattern and Its Application



Source: Original photographs Paweekorn Suraban, May 3, 2022

3.2 Satisfaction with the Multi-Purpose Shawls Using the Derived Bead Patterns

The tourists' satisfaction with the product of the multi-purpose shawl with three bead patterns was examined and the results are described below.

3.2.1 Satisfaction with a Prototype of the Multi-Purpose Shawl with a Monochrome Glass Bead Pattern

Table 5

Satisfaction with a Prototype of the Multi-Purpose Shawl with a Monochrome Glass Bead Pattern

Multi-purpose shawl with monochrome glass bead pattern	Issues	Satisfaction Level		
		$\bar{\chi}$	S.D.	Interpretation
	**Suitability for usage**			
	1. This cultural product is suitable to be used as a body accessory.	4.48	0.600	High
	2. This cultural product is suitable for all genders and ages.	4.32	0.766	High
	Average	**4.40**	**0.68**	**High**
	Appropriateness of material and production process			
	3. The material chosen for production is suitable to be used as body accessories.	4.48	0.633	High
	4. The size of this cultural product is suitable for use.	4.45	0.643	High
	5. This cultural product is durable.	4.34	0.693	High
	Average	**4.42**	**0.656**	**High**
	Attractiveness and uniqueness of the pattern			
	6. This cultural product reflects the identity of ancient beads.	4.52	0.637	Highest
	7. The pattern is beautiful and appropriate for this cultural product.	4.53	0.609	Highest
	8. The pattern layout has been done properly and beautifully.	4.49	0.629	High

	9. This cultural product is fashionable.	4.43	0.712	High
	10. This cultural product **creates** cultural value.	4.55	0.619	Highest
	Average	**4.50**	**0.64**	**High**
	Overall satisfaction	**4.45**	**0.654**	**High**

Source: Original photograph Paweekorn Suraban, May 3, 2022

The analysis of the satisfaction of a prototype of the multi-purpose shawl with a monochrome glass bead pattern (Table 5) shows that tourists expressed a high satisfaction level of the monochrome glass bead patterned shawl ($\bar{\chi} = 4.45$) which could be divided into the following aspects. First, the aspect of attractiveness and uniqueness of the pattern has gained the highest score ($\bar{\chi} = 4.50$) indicating that this product represents cultural value. Second, the appropriateness of materials and production process received a high score ($\bar{\chi} = 4.42$). The material chosen is silk satin fabric which is suitable for producing this multi-purpose shawl. Finally, the suitability for usage obtained a high satisfaction level ($\bar{\chi} = 4.40$) which shows that this product is suitable for use as a body ornament.

3.2.2 Satisfaction with a Prototype of the Multi-Purpose Shawl with the Bead of Sun God Pattern

Table 6

Satisfaction with the Prototype of the Multi-Purpose Shawl with the Bead of Sun God Pattern

Multi-purpose shawl with the bead of sun god pattern	**Issues**	**Satisfaction Level**		
		$\bar{\chi}$	**S.D.**	**Interpretation**
	**Suitability for usage**			
	1. This cultural product is suitable to be used as a body accessory.	4.51	0.629	Highest
	2. This cultural product is suitable for all genders and ages.	4.39	0.713	High
	Average	**4.45**	**0.671**	**High**
	Appropriateness of material and production process			
	3. The material hosen for production is suitable to be used as body accessories.	4.49	0.625	High
	4. The size of this cultural product is suitable for use.	4.47	0.633	High
	5. This cultural product is durable.	4.43	0.630	High
	Average	**4.46**	**0.629**	**High**
	Attractiveness and uniqueness of the pattern			
	6. This cultural product reflects the identity of ancient beads.	4.55	0.616	Highest
	7. The pattern is beautiful and appropriate for this cultural product.	4.55	0.594	Highest
	8. The pattern layout has been done properly and beautifully.	4.55	0.599	Highest
	9. This cultural product is fashionable.	4.47	0.664	High
	10. This cultural product creates cultural value.	4.59	0.594	Highest
	Average	**4.45**	**0.613**	**High**
	Overall satisfaction	**4.50**	**0.629**	**High**

Source: Original photograph Paweekorn Suraban, May 3, 2022

The satisfaction of a prototype of the multi-purpose shawl with the bead of the sun god pattern was analyzed and the finding in Table 6 shows that tourists expressed a high satisfaction level with the bead of the sun god patterned shawl ($\bar{\chi}$ = *4.50)* which could be divided into the following aspects. First, the appropriateness of material and production process received a high level of satisfaction ($\bar{\chi}$ = *4.46).* The material chosen is silk satin fabric which is suitable for producing this multi-purpose shawl. Second, the attractiveness and uniqueness of the pattern gained a high level of satisfaction ($\bar{\chi}$ = *4.45)* indicating that this product represents cultural value. Finally, the suitability for usage had a high satisfaction level ($\bar{\chi}$ = *4.45)* which shows that this product is suitable for use as a body ornament.

3.2.3 Satisfaction with a Prototype of the Multi-Purpose Shawl with the Seashell Bead Pattern

Table 7

Satisfaction with a Prototype of the Multi-Purpose Shawl with the Seashell Bead Pattern

Multi-purpose shawl with the seashell bead pattern	Issues	Satisfaction Level		
		$\bar{\chi}$	S.D.	Interpretation
	**Suitability for usage**			
	1. This cultural product is suitable to be used as a body accessory.	4.54	0.632	Highest
	2. This cultural product is suitable for all genders and ages.	4.40	0.729	High
	Average	**4.47**	**0.680**	**High**
	Appropriateness of material and production process			
	3. The material chosen for production is suitable to be used as body accessories.	4.51	0.621	Highest
	4. The size of this cultural product is suitable for use.	4.49	0.649	High
	5. This cultural product is durable.	4.46	0.636	High
	Average	**4.48**	**0.635**	**High**
	Attractiveness and uniqueness of the pattern			
	6. This cultural product reflects the identity of ancient beads.	4.52	0.653	Highest
	7. The pattern is beautiful and appropriate for this cultural product.	4.52	0.625	Highest
	8. The pattern layout has been done properly and beautifully.	4.51	0.637	Highest
	9. This cultural product is fashionable.	4.48	0.679	High
	10. This cultural product creates cultural value.	4.56	0.602	Highest
	Average	**4.54**	**0.613**	**Highest**
	Overall satisfaction	**4.49**	**0.646**	**High**

Source: Original photograph Paweekorn Suraban, May 3, 2022

Table 7 shows that the satisfaction of the prototype of the multi-purpose shawl with the seashell bead pattern was rated by the tourists at a high satisfaction level ($\bar{\chi} = 4.49$). The satisfaction could be divided into three aspects. First, the attractiveness and uniqueness of the pattern gained the highest satisfaction score ($\bar{\chi} = 4.54$), indicating that this product represents cultural value. Second, the appropriateness of materials and production process received a high level of satisfaction ($\bar{\chi} = 4.48$). The material chosen is silk satin fabric which is suitable for producing this multi-purpose shawl. Finally, the suitability for usage garnered a high satisfaction level ($\bar{\chi} = 4.47$) which shows that this product is suitable for use as a body ornament.

Conclusion and Discussion

A design guideline for the development of a cultural product prototype was proposed in this study to preserve the artistic and cultural values of the ancient beads in the form of a product of a body accessory in accordance with consumer needs. The pattern distinctiveness and production materials commonly found in the southern regions are the keys to the development of the product from the ancient southern beads. There are three types of beads focused on in this study: monochrome glass beads, beads of the sun god, and seashell beads. The elements of the beads such as colors and bead patterns are used for the design and pattern arrangement with artistic and aesthetic methods such as shape modification, attenuation, stretching, enlargement, and overlapping arrangement. These create outstanding patterns which reflect the identity of the ancient beads and onlookers will be able to perceive the concept of ancient beads the producers want to communicate.

The study found that the three ancient southern beads have a potential for product development as they possess unique patterns, colors, and production materials. The design of the patterns and the development of shawls were carried out in a way to preserve their artistic and cultural values, bringing the bead patterns into use on a daily item, like multi-purpose shawls. The application of beads' identities, like their patterns, on shawls allows the onlookers to familiarize themselves with them and appreciate the values of the beads, without destroying or reducing the number of the discovered beads. The inclusion of ancient beads' elements such as colors, patterns, and characteristics of production materials into patterns on fabric for shawls provides an easier opportunity for people to feel the beauty and value of the beads. This is in line with the analysis of Kednaramol (2012) and Suwacharapinan et al. (2012) who support that the design elements are more common than the concepts or meanings

Recommendations

1. Practical Recommendations

The prototype of the cultural product established from the knowledge of beads creates cultural tourism value. It is an innovation that the Folklore Museum, Thaksin Institute, and other museums displaying ancient beads can produce for commercial sales. Apart from increasing revenue to the museums, the prototype can disseminate stories of ancient beads, leading to the promotion of tourism to

the archaeological sites where the beads were found and other places in the South where bead information and antique beads are collected.

2. Recommendations for Future Research

It is recommended that further studies could be built to develop various patterns or create other cultural products such as decoration items, souvenirs, stationery, and office equipment.

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