
STUDY AND DEVELOPMENT OF PROTOTYPE LIFESTYLE PRODUCT INNOVATIONS BASED ON THE CULTURAL HERITAGE OF THE THAI PHUAN COMMUNITY IN BAN CHIANG, UDON THANI PROVINCE

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Abstract

This research aimed to study and develop prototype lifestyle product innovations based on the cultural heritage of the Thai Phuan community in Ban Chiang, Udon Thani Province, with an emphasis on enhancing cultural value, creative economy potential, and community competitiveness. The study employed a mixed-methods research approach, combining qualitative and quantitative methods. Qualitative data were collected through document analysis, in-depth interviews with community leaders, local artisans, cultural experts, and participatory observation to explore the cultural identity, beliefs, lifestyle, and distinctive artistic elements of the Thai Phuan community. Quantitative data were obtained through questionnaires administered to design experts and target consumers to evaluate product design concepts and prototype satisfaction.

The research process consisted of three main stages: (1) cultural heritage analysis of the Thai Phuan community, focusing on traditional patterns, symbols, colors, materials, and local wisdom associated with Ban Chiang; (2) design and development of lifestyle product prototypes by integrating cultural identity with contemporary design principles, functionality, and market-oriented considerations; and (3) evaluation of the developed prototypes in terms of aesthetics, usability, cultural representation, and overall satisfaction.

The results indicated that the integration of Thai Phuan cultural heritage with modern lifestyle product design can effectively enhance product identity, perceived value, and consumer appeal. The developed prototypes reflected local cultural narratives while responding to contemporary lifestyle needs, thereby contributing to cultural preservation and economic sustainability. Expert and consumer evaluations revealed a high level of satisfaction with the prototypes, particularly regarding cultural expression, design creativity, and practical use. The findings suggest that culturally driven product innovation can serve as an effective strategy for strengthening community-based enterprises, promoting cultural tourism, and fostering sustainable local development in Ban Chiang, Udon Thani Province.

Keywords: Participation, community economic development, Thai Phuan culture and way of life in Ban Chiang

Introduction

Ecotourism is a form of tourism that focuses on the responsible use of natural and cultural resources. Its key objective is to create a learning process for tourists about the ecosystem, lifestyle, customs, traditions, and local wisdom of communities in tourist areas, while simultaneously promoting conservation and sustainable resource use. This form of tourism emphasizes the participation of local communities as key players in planning, managing, and implementing tourism activities to ensure equitable income distribution, strengthen the community economy, and minimize negative environmental and social impacts. Furthermore, ecotourism serves as a tool for raising awareness of natural resource conservation and cultural heritage among tourists and local communities. In addition, ecotourism plays a vital role in integrating environmental, social, cultural, and economic dimensions, leading to the preservation of community identity, the transmission of local knowledge through generations, and the sustainable development of tourism in the long term. In Thailand, the tourism industry plays a significant role in the country's economy, providing both direct and indirect benefits to the economy, society, environment, and culture. It is a major source of income, creates jobs, and contributes to prosperity in various regions (as shown in the Tourism Satellite Account in 2019 (National Tourism Policy Committee, 2022)).

This research studies the application of local arts and culture to product design, aiming for sustainable creative economic development in line with Udon Thani Province's trade strategy. The goal is to achieve provincial strategic objectives by creating functional, unique, value-added products that meet consumer needs, thereby increasing income and strengthening community economies. The research presents a development approach that builds upon local wisdom and promotes income for community product producers, contributing to community prosperity. It also aims to enhance community capacity for learning and adapting innovation, enabling them to apply knowledge to transform and manage community problems, fostering self-reliance. The study and development of innovative lifestyle product prototypes based on the Thai Phuan culture of Ban Chiang, Udon Thani Province, will benefit community product producers and community enterprises by providing guidelines, methods, and procedures for developing product designs that meet market demands. Furthermore, it aims to preserve, conserve, and disseminate the unique arts, culture, and way of life of Udon Thani Province for future generations.

Research Objectives

1. To study innovative lifestyle products reflecting the Thai Phuan cultural tradition under the concept of creative economy.
2. To design and develop innovative lifestyle products reflecting the Thai Phuan cultural tradition.

Scope of the Research

This research explores and analyzes the cultural heritage, identity, lifestyle, and local wisdom of the Thai Phuan community in Ban Chiang, Udon Thani Province. This valuable cultural capital has the potential for creative development. The research emphasizes the study of patterns, forms, and symbolic meanings found in Ban Chiang pottery, as well as other cultural elements reflecting the community's lifestyle and beliefs, to inspire the design of contemporary lifestyle products.

The scope of the research covers the design and prototype development process, from cultural data analysis and design concept creation to product sketching and the development of a functional prototype. Consideration is given to usability, aesthetics, alignment with Thai Phuan identity, and community-level production capacity. Furthermore, it includes evaluating

feedback from design experts and target user groups to improve and refine the product.

The research area is limited to the Thai Phuan community of Ban Chiang, Udon Thani Province, emphasizing community participation in the research process. The goal is to ensure that the results are practically applicable, contributing to added value for cultural products, enhancing the competitiveness of community products, and promoting the creative economy while sustainably preserving cultural heritage.

Literature Review

The Ban Chiang archaeological site is located in the Ban Chiang area, Ban Chiang Subdistrict, Nong Han District, Udon Thani Province, and nearby villages. Before the archaeological study of Ban Chiang, villagers found fragments of painted pottery scattered on earthen mounds around their houses. Around 1957, the villagers of Ban Chiang became interested in the painted pottery and collected it for the headmaster of Ban Chiang School at that time to keep in the school for people to see (Wachirapatharakul, 2002: 5). Later, archaeologists analyzed the pottery fragments using scientific methods and found that they were artifacts of great historical significance. Dating back to the prehistoric era of over 5,600 years, Ban Chiang has been the subject of serious archaeological research since 1967. Since then, Ban Chiang has become an important archaeological site (Kasviset, 2010: 4). After Ban Chiang became known to archaeologists, researchers, academics, and the general public from around the world, who came to study and research it, and also as a historical and cultural tourist destination, at the 16th Ordinary Session of the World Heritage Committee in Santa Fe, USA, the Ban Chiang archaeological site was inscribed as a World Heritage Site by the United Nations Educational, Scientific and Cultural Organization (UNESCO). The declaration of Ban Chiang as a World Cultural Heritage Site was made in 1992 (UNESCO World Heritage Centre, 2012: 1).

Research Methodology

This research, "Study and Development of Prototype Lifestyle Product Innovations Based on the Cultural Heritage of the Thai Phuan Community in Ban Chiang, Udon Thani Province," is a mixed-methods study. The researcher employed both qualitative descriptive analysis and quantitative methods to explore community and consumer needs and evaluate product design. The researcher outlined the research approach, steps, and methodology as follows

1. Studying the community's identity in cultural dimensions: meaning, beliefs, wisdom, and related traditions.

- 1.1 Studying and collecting field data from the study area, Udon Thani Province, to gather information about the history in terms of meaning, beliefs, wisdom, and related traditions; vision; learning skills; and participation.

- 1.2 Studying and collecting field data from the study area, Udon Thani Province, to gather information about the history in terms of meaning, beliefs, wisdom, and related traditions; vision; learning skills; and participation.

- 1.3 Interview Method: In-depth interviews and group interviews with entrepreneurs providing information. Observation Method: Observing the field in Udon Thani Province to gather information to inspire the design of Thai Phuan products. Studying and analyzing data on concepts, theories of design, and artistic composition.

Harmony according to aesthetic principles, good proportions, such as texture, form, lines, and color, are appropriate to the materials and methods, and are consistent with the culture, creative economy concepts, and related product design.

2. Data Collection through Interviews: In-depth interviews and group interviews were conducted to explore cultural dimensions, meanings, beliefs, wisdom, and related traditions.

2.1 Data Collection for Design and Development:

2.1.1 Documentary Research: Information was gathered from books, textbooks, academic documents, journal articles, and the internet. Relevant theories and research were studied, and the data was collected, analyzed, and used to design aesthetically pleasing Ranong products.

2.1.2 Product Design Research: Consultations were held with three design experts to identify suitable products with unique local characteristics and that reflect the cultural dimensions of Ranong province.

3. Explore product designs and commercial product demands, consumer behavior towards products, and currently available community product designs to summarize consumer needs that meet market demands and the potential of the producer group to collaborate with the researcher.

3.1 Analyze physical characteristics and various components to determine suitability for production, integration, and design of new innovative community product designs. Compare production methods, identify strengths and weaknesses in terms of materials, production methods, quality, and product design.

3.2 Design drafts and create design sketches (Idea Sketch) of the innovation. Evaluate the suitability of the design in terms of production suitability, unique value, production methods, by design and production experts, and the self-reliance and competitiveness of the community enterprise.

3.3 Create a prototype: Study and Development of Prototype Lifestyle Product Innovations Based on the Cultural Heritage of the Thai Phuan Community in Ban Chiang, Udon Thani Province.

4. Data Collection: The researcher collected data from research documents and articles to obtain information that meets the research objectives. The data collection methods were as follows:

4.1 Using outlined interviews, in-depth interviews, and group interviews with experts. In terms of design, this involves obtaining information on manufacturing processes, raw material preparation, property improvement, defining criteria for selecting standardized ingredients, product design, and the physical properties of the innovation.

5. Data Analysis: The researchers used the data obtained from the design process to evaluate the design and analyzed the data using percentages, means, and standard deviations to interpret the information for product development. A prototype of an innovative lifestyle product reflecting Thai Phuan cultural traditions was then created under the concept of a creative economy to enhance competitiveness and self-reliance after the COVID-19 crisis.

5.1 Research Conclusion: The researchers presented the product design and extracted knowledge and technology transfer processes to the target group.

Research Results

1. Results of a study on innovative lifestyle products reflecting Thai Phuan cultural traditions under the creative economy concept.

The data analysis in the research entitled "Study and Development of Prototype Lifestyle Product Innovations Based on the Cultural Heritage of the Thai Phuan Community in Ban Chiang, Udon Thani Province" is divided into two parts, following a mixed-methods research approach: qualitative and quantitative data analysis. Qualitative data, gathered from document studies, in-depth interviews, focus group discussions, and field observations, was analyzed using descriptive analysis to synthesize knowledge regarding the cultural identity,

meaning, beliefs, wisdom, and traditions of the Thai Phuan community in Ban Chiang. This knowledge was then used as concepts and inspiration for the design and development of the products.

1.1 This study compiles information from documents, books, textbooks, and research related to community identity in cultural dimensions: meaning, wisdom, traditions, vision, way of life, cultural routes, rituals, beliefs, and traditions; and learning skills, particularly participation. The community identity of the Thai Phuan community enterprise in Udon Thani Province: This ethnic group speaks languages belonging to the Tai-Lao family. Their original homeland was in Muang Phuan, near the Plain of Jars in northern Xieng Khouang Province, Lao People's Democratic Republic. They migrated from the late Thonburi period, settling in various provinces in Thailand, including the northeastern region (Phosai Sunnalad, 1995: 4-5), including the Tai Phuan of Loei, Nong Khai, and Udon Thani provinces. Two characteristics were found: individual identity and shared identity. Individual identity, in particular, is characterized by unique Tai Phuan features and pride in their Tai Phuan ancestry from the Tai Phuan of Xieng Khouang. The study examines the physical characteristics of the villagers in the Thai Phuan community of Udon Thani Province. It analyzes pottery production, surveying pottery-making sites and surrounding areas, including clay preparation, shaping, drying, and decoration. Ban Chiang is located in Ban Chiang Subdistrict, Nong Han District, approximately 56 kilometers east of Udon Thani city center along the Udon Thani-Sakon Nakhon highway. At Ban Chiang, tourists can experience the lifestyle of the Tai Phuan people, see their traditional clothing, and witness their past occupations such as weaving, painting, pottery, brassware making, and ikat dyeing. They can also observe traditional blessing ceremonies such as the Bai Sri ceremony and the tying of wrists, practices traditionally performed in the Isaan region by the Tai Phuan people to welcome back visiting guests.



Figure 1. Villagers of the Thai Phuan community in Ban Chiang, Udon Thani Province.
Source: Ngampipat, C., Chandhasa, R., & Pattanapanithipong, P.



Figure 2 Villagers of the Thai Phuan community in Ban Chiang, Udon Thani Province.
Source: Ngampipat, C., Chandhasa, R., & Pattanapanithipong, P.

Ban Chiang, Udon Thani Province, is a highly significant archaeological site in Southeast Asia. Archaeological evidence reflects human settlement from the Stone Age through the Metal Age. One crucial piece of evidence is the discovery of numerous ancient pottery artifacts, demonstrating the continuous development of technology and art in pottery production in the past. Due to its historical, archaeological, and cultural value, Ban Chiang has been inscribed as a World Heritage Site by the United Nations Educational, Scientific and Cultural Organization (UNESCO). A distinctive feature of Ban Chiang pottery is its unique decorative patterns: curved lines, spirals, waves, and geometric designs, painted in red or

reddish-brown on light-colored clay surfaces. These patterns reflect the artistic wisdom and beliefs of ancient people and are recognized as the "Ban Chiang signature pattern." Currently, Ban Chiang patterns are being incorporated into the design of local pottery products and cultural souvenirs to create added value and preserve local identity. [https://en.wikipedia.org/wiki/Ban_Chiang?utm_source=chatgpt.com] https://newweb.unit.academy/ban-chiang-pottery/?utm_source=chatgpt.com In terms of materials, the clay used in the production of Ban Chiang pottery is generally rice paddy clay and natural clay sources in the area or nearby. This is suitable for shaping and firing, reflecting the use of local resources in harmony with the environment and the way of life of the community in the past.

2. Results of the design and development of innovative lifestyle products reflecting Thai Phuan cultural traditions. Ban Chiang patterns are ancient pottery designs that utilize curved lines, spirals, waves, and geometric patterns repeated rhythmically. They reflect the beliefs, nature, and wisdom of the ancient Ban Chiang community in Udon Thani province. The use of reddish-brown colors derived from natural minerals signifies a unique identity and culture that predates the prehistoric era.



Figure 3 Pottery patterns from Ban Chiang, Udon Thani Province.
Source: Ngampipat, C., Chandhasa, R., & Pattanapanithipong, P.

Product design and development: Development of innovative lifestyle products reflecting Thai Phuan cultural traditions. The researchers collected data using questionnaires to gather opinions from design experts. Product design sketches were developed as a conceptual framework for creating 6 product prototypes. These prototypes were then evaluated and feedback received from design experts was analyzed and used to refine their designs.



Figure 4 A prototype of innovative lifestyle products based on the cultural heritage of the Thai Phuan community in Ban Chiang, Udon Thani Province.
Source: Ngampipat, C., Chandhasa, R., & Pattanapanithipong, P.

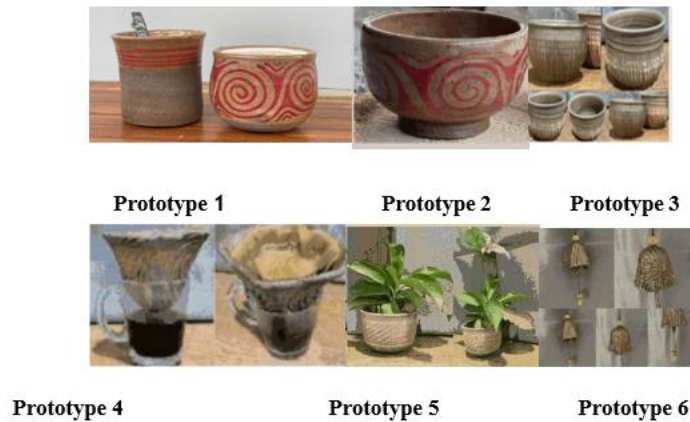


Figure 5 Prototype innovative lifestyle products reflecting the Thai Phuan cultural traditions of Udon Thani Province, comprising 6 products.

Source: Ngampipat, C., Chandhasa, R., & Pattanapanithipong, P.

Discussion

Research entitled: Study and Development of Prototype Lifestyle Product Innovations Based on the Cultural Heritage of the Thai Phuan Community in Ban Chiang, Udon Thani Province. The results can be discussed as follows:

Discussion of the findings from the study on innovative lifestyle products reflecting Thai Phuan cultural traditions under the creative economy concept: The Thai Phuan community in Udon Thani Province possesses a clear and strong cultural identity, both in terms of individual and shared identity. This is reflected in their way of life, beliefs, traditions, occupations, and folk handicrafts, especially Ban Chiang pottery, which is considered a valuable cultural asset in terms of history, art, and economics. This finding aligns with the concept of cultural capital, which views local culture as capable of creating added value and developing into a sustainable economic resource. This is consistent with the research of Yukolwach Pakdeechakriwut and colleagues (2016), who suggested that integrating Thai Phuan traditions with community-based tourism can create valuable experiences and generate income for the community.

Discussion of results: Design and development of innovative lifestyle products reflecting Thai Phuan cultural traditions. Six products were designed and developed, applying the distinctive patterns of Ban Chiang pottery to more contemporary designs. These patterns, such as spiral and geometric designs with graceful lines, create unique and distinctive looks. This reflects the integration of Thai Phuan design principles, connecting sketches to prototypes and demonstrating a systematic design process considering culture, functionality, and market demand. This aligns with the creative economy concept, which emphasizes the integration of creativity, knowledge, and cultural capital to add value to products. The participation of community experts, producers, community leaders, and design and marketing specialists ensured product development appropriate to the community context and target group, ultimately enhancing the products' commercial potential.

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