

Floral Designs and Their Use in Product Items

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Abstract

*This study investigated the cultural significance of the butterfly bush (*Buddleja paniculata*) in the construction of Thai meaning, belief, ritual, wisdom, and tradition with the goal of developing and implementing a model for a creative process to co-design related cultural capital products. The researchers synthesized the aesthetic and cultural characteristics of the butterfly bush for application to creative pattern designs and products and identified two cultural dimensions composed of meaning and belief that could be adapted into design patterns along with the flower's colors and composition. The synthesized patterns were applied to three types of women's bags based on an analysis of women's bag use behaviors, and the final products were evaluated by 3 flower experts, 3 design experts, 100 customers and fabric and bag producers. The results showed high satisfaction with the representativeness, attractiveness, and usability of the fabric and bag designs. The results highlight the value of cultural capital for producing attractive goods that align with market demand and contribute to sustainable livelihoods, as well as the critical roles of consumers, designers, and producers in the collaborative design of such products.*

Keywords: *Co-Design, Creative Arts, Cultural Capital, Flower Symbolism, Product Design.*

Introduction

The erosion and loss of traditional morality and ethics have widely been cited as negative byproducts of modernity (Bagnall & Soopunyo, 2019). Likewise, the swift societal transformations driven by globalization and modern technology have produced enduring effects on cultural values. (Çakmakçıoğlu, 2017), as local cultures become progressively exposed to other lifestyles and ideologies. Cultural values and cultural capital are essential components of societal innovation and economic progress. (Zhu, Habisch, & Thøgersen, 2018), and you can use these foundations to promote product development, increase household incomes, and improve Thailand's reputation internationally. A lot of researchers say that managing cultural heritage and capital in a way that makes money can help protect personal and local cultural identity. (Samoraj, 1998). The conveyance of culture via art serves to preserve cultural identity. (Wangboje 1986). Furthermore, the promotion of Thai cultural creativity as intellectual property aids in the preservation of cultural history and identity while fostering enhanced worldwide comprehension and appreciation of Thainess. The economic and cultural sustainability of local communities relies on their capacity to provide local products and services that possess cultural capital while also satisfying market demands. To make society more resistant to cultural erosion and to find ways to express Thai identity that are in line with global market norms and expectations, it is important to provide cultural learning materials and encourage a deep understanding of Thai history and culture. (Thailand Ministry of Culture, 2016).

In this case, the researchers looked at *Buddleja paniculata*, or butterfly bush, as a type of marketable cultural capital by connecting knowledge and cultural identity to make things that could help the creative economy. The main question of the study looked at how butterfly bush can be grown as a form of cultural capital that meets market needs and helps communities create new jobs and income streams. a) Find out what the butterfly bush means to people in Thailand and its cultural significance; and b) Come up with a creative way to use the plant's visual and symbolic qualities to make new designs and products that have cultural value, based on what local designers, artisans, and consumers thought.

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Research Purpose

The purpose of this study is to examine Butterfly bush (*Buddleja paniculata*) for cloth pattern creation and its utilization in bag product design.

Literature Review

Native to Malaysia and India, *B. paniculata* is among 140 butterfly bush species that are endemic to Asia, Africa, and the Americas. It has white petals and reaches a height of 2–5 feet. *Buddleja* species have been used as traditional medicine for the treatment of dysentery and eye and skin inflammation and as diuretic and antiseptic agents (Houghton, 1984). The flower is also valued as an attractant for bees, butterflies, and other insects, which promotes pollination, and honey production.



Figure 1 Butterfly Bush (*Buddleja Paniculata*)

Customer Satisfaction and Cultural Product Co-Design

Understanding the factors determining customer satisfaction are critical elements of the design procedure (Mahr, Lievens, & Blazevic, 2014). The participation of customers in the design process can enhance product originality and usability (Trischler, Pervan, SKelly, & Scott, 2017), thereby making the production process more effective (Liu, Moultrie, & Ye, 2019).

Sariya (2006) is contended that printed cloth patterns should be both stylish and suitable for everyday use. The pattern designs of printed textiles differ based on fabric types; hence, fabrics utilized for commonplace things like furniture, upholstery, or curtains will differ from those employed in the production of bags, apparel, and other fashion items.

Thienwet (2017) Develop a stripe graphic that utilizes a straightforward, efficient method for the creation of new items, with the aim of sustainably supporting and maintaining local knowledge. Ruangwannasak (2016) Investigated the incorporation of motifs derived from the *Nymphaea lotus* "Red" (*Nymphaea zenkeri*) in Thai souvenir designs, revealing that the budding and fully bloomed flowers were most identifiable to tourists, conjuring images of the "Red Lotus Sea," a prominent seasonal attraction in Udon Thani.

A framework for integrating cultural capital into design, intended to direct the design process, as seen in Figure 2.

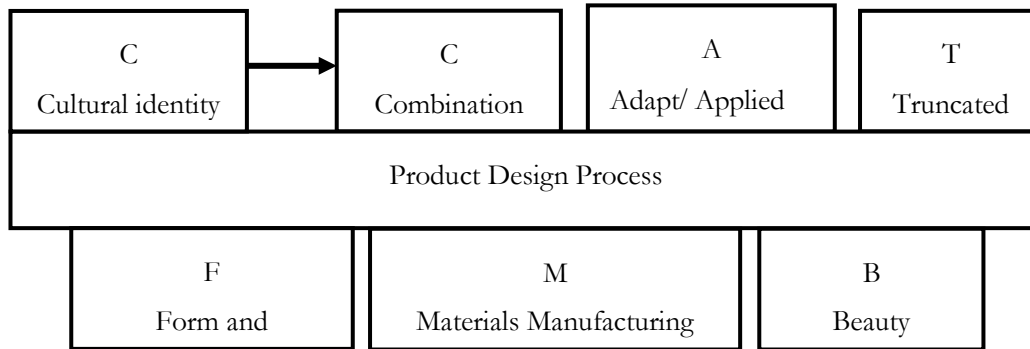


Figure 2. The Framework Design Process

C denotes cultural identity, which encompasses cultural capital, exemplified here by the butterfly bush; C signifies combination, referring to the integration of design shape and production materials; A represents adaptation, relating to the utilization of patterns and shapes as inspiration for product development. T indicates truncation, necessary for simplifying the shapes and patterns of inspirational objects to align with the product's usability, materials, production process, and aesthetic appeal (Ruangwannasak, 2016); F pertains to form and functionality, addressing usability in relation to the product; M involves materials and manufacturing, focusing on the management of materials and the production process to mitigate challenges and modifications to the original production process. B emphasizes beauty, concerning the patterns and attractiveness of the product as well as the representation of identity and culture. The design theory for floral arrangements that they believe will please consumers, which will help increase purchase rates and spending. However, there are some elements of the design theory and its relationship with consumer acceptance and spending. (Hang & Ho, 2023) We examined whether consumer preferences support the three main components of the floral design theory as follows: line, color, and shape. We also investigated consumer preferences for flowering plant varieties, which, although not an original component of the design theory, may influence consumer purchasing decisions. These challenges exist in design theories because consumers do not consistently favor them. On the contrary, they value symmetrical shapes and arrangements with similar (but not identical) colors, and surprisingly, the presence of prominent flowers in the arrangement is one of the most important factors in attracting consumer attention and increasing their willingness to pay.

Recognized and assessed the principal aesthetic components in the spring imagery of our floral design. (Knuth, 2023) The findings indicate that the essential visual components of spring imagery, such as rhythm, romance, joy, and ideal beauty, significantly contribute to the allure of floral design and elevate customer pleasure. The data underscores the significance of brightness, vibrancy, and originality in colour tones, which consumers especially appreciate in the context of spring images. Furthermore, essential qualitative aspects like vibrant colours, rhythmic patterns, wealth, romance, dynamic images, joy, and aesthetically pleasing visuals have been highlighted; however, they remain underutilized in contemporary floral design methodologies. The findings indicate potential enhancements and offer directives for floral designers to comprehend and fulfil customer expectations regarding spring images, producing more engaging and gratifying floral arrangements. The study results also provide a theoretical and empirical foundation for further research in related fields, which helps us understand important aspects of floral design better.

The design of floral patterns and the evolution of styles reflect the realities of human life and serve as a form of spiritual and emotional expression that has been accumulated and transmitted through the intricate and diverse floral pattern designs. (Huang, 2023) The result of this long process of innovation is the rich diversity of floral patterns, their varied meanings, long history, and unique ethnic and folk characteristics, making them decorative art patterns that are hard to replace with other art forms. As a forest of art, traditional Chinese floral patterns also constitute a landscape of countless beautiful and exquisite flowers. Additionally, the analysis of the reasons behind the composition of patterns, color styles, and symbolic meanings of traditional Chinese floral patterns, including the influence of styles resulting from the passage of time, allows us to explore the appropriate styles of jewelry design that align with traditional Chinese

patterns. We analyze and contemplate the trends in the development of traditional Chinese patterns as creative elements in contemporary and future jewelry while also experiencing the different colors, geometric patterns, and unique geometries. In this way, we explore the styles of traditional Chinese patterns in jewelry design and analyze and contemplate the development of traditional Chinese patterns as creative elements in future jewelry, while also feeling the emotions evoked by different colors and geometric patterns and understanding and contemplating the styles and feelings reflected by various techniques and symbolic meanings.

Product design green marketing is an advertising technique that focuses on promoting and selling products or services with minimal environmental impact or positive impact. Due to the increasing awareness of environmental issues and sustainability, this concept has gained more significance and attention in the fields of marketing and business management. Quality management is a strategy for continuous performance improvement at all levels of an organization's operations and processes, including all areas of work, by leveraging the organization's human and financial resources. The method involves integrating green marketing and total quality management. Consumer perception positively affects consumer loyalty, which in turn positively affects their willingness to pay for products. (Pranata et al., 2025) The development of products that motivate green entrepreneurship has a significant and important influence on intermediary factors such as green operations management, green marketing, and green business, all of which are crucial to the overall performance of green products. It has been found that there are strong and continuous influence pathways, with green entrepreneurship motivation being the main variable that affects performance through several intermediaries. This research model has proven effective in small businesses, which are also involved in green business producing green products with the motivation of green entrepreneurship, green operations management, and green marketing. (Nusraningrum et al., 2024) Several intermediary pathways reveal that these variables not only have a direct influence but also help adjust each other's influence, demonstrating the complexity and interconnection in producing the best green products. The motivation for green entrepreneurship has been shown to enhance sustainability. Further research can focus on identifying additional components that may influence the drivers of green entrepreneurship, as well as how these aspects can be leveraged to improve the performance of green products.

Methodology

The researchers employed descriptive and quantitative analysis, alongside co-design methodologies that included floral and design specialists, textile manufacturers, and consumers.

Participants

The participants were fabric producers, leatherwork producers, and bag manufacturers from Ban Phai District, Khon Kaen, who collaborated to create a collection of women's bags, with three floral specialists, three design experts, and 100 female consumers. We kept all participants' names anonymous and obtained their informed consent.

Data Collection and Design Procedure

The researchers employed descriptive and quantitative analysis. The researchers initially collected data from primary sources and studies about the cultural relevance of the butterfly bush in Thai meaning, belief, ritual, knowledge, and tradition. After that, the researchers went to Suan Sunandha in Bangkok's Dusit District to do fieldwork. They talked to floral and design experts in focus groups and semi-structured interviews to get information about the meanings and symbols of flowers as well as good design patterns. Furthermore, the researchers examined the physical attributes and applications of the flower, as well as studied design patterns and compositional theories.

The obtained data served as a foundation to delineate patterns derived from the synthesized information. Based on the discovery of cultural capital, the researchers established a framework for the creative process in product creation.

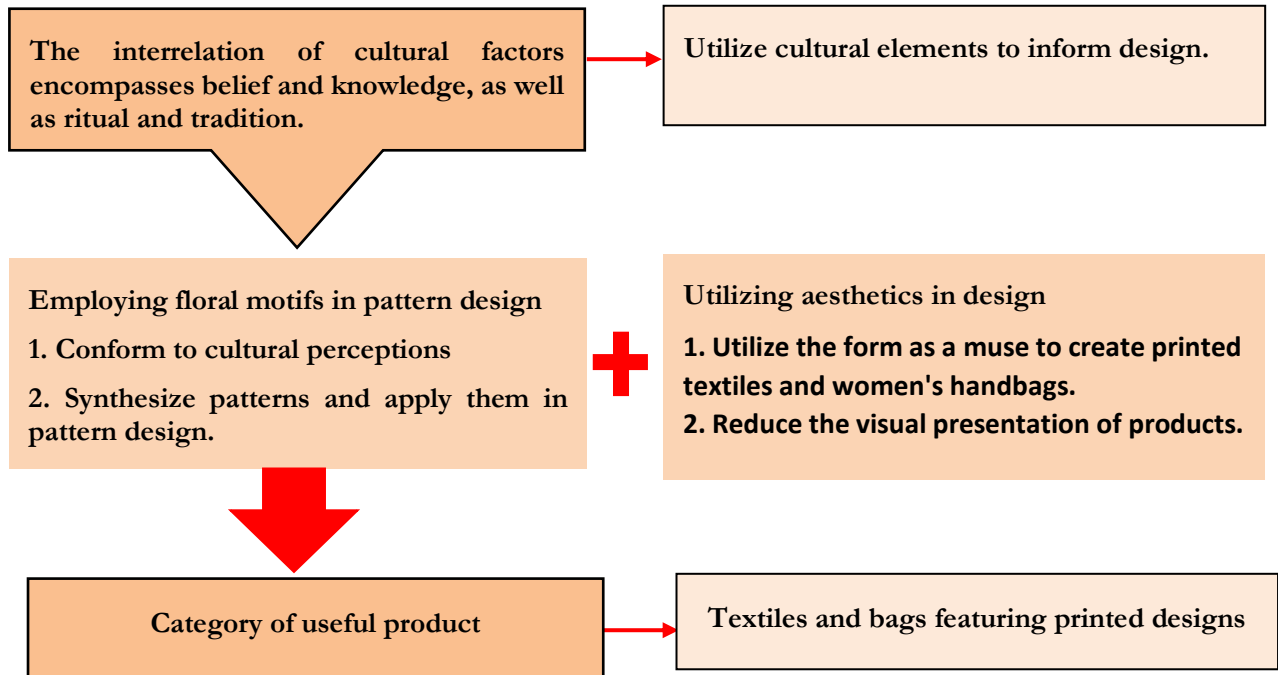


Figure 3. Summary of Infusing to Develop Patterns and Products

The researchers examined products created by fabric and bag manufacturers to formulate design criteria for printed textiles and bags. The researchers utilized patterns derived from the butterfly bush to create designs for printed materials intended for women's purses.

The researchers derived manufacturing recommendations from the product usage habits of women's bags, as reported by 100 female informants aged 25 to 45. The designs were printed on textiles, which were subsequently affixed to the chosen bag types. A closed-ended questionnaire and evaluation form assessed the opinions of customers and experts concerning the integration of the butterfly bush into the patterns and designs of printed textiles and bags. The surveys featured photos of several product functions to capture client preferences, which informed the work of designers and manufacturers. An evaluation form was utilized to assess the satisfaction of clients and specialists with the final product.

Data Analysis

Evaluated the data from papers and research in a descriptive manner to investigate the cultural relevance of the butterfly bush in Thai society. We analyzed the results from the questionnaire and assessment form using percentages, means, and standard deviations.

Results and Discussion

Cultural Dimensions of The Butterfly Bush

The examination of the butterfly bush's cultural importance uncovered two primary cultural aspects. The butterfly bush, known as rachavadee in Thai, is associated with concepts of belief and knowledge. The butterfly bush is regarded as the flower of King Rama V (1853–1910), who implemented significant liberal reforms, including the abolition of slavery, while being acknowledged as an equal by European powers,

despite the colonization of neighboring nations. In the field of knowledge, people use the flower's essential oils for aromatherapy in addition to its therapeutic use.

There are also discernible parallels between tradition and ritual. This research focused on Suan Sunandha Rajabhat University, noted for its significant floristic variety, which Eiamprapai (2010) ascribed to the university's prior status as part of Suan Sunandha Park, a leisure place for women of the Thai royal court. Butterfly bushes were cultivated throughout the park for applications in fine arts and crafts, including the arrangement and stringing of floral garlands and Chinese tassels; the grouping, tying, knotting, and layering of floral vases; and the creation of pedestal trays for venerating the Buddha or honoring the royal family (Eiamprapai, 2010). Additionally, they were utilized in customs like the Songkran New Year event and several Buddhist observances.

Pattern Design

Developed the design pattern by synthesizing the flower's symbolism, meaning, and beliefs, along with its colors and composition. The form of the butterfly bush was created using visual design and compositional techniques, including repetition, movement, balance, and emphasis, utilizing geometric shapes and lines to provide weight. The design utilized 5% warm colors (orange, red, and yellow) for graphic patterns and backgrounds, while 95% included cool colors (blue, purple, and white). White petals, together with blue and purple hues, were employed to elicit a sense of gladness (Figure 4).

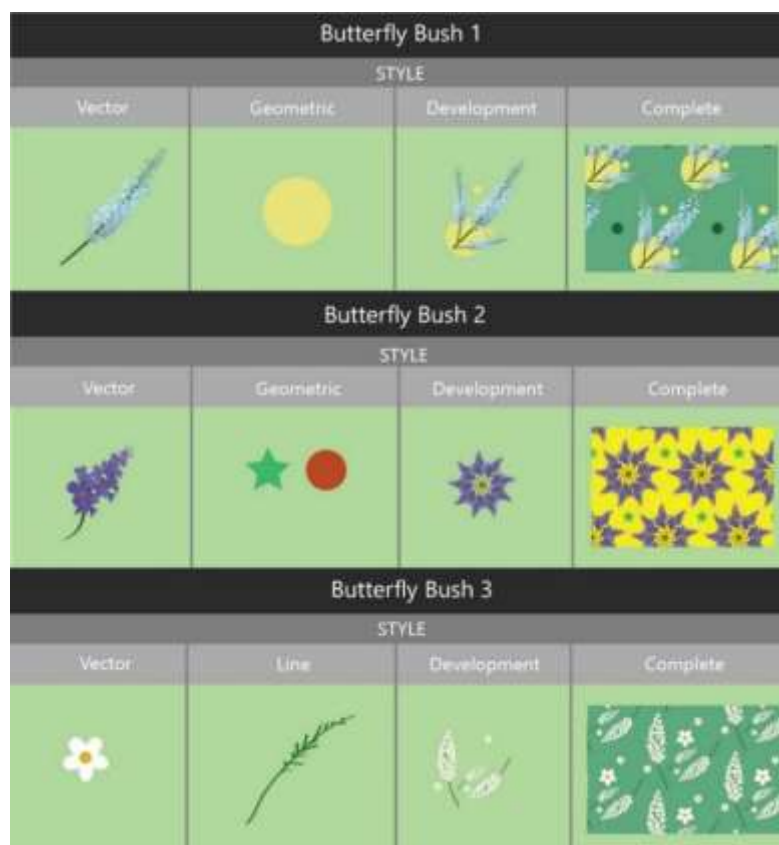


Figure 4 Integrating the Properties of the Butterfly Bush into Compositional Patterns.

Design Evaluations

Table 1 displays the outcomes of butterfly bush pattern synthesis together with assessments conducted by three design experts and three floral specialists. The third design achieved the highest rating with a mean

of 5.00; nevertheless, the experts also assigned favorable ratings to the first and second patterns, with mean values of 4.33 and 4.00, respectively.




No.	Pattern	Mean	SD	Satisfaction
1		4.33	0.57	High
2		4.00	1.00	High
3		5.00	1.00	Highest

Table 1. Design And Slower Expert Evaluations

Applying The Designed Patterns

Based on the design assessments, the researchers implemented the third pattern on printed textiles.



Figure 5. The Textiles Have a Printed Design.

Table 2 summarizes the examination of consumer behavior regarding bag utilization. The most often carried goods included smartphones, wallets, and cosmetic bags.

No.	Item	Percent
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1	smartphones	100
2	wallets	100
3	cosmetics bags	100
4	purses	95
5	umbrellas	90
6	pencil boxes	75
7	books	75
8	tablets	65
9	sunglasses	45
10	mirrors	25
11	hats	25
12	folders	15

Table 2. Results of Women's Bag Use Analysis


The researchers classified the bags according to their ease in enhancing the bag's look, including a handbag, a shoulder bag, and a wallet (Figure 6). The researchers designed these bag types to hold all the clients' belongings.



Figure 6. The Ultimate Outcomes

Product Evaluations

As summarized in Table 3, the customers and flower experts generally agreed that the products were representative of the butterfly bush's identity, with overall means of 4.56 and 4.33, respectively.

No.	Topic		
		Customers	Experts
1	Representation of the butterfly bush's identity	\bar{x} (<i>SD.</i>)	\bar{x} (<i>SD.</i>)
	1.1 Shapes and patterns represent identity.	4.73 (0.61)	4.33 (0.94)
	1.2 Shapes and the patterns are exotic and suitable for the products.	4.77 (0.49)	4.67 (0.47)

1.3	The use of color is suitable to the design.	4.26 (0.91)	4.00 (0.82)
1.4	Shapes and patterns are suitable for production and increase product value.	4.49 (0.79)	4.33 (0.94)
	Total	4.56 (0.75)	4.33 (0.85)

Table 3. Customers' And Flower Experts' Evaluations of Identity Representation

In table 4, the customers and design experts generally agreed that the products were aesthetic suitability, with overall means of 4.57 and 4.56 respectively.


No.	Topic		
		Customers	Experts
2	Aesthetic suitability	\bar{x} (<i>SD.</i>)	\bar{x} (<i>SD.</i>)
	2.1 The shapes and patterns are beautiful and suitable for the products' design.	4.72 (0.51)	5.00 (0.00)
	2.2 The composition is suitable and beautiful.	4.34 (0.78)	4.00 (0.82)
	2.3 The pattern and material are beautiful and suitable for the products.	4.65 (0.64)	4.67 (0.47)
	Total	4.57 (0.67)	4.56 (0.68)

Table 4. Customers' And Design Experts' Aesthetic Satisfaction

Conclusions

This study examined the cultural importance of the butterfly bush in Thailand to influence the creation of a model for a creative process aimed at designing and developing goods that emphasize the cultural capital of the butterfly bush. The investigation revealed that the butterfly bush encompasses two primary cultural dimensions: belief and knowledge, as well as tradition and ritual. Additionally, a pleasant and soothing fragrance is associated with the bloom. The CCAT FMT design model was used to combine these patterns into textiles and women's bags. The model considered the cultural significance of the butterfly bush, combining symbolic and aesthetic elements with production materials that were changed and streamlined to make the item look better and work better while also making the production process more efficient. Evaluations by consumers and professionals concluded that the butterfly bush pattern was the most appropriate for printed textiles and women's bags. Customers and experts conveyed significant pleasure over the portrayal of butterfly bush's individuality and the items' appropriateness and appeal.

This study's findings underscore the significant role of cultural capital in creating appealing and functional goods that improve a nation or region's image, maintain competitiveness with consumer demand, support local economies, and foster the preservation of cultural heritage. The study highlights the essential responsibilities of consumers, designers, and manufacturers in a sustainable and efficient co-design process.

References

- Bagnall, R. G., & Soopunyo, W. (2019). The moral malaise of modernity: Codes of conduct, authenticity, lifelong learning and the case of Thailand. *Kasetsart Journal of Social Sciences*, 40(1), 1–7. doi: 10.34044/j.kjss.2019.40.1.01
- Çakmakçioğlu, B. A. (2017). Effect of digital age on the transmission of cultural values in product design. *The Design Journal*, 20(1), S3824–S3836. doi: 10.1080/14606925.2017.1352886

- Eiamprapai, W. (2010). Conservative culture of the Suan Sunandha palace people in the context of Western change. Bangkok: Institute for Research and Development of Suan Sunandha Rajabhat University [in Thai]
- Houghton, P. J. (1984). Ethnopharmacology of some *Buddleja* species. *Journal of Ethnopharmacology*, 11, 293–308. doi: 10.1016/0378-8741(84)90075-8
- Kanittha R. (2019). A study characterization of nymphaea lotus “Red” to remove the pattern into the Souvenirs design. *Research and Development Journal Suan Sunandha Rajabhat University*, 9(2), 34. [in Thai]
- Liu, W., Moultrie, J., & Ye, S. (2019). The customer-dominated innovation process: involving customers as designers and decision-makers in developing new product. *The Design Journal*, 22(3), 299–324. doi: 10.1080/14606925.2019.1592324
- Mahr, D., Lievens, A., & Blazevic, V. (2014) The value of customer co-created knowledge during the innovation process, *Journal of Product Innovation Management*, 31(3), 599–615. doi: 10.1111/jpim.12116
- Samoraj, M. (1998) Traditional culture, architecture and design in the Kurpie Region of Poland: past and present education and cultural identity, *International Journal of Art Design Education*, 17(2), 161–70. doi: 10.1111/1468-5949.00121
- Sariya, P. (2006). *Pattern design* (1st ed.). Bangkok: Odeon Store. Thailand Ministry of Culture. (2009). *National cultural master plan 2007-2016*. Bangkok: Office of Policy and Strategy, Office of the Permanent Secretary for Culture. [in Thai]
- Thienwet, J. (2017). The stripe graphic design by aspiration “Khid” North Eastern style. in *Homepoom 3rd Forum 2017: Wisdom to the Future*, Faculty of Architecture, Khon Kaen University (pp. 9–12). [in Thai]
- Trischler, J., Pervan, S. J., Kelly, S. J., & Scott, D. R. (2017). The Value of Codesign: The Effect of Customer Involvement in Service Design Teams. *Journal of Service Research*, 21(1), 75–100. doi: 10.1177/1094670517714060
- Wangboje, S. I. (1986). Cultural identity and realisation through the arts: problems, possibilities and projections. *Journal of Art & Design Education*, 5(1-2), 23–31. doi: 10.1111/j.1476-8070.1986.tb00184.x
- Zhu, B., Habisch, A., & Thøgersen, J. (2018). The importance of cultural values and trust for innovation—a European study. *International Journal of Innovation Management*, 22(2), 1850017. doi: 10.1142/s1363919618500172
- Hang, J.-F., & Ho, M.-Y. (2023). Exploring Aesthetic Elements of Spring Imagery and Floral Design from Consumer’s Perspective. *Innovation on Design and Culture*, 2(4), 1–9. <https://doi.org/10.35745/idc2023v02.04.0001>
- Huang, K. (2023). Innovation and application of traditional Chinese floral patterns in jewelry design. *Highlights in Art and Design*, 2(2), Article 2. <https://doi.org/10.54097/hiaad.v2i2.6162>
- Knuth, M. (2023). Elements of Style in Floral Arrangements: How Discerning Are Consumers Toward Floristry Design Principles and How Much Are They Willing to Pay? *HortScience*, 58(12), 1560–1567.
- Nusraningrum, D., Widyanty, W., & Wulandari, R. (2024). Elevating Green Business and Product on Small Business: Impact of Green Entrepreneurship Motivation, Green Operation Management, and Green Marketing. *Journal of Ecohumanism*, 3(8), Article 8. <https://doi.org/10.62754/joe.v3i8.4800>
- Pranata, S., Narimawati, U., & Syafei, M. Y. (2025). Impact of Green Marketing And Total Quality Management (TQM) Dimensions on Improving the Financial Performance of Indonesian Sharia Banks: New Concept. *Journal of Ecohumanism*, 4(2), Article 2. <https://doi.org/10.62754/joe.v4i2.5868>