

Research on Yangzhou Tea Packaging Design Based on Regional Culture

Yixiang Yuan

*School of Humanities and Social Sciences, Xi'an Jiaotong University, Xi'an, China
1175848698@qq.com*

Abstract. To address the issues of insufficient regional cultural representation, severe homogenization, and inadequate alignment with user needs in the packaging of Yangzhou's "Lüyangchun" green tea, this study centers on Yangzhou's regional culture and integrates the Kano Model with in-depth interviews to establish a research framework: "Cultural Element Extraction – User Needs Analysis – Design Implementation." Through surveys targeting four key user groups—college students, tea retailers, packaging designers, and tourists—the study applies the Kano Model to quantify user demand hierarchies, identifying essential, expected, attractive, indifferent, and reverse attributes. Ultimately, the classical lattice window motif from Yangzhou gardens is selected as the core cultural symbol, leading to the development of the "A Window of Spring Each Day" packaging series. The findings offer a quantifiable and implementable design paradigm for the deep integration of regional culture into tea packaging, supporting the youthful revitalization of Yangzhou tea culture and enhancing brand value.

Keywords: regional culture, Yangzhou Lüyangchun tea, tea packaging design, Kano Model

1. Introduction

The lifestyle aesthetic of Yangzhou—"steaming buns in the morning, hot baths at night"—has always been closely intertwined with Lüyangchun tea. As a local specialty, Lüyangchun tea embodies the city's cultural memory through its fresh, mellow taste. However, its packaging design has encountered significant bottlenecks. Field visits to key tourist commercial zones such as Dongguan Street and Hongqiao Fang reveal that over 80% of Lüyangchun packaging fails to deeply interpret unique cultural genes like the Grand Canal, classical gardens, and salt-merchant heritage. This results in low product distinctiveness and weak cultural added value, making it difficult to meet the expectations of younger consumers and the souvenir market [1].

Modern reinterpretation of regional culture is the core pathway to differentiated packaging design. Yet existing studies often focus on superficial accumulation of graphic symbols, lacking quantitative analysis and precise alignment with user needs. Consequently, design proposals frequently fall into two extremes: "cultural overload" or "cultural emptiness." The Kano Model—a tool for classifying and prioritizing user requirements—categorizes needs into five types: attractive, expected, essential, indifferent, and reverse. It provides a scientific basis for selecting cultural elements and allocating design resources efficiently [2].

This paper takes Yangzhou Lüyangchun tea packaging as its subject, combining in-depth interviews with Kano-based surveys to accurately capture the core demands of diverse user groups. Among numerous regional cultural motifs, the garden lattice window is chosen as the central design carrier, culminating in the “A Window of Spring Each Day” packaging series. This approach achieves triple objectives: preserving regional culture, satisfying user needs, and enhancing commercial value—offering a reference for packaging design of similar region-specific products.

2. Research methods and paths

2.1. Regional culture theory

Regional culture [3] refers to the totality of material and spiritual expressions formed over time within a specific geographical area, encompassing architecture, folklore, art, and values. Its defining characteristics are uniqueness and continuity. In packaging design, regional culture serves both as a key resource for product differentiation and as an emotional bridge connecting consumers to heritage. This study focuses on the lattice window element from Yangzhou gardens, which embodies both tangible form and Eastern aesthetic philosophy—a quintessential symbol of the fusion between salt-merchant opulence and literati refinement.

2.2. Adaptability of Kano Model

The Kano Model employs paired positive/negative questions and a five-point Likert scale to classify user needs into five categories, each exerting distinct impacts on satisfaction:

- Essential needs: Basic requirements; absence causes strong dissatisfaction.
- Expected needs: Satisfaction increases linearly with fulfillment; unmet needs reduce satisfaction.
- Attractive needs: Exceed expectations; fulfillment greatly boosts satisfaction, but absence causes no dissatisfaction.
- Indifferent needs: No significant impact on satisfaction regardless of presence.
- Reverse needs: Cause user aversion; must be avoided.

Applying the Kano Model to tea packaging design enables precise identification of the demand hierarchy for cultural elements and functional features, resolving critical design decisions: how much culture to use, how to use it, and for whom. This prevents subjective design choices and resource waste.

2.3. Research pathway

Path 1: Broad Survey

A Kano-based questionnaire covering 20 functional attributes—including safety, cultural recognizability, and material texture—was distributed via WeChat Questionnaire Star to the four target groups. A total of 249 valid responses were collected, providing quantitative data for analysis.

Path 2: In-depth Interviews

Semi-structured interview guides explored three dimensions: cultural awareness, design preferences, and special requirements. One-on-one interviews were conducted with representatives from each group to uncover behavioral logic and motivational drivers behind user needs.

Based on insights from both pathways and cultural element extraction, a packaging design proposal was developed and validated for feasibility.

3. Case study

3.1. Excavation of Yangzhou cultural elements based on regional culture

Combined with the interview results and cultural connotation analysis, the Lattice Windows of Yangzhou gardens are selected as the core design carrier from many Yangzhou regional cultural elements. In the interview, 85% of the respondents recognized the representativeness of Lattice Windows when mentioning Yangzhou gardens, and the designer group also pointed out that "flower window elements have both recognition and plasticity, and are suitable for modern design translation". With the core characteristic of "one window, one scene, and changing scenes with steps", Yangzhou Lattice Windows realize the borrowed scenery aesthetics of "accommodating thousands of hectares of ocean and collecting the splendor of four seasons" through the geometric combination of bricks and tiles, which condenses the essence of Yangzhou garden art. Compared with elements such as canals and Qingqu, they are easier to be transformed into visual packaging language.

3.2. User needs analysis for tea packaging design

3.2.1. User profile analysis

In this survey, the respondents aged 18-25 accounted for 57.43%, which is the core consumer group. This group is mainly college students, whose consumption scenarios focus on self-drinking and daily sharing, with three characteristics: first, strong safety awareness, taking packaging safety as the premise of purchase; second, appearance-oriented, willing to pay a premium for fresh and simple design; third, focusing on practicality, with portability and information clarity as key considerations.

Groups of other age groups have different needs: the 26-40-year-old group focuses on quality and cultural connotation, and is the main force of souvenir consumption; the 41-55-year-old group prefers traditional and simple styles and has high requirements for cultural recognition; the group over 55 years old mainly drinks by themselves, and gives priority to the safety and fresh-keeping function of packaging.

3.2.2. Competitive packaging analysis

Mainstream brands (e.g., Xiao Guan Cha, Da Yi Tea) and local Lüyangchun products were compared, revealing three core issues in current Yangzhou packaging:

- Superficial cultural expression: Most local brands merely print generic images (e.g., Slender West Lake, willow trees) without deep cultural translation, lacking the refined "Eastern minimalism" seen in Xiao Guan Cha.

- Poor user alignment: Designs rarely cater to young consumers' need for portable single-serve packs or the gifting market's desire for ritualistic unboxing experiences. Material quality varies widely—some over-package, others feel cheap.

Imbalance between function and aesthetics: Some prioritize freshness at the cost of dull design; others sacrifice sealing performance for visual appeal—failing to harmonize expected and attractive attributes per Kano principles.

3.2.3. User interviews

Through interviews with four groups, the core needs and behavior logic of different groups are explored to provide precise guidance for design:

- College Student Group: Safety (sealing and moisture-proof, food-grade materials) and clear information are core demands; "If there is no safety, they will directly give up purchasing"; Visual beauty and portability are bonus items, preferring fresh and simple styles; small-sized sub-packages can adapt to scenes such as classes and trips; there is no special demand for fashion sense and social attributes, which belong to indifferent attributes.

- Tea Seller Group: Safety and clear information directly affect sales volume; material texture is the key to improving product premium; "Packaging with thick materials and exquisite craftsmanship has a higher transaction rate"; cultural recognition can enhance product competitiveness; packaging with Yangzhou Lattice Windows, Slender West Lake and other elements is more likely to attract customers; product award information and foreign language text are not concerned by anyone, so there is no need to invest in design costs.

- Packaging Designer Group: Cultural translation should avoid stacking elements; it is suggested to "extract the core structure of Lattice Windows and present them with lines or color blocks"; interactive experience (opening method, convenience of taking) should account for about 30% of the design proportion; magnetic opening and sub-package taking ports can improve user favor; material selection should balance touch, environmental protection and cost; coated kraft paper and matte cardboard are preferred; obscure information is a reverse attribute, and clear and beautiful presentation should be ensured through hierarchical presentation.

- Tourist Group: Cultural recognition is the core premise for purchasing souvenirs; "Packaging with Yangzhou characteristics is authentic enough"; portability and safety are crucial; light, unbreakable and well-sealed packaging is more suitable for travel scenarios; unpacking experience can improve a sense of ritual; magnetic opening and internal shock absorption design can enhance the gifting texture; complex gift boxes are not needed, and neat and elegant is enough; over-packaging is an indifferent attribute.

3.3. Kano-based demand classification

3.3.1. Questionnaire design and distribution

Based on interview findings, a 20-item Kano questionnaire was developed across cultural, functional, and experiential dimensions. Each item used paired positive/negative questions with five response options ("love," "like," "neutral," "dislike," "hate"). Example:

- Positive: "How would you feel if the packaging featured Yangzhou lattice window patterns?"
- Negative: "How would you feel if the packaging had no Yangzhou cultural elements?"

Distributed via WeChat, physical tea shops, and university communities, the survey yielded 249 valid responses—sufficient for reliable Kano analysis and representative of the target audience.

3.3.2. Kano results analysis

Using the Kano classification table and Better-Worse coefficients, the 20 items were categorized as follows:

Table 1. Demand items for Yangzhou Lüyangchun tea packaging

Code	Description	Code	Description
01	Interactive experience	11	Fashion sense
02	Artistic Collection Value	12	Gift suitability
03	Seasonal/limited edition	13	Safety
04	Social shareability	14	Portability
05	Visual aesthetics	15	Practicality
06	Cultural recognizability	16	Award information
07	Information clarity	17	Foreign language text
08	Material texture	18	Element clutter
09	Series Sense	19	Obscure information
10	Unboxing experience	20	Over-packaging

(1) Must-be quality (Core Basic Needs):

There are 3 items in total, namely Safety, Portability and Practicality. These needs are the basic premise for users to purchase Yangzhou Lüyangchun tea packaging, and their lack will cause strong user dissatisfaction. Among them, Safety has the lowest Worse coefficient (-45.35%), which means that if the packaging does not have good safety guarantees such as sealing and moisture-proof, user satisfaction will drop significantly; Portability (Worse coefficient -42.35%) and Practicality (Worse coefficient -37.35%) are also core demands of users, directly determining the basic usability of the product, and are the needs that must be prioritized in packaging design.

(2) One-dimensional quality (Core Improvement Needs):

There are 8 items in total, including Visual Beauty, Cultural Recognition, Clear Information, Material Texture, Series Sense, Unpacking Experience, Fashion Sense and Gift Attribute. The satisfaction of these needs is positively correlated with user satisfaction; the higher the satisfaction degree, the more obvious the improvement of user satisfaction, and failure to meet them will reduce user satisfaction. Among them, Material Texture has the highest Better coefficient, followed by Cultural Recognition, indicating that improving the material quality of packaging and strengthening the recognition of Yangzhou regional culture can effectively improve users' recognition of packaging design; Clear Information has a high Worse coefficient, indicating that vague packaging information will significantly reduce user experience and needs to be focused on.

(3) Attractive quality (Differentiated Bonus Needs):

There are 4 items in total, including Interactive Experience, Artistic Collection Value, Seasonality/Limited Edition and Social Attribute. These needs exceed user expectations; meeting them can significantly improve user satisfaction, and their lack will not have a negative impact on user satisfaction. Among them, Artistic Collection Value has the highest Better coefficient (62.5%), which is the key breakthrough for creating differentiated advantages of packaging; Interactive Experience (Better coefficient 36.57%) also has a strong bonus effect. Optimizing the interactive design of packaging such as opening method and convenience of taking can enhance users' use favor.

(4) Indifferent quality (Needs that can be Weakened):

There are 2 items in total, namely Product Award Information and Foreign Language Text. These needs have no substantial impact on user satisfaction; whether they are met or not will not change users' evaluation of packaging design. Among them, the Better coefficient of Product Award

Information is only 27.06%, and that of Foreign Language Text is 25%, which are of extremely low concern to users. They can be appropriately weakened in packaging design to avoid waste of design resources.

(5) Reverse quality (Needs that must be Resolutely Avoided):

There are 3 items in total, namely Element Stacking, Obscure Information and Over-packaging. These needs will cause user disgust, and meeting them will instead reduce user satisfaction. Among them, Over-packaging has the lowest Better coefficient (17.39%), and users' acceptance of Element Stacking and Obscure Information is also low. They must be resolutely avoided in the design process to avoid problems such as stacking of Yangzhou regional cultural elements, messy and obscure packaging information, and resource waste caused by over-packaging.

A quadrant diagram was drawn based on the Better-Worse coefficient to further verify the rationality of attribute classification. The results of the quadrant diagram are consistent with the calculation of absolute attributes, indicating that the demand classification is reliable.

Table 2. KANO model result analysis table

Code	Function/Service	A	O	M	I	R	Q	IS	IDS	Attribute Classification
1	Interactive experience	24	9	10	47	9	1	36.57	-21.11	A
2	Artistic Collection Value	23	12	13	37	13	2	62.5	-37.5	A
3	Seasonal/limited edition	26	10	7	42	14	1	42.35	-20	A
4	Social shareability	19	8	11	48	13	1	31.4	-22.09	A
5	Visual aesthetics	28	4	12	43	11	2	36.79	-18.39	O
6	Cultural recognizability	26	15	11	33	13	2	48.24	-30.59	O
7	Information clarity	22	19	19	29	9	2	46.07	-42.7	O
8	Material texture	27	15	13	31	12	2	48.84	-32.56	O
9	Series Sense	21	14	10	47	6	2	38.04	-28.09	O
10	Unboxing experience	24	15	9	39	11	2	44.83	-27.59	O
11	Fashion sense	23	6	18	39	13	1	33.72	-27.91	O
12	Gift suitability	22	13	14	38	12	1	40.23	-31.03	O
13	Safety	14	21	18	33	12	2	40.7	-45.35	M
14	Portability	22	15	21	27	13	2	43.53	-42.35	M
15	Practicality	19	14	17	33	15	2	39.76	-37.35	M
16	Award information	15	8	12	50	13	2	27.06	-23.53	I
17	Foreign language text	13	8	10	53	13	3	25	-21.43	I
18	Element clutter	11	7	9	49	21	3	23.68	-21.05	R
19	Obscure information	9	8	11	32	37	3	28.33	-31.67	R
20	Over-packaging	5	7	16	41	27	4	17.39	-33.33	R

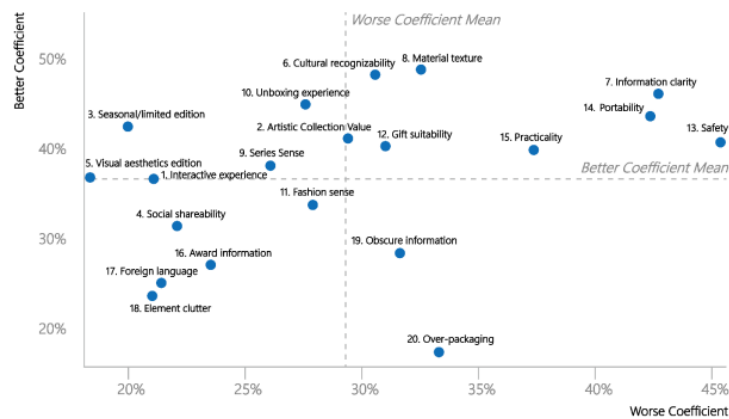


Figure 1. Better-worse two-dimensional matrix diagram

3.4. Research analysis

Synthesizing cultural element excavation, user demand research and Kano model analysis, three core conclusions are drawn:

- First, the selection of cultural elements needs to accurately adapt to needs. Yangzhou Lattice Window elements have both recognition and plasticity, which are consistent with users' expected attribute needs for cultural recognition. Their simplified translation can simultaneously meet visual beauty and avoid indifferent attributes (avoiding element stacking), making them the optimal carrier for the integration of regional culture and packaging design.
- Second, demand levels determine the allocation of design resources. The design should first meet the expected attributes (safety, clear information, cultural recognition, unpacking experience) to ensure the basic competitiveness of the product; focus on creating attractive attributes (material texture, portability, interactive experience, visual beauty) to form differentiated advantages; weaken indifferent attributes to control design costs; resolutely avoid reverse attributes to ensure user experience.
- Third, scenario-based design adapts to diverse needs. The core consumer group (18-25 years old) needs to focus on portability and fresh design; the souvenir scenario needs to strengthen cultural recognition and unpacking ritual sense; the self-drinking scenario needs to ensure safety and practicality, realizing "one design adapting to multiple scenarios".

4. Design strategies and scheme implementation

4.1. Lattice window extraction and translation principles

Guided by designer feedback and Kano data, three translation principles were established:

- Simplification: Strip ornate details; retain core geometric forms (square, diamond, circle); express curves through straight lines to suit modern aesthetics.
- Functional integration: Fuse window shapes with packaging structure and opening mechanisms—avoid symbolic decoration.
- Youthful expression: Use soft colors and lightweight materials to appeal to 18–25-year-olds.

Under the theme "A Window of Spring Each Day," the design bridges Yangzhou's cultural heritage with contemporary lifestyles. It reinterprets the lattice window's "framed scenery"

philosophy into everyday tea moments, promoting the idea: "Bring regional culture into daily life; make traditional tea trendy today." [4]

4.2. Specific design strategies

4.2.1. Design philosophy

"One Window of Spring Every Day" takes "making regional culture live in daily life and making traditional tea drinks fashionable at present" as the core, building a communication bridge between young trends and Yangzhou cultural context. With the ingenuity of "one window, one scene, and changing scenes with steps", Lattice Windows carry the oriental aesthetic artistic conception of "accommodating thousands of hectares of ocean and collecting the splendor of four seasons", and condense the urban memory of the integration of salt merchant elegance and literati aesthetics.

This design finally chooses to translate Lattice Windows in a younger way, transforming the geometric patterns composed of traditional bricks and tiles into simple and modern visual language, which not only retains the Yangzhou Lattice Window characteristic of "expressing curves with straight lines", but also conforms to contemporary aesthetic preferences. At the same time, we choose to adopt single-brew small can packaging to accurately match the core demand of "drinking tea at any time" [5].

The brand tea packaging design breaks the rigid cognition of "drinking tea must follow ancient methods", echoing the characteristics of Lüyangchun tea which is suitable for cup brewing and convenient drinking. It puts forward the relaxed concept of "a cup at any time every day".

"One Window of Spring Every Day" is more than just a cup of tea, but also a carrier for the younger expression of Yangzhou culture. Let the spring tea fragrance break away from the constraints of the tea room and integrate into daily scenes such as commuting, office work and rest. Let traditional tea drinks become a daily standard for young people. Finally, it is expected that through this product, young groups can understand the "beauty of borrowed scenery" of Lattice Windows and feel the "fresh charm" of Lüyangchun while drinking tea conveniently. Let Yangzhou garden culture move from scenic spots to daily life.

4.2.2. Cultural element translation

With "Lattice Window as the body and clock as the soul" as the core translation logic, it deeply integrates the aesthetics of Yangzhou garden Lattice Windows with the concept of time, practicing the brand concept of "putting garden window scenery into pockets and drinking spring fresh tea into daily life". Three classic Lattice Window structures are extracted from Yangzhou classical gardens: square ice crack pattern, diamond grid and circular nested square. Abandoning the complex details of traditional brick and tile patterns, they are transformed into simple and modern geometric visual language - the outline of Lattice Windows is abstractly integrated with clock hands and scales. The square ice crack pattern is matched with minimalist hour hand lines, the diamond grid is intertwined with minute hand tracks, and the circular nested square is reconstructed with the dial as the base. It not only retains the oriental borrowed scenery artistic conception of "one window, one scene", but also subtly interprets the time concept of "every moment of every day" through time symbols, forming a unique visual symbol system.

4.2.3. Functional design aligned with needs

Implementation of One-dimensional Attributes: Aiming at the high sensitivity of users to safety and information clarity, the packaging adopts food-grade aluminum small cans to ensure that the tea is sealed, moisture-proof, fresh-keeping and aroma-locking, which corely adapts to the functional needs of portability, single drinking volume and sealed fresh-keeping. At the same time, the abstract geometric shape of the Lattice Window of Yangzhou He Garden is integrated into the appearance design of the can body, and the visual recognition and touch experience of the can body are enhanced through shape texture, adapting to daily drinking, outdoor carrying, single can gifting of souvenirs and other scenarios.

Strengthening of Attractive quality: To improve user satisfaction and repurchase intention, the design focuses on strengthening the four attributes: Material texture, Portability, Interactive experience and Visual aesthetics.

- Portability & Practicality: Precise single-serve portions enable "tea on the go."
- Interactive Experience: Magnetic closures on multi-packs offer smooth, silent opening with internal cushioning for a ritualistic unboxing.
- Visual Aesthetics: Vibrant, high-brightness pink (spring romance), blue (Yangzhou's watery grace), and green (tea freshness) create strong visual impact. Lattice motifs appear as die-cut or foil-stamped outlines on cans; outer packaging deconstructs windows and merges them with clock elements to form a unique visual system.

Weakening of Indifferent Attributes: No award badges, foreign text, or excessive layers. Gift boxes use only a simple ribbon—cost-effective and eco-friendly.

4.3. Display of design scheme

The "A Window of Spring Every Day" series includes three formats:

- Single-serve can: Die-cut lattice pattern; ideal for individual use and portability.
- Portable pack (6 cans): Cardboard box with brief cultural introduction; suited for daily sharing.
- Gift box (12 cans): Includes paper handle and shock-absorbing interior; magnetic lid and tiered layout create a ceremonial unboxing experience for souvenirs

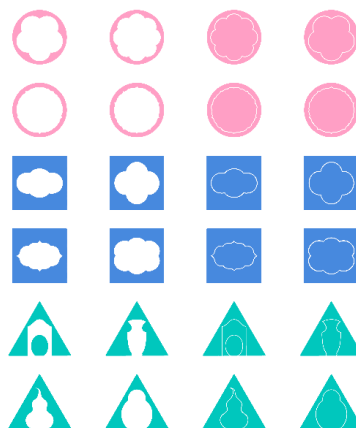


Figure 2. Supporting graphics for individual packaging

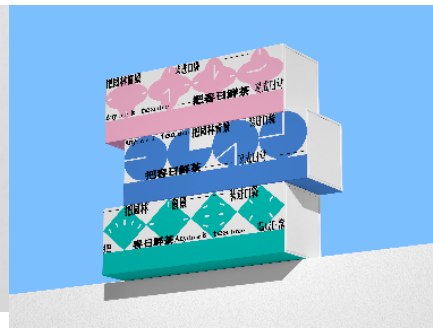


Figure 3. Outer packaging of tea Figure 4. Inner sub packaging

Figure 5. Individual tea can packaging

5. Conclusion

This study addresses the cultural void, homogenization, and poor scenario fit in Yangzhou Lüyangchun tea packaging through regional cultural excavation, Kano-based quantitative analysis, and user interviews. It establishes a "needs-driven → culturally translated → functionally implemented" design system, yielding three key conclusions:

The Yangzhou garden lattice window is an excellent cultural carrier; its minimalist translation effectively enhances cultural recognizability.

The Kano Model enables precise demand categorization, guiding rational allocation of design resources and avoiding subjective decisions.

The "A Window of Spring Each Day" series successfully integrates cultural identity with functional needs, resolving core industry challenges and achieving unity among cultural preservation, user satisfaction, and commercial value.

Limitations and Future Work:

Sample size could be expanded; future research should include consumers from diverse regions to improve market adaptability. Further exploration of other Yangzhou cultural elements in modern design contexts could provide additional strategies for regional product branding.

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