

Multi-Expert Cooperative Development of Painting-Themed Tourist Souvenirs Based on ICCO Model

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ABSTRACT

The museum's painting collection has gradually become a vital reference resource for developing souvenirs. This study adopts ICCO theoretical framework and studies 534 kinds of souvenirs from the official Taobao flagship store of the Forbidden City according to the ideas of import, classification, comparison, and export. Adopt Houyi collector to collect data, EXCEL to sort out data, and organize several experts to analyze painting types, techniques, and crafts. As a result, tourists' favorite painting is "A Thousand Miles of Mountains and Rivers," and their favorite souvenirs are delicate flower-and-bird paintings and souvenirs of multi-expert cooperation are the main ones. Best-selling goods can be divided into auspicious meanings, festivals, and life scenes. Most products with large total sales volume are priced below 300 yuan. The products most accepted by consumers are souvenirs (50 yuan), bags (100 yuan), cups (200 yuan), silk scarves (250 yuan), and lamps (300 yuan). To sum up, the collaborative design method of many experts can provide more possibilities for the design of tourist souvenirs with flower-and-bird painting as the theme, and more different souvenirs can be developed according to the styles and preferences of different users.

Keywords: Chinese painting, Souvenirs, Painting theme, Multi-expert cooperation, Pricing

INTRODUCTION

Tourist souvenirs, characterized by specific scenery and craft elements of tourist destinations, hold special memories for travelers. Flower-and-bird painting, a traditional Chinese art form, has been widely used in crafting souvenirs since ancient times. However, changing lifestyles and preferences have influenced souvenir choices. In response, the General Office of the State Council of China collaborated with various departments to promote cultural and creative product development in 2016 and reiterated this commitment in 2021. The Palace Museum and Guangdong Provincial Museum collaborated with creative teams to enhance flower and bird painting souvenirs. Yet, reinventing flower and bird paintings poses challenges, requiring expertise in multiple disciplines.

The Forbidden City Taobao flagship store, known for its rich variety and sales volume, is experienced in developing Chinese painting-themed

souvenirs. This study analyzes their pricing, sales, painting styles, and production methods to uncover strategies for painting-themed product development.

OBJECTIVES

This study aims to:

- Identify characteristics of tourists' favorite paintings.
- Examine the relationship between best-selling items, pricing, and sales volume.
- Investigate the correlation between specific painting-themed souvenirs, their types, and pricing.
- Explore the impact of multi-expert cooperation on the pricing of painting-themed souvenirs.

LITERATURE REVIEW

Research on the Design of Tourist Souvenirs Jointly Designed by Many Experts

Different Subjects Dominate the Design

When multiple experts collaborate, the leading expert's identity significantly affects the innovation of tourist souvenirs. An artist-led design tends to emphasize artistic elements, while a designer-led approach innovates traditional art into contemporary styles. Discussions between artisans and designers also contribute to product innovation, with artisans' individuality influencing souvenir craftsmanship. Additionally, visitor experiences and tourist participation in the development process foster innovation and enhance the emotional connection to souvenirs.

Multi-Professional Experts Jointly Conduct Brainstorming

The brainstorming method, initially proposed by Osborn, has been proven effective in design problem-solving by numerous researchers. Guided by experienced moderators, collaborative brainstorming enables the generation of more ideas in a shorter time, enhancing creative output. Recent studies exploring network and electronic brainstorming methods offer valuable insights for multi-expert creative cooperation.

Prototype Using Multiple Techniques

Chinese paintings encompass various styles, such as figure paintings, landscape paintings, and flower and bird paintings, which offer diverse artistic expression. Combining craftsmanship and painting techniques can enrich the presentation of these works.

Festival Painting Tourist Souvenirs

Festival-themed tourist souvenirs, inspired by significant traditional Chinese festivals, garner widespread interest among cultural tourists. Notably, the Spring Festival attracts high demand for related souvenirs, providing opportunities for creating unique and regionally distinctive products. Personalized

New Year products jointly developed by artists hold particular appeal for younger audiences, warranting attention to tourists' preferences and needs in this context.

RESEARCH METHODOLOGY

Research Case

The Palace Museum has pioneered the development of Chinese painting collections into tourist souvenirs, with years of experience. The popularity of the Forbidden City as a tourist destination remains strong, thanks to various factors such as documentaries, reality shows, and the integration of Forbidden City Cat IP into souvenirs. Taobao, a major online shopping platform in China, hosts the Palace Museum Cultural and Creative Flagship Store, offering a diverse range of souvenirs at different price points. The sales quantity of these products is typically approximated in rounded figures, occasionally leading to minor data errors.

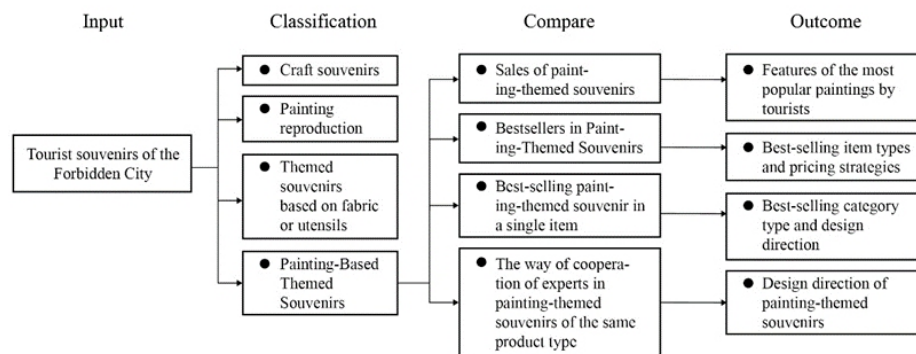


Figure 1: ICCo theoretical framework. (Constructed by the author, 2023.)

Data Collection Techniques

This research focuses on souvenirs jointly developed by multi-experts in painting, including artisans, graphic designers, and product designers. Data from painting-related souvenirs in the Forbidden City Cultural and Creative Flagship Store on Taobao Mall were collected using crawler software. The data was then sorted, classified, and statistically analyzed using Excel software. Four stages of experimentation were conducted (see Figure 1): input stage (selecting representative paintings and comparing souvenir sales based on themes), classification stage (comparing sales volume of products with different painting themes but of the same type), comparison stage (evaluating the popularity of products designed by different experts), and output stage (deducing characteristics of tourists' favorite paintings, best-selling item types and pricing strategies, best-selling categories, design directions, and trends in painting-themed souvenirs).

Data Analysis

Descriptive statistical analysis was primarily used in this study to measure the sum and percentage of sample data and compare relationships between samples.

RESULTS AND DISCUSSION

Import

The Palace Museum Cultural and Creative Flagship Store offers 534 products for classification, generating sales revenue of around 220,543,095 yuan. Data on painting-themed souvenirs is limited, necessitating manual supplementation from various perspectives. The research will focus on classification, comparison, and output based on the available data.

Classification

Experts categorized the store's souvenirs into four groups: handicrafts, painting reproductions, fabric/utensil-themed souvenirs, and painting-themed souvenirs. Among the 534 items, 173 creative souvenirs based on paintings were analyzed, generating about 96,963,054 yuan in sales revenue, accounting for 44% of total sales. Notably, 37 painting reproductions without creative transformations contributed 21.6% of painting souvenirs' total income. The following section provides a comparative analysis of the remaining 173 creative painting-themed souvenirs.

Comparison

Sales Volume of Painting-Themed Souvenirs

Data on souvenirs based on the same Chinese painting was analyzed to identify factors influencing users' purchases of creative and best-selling items. Factors compared include the number of uniquely developed products, price ranges, purchase volumes, main development categories, and total sales revenue.

The products were divided into four price ranges: below 100 yuan, 101–299 yuan, 300–499 yuan, and 500–699 yuan. Among 23 paintings, a total of 48 product types were developed. “A Thousand Miles of Rivers and Mountains,” “Du Fu's Poetry Intentions,” and “Ice Playing Pictures” were the top three in total revenue. “A Thousand Miles of Rivers and Mountains” had the most variants, followed by “Industrial Double Rabbit Picture” and “Peony Picture” in the Song Dynasty. Certain individual products, such as “Flowers and Birds,” “The Qing Dynasty Painted Women Gods,” “Fish and Butterfly,” “Embroidered Orchid Hall Wealthy Picture Tongjing Screen,” and “Pictured Emerald Phoenix Pattern Head Flower,” outperformed “Tang Yin Shi Ming Tu” and “Du Fu's Poetry Intentions” in sales volume.

The best-selling theme was “A Thousand Miles of Rivers and Mountains,” with diverse product categories, high total income, and various price points. Another popular theme was “Du Fu's Poetry Intentions,” with bookmark products priced below 100 yuan and over 60,000 pieces sold.

Painting themes were clustered based on similar total sales into four ranges: 8 million to 6.01 million, 6 million to 3.01 million, 3 million to 1.01 million, and below 1 million. Among these, flower and bird paintings dominated, symbolizing special meanings in Chinese culture, with some flowers representing festival symbols.

Best-Selling Items of Painting-Themed Souvenirs

The top-selling painting-themed souvenirs were identified based on the highest selling price for each single product. The products were classified into four price ranges: below 100 yuan, 100–299 yuan, 300–499 yuan, and 500–699 yuan. Main categories included stationery, daily utilitarian items, travel supplies, and clothing accessories. Low-value items like stationery, coasters, badges, night lights, and pillowcases exhibited high sales volumes, with some reaching over 60,000 in sales, such as bookmarks featuring Du Fu's Poems and Intentions (see Table 1).

Table 1. Best-selling items of painting-themed souvenirs (data from the official flagship store of the Forbidden City.2022).

Title	Souvenir type	Price	Sales
Fish and butterfly illustration	Winder	18	1000+
A thousand miles of rivers and mountains	Insulation pads	24	40000+
Meme	sticky note	29	10000+
Peony illustration	coaster	39	10000+
Zhu Zhanji's music tour	glasses case	39	6000+
Point emerald phoenix pattern head flower	Luggage tag	46	10000+
Even God	Sticky note brick	49	20000+
Du Fu's Poems	Bookmark	68	60000+
Ice play _	Bookmark	72	20000+
Bird and flower	Pillowcase	99	9000+
Kesi Plum Magpie Chart Scroll	Night light	119	6000+
Twenty-four kinds of peonies	Pillow	139	1000
Picture of the sea in the Qing Dynasty	Travel pillow	156	10000+
Flower Atlas	Desk mat	162	7000+
Indus double rabbit	Zodiac badges	199	10000+
100,000 albums	Folding fan	199	1000+
Animal Spectrum Deer	Coin Purse	248	1000+
Tang Yin's tea ceremony	Paper Carved Lamp	286	6032
Danfeng and deer	Mug to mug	299	1000+
Qingming Riverside Map	Paper Carved Lamp	299	10000+
Embroidered thread orchid hall wealth map through the scene screen	Cutlery Set	399	3000+
Green-painted gold pine, bamboo, and plum pattern powder wax paper	Tableware	459	900+
Yurman Qing Tour Map	Silk scarf	598	1000

Best-Selling Painting-Themed Souvenirs in a Single Product

Painting-themed souvenirs were classified into categories such as cups, bags, lamps, cushions, fans, scarves, aromatherapy, umbrellas, keychains, badges, bookmarks, etc. Some themes like "Ice Playing Picture," "A Thousand Miles of Rivers and Mountains," "Across the River during Qingming Festival," and "Flowers and Birds" had multiple best-selling items. The royal fan and zodiac

badge also had multiple themes, with the royal fan being individually purchased and the zodiac badge sold as sets. Among the top-selling products, bookmarks, canvas bags, and coasters stood out due to promotional activities and consumer acceptance of products priced around 50 yuan.

Cooperation Mode of Experts in Painting - Themed Souvenirs of the Same Product Type

Analyzing the varieties of cups developed, their sales volumes, and expert cooperation methods, it was observed that certain design techniques influenced product sales. The top-selling cups were “Ice Playing” (10,000+ pieces), “Good Omen of the Year” by Zhu Jianshen (5,000+ pieces), and “A Thousand Miles of Rivers and Mountains” by Wang Ximeng (3,000+ pieces). Innovative coffee cups, with modern design elements, showed high consumer acceptance, while traditional shapes also performed well.

Lower-priced products had a wider customer base, while high-priced items with handicraft value were also recognized by consumers, although total sales revenue may vary significantly. Consumer preferences for color also played a role, with green-toned products being popular. Red-themed souvenirs were favored for weddings and New Year’s festivals, while traditional white products were preferred for birthdays and gifts to elders. Moreover, sharing-type tea sets were more popular than personal use cups for the “Song Dynasty Peony Picture” creative souvenirs.

Output

Characteristics of Tourists’ Favorite Paintings

Painting Style Characteristics and Price Range

Among the analyzed paintings, most (20 paintings) exhibit a neat and colorful meticulous style, while one is a freehand painting predominantly in black. The popularity and total income of a painting are closely related, with well-known works like “A Thousand Miles of Rivers and Mountains” and “Across the River during Qingming Festival” having significant promotion. Traditional folk images like Bingxitu and door gods also contribute to souvenir sales. Bird-and-flower images are relatively less known, and works in the third and fourth intervals are less familiar to the public.

Types of Best-Selling Items and Pricing Strategies

The painting themes are divided into three categories: auspicious implications, festivals, and life scenes. Different paintings can belong to multiple classifications, such as auspicious meaning and New Year themes. Among the categories, auspicious meaning themes include flower sets, peonies, plum blossoms, animals, and exotic animals, while festival themes comprise New Year and Mid-Autumn Festival, and life scene themes include court life and civilian life.

BEST-SELLING CATEGORY TYPE AND DESIGN DIRECTION

Analyzing the pricing and sales of best-selling items in 12 categories, products priced around 50 yuan have total sales revenue below 6 million. Items priced

Table 2. Cooperation mode of experts in painting - themed souvenirs of the same product type. (Data from the official flagship store of the Forbidden City.2022.) (Constructed by the author, 2023.)

Title	Rank	Price / Sales	Expert cooperation	Cooperation method
Ice play	1	178/ 10000+	Graphic designer lead	Graphic designer: Extract characters and fish elements to design shapes and colors, and add yellow and green stripes. Craftsmen: ceramics, stickers, gold-painting
	22	298/ 25	Craftsman-led	Craftsmen: ceramic craftsmanship, hand painting
A good omen of the year	2	528/ 5000+	Craftsman-led	Craftsman: Ceramics, Glazing
	5	1180/ 3000+	Craftsman-led	Craftsman: Ceramics, Glazing
A thousand miles of rivers and mountains	3	498/ 3000+	Craftsman-led	Craftsmen: ceramic craftsmanship, hand painting
	v12	258/ 700+	Product designer-led	Product Designer: Design a new look with mountains and colors as elements Craftsmen: hand spray gradient glaze
	14	418/ 500 +	Graphic designer lead	Graphic designer: Extract the elements of cranes and mountains to design shapes and colors. Craftsmen: ceramic craftsmanship, hand-painted gold, low-temperature decals
	15	188/ 500 +	Craftsman-led	Graphic designer: extracting mountain elements to design modeling. Craftsmen: hand-blown, 580°C decals, gold tracing
	17	298/ 200+	Craftsman-led	Graphic designer: extracting mountain elements to design modeling. Craftsmen: hand-blown, 580°C decals, gold tracing
	18	328/ 200+	Product designer-led	Product Designer: Design a new look with mountains and colors as elements Craftsmen: hand spray gradient glaze
Kesi Sui Chao Tu	4	126/ 3000+	Graphic designer lead	Graphic Designer: Extract Floral Shape Design Patterns Craftsmen: ceramic work, decals, gilding
	7	398/ 2000+	Craftsman-led	Craftsmen: ceramic work, decals, gilding
	13	339/ 600+	Graphic designer lead	Graphic Designer: Extract Floral Shape Design Patterns Craftsmen: ceramic craftsmanship, hand-painted gold
Peony illustration	6	199/ 3000 +	Graphic Designer + Product Designer + Craft	Graphic Designer: Extract Floral Shape Design Patterns Product Designer: Design Styling Craftsmen: hand-blown, high-temperature roasted flowers
	8	79/ 2000 +	Graphic designer lead	Graphic designer: extract flower shape design pattern artisan: ceramic crafts, decals, gold tracing
	23	139/ 5	Graphic Designer Product Designer Craft	Graphic Designer: Extract Floral Shape Design Patterns Craftsman: Manual blow molding, manual drilling of the cup handle, high-temperature roasting

at 100–200 yuan also have high consumer acceptance. The cup set priced at 178 yuan achieved the highest total revenue, followed by silk scarves priced at 238 yuan and lamps priced at 299 yuan. Designers can consider these price points when designing different categories of souvenirs.

Design Direction of Painting-Themed Souvenirs

Based on the analysis, four expert cooperation strategies for painting-themed cup products are identified (see Table 3).

Firstly, souvenirs dominated by craftsmanship, featuring meaningful and traditional red tea sets priced in the range of 500–600 yuan, are well-received by consumers and are particularly suitable for gifting to elders, weddings, or during the New Year.

Secondly, souvenirs led by graphic designers, offering coffee cups with vibrant patterns and colors at a price below 200 yuan, are favored by consumers, making them ideal as birthday gifts for friends or for personal use, especially among young individuals.

Thirdly, a combination of graphic designers, product designers, and craft collaboration leads to tea sets or coffee cups priced between 100–200 yuan, well-received by consumers, particularly suitable for personal use, and appealing to young individuals with a taste for refined living.

Lastly, souvenirs led by product designers, offering tea sets priced between 250–350 yuan, are well-accepted by consumers, especially those with discerning preferences for quality living, making them suitable for personal use and catering to young individuals who frequently travel for work.

Table 3. The way of cooperation of experts on the subject of painting. (Constructed by the author, 2023.)

Expert cooperation	Cooperation method
Graphic designer lead	Graphic Designer: Extract elements from paintings to design. Tools used: AI, PS. Craftsman ceramic craftsmanship, low-temperature decal paper, gold tracing craftsmanship
Graphic Designer + Product Designer + Craftsman	Graphic Designer: Extract elements from paintings to design. Tools used: AI, PS. Product Designer: Design Styling Craftsman: hand-blown, high-temperature roasted flowers
Craftsman-led	Craftsmen: ceramics, hand painting, glazing, 580°C processing decals, gold tracing
Product designer-led	Product Designer: Design a new look and colors as elements Craftsman: hand spray gradient glaze

CONCLUSION

This study examined the potential of multi-expert cooperation in developing tourist souvenirs using data from the Palace Museum's online store. Valuable insights were gained, with meticulous paintings, especially those with floral themes, proving popular among Forbidden City painting-themed souvenirs. Widely recognized paintings significantly contributed to souvenir sales. Souvenirs priced around 100 yuan, particularly those around 50 yuan, such as stationery, coasters, badges, and night lights, performed well. Designs led by different experts were crucial in meeting the preferences of diverse consumers.

Using data from Taobao's online store enabled efficient analysis of user acceptance and price preferences. However, data authenticity and emotional aspects of expert evaluations require further scrutiny. Improving user evaluations and understanding the reasons behind the best-selling categories of painting-themed souvenirs will refine design directions.

Future research could explore Chinese flower-themed paintings as souvenirs, tapping into their broad appeal and economic potential. Embracing multi-expert collaboration offers exciting opportunities to create diverse souvenirs catering to various user preferences.

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