Scientific and Social Research, 2026, Volume 8, Issue 3
https://ojs.bbwpublisher.com/index.php/SSR
Online ISSN: 2981-9946
Print ISSN: 2661-4332

Exploration of Evaluation Methods for Urban Renewal Outcomes: A Dual Case Study on the Renewal of Kunming's Cultural and Creative-oriented Industrial Heritage Based on the Importance-Performance Analysis (IPA) Method

Shujing Li*

Dianchi College, Kunming 650228, China

**Author to whom correspondence should be addressed.*

Abstract: Under the background of China's national urban regeneration action during the 14th Five-Year Plan period, cultural and creative industries (CCI) have been entrusted with the mission of revitalizing obsolete industrial heritage and enhancing cultural soft power. Kunming has successively completed several CCI-oriented industrial heritage regeneration projects, such as Chunyu 937 and C86 Camellia Plaza, yet a systematic subjective performance evaluation tool is still lacking. This study, for the first time, applies the Importance-Performance Analysis (IPA) model to post-evaluation of CCI-led industrial heritage regeneration in Southwest China. An index system consisting of 6 dimensions and 17 indicators (traffic, heritage authenticity, cultural experience, retail mix, supporting facilities, and estate environment) was constructed. Data were collected through questionnaire surveys, GPS-POI tracking, and policy document analysis. Empirical comparisons between Chunyu 937 and C86 Camellia Plazawere conducted to examine whether the original design objectives have been achieved and to develop a replicable subjective-objective coupled health-check template. The results show that: (1) The IPA four-quadrant effectively identified common "high importance-low satisfaction" weaknesses—public transport last-mile connection, thematic consistency of retail, and density of public toilets/third-space restrooms; (2) Both cases basically fulfilled three image objectives—"heritage preserved, IP created, crowd attracted", but three functional indicators—traffic, retail, and public service—remained significantly below expectation and fell into the IPA "concentrate improvement" zone; (3) Fiscal subsidies should be linked to IPA weakness improvement through an "annual review-dynamic adjustment" mechanism to shift showcase regeneration towards institutional regeneration. The study contributes to: (1) methodology by pioneering IPA application in post-evaluation of CCI-led industrial heritage regeneration in Southwest China; (2) data validation by cross-verifying subjective questionnaires with objective trajectory data; (3) policy innovation by embedding the "IPA health-check table" into update acceptance and subsidy-fuse mechanisms. The findings provide quantitative evidence for governments to allocate regeneration resources precisely and for operators to pursue continuous improvement, offering a demonstration for similar industrial heritage regeneration projects nationwide.

Keywords: Post-evaluation of urban regeneration; IPA method; Cultural and creative industry park; Industrial heritage

Online publication: April 15, 2026

1. Introduction

1.1. Research background

The "14th Five-Year Plan" outline for the first time proposes the implementation of the "City Renewal Action", explicitly listing cultural creativity, tourism, sports, and other industries as new drivers to activate existing spaces. As a national historical and cultural city, Kunming has included the cultural and creative industry in the implementation details of urban renewal since 2015, and has successively launched demonstration projects for the transformation of industrial heritage, such as Chunyu 937 and C86 Camellia Square. However, after the completion of the renewal, there is generally a lack of systematic post-evaluation, making it difficult for the government and operators to grasp the quantitative gap between "real experience of the crowd" and "financial investment performance."

1.2. Research significance

(1) Theory: Expand the application scenarios of the updated IPA model in post-evaluation, addressing the shortcomings of traditional "economic-spatial" two-dimensional indicators that overlook cultural experience.

(2) Practice: Provide tools for Kunming to establish a "renewal physical examination—dynamic adjustment" system, and offer a replicable template for the renewal of similar industrial heritages in China.

1.3. Research content and technical route

The content includes: (1) constructing an IPA evaluation index system; (2) collecting subjective and objective data; (3) four-quadrant diagnosis and strategy; (4) target achievement degree inspection; (5) policy recommendations.

Route: Literature review → Indicator system → Questionnaire/track → IPA analysis → Comparative verification → Conclusion and suggestion.

2. Research objects and content

2.1. Case selection and representativeness argumentation

Spring Rain 937: Located in the old industrial area in the west of the city, it is a relic of a motor factory, covering an area of 120,000 m². It underwent renovations from 2018 to 2023. C86 Camellia Workshop: Situated in the cultural and creative corridor in the center of the city, it is a relic of a television factory, covering an area of 11,753 m². It underwent renovations from 2016 to 2022. Both cases have been operational for over two years, with clear property rights and publicly available information, making them comparable.

2.2. Construction of the evaluation index system

Through screening using the Delphi method (15 experts) and focus groups (4 user groups), 6 dimensions and 17 indicators were ultimately determined:

(1) Accessibility (last bus connection, walking time to subway, parking guidance) (2) Authenticity of industrial heritage (preservation of building exterior, interpretation of industrial symbols) (3) Cultural experience (activity richness, narrative integrity, affordable ticket price) (4) Commercial format (theme consistency, proportion of first-store, retail diversity) (5) Supporting facilities (public toilets/gender-neutral restrooms, mother and baby rooms, seating) (6) Park environment (night lighting, green landscape, noise control)

2.3. Data acquisition and processing methods

Questionnaire: Likert 5-point scale, Spring Rain n=412, C86 n=362, α>0.84;

Spatial behavior: GPS trajectory tracking (500 samples) + POI hotspot analysis;

Policy text: Compare the feasibility study reports and updated acceptance documents of the two locations.

2.4. Construction of the IPA model and analysis of reliability and validity

Using a total importance mean of 4.05 and a total satisfaction mean of 3.80 as the intersection point, four quadrants are divided (**Table 1**).

Table 1. Evaluation index system for cultural and creative-oriented industrial heritage renewal

Primary dimension	Secondary indicator	Indicator description (measurement question example)	Importance weight	Satisfaction mean	Difference value (I-P)	Quadran
A. Traffic accessibility	A1 Last bus and subway connection	"The park is well connected to the last bus of the subway."	4.20	3.02	-1.18	IV
	A2 Walking time from subway exit	"It takes ≤10 minutes to walk from the nearest subway station to the park"	4.10	3.25	-0.85	IV
	A3 Parking Guidance System	"The parking guidance in the park is clear, and it's easy to find a parking space."	3.90	3.40	-0.50	III
B Authenticity of industrial heritage	B1 Preservation of building exterior	"The facade of the old factory building retains its original style."	4.70	4.55	-0.15	I
	B2 Interpretation of industrial symbols	"Industrial story/signage system is clearly explained"	4.50	3.80	-0.70	IV
C Cultural experience	C1 Activity richness	"Cultural/creative activities ≥ 3 times per month"	4.30	4.00	-0.30	I
	C2 Narrative completeness	"Gain a comprehensive understanding of the factory's history and products"	4.40	3.70	-0.70	IV
	C3 Affordability of ticket price	"The ticket price for the event is acceptable (≤50 yuan)"	3.50	3.68	+0.18	II
D Business format	D1 Theme consistency	"Retail/catering is compatible with industrial/cultural and creative themes"	4.00	3.35	-0.65	IV
	D2 Proportion of first-store/flagship store	"There is an adequate number of first-store or flagship stores."	3.90	3.35	-0.55	IV
	D3 Retail Diversity	"The variety of products is abundant and diverse"	3.80	3.60	-0.20	I

Table 1 (Continued)

Primary dimension	Secondary indicator	Indicator description (measurement question example)	Importance weight	Satisfaction mean	Difference value (I-P)	Quadran
E Support facilities	E1 Density of public toilets/third gender restrooms	"A public toilet with a third gender bathroom can be found within 150 meters."	4.10	3.05	-1.05	IV
	E2 Maternal and Child Room Configuration	"Equipped with a mother and baby room and fully equipped"	3.70	3.10	-0.60	IV
	E3 Rest seat density	"Within a 100-meter walk, there are benches for rest"	3.80	3.50	-0.30	III
F park environment	F1 Night lighting safety perception	"Sufficient lighting at night and a high sense of security"	4.10	3.85	-0.25	I
	F2 Greening landscape	"The park is beautifully landscaped and well-maintained"	3.80	3.75	-0.05	I
	F3 Noise control	"The noise in the park does not affect the experience."	3.70	3.60	-0.10	I

Note: Both importance and satisfaction are rated on a 5-point Likert scale, with sample mean values; difference value = importance - satisfaction. The quadrant division is based on the cross-point of the total sample importance mean value of 4.05 and satisfaction mean value of 3.80. Quadrant IV (difference ≤ -0.8 and high importance) is the "key improvement area", which is marked in bold italic in this table.

2.5. Construction of IPA cross quadrant matrix.

The construction of IPA cross quadrant matrix is shown in **Table 2** (Overall mean cross: I=4.05, *P*=3.80).

Table 2. Construction of IPA cross quadrant matrix

High importance · Low satisfaction (IV Key improvement area)	High importance · High satisfaction (I. Advantage Maintenance Zone)
Connection between the last bus and the last subway Consistency in retail theme Completeness of industrial narrative Density of public toilets/gender-neutral restrooms	Authentic preservation of industrial buildings Sense of security provided by night lighting Activity richness
Low importance · Low satisfaction (III Low Priority Area)	Low Importance · High Satisfaction (II Maintenance area)
• Parking guidance system • Density of rest seats	• Affordability of cultural activity tickets • Green landscape in the park

Note: With importance as the vertical axis (↑ high) and satisfaction as the horizontal axis (→ high), a cross division is formed to visually locate the quadrant and strategic direction of each indicator.

3. Object study 1: Chunyu 937 Industrial Cultural Creative Park

3.1. Case overview and update history

Chunyu 937, formerly known as Kunming Motor Factory, ceased production and lay idle in 2008. From 2018 to 2023, the government invested 30 million yuan and introduced 70 million yuan of social capital. The original factory structure and facade texture were retained, and modern cultural and creative elements were integrated, transforming it into an open cultural and creative street area integrating cultural experience, creative office space, leisure, and entertainment.

3.2. Demographic and behavioral characteristics

Demographic profile: 42% local residents, 31% tourists, 18% cultural and creative industry practitioners, and 9% students (**Table 3**).

Behavioral characteristics: Local residents mainly engage in leisure shopping on weekends, while tourists are concentrated on sightseeing and taking photos during holidays. Cultural and creative industry practitioners frequent the area during weekdays, and students mostly visit for research and study on weekends.

Table 3. Demographics and behavioral characteristics of the crowd in Chunyu 937 Industrial Cultural Creative Park

Crowd category	Proportion (%)	Visit Frequency	Duration of Stay	Main Activities	Peak Period	Mode of Transportation	Consumption Characteristics
Local residents	42	2.3 times/ week	2.8 h	Weekend leisure, parent-child dining	Saturday and Sunday, 14:00-18:00	Bus + self-driving (60%), subway + walking (25%)	Catering > Cultural and creative merchandise, with a unit price of 70-110 yuan
Tourist	31	For the first time as the main data	1.9 h	Check in, take photos, enjoy coffee, and relax	Every day from 10:00 to 12:00	Self-driving (55%), subway + bus (35%)	Coffee + souvenirs, with a unit price of 45-75 yuan
Cultural and creative industry practitioners	18	4.1 times/ week	5.5 h	Office work, live streaming, and filming	Weekdays: 09:00-18:00	Self-driving + carpooling (50%), public transportation (30%)	Studio rent + materials, monthly expenditure ranging from 700 to 1400 yuan
Student	9	1.5 times/ month	1.6 h	Research and study visits, materials for graduation design	Weekend 10:00-12:00	School bus + public transportation (65%)	Books + cultural and creative stationery, with a unit price of 25-45 yuan

Note: The visit frequency and duration are sample means; consumption characteristics are based on cross-validation of on-site POS data and self-reported questionnaire data.

3.3. Importance-satisfaction quadrant analysis

The importance-satisfaction quadrant analysis is shown in **Table 4**.

Table 4. Importance-satisfaction quadrant analysis

Indicator	Importance	Satisfaction	Difference value	Quadrant
Last bus and subway connection	4.2	3.0	-1.20	IV
Authentic preservation of industrial architecture	4.7	4.55	-0.15	I
The influence of cultural activities	4.4	4.35	-0.05	I
Consistency of retail format theme	4.0	3.35	-0.65	IV
Density of public toilets/gender-neutral restrooms	4.1	3.05	-1.05	IV
The sense of safety provided by night lighting	4.1	3.85	-0.25	I
Number of first stores/flagship stores	3.9	3.35	-0.55	IV
Accessibility of cultural event tickets	3.5	3.65	+0.15	II
Park greening landscape	3.8	3.75	-0.05	I
Noise control	3.7	3.60	-0.10	I

3.4. Improvement strategies for dimensions

Transportation: Add two new bus lines and set up an intelligent parking guidance system.

Culture: Solidify the annual IP of the industrial design competition/creative market.

Business: Introduce designer boutiques and VR experience halls to reduce homogenization.

Facilities: Add mobile toilets to 15 locations within a service radius of 150 meters.

4. Object study 2: C86 Camellia House Cultural and Creative Industrial Park

4.1. Case overview and update history

C86 Camellia Workshop was formerly known as Yunnan Television Factory, which was established in 1968 (formerly known as "Dongfanghong Badge Factory"). The "Camellia" brand televisions were once one of the "Five Golden Flowers" of Yunnan's light industry. In 2014, Kunming Jiezi Cultural Development Co., Ltd. obtained the property rights. From 2016 to 2022, while retaining industrial elements, it was transformed into an open cultural and creative park by incorporating the new German Bauhaus style, and was awarded provincial, municipal, and district-level cultural and creative industrial parks.

4.2. Demographic profile and behavioral characteristics

Demographics: 40% local residents, 32% tourists, 19% cultural and creative industry practitioners, and 9% students.

Behavioral characteristics: Local residents tend to engage in leisure activities on weekends, while tourists mainly come for check-ins and photo-taking. Cultural and creative industry practitioners frequent the area during weekdays, and students mostly come for weekend study tours (**Table 5**).

Table 5. Behavioral characteristic

Population category	Proportion (%)	Visiting frequency	Duration of stay	Main activities	Peak period	Mode of transportation	Consumption characteristics
local residents	40	2.1 times/week	2.5 h	Weekend leisure, parent-child dining	Saturday and Sunday, 14:00-18:00	Subway + walking (55%), self-driving (30%)	Catering > Cultural and Creative Merchandise, with a unit price of 80-120 yuan
tourist	32	First time as the main data	1.8 h	Check in, take photos, and enjoy a coffee break	Every day from 10:00 to 12:00	Direct subway access (68%)	Coffee + souvenirs, with a unit price of 50-80 yuan
Cultural and creative industry practitioners	19	4.5times/week	6.0 h	Office work, meetings, and live streaming	Weekdays: 09:00-18:00	Walking + subway (78%)	Workstation rental + material procurement, with monthly expenditure ranging from 800 to 1500 yuan
student	9	1.3 times/month	1.5 h	Research and study visits, materials for graduation design	Weekend 10:00-12:00	School bus + subway (70%)	Books + cultural and creative stationery, with a unit price of 30-50 yuan

4.3. Importance-satisfaction quadrant analysis

The importance-satisfaction quadrant analysis is shown in **Table 6**.

Table 6. Importance-satisfaction quadrant analysis

Indicator	Importance	Satisfaction	Difference Value	Quadrant
Last bus and subway connection	4.2	3.05	-1.15	IV
Authentic preservation of industrial architecture	4.7	4.50	-0.20	I
Influence of cultural activities	4.4	4.30	-0.10	I
Consistency of retail format theme	4.0	3.40	-0.60	IV
Density of public toilets/gender-neutral restrooms	4.1	3.65	-0.45	III
The sense of security provided by nighttime lighting	4.1	3.90	-0.20	I
Number of first stores/flagship stores	3.9	3.75	-0.15	II
Accessibility of cultural event tickets	3.5	3.72	+0.22	II
Green landscape of the park	3.8	3.70	-0.10	I
noise control	3.7	3.55	-0.15	I

4.4. Improvement strategies by dimension

Transportation: Extend the bus service to 23:00 in sync with the last subway train, and increase the frequency of weekend services;

Culture: Plan the "Camellia TV Museum" and add interactive exhibition items for visitors;

Business: Control non-themed rental premiums to be no more than 10%, and solidify the "tea + TV" IP;

Facilities: Utilize the overhead space to add 2 third-gender restrooms and 1 mother and baby room.

5. Comprehensive comparison of IPA for dual case objects

5.1. Comparison of indicator layers

The comparison of indicator layers is shown in **Table 7**.

Table 7. Comparison of indicator layers

Indicator	Chunyu difference	Quadrant	C86 difference	Quadrant	Significance
Last bus and subway connections	-1.20	IV	-1.15	IV	$P>0.05$
Authentic preservation of industrial buildings	-0.15	I	-0.20	I	$P>0.05$
Completeness of cultural narrative	-0.70	IV	-0.25	I	$P<0.01$
Retail theme consistency	-0.65	IV	-0.60	IV	$P>0.05$
Public toilet/Third-gender bathroom	-1.05	IV	-0.45	III	$P<0.01$
Sense of security from night lighting	-0.25	I	-0.20	I	$P>0.05$
Number of first stores/flagship stores	-0.55	IV	-0.15	II	$P<0.05$
Accessibility of cultural event tickets	+0.15	II	+0.22	II	$P>0.05$

5.2. Quadrant layer comparison

Both cases fall into the "high importance-low satisfaction" key improvement area in terms of three indicators: transportation terminal connection, consistency of retail format theme, and density of public toilets/third-gender

restrooms, with significant common shortcomings.

5.3. Assessment of goal achievement

Image goal:

Building maintenance: satisfaction rate of 4.5–4.8, meeting standards;

IP building: Cultural activity influence 4.3–4.5, meeting the standard;

Attracting customers: Annual customer flow of 1.2 million +, meeting the standard.

Functional objective:

Transportation connection: The difference is ≤-1.15, which fails to meet the standard;

Theme business: The proportion of first-store openings is less than 20%, which is not up to standard;

Family-Friendly: The difference in gender-neutral restrooms/third-gender restrooms is ≤-1.05, which fails to meet the standard.

6. Conclusion

6.1. Main research conclusions

(1) The IPA model effectively identifies the "high importance-low satisfaction" shortcomings in the renewal of cultural and creative industrial heritage;

(2) Both cases have basically met the image objectives, but the functional objectives still need to be improved;

(3) Financial incentives and subsidies should be linked to the improvement of IPA shortcomings, driving the transition from exhibition-based to institutional renewal.

6.2. Core objectives of urban renewal outcomes that have met the standards

6.2.1. Industrial heritage comes to life

The satisfaction rates for "authentic preservation of architecture" in the two locations, as measured by the International Property Advisory (IPA), are 4.8 and 4.5, respectively (exceeding the importance threshold of 0.15 to 0.20). These two factory areas have been transformed from idle ruins into city-level check-in landmarks, with the original buildings spared from demolition, thus fulfilling the initial design vision of "preserving the skin, structure, and spirit."

6.2.2. Cultural IP "emerges"

The "old motor" symbol of Chunyu 937 and the "Camel TV" memory of C86 have been successfully translated into consumable scenarios, achieving a satisfaction rate of 4.4~4.5 in terms of cultural activity influence, meeting the design expectation of "differentiated competitiveness."

6.2.3. Regional popularity "gathering"

The annual average passenger flow in both locations has exceeded 1.2 million, surpassing the zero baseline before the renovation (during the idle period). The crowd mix index (locals: tourists: employees) has stabilized at 4:3:2, confirming the initial positioning of the "open cultural and creative living room."

6.3. Preset goals not met

6.3.1. Traffic end-point

The difference value of the last bus-subway connection is ≤-1.15, still falling within the "Key Improvement Area" of IPA, indicating a significant gap from the claimed goal of "direct subway access and seamless connection" stated in the design task document.

6.3.2. Theme business "flagship store"

The consistency difference value of retail formats is ≤-0.6, and the proportion of first-store/flagship stores is less than 20%, which is lower than the rigid indicator of "30% themed leading stores" proposed in the feasibility study reports of the two regions, resulting in "cultural and creative consumption" being reduced to "cultural and creative small commodities."

6.3.3. Public service facilities are "family-friendly"

The difference value for public toilets/third-gender restrooms is ≤-1.05 (especially during spring rain), and the satisfaction rates for women, parent-child pairs, and elderly people are below 3.5, failing to achieve the goal of "shared use for all ages" in the design plan.

7. Outlook and shortcomings

The three original intentions of the urban renewal project led by cultural and creative industries, namely "preserving buildings, shaping IP, and gathering popularity", have been generally achieved. However, the three key operational indicators of "transportation infrastructure—themed commerce—public service facilities" are still significantly lower than expected, given their importance, falling within the "high expectation - low experience" quadrant of the IPA. In other words, the project has achieved its "image goals" but has not fully met its "functional goals"; it has reached the stage of "expressive renewal" but still needs to move towards "institutional renewal."

It is recommended to incorporate the "IPA Physical Examination Form" into the acceptance and annual review process, and implement a financial reward and subsidy cut-off mechanism for non-compliant indicators. Only when the "satisfaction with transportation connection is ≥4.0, and the proportion of themed commerce is ≥30%" can the next round of operational subsidies be applied for, thereby compelling the project to truly fulfill its original design objectives.

This study conducts an IPA analysis based on two typical cases: Kunming Chunyu 937 and C86 Camellia Square. Due to the limited sample size and geographical scope, it is not yet representative of cultural and creative-led urban renewal projects of different types, scales, and operational stages across the country. Therefore, the indicator weights, shortcomings rankings, and policy recommendations proposed in this paper are only for reference by peer scholars and local governments. Future research should expand the sample size, increase horizontal comparisons across multiple cities and cases, to further verify and improve the universality and robustness of this evaluation system.

Funding

Scientific Research Fund Project of the Education Department of Yunnan Province, Three Positioning Projects, Project Title: "Evaluation of Kunming Urban Renewal Projects Led by the Development of Cultural and Creative

Industries Based on the IPA Method", Project Number: 2025J1155.

Disclosure statement

The author declares no conflict of interest.

References

[1] Zhang ZH, Wang Y, 2022, Research on the Performance Evaluation of Cultural and Creative-Oriented Renewal of Old Industrial Areas: Based on the IPA Method. Modern Urban Research, 2022(9): 86–92.

[2] Liu BY, Zhu S, 2021, A Study on Tourist Satisfaction with Industrial Heritage Tourism Based on the IPA Model: Taking Qingdao Beer Museum as an Example. Regional Research and Development, 40(4): 112–117.

[3] Wang L, Tian J, 2020, Application progress of Importance-Satisfaction Analysis (IPA) in domestic urban renewal. International Urban Planning, 35(6): 78–84.

[4] Kunming Urban Renewal Leading Group Office, 2021, Kunming Urban Renewal Measures. https://www.km.gov.cn/c/2021-10-11/4144167.shtml

[5] Zheng ZZ, 2021, Research on the Development Trends and Paths of China's Cultural and Creative Industries during the "14th Five-Year Plan" Period. Western Economic Management Forum, 2021(1): 4–7.

[6] Li R, Ye Q, Tan L, 2020, Research and Analysis on the Quality Development of Cultural and Creative Industries: A Case Study of Jianghan District, Wuhan City. China Quality and Standard Guide, 2020(5): 42–45.

[7] Martilla JA, James JC, 1977, Importance-Performance Analysis. Journal of Marketing, 41(1): 77–79.

[8] Azzopardi E, Nash R, 2020, A Critical Evaluation of Importance-Performance Analysis: A Review and Future Directions. Tourism Management, 2020(78): 104041.

[9] Landry C, 2021, The Creative City: A Toolkit for Urban Innovators, 2nd ed. Routledge, London, 45–68.

[10] Roberts P, 2017, Urban Regeneration: A Handbook. SAGE Publications, London, 213–230.