

Temporary Urbanism in Action: Theme-Neighborhood (Mis)alignment and Visitor Response in Beijing Pop-up Markets

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Abstract

Pop-up markets are increasingly deployed as temporary urban-regeneration tools, yet their capacity to deliver community benefits beyond mere commerce remains uncertain. This study mapped 447 Beijing pop-ups (Dec 2023-Nov 2024) and analysed 25 cases for market-neighbourhood fit. Fifteen-minute walking isochrones intersected Gaode POIs, land-use entropy and VIIRS night-lights; while Xiaohongshu posts provided popularity and satisfaction metrics. Theme vectors for both markets and neighbourhoods were derived via Word2Vec; their cosine similarity measured thematic alignment. Results show that while 80% markets align closely with local amenities, those with greater thematic divergence often achieve higher visitor satisfaction ($p < 0.05$). Community-driven, experimentally themed pop-ups can thus act as low-risk prototypes for augmenting neighbourhood services and deepening civic engagement.

Keywords: temporary urban regeneration, pop-up market, urban informatics, neighbourhood.

1. Introduction

Temporary urbanism, commonly manifested through pop-up markets and ephemeral public space interventions, has emerged as a significant yet controversial approach in urban planning and renewal practices. Rooted in tactical urbanism, these temporary interventions are characterized by low-cost, reversible, and quickly deployable projects that allow urban stakeholders to test new functions, assess community acceptance, and respond dynamically to evolving urban challenges (Lydon & Garcia, 2015; Bertolini, 2020). Despite their operational flexibility and popularity, temporary urban projects have attracted criticism, as scholars argue they frequently become vehicles for capital-driven marketing and real estate valorization (Madanipour, 2018).

In the context of China's rapid urbanization and evolving policy landscape, the strategic role of temporary urban regeneration deserves nuanced examination (Gao & Zhang, 2024). The current trend of pop-up markets across the country offers a vivid illustration. These markets try to address issues such as the shortage of urban construction space, lack of funding for large projects, and the promotional needs for small enterprises. Recent initiatives such as China's "15-Minute Community Life Circle" and the incentives of night-time economies underline a growing institutional support for temporary, experiential urban activities. Nevertheless, the potential of these activities to transcend their commercial origins and foster meaningful community engagement and functional diversity remains under-explored.

Addressing this research gap, this study leverages urban informatics methodologies—including spatial analytics, social media sentiment analysis, and semantic modeling—to explore the interplay between pop-up market themes and the daily functional characteristics of surrounding built environments in Beijing. By systematically examining thematic alignment and divergence, this paper aims to clarify whether and how temporary market activities serve as effective instruments for tactical urbanism, fostering greater community satisfaction and resilience through experimental governance. The study period spans from December 2023 to November 2024, and it involves 447 markets for macro-level spatio-temporal analysis and 25 typical cases for in-depth thematic and sentiment analyses. Data sources include pop-up market information from WeChat public accounts, POI data from Gaode Map, and social media data from Xiaohongshu. This study further develops a methodological approach which employs Word2Vec to establish connections between urban built-environment characteristics and thematic content derived from social media, building upon earlier research by Yao et al. (2017). Our findings contribute to ongoing theoretical and practical debates by offering empirically grounded insights into how temporary urbanism principles like pop-up markets can guide the sustainable, community-responsive evolution of temporary urban initiatives.

2. Data

The empirical foundation of this study rests upon a meticulously assembled geospatial and social media dataset, designed to capture both the physical and experiential dimensions of pop-up markets in Beijing. Our spatial dataset comprises 618 pop-up market listings harvested from “Shijihui,” a leading WeChat public account renowned for its exhaustive aggregation of Beijing marketplace events. To ensure comprehensive coverage and geographic precision, each listing was geocoded and cross-referenced with the 2024 point-of-interest (POI) database provided by Gaode (Amap), which offers detailed classifications for urban features such as transit nodes, retail outlets, cultural institutions, and life-service venues. Administrative boundaries and road network layers were procured from the Beijing City Lab repository, while OpenStreetMap (OSM) supplemented the street topology data to facilitate high-accuracy routing analyses. The spatial distribution of these markets is shown in Figure 1.

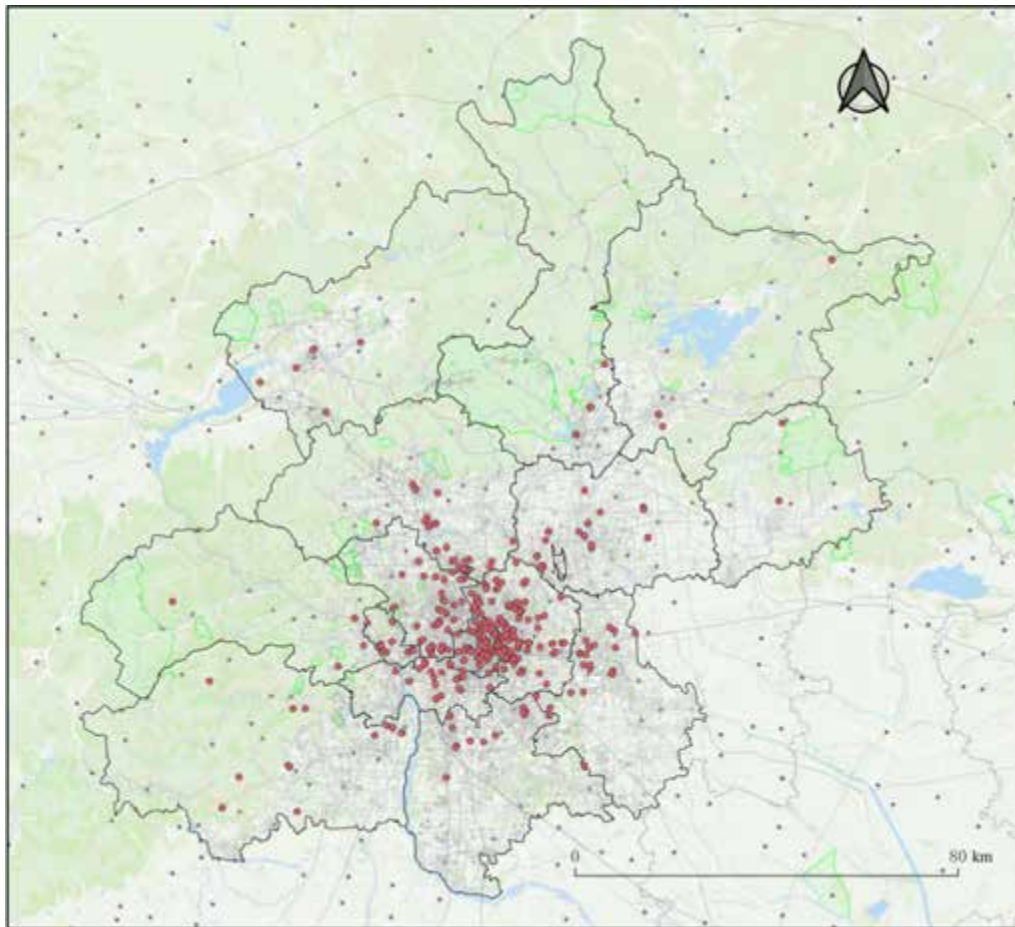


Figure 1. Pop-up markets in Beijing (2023.12-2024.11)

Recognizing the rapid evolution of urban events and to maintain analytical rigor, we confined our study period to December 1, 2023 through November 30, 2024. Markets situated outside Beijing’s six core urban districts—Haidian, Chaoyang, Xicheng, Dongcheng, Fengtai, and Shijingshan—were excluded to focus on areas with advanced economic activity, data completeness, and high population densities. This spatial filtering reduced the sampling frame to 447 markets for which we have full environmental characterizations.

To capture the diversity of market typologies, we applied a keyword-based classification schema grounded in extant literature on temporary urbanism. Using descriptors such as “food,” “fashion,” “used goods,” “art,” and “comprehensive,” each market was assigned to one of five categories: Food & Dining, Fashion, Used Possession, Art & Culture, and Comprehensive. We then executed a purposive sampling strategy by crawling the Xiaohongs-

hu, a popular lifestyle platform and consumer decision-making portal in China, with the query “Markets in Beijing” and manually verifying thematic relevance. From each typology, five spatially representative markets were selected, yielding a subset of 25 case markets (Figure 2) for in-depth thematic and sentiment analyses.

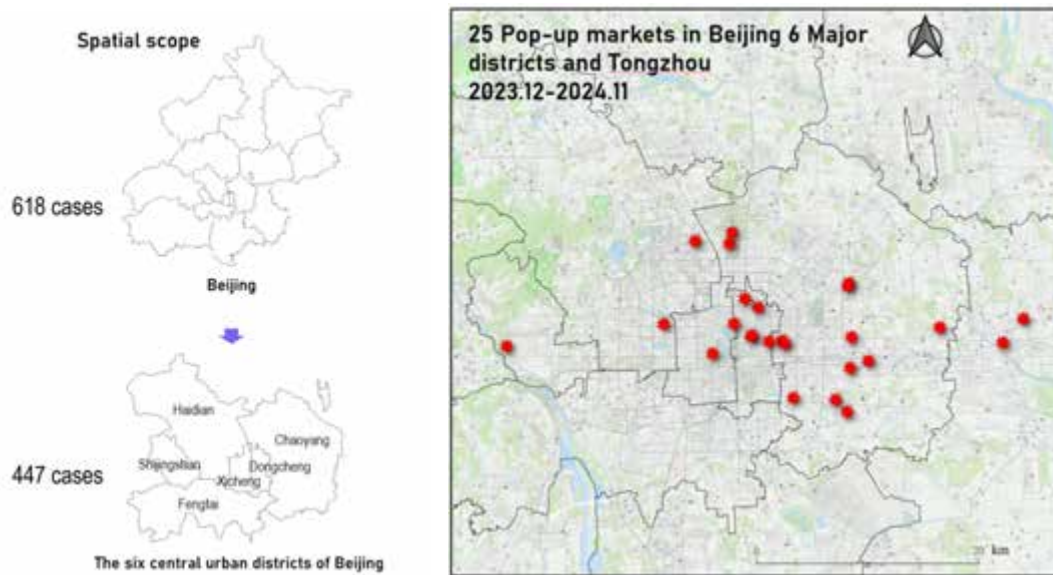


Figure 2. Schematic diagram of the screening of research subjects

Built environment metrics were calculated within a standardized 15-minute walking catchment around each market. Isochrone polygons were generated via the Mapbox API, ensuring alignment in the delineation of pedestrian accessibility zones. Within these isochrones, we extracted counts and spatial distributions of seven POI categories—subway stations, parking facilities, life services, catering venues, retail establishments, science/education/cultural institutions, and parks—using Gaode’s developer API. To approximate urban vibrancy, we obtained nighttime light intensity data for the year 2023 from the NPP-VIIRS dataset maintained by NOAA and NASA by Z. Chen et al. (2020). Land use patterns were classified according to the European Urban Land Use Classification (EULUC) schema (Gong et al., 2020), providing a standardized taxonomy for comparative spatial analysis. All geospatial computations, including density metrics (e.g., facilities per square kilometer) and proximity measures (e.g., minimum walking distances to the nearest subway station), were executed in GISpro, with Kepler.gl employed for dynamic visualization of spatial layers and isochronal boundaries.

Social media data was sourced from Xiaohongshu posts associated with each of the 25 case markets. We collected metadata fields including “likes,” “shares,” “comments,” and “collections,” along with textual content and timestamps. To control for temporal sampling biases—given that older posts naturally accrue more interactions—we normalized engagement metrics by dividing the aggregate sum of interactions by the total number of posts per market. This yielded a standardized “popularity” score for comparative analysis. Sentiment analysis was performed using SnowNLP, a Python library tailored for Chinese language processing. Each comment’s polarity was classified as positive or negative, and an overall “satisfaction” score was defined as the proportion of positively classified comments.

Finally, POI category proportions within each isochrone were converted into weighted semantic vectors to represent neighbourhood functional profiles. These “neighbourhood function” vectors served as the basis for our thematic alignment analysis, linking built environment attributes with pop-up market themes. Altogether, our multi-source dataset integrates spatial, social, and semantic dimensions of urban pop-up markets, forming a robust empirical backbone for subsequent methodological steps.

3.Methodology

This study employs a mixed-methods framework that synergistically combines spatial analytics, social media engagement metrics, and natural language processing to evaluate the thematic alignment between pop-up market offerings and their surrounding neighbourhood functions. Our analytic pipeline unfolds in four principal stages: spatial data assembly and pre-processing, built environment characterization, semantic embedding and similarity analysis, and statistical modeling of environment-experience relationships.

3.1 Spatial Data Assembly and Pre-processing

We began by geocoding the 618 pop-up market entries from “Shijihui” and filtering to the six core urban districts of Beijing. Markets without precise coordinates or outside the study period (Dec 2023–Nov 2024) were excluded, resulting in 447 valid cases. For each market, we generated a 15-minute pedestrian isochrone using the Mapbox API, capturing the realistic reach of on-foot visitors. POI data from Gaode was then spatially joined to these isochrones in GISpro, enabling the calculation of density (e.g., number of catering venues per square kilometer) and convenience (minimum walking distance to key services) indicators. Nighttime light intensity rasters were clipped to each isochrone and averaged to yield a proxy for local urban vibrancy. Land use classifications were overlaid using the EULUC dataset, allowing computation of land use mix indices via the Shannon entropy formula. All spatial operations adhered to a consistent coordinate reference system (WGS 84) and were validated for topology errors.

3.2 Thematic Data Extraction and Embedding

To extract market themes, we scraped the text of Xiaohongshu posts for each of the 25 case markets. Pre-processing included removal of punctuation, emojis, temporal and location markers, and high-frequency non-thematic tokens. Chinese word segmentation was conducted using Jieba, resulting in a clean corpus of thematic keywords. For each market, we identified the top 20 most frequent thematic keywords. We then trained a Word2Vec embedding model with a window size of 5 and vector dimensionality of 200 on the aggregated corpus of all market comments. Each keyword’s vector was extracted and the mean across the 20 keywords yielded the “market theme” vector.

3.3 Neighbourhood Function Vector Construction

The neighbourhood characteristics around 25 case markets were analysed as follows. We translated POI category proportions within each market’s 15-minute pedestrian isochrone into a semantic representation by first assigning each category a label (e.g., “Dining,” “Shopping,” “Science, Education & Culture,” “Life Services”). Using the pretrained Word2Vec model (Figure 3), we converted each label into its vector embedding and weighted these embeddings by the category’s share of total POIs. Summing these weighted vectors produced the “neighbourhood function” vector, which encapsulates the functional character of the neighbourhood surrounding each pop-up market.

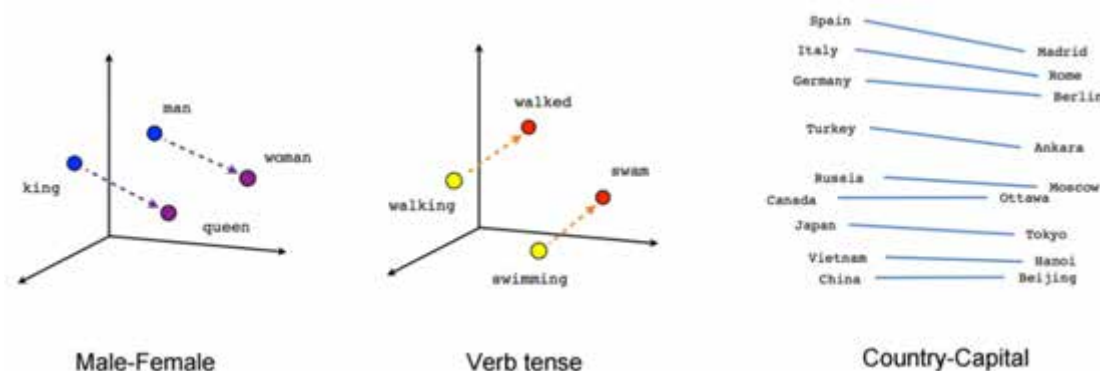


Figure 3. Schematic diagram of Word2Vec method (Ruizendaal, 2017)

3.4 Semantic Similarity and Statistical Modelling

The cosine similarity between each market's theme vector and its neighbourhood function vector served as our quantitative index of thematic alignment, with values ranging from -1 (complete mismatch) to 1 (perfect alignment). To investigate drivers of alignment and market success, we compiled a dataset combining thematic alignment indices, popularity scores (normalized social media engagement), and satisfaction scores (sentiment positivity ratios). All the case markets were divided into two groups based on the median of the alignment score: high consistency and low consistency. A t-test was then conducted on popularity and satisfaction, with $p < 0.05$ indicating significant differences. Furthermore, we computed Pearson correlation coefficients to identify bivariate relationships between theme-neighbourhood alignment and the response from the public. The statistical analyses were conducted in Python (pandas, statsmodels), with significance evaluated at the 0.05 level.

By integrating geospatial methodologies, natural language processing, and statistical modeling, a holistic lens was provided for understanding how ephemeral urban events interact with their physical contexts and social perceptions. The dual focus on quantitative indices (e.g., cosine similarity, engagement metrics) and spatial visualizations ensures that our findings carry both empirical precision and practical relevance for urban planners, event organizers, and scholars interested in temporary urbanism.

4. Results

4.1 Macro-Level Spatio-temporal Patterns

All the data of markets advertised at "Shijihui" from December 2023 to November 2024 were collected and analysed, so as to present the duration of each market and the monthly distribution of all the markets throughout the year. The numerical results on the time dimensions are shown in Figure 4.

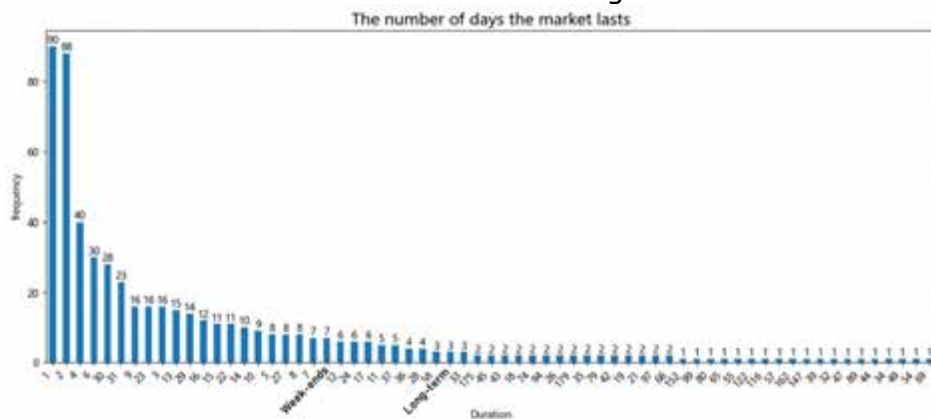


Figure 4(a). The duration of each market

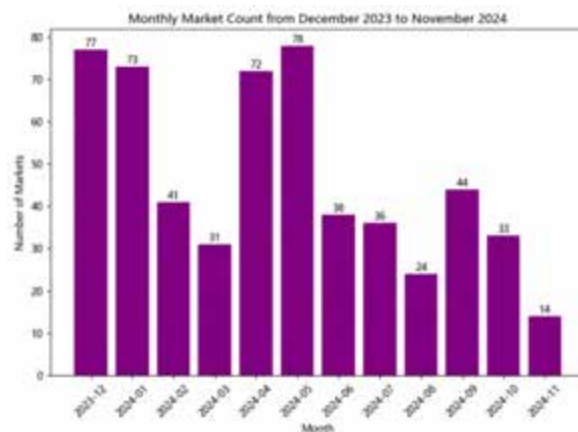


Figure 4(b). The monthly distribution of all the markets throughout the year

As is shown in the figure, markets peaked twice a year, from December to January and from April to May, with low peaks in February and August, which may be affected by the Chinese New Year in February and the summer heat in August. From further analysis of the market holding place, shopping malls are shown to be the main locations for pop-up markets, while office buildings, parks and art & creative parks are also popular venues. For the 447 market in the six main districts of Beijing, a kernel density was done. Results shown that 8 areas, including Qianmen, Longfu Temple and landmark river were concentrated places for temporary markets, as shown in Figure 5.

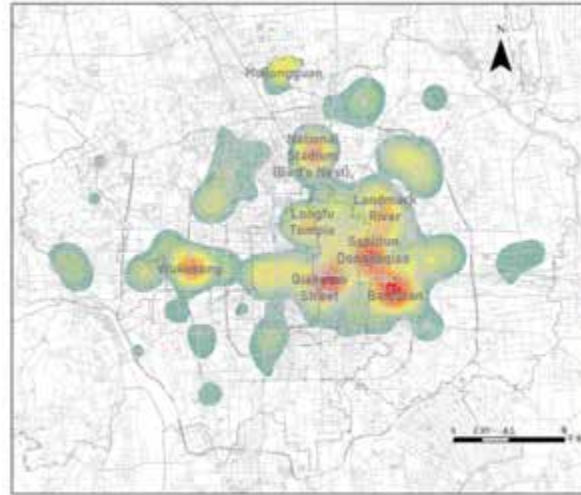


Figure 5. Kernel Density Map of Pop-up markets in Beijing 6 main districts 2023.12-2024.11

Subsequently, a preliminary investigation of the built environment surrounding all market sites was undertaken. Fifteen-minute walking isochrones for the market points were generated through the Mapbox Isochrone API, and the built environment within each isochrone was characterised along four dimensions: transportation, urban function, urban vitality and natural features. The resulting metrics were visualised with Kepler.gl. In the transportation dimension, the closest proximity to subway stations is observed for markets in Dongcheng District, Xicheng District, the western portion of Chaoyang District and the area around Olympic Forest Park, whereas parking facilities are comparatively scarce around market points situated on the northern and southern margins of Xicheng and Dongcheng Districts.

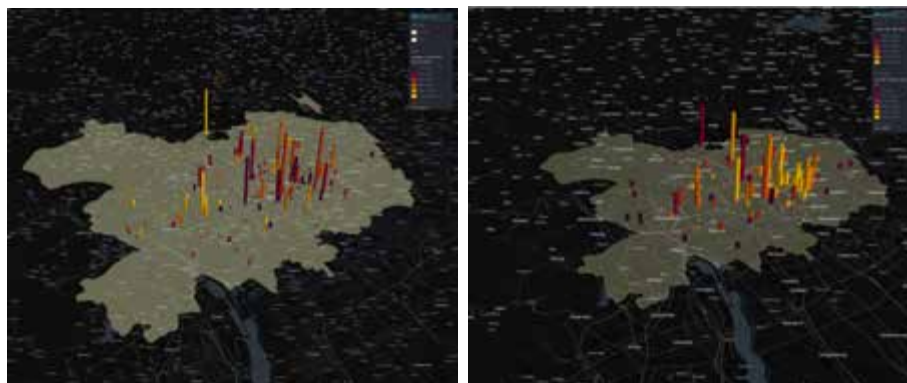


Figure 6. Walking distance to the nearest subway station (left)
Figure 7. Density of parking lots within the isochrone (right)

The markets in Chaoyang District have the most abundant surrounding life service facilities, followed by the markets near Xidan. Nightlife vitality was measured based on nighttime lighting.

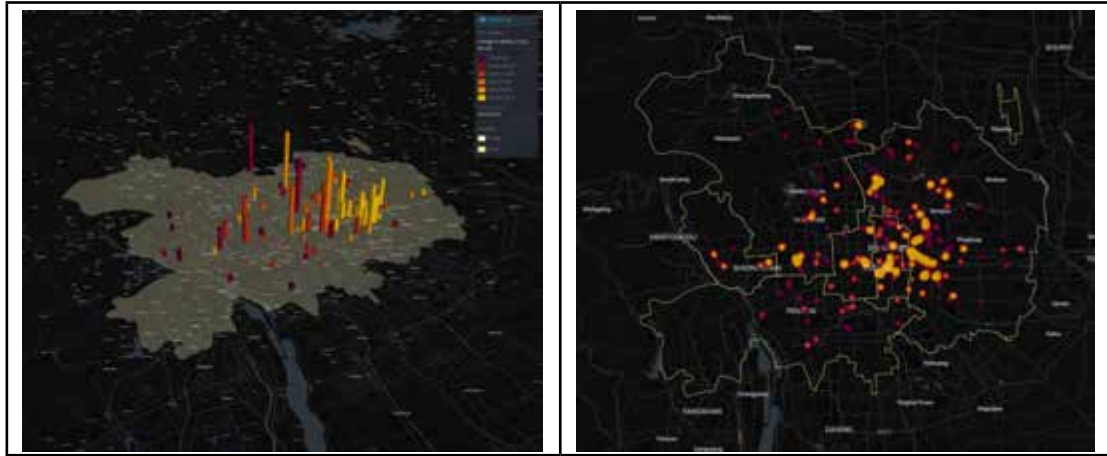


Figure 8. Density of Life Services POI and nighttime lighting within the isochrone

54% of the markets are within 1000 meters of the nearest shopping center, and there are more parks and attractions around the markets in Dongcheng, Xicheng, and Haidian Districts.

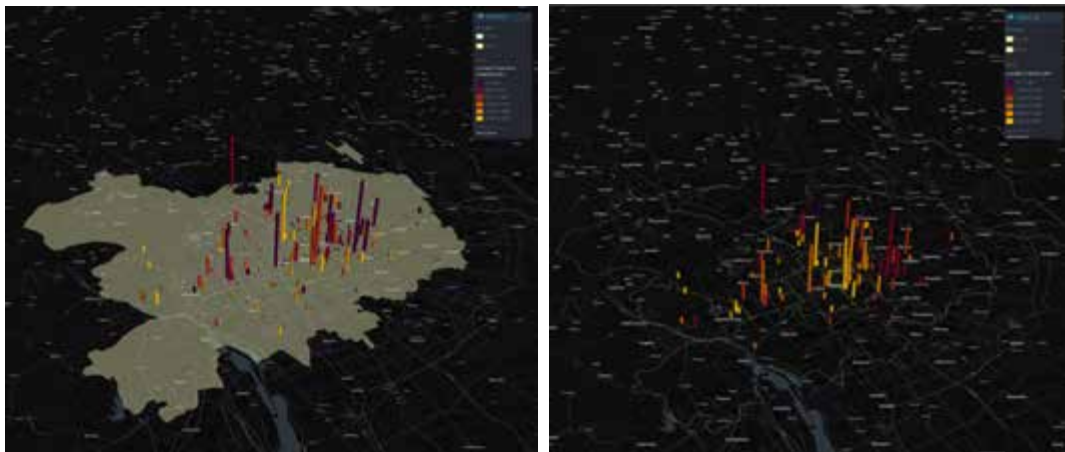


Figure 9. Walking distance to the nearest shopping center (left)

Figure 10. Density of parks within the isochrone (right)

Built-environment attributes were subjected to K-means++ clustering, and a two-cluster solution was identified as optimal. The first cluster is distinguished by higher levels of urban vitality, reflected in a greater density and diversity of facilities, whereas the second cluster is characterised by stronger integration with natural amenities, including a higher concentration of parks and scenic attractions in the immediate vicinity (Figure 11).

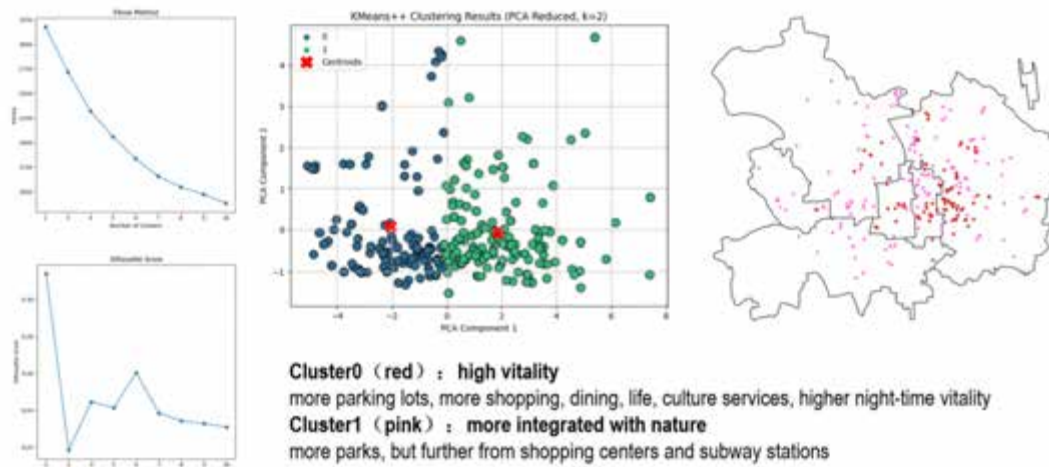


Figure 11. K-means++ Two-Cluster Solution of Market Sites by Built-Environment Attributes

4.2 Micro-Level Market-Neighbourhood Interaction Analysis

4.2.1 Theme-Neighbourhood Alignment Analysis

Table 1 summarises the thematic profile of four representative markets. For each market, the eight most frequent keywords extracted from Xiaohongshu comments are reported together with their raw counts (e.g., “Christmas 113,” “Second-hand 220,” “Panjiayuan 1133,” “Book 638”). These terms constitute the weighted vocabulary that was embedded with Word2Vec to generate a theme vector for every market. The keyword distributions already hint at distinctive positioning: Waste Circulation Plan is dominated by “Second-hand,” “Eco-friendly,” “Recycling,” and “Sustainability,” signalling a life-style-oriented, environmental-protection theme, whereas Panjiayuan Night Market features “Night market,” “Cultural objects,” and “Antiques,” underscoring its emphasis on culture and heritage trading. Likewise, Convex and Concave Space shows a design- and art-led orientation, while BIBF International Book Fair centres on book-related culture.

Table 1. Most frequent theme keywords of 4 example markets

Convex and Concave Space		Waste Circulation Plan		Panjiayuan Night Market		BIBF International Book Fair	
Christmas	113	Second-hand	220	Panjiayuan	1133	Book fair	638
Art	70	Eco-friendly	183	Night market	601	Books	408
Check-in	36	Recycling	145	Ghost market	334	Picture books	263
Original	28	Idle items	141	Market	278	Art	246
Jewelry	24	Life	128	Bracelet	241	Book	235
Design	24	Handmade	117	Used goods	168	Publisher	195
Shop exploration	23	Waste	108	Cultural objects	137	Reading	150
Exhibition	23	Sustainability	99	Antiques	118	Design	149

Table 2 presents the functional composition of the neighbourhoods surrounding surveyed markets, with 10 cases as examples. For each site (ID 1–25), the relative proportions of Points of Interest that fall into the four pre-defined categories—Life Services, Shopping, Science-Education-Culture, and Dining—are listed. The values (e.g., 0.2972 for Life Services at “Convex and Concave Space”) are normalised shares that sum to one per row, and were employed as weights in the vector aggregation step when constructing neighbourhood-function theme vectors.

Table 2. Functional composition of the neighbourhoods surrounding surveyed markets

ID	Pop-up Markets	Functional composition of the surrounding neighbourhoods			
		Life Services	Shopping	Science, Education, and Culture	Dining
1	Convex and Concave Space	0.2972	0.2283	0.1764	0.2981
2	Waste Circulation Plan	0.2201	0.2975	0.0869	0.3955
3	Panjiayuan Night Market	0.2968	0.3945	0.0971	0.2116
4	NEEDFLEA	0.2758	0.3271	0.1145	0.2826
5	Dinosaur Vintage Warehouse	0.213	0.3015	0.2525	0.2326
6	Haoqi Retro Market	0.2253	0.2637	0.2857	0.2253
7	Big Doll Freak Market	0.2819	0.3343	0.1094	0.2744
8	BIBF International Book Fair	0.25	0.39	0.1197	0.2362
9	Dongpeng Ghost Market	0.2857	0.0905	0.1714	0.4524
10	Daliushu Night Market	0.2184	0.4885	0.0785	0.2146

Together, the two tables provide the weighted textual inputs required for calculating the cosine similarity between each market’s theme vector and the corresponding neighbourhood-function vector, thereby quantifying theme-function alignment. Based on the cosine similarity of word vectors, the theme alignment of 25 markets is shown in Figure 12 below, with different colors representing different market categories (Art & Culture, Fashion, Food & Dining, Used Possession, and Comprehensive).

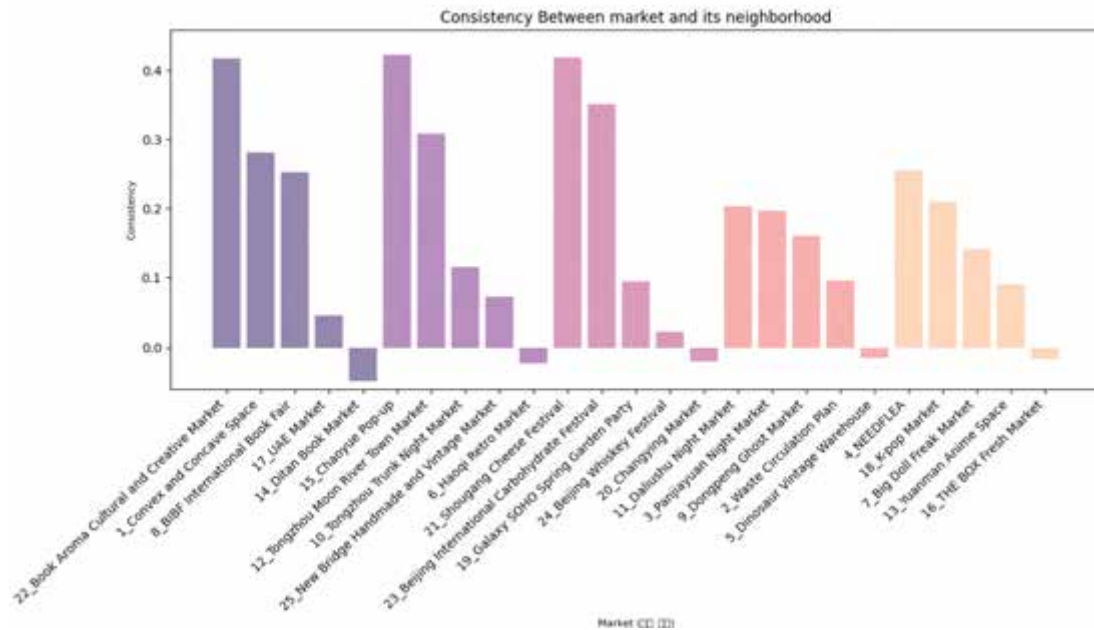


Figure 12. Alignment analysis between market and its neighbourhood

Approximately 80% of the market themes are consistent with the function themes of the surrounding neighbourhoods, while only a small portion of markets have themes that contrast with the typical functions of their neighbourhoods.

4.2.2 Market Popularity and Satisfaction Analysis

The numbers of likes, comments, and shares of 25 marketplaces are collected from Xiaohongshu. The sum of the three types of data is shown in Figure 13 (left), while each of them is shown in Figure 13 (right). We then computed a popularity score for each market:

$$\text{Popularity scores} = \text{Average Likes} + \text{Average Collections} + \text{Average Sharings} + \text{Average Comments}$$

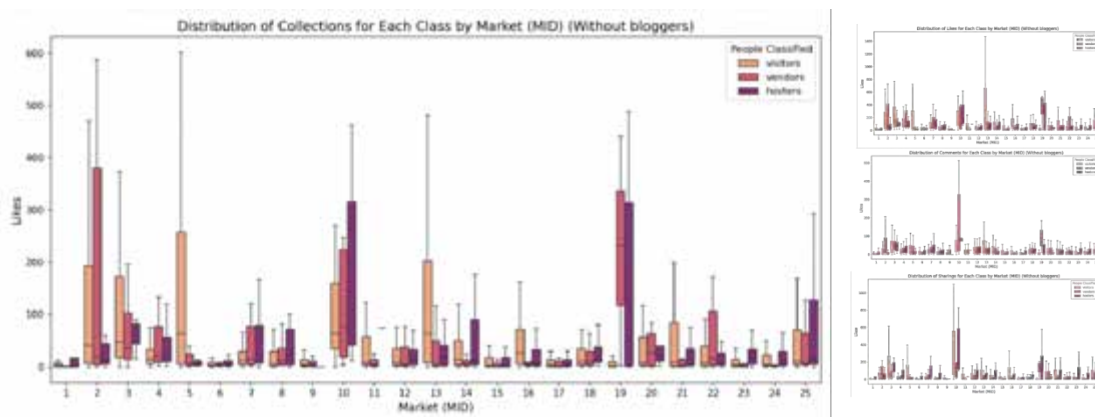


Figure 13. Numbers collected from Xiaohongshu (left) Sum data; (right) likes, comments, shares

Sentiment classification on the comments collected from Xiaohongshu was conducted, and the percentage of positive comments is shown in Figure 14 (left). Furthermore, the results of the word cloud analysis of these positive comments are presented in Figure 14 (right).

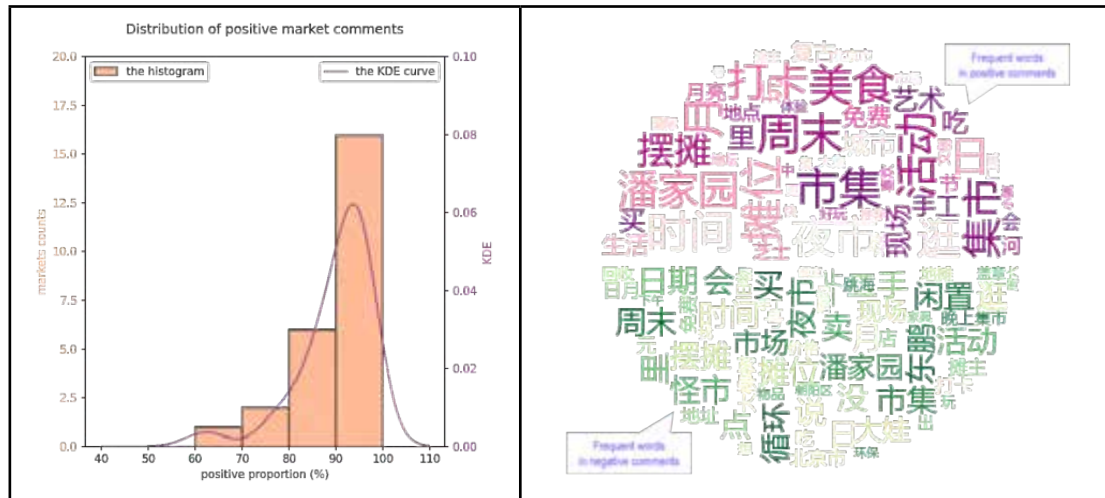


Figure 14 Positive comments analysis (left) Distribution; (right) Word cloud

Most markets have received over 80% positive feedback on social media platforms. Suggested by word-cloud, markets related to second-hand goods and non-mainstream cultures tend to face more negative feedback. This may be due to their purchase of items of poor quality, or difficulty in recognizing the sale of items from some niche cultures. The positive words in the word cloud such as "art," "food," and "events" also partially reflect the reasons why the public loves these markets.

After taking popularity and satisfaction as two criteria for evaluating market success, it can be observed that a large number of markets are in a "high satisfaction, low popularity" state, while no markets exhibit a "high popularity, low satisfaction" condition, as shown in Figure 15. In addition, the geographical distribution of these two factors is shown in Figure 16, with the size of the points representing the popularity of the markets and the color intensity indicating the satisfaction level.

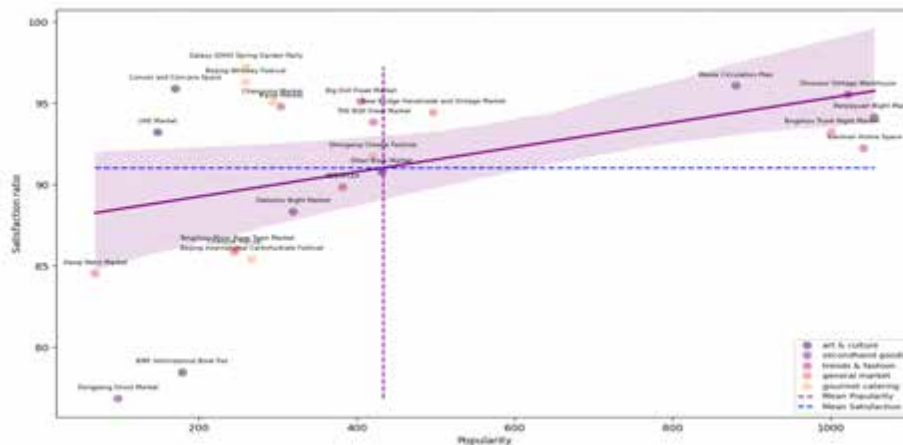


Figure 15. Popularity vs. Satisfaction: Quadrant Map of Pop-up Market Success

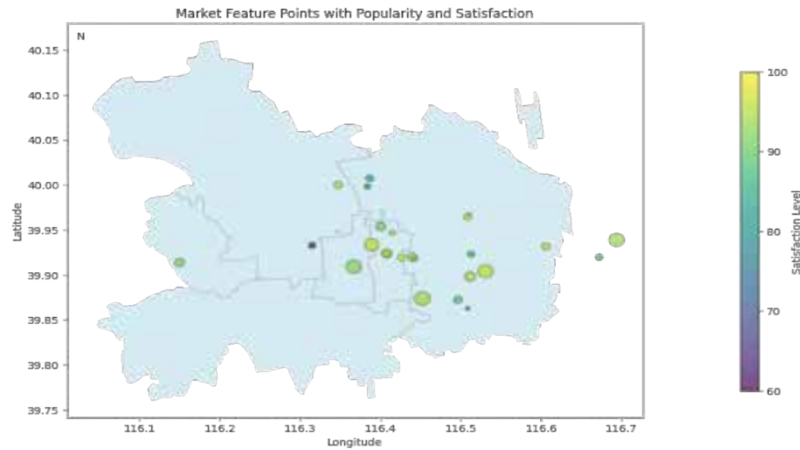


Figure 16. Geographic distribution of two factors

Generally, markets in the city center tend to be more popular, but there are also markets in Tongzhou with similarly significant influence. Furthermore, the distribution of satisfaction levels does not follow a clear geographical pattern.

4.2.3 Correlation Analysis of Alignment, Popularity and Satisfaction

By combining the theme alignment scores of the 25 markets with the two success indicators—popularity and satisfaction—the correlations among these variables can be further analysed. Markets were divided into two groups based on the median of the alignment data: high alignment and low alignment. A t-test was then conducted on popularity and satisfaction, with $p < 0.05$ indicating significant differences. The results are shown in Figure 17 below.

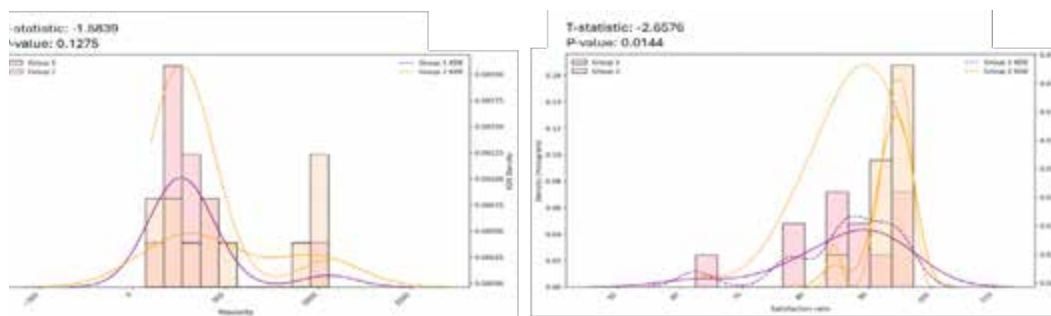


Figure 17. T-test for (left) Popularity; (right) Satisfaction

According to the t-test results, no significant difference was found in popularity between the two groups, while satisfaction showed a significant difference, suggesting that satisfaction is affected by theme alignment score.

Further regression analysis on theme alignment score and market popularity, and that on theme alignment score and market satisfaction are shown in Figure 18, 19, respectively.

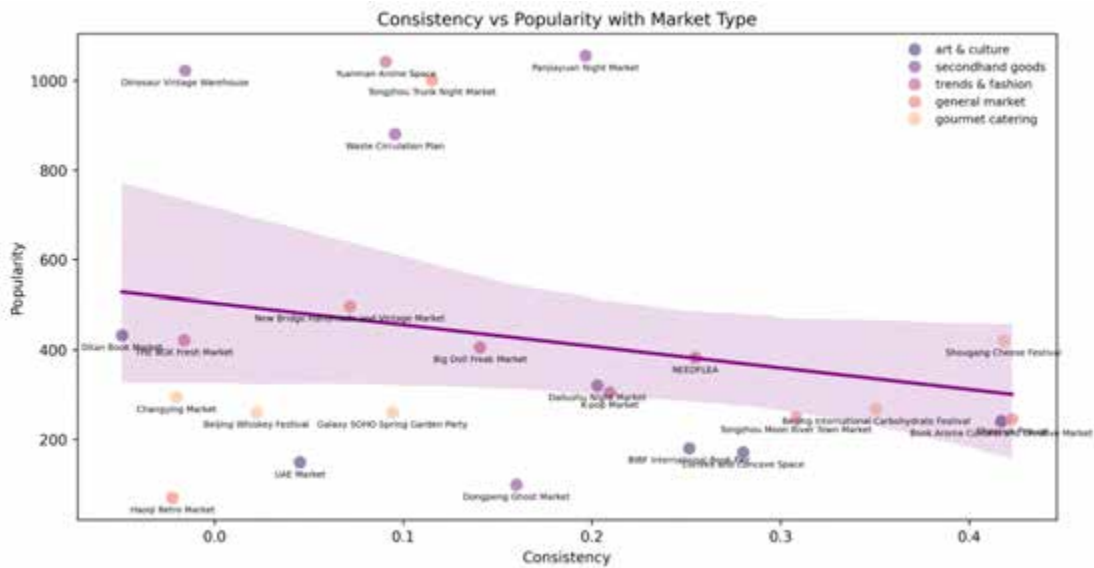


Figure 18. Regression analysis of market popularity and theme alignment

Although the popularity of the markets did not show a good regression relationship with theme alignment, a negative trend between popularity and theme alignment was still evident.

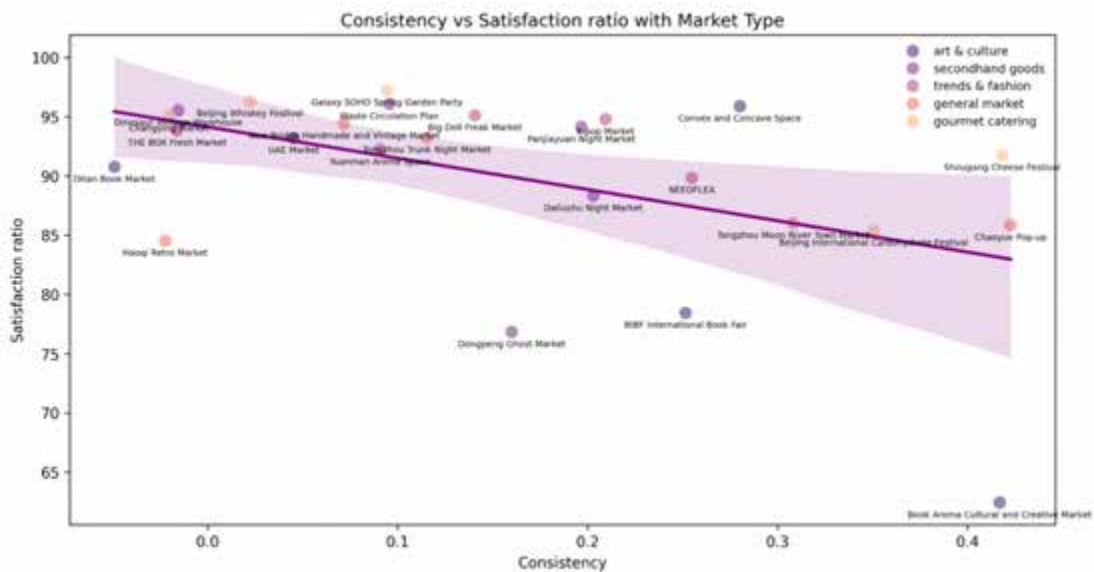


Figure 19. Regression analysis of market satisfaction and theme alignment

A linear regression was observed between satisfaction and theme alignment, indicating a linear negative correlation. This suggests that, while the market theme aligns with the neighbourhood theme in most cases, higher alignment leads to lower market satisfaction.

5. Discussion

This study employs Word2Vec to quantify the thematic alignment between urban pop-up markets and their surrounding neighbourhood functions, revealing that while many markets align closely with local amenities, those with greater thematic divergence often achieve higher visitor satisfaction. This observation invites a deeper exploration into the underlying mechanisms.

5.1 Drivers of Theme-Neighbourhood Alignment

The result of closeness between markets' themes and their neighbourhoods' function is consistent with the current market operation procedures and goals. Recent policy directives including China's "15-Minute Community Life Circle" initiative (Ministry of Housing & Urban-Rural Development, 2021) and a suite of night-time economy revitalisation programmes explicitly encourage the fast-track introduction of pop-up markets into functionally mature commercial nodes. By embedding new activities in areas with pre-existing consumer flows and complementary amenities, local governments can minimise regulatory uncertainty, while operators mitigate sunk-cost risks associated with experimental formats (Warnaby & Shi, 2018).

From the supply side, venue owners and municipal agencies exhibit risk-averse behaviour: projects whose themes match surrounding land uses are more likely to secure temporary permits within the approval cycles mandated by the post-COVID economic stimulus packages (Andres, 2021). Demand-side considerations may reinforce this tendency: compared with experimental themes with relatively high risks, market activities with the same theme as existing urban spaces can reduce the cognitive friction between brands and consumers and increase the consumption conversion rate.

Collectively, these observations suggest that institutional incentives, risk management considerations, and agglomeration economies converge to favour theme-environment alignment in contemporary Chinese pop-up practices.

5.2 Mechanisms Linking Theme Misalignment to Higher Satisfaction

Results from our Word2Vec analysis indicate that lower theme-environment alignment is positively associated with visitor satisfaction. Though this is a counter-intuitive pattern, two complementary theoretical lenses may help to explain it.

First, the "experience-economy" mechanism. Consumer-behaviour research shows that schema incongruity triggers exploratory behaviour, elevates arousal, and deepens memorability (Hirschman & Holbrook, 1982; Raju, 1980). When a pop-up market imports an unexpected theme, it breaks the cycle of habituation that dulls affective responses in routine retail settings. The effect might be amplified when organisers employ immersive staging (multisensory displays, storytelling signage) and interactive programming (hands-on workshops, live performances), thereby moving customers up Pine and Gilmore's (1999) progression of economic value from "service" to "experience". Second, the "functional-complementarity" mechanism. Many inner-city neighbourhoods exhibit mono-cultural retail ecologies. A thematically divergent market can plug latent deficits in cultural, educational, or sustainability-oriented offerings, thereby widening the local service portfolio (Bertolini, 2020) and aligning with Jacobs's (1961) argument that urban vitality thrives on mixed primary uses. This complementary injection not only satisfies unserved needs but also demonstrates, in tactical-urbanism terms, a "minimum viable product" for longer-term place upgrading (Lydon & Garcia, 2015). The resulting diversification helps improve the resilience of the overall commercial ecosystem.

Taken together, these two mechanisms help explain why theme-environment divergence, rather than harmony, can yield superior experiential outcomes in the context of urban pop-up markets.

5.3 Reframing Pop-up Markets: From Marketing Tool to Community Prototype

In the extant literature, temporary urbanism remains a contested field. On the one hand, scholars argue that short-term interventions are frequently co-opted by capital, functioning as low-cost instruments for "filling urban gaps" during periods of economic downturn and for staging future real-estate appreciation, while simultaneously diluting procedural public participation (Colomb, 2012; Douglas, 2018; Madanipour, 2018). In the North-American context in particular, the term pop-up has become almost synonymous with the commercial occupation of vacant premises to attract investors, and is therefore viewed as a potential threat to urban publicness (Baras, 2015).

Conversely, a growing body of research contends that, when framed within the logic of *incremental experimental*

governance (Bertolini, 2020), pop-up markets can act as low-risk “prototypes” for testing novel urban functions and public values. The empirical findings of the present study reinforce this view: markets whose themes diverge markedly from surrounding land-use patterns receive significantly higher visitor-satisfaction scores than markets exhibiting high thematic congruence ($p < 0.05$). This suggests that defamiliarisation and novelty can heighten motivational engagement and place attachment, offering valuable insights for the long-term enrichment of neighbourhood functions.

As discussed in § 5.1, however, pop-up markets in China face potential constraints arising from approval procedures and from the uncertain returns perceived by operators, which explains why truly complementary, “non-matching” markets themes remain scarce. We therefore advocate, drawing on the tactical-urbanism literature, that pop-up markets be reconceptualised as *minimum viable public spaces* (Lydon & Garcia, 2015; Bertolini, 2020). Experimental projects that demonstrably address community needs should receive targeted policy and financial incentives; risk should be distributed among multiple stakeholders; and real-time data monitoring combined with community co-evaluation should determine whether, and how, short-term trials are converted into permanent interventions. *The National 15-Minute Community Pilot Cases* recently issued by Ministry of Commerce of the People’s Republic of China already incorporate market events in Nanjing and Wuxi as instruments for optimising neighbourhood-service layouts and enriching everyday experience, with an explicit aim to couple “quality consumption” with “service expansion.” This evidences the practical feasibility of the proposed pathway. Under a regime of policy support, dedicated funding and shared risk, pop-up markets can avoid the pitfalls of neoliberal “privatised marketing tools” and instead provide quantifiable, iterative decision inputs for neighbourhood regeneration.

6. Conclusion

This study employs urban-informatics methods to capture the market events in Beijing from 2023 to 2024 over a year, summarizing their timing, aggregation, location types, and surrounding built environmental conditions. The spatial and temporal analyses highlight that flash markets are predominantly short-term events peaking in December-January and April-May, with shopping malls as their primary location. Neighbourhood characteristics shows two clusters by using K-means, with markets in Chaoyang District being notably vibrant with abundant life service facilities, and markets in other districts like Dongcheng, Xicheng, and Haidian sited in a more nature-integrated environment.

Our study further examines the relationship between markets as temporary activities and their host neighbourhoods. By applying the method of sentiment analysis and Word2Vec for content in social media platform, we explore the impact of theme alignment between market themes and the daily functional themes of the surrounding neighbourhood on the success of market events, especially for visitors’ satisfaction. The results show that: 1) Themes of the markets are typically aligned with the function themes of their neighbourhoods, reflecting the general understanding of market organizers when selecting locations. 2) However, market satisfaction and popularity are negatively correlated with theme alignment. Markets with themes that differ significantly from the surrounding neighbourhood functions, which account for only 20% of the cases, received higher satisfaction ratings. 3) NLP tools, including word2vec, are effective in bridging physical and virtual spaces, especially for temporary events, considering their nature of interest-oriented and reliance on media advertisements. These conclusions may provide guidance for future research on market site selection and theme choice.

At a practical level, we have elucidated how disparities between market themes and neighbourhood functional areas can bolster market satisfaction. This insight suggests that markets might serve as a potent supplement to temporary business models within neighbourhoods. Our results demonstrate that pop-up markets—recast as minimum viable public spaces—can function as low-risk prototypes that heighten visitor engagement, test missing neighbourhood functions and generate data for long-term improvements, aligning with the existing theoretical framework of tactical urbanism. Implemented under supportive policies, shared-risk financing and real-time evaluation, such experiments can escape the pitfalls of neoliberal “privatised marketing tools” and become a scalable tool for evidence-based neighbourhood regeneration.

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