

Insights into the Evolution of Airbnb Accommodations: Beyoğlu Beyond Borders

Nesip Ömer Erem¹; Özlem Tepeli Türel²; Ahmet Türel³

¹Istanbul Technical University, omer.erem@itu.edu.tr, ORCID: 0000-0002-3329-2017

²Istanbul Technical University, tepeli@itu.edu.tr, ORCID: 0000-0001-7755-4480

³Istanbul Technical University, turela@itu.edu.tr, ORCID: 0000-0001-8562-5103

Abstract

In recent years, the sharing economy has revolutionized urban tourism, shifting from traditional hotels to amenity-based house stays facilitated by platforms like Airbnb. Istanbul, Turkey's most populous city, with approximately 16 million annual visitors, has seen a significant presence of Airbnb listings, particularly in the Beyoğlu district. This study delves into Airbnb's impact on Istanbul's urban tourism, focusing on Beyoğlu. By analyzing the spatial characteristics and development disparities of Airbnb listings, closely tied to city centres and major tourist attractions, the research utilizes spatial analysis to understand Airbnb's impact amidst varying socioeconomic and environmental conditions. Utilizing data from InsideAirbnb.com, the analysis highlights that a significant number of Airbnb listings are strategically located near key tourist attractions such as Taksim Square and Istiklal Street, enhancing accessibility for tourists. While these accommodations drive consumer spending towards small businesses and foster cultural exchange by enabling guests to engage deeply with the local community, challenges such as disruptions to neighborhood dynamics and residential tranquility also arise. The study emphasizes the importance of balanced urban planning and regulatory strategies to harness Airbnb's benefits while mitigating its adverse impacts, ensuring that Beyoğlu's growth as a tourist hub enhances both visitor experiences and community well-being.

Keywords: Airbnb, peer-to-peer accommodations, sharing economy, urban tourism, Istanbul

1. Introduction

In recent years, the rise of the sharing economy, particularly platforms like Airbnb, has significantly transformed the landscape of urban tourism worldwide. This paradigm shift brings forth not only new opportunities but also challenges in understanding its impacts on local economies, communities, and urban dynamics. Within this context, this study focuses on Airbnb accommodations in the vibrant Beyoğlu district of Istanbul, with a specific emphasis on the iconic Cihangir neighborhood, renowned for its cultural richness and touristic appeal.

Leveraging data sourced from insideairbnb.com, our analysis delves into the spatial characteristics, socio-economic factors, and the overall influence of Airbnb on Beyoğlu's local tourism economy. Through a methodical approach encompassing proximity analysis, socio-economic exploration, and trend examination, this study aims to provide a comprehensive understanding of Airbnb's role within this urban ecosystem.

By juxtaposing insights garnered from the broader Beyoğlu dataset with detailed analyses of Cihangir-specific reviews, the study endeavors to shed light on the nuanced interactions between Airbnb, urban tourism, and community dynamics. Through this exploration, it aims to discern the extent to which Airbnb contributes positively to the local economy and cultural tourism in Beyoğlu, while also identifying avenues for sustainable growth and community development.

The subsequent sections will commence with a literature review to contextualize the study within the existing body of research on urban tourism and the sharing economy, thereby

establishing a robust theoretical framework for the analysis. Following this, findings will be represented with an overview of the dataset and methodology employed, followed by a detailed analysis of Airbnb accommodations in Beyoğlu and Cihangir. Subsequently, the research will delve into the implications of our findings within the broader context of urban tourism and the sharing economy, offering insights for future research and policy considerations.

2. Literature Review

In scholarly discussions concerning the sharing or platform economy, a significant portion of its expansion is attributed to the rise of peer-to-peer (P2P) accommodation providers, exemplified prominently by Airbnb. These platforms have become the subject of rigorous debate within academic circles owing to their multifaceted impacts across various facets of the tourism and hospitality sectors, spanning socio-cultural, economic, and environmental realms (Hall et al., 2022). While certain scholars accentuate the positive aspects, such as enhanced accessibility and flexibility for travelers, others underscore the negative ramifications, including heightened competition with conventional lodging establishments and the potential disruption of local communities.

The proliferation of Airbnb and analogous platforms has precipitated spatial transformations within urban landscapes, prompting concerns regarding their implications for neighborhood dynamics and community welfare (Curto et al., 2022). Empirical evidence suggests that the spatial distribution of short-term rentals often clusters around city centres and tourist hubs, exerting discernible impacts on local housing markets and exacerbating socio-economic disparities. For example, investigations conducted in cities like Turin, Barcelona, and Melbourne, as demonstrated by Curto et al. (2022), illuminate how the prevalence of short-term rentals correlates with factors such as income levels, educational attainment, and housing characteristics, thereby influencing their spatial distribution across diverse neighborhoods.

Furthermore, the expansion of Airbnb has elicited inquiries into its role within the dynamics of urban tourism, particularly within mid-sized cities characterized by heterogeneous economic landscapes (Ioannides et al., 2019). Inquiries conducted in locales such as Utrecht shed light on Airbnb's potential to catalyze the expansion of tourism bubbles, particularly within nascent neighborhoods undergoing socio-cultural transformations. These phenomena underscore the exigency for nuanced policy responses that navigate the intricate interplay between tourism development, housing markets, and community welfare.

The spatial dynamics of Airbnb accommodations within Istanbul's Beyoğlu district are examined in this study. Findings are parallel to researches from other global cities, notably London. (Liqing La et al., 2022) Observed distribution pattern is similar to London, where Airbnb listings concentrate around tourist attractions and in peripheral urban zones, suggesting strategic placement to enhance tourist accessibility: a trend likely mirrored in Beyoğlu. The economic and social impact of Airbnb on local communities is a focal point, echoed by Alexander's 2018 research on Airbnb in Melbourne (Alexander, 2018). Insights reveal how Airbnb influences housing markets and urban planning, posing challenges and opportunities for Beyoğlu's residential dynamics and urban development strategies. Policy implications derived from comparative urban analyses, such as those by Alexander, stress the need for comprehensive planning strategies to manage Airbnb's impacts. Similar approaches recommended for Melbourne advocate for urban sustainability and resident welfare, offering valuable insights for Beyoğlu's policymakers.

Insights from Benítez-Aurioles and Gyödi provide a framework for understanding Airbnb's broader economic implications (Benítez-Aurioles, 2019 & Gyödi, 2019). The study emphasizes competition with the traditional hotel industry and the need for adaptive economic policies that has a potential to adapt Beyoğlu's tourism sector. Spatial analyses (Gutiérrez et al., 2017) highlight Airbnb's strategic placement within urban landscapes, influencing real estate dynamics and socio-economic disparities, findings that likely resonate in Beyoğlu. Like Gurran's examination of housing markets and community welfare (Gurran, 2018), incorporating recent scholarly explorations into Airbnb's impact on urban environments enriches our understanding of Beyoğlu's situation. This holistic approach ensures a well-rounded exploration informed by global trends and practical insights, vital for developing effective policies and strategies tailored to Beyoğlu's unique context.

In conclusion, the literature on Airbnb and the sharing economy furnishes invaluable insights into the evolving contours of urban tourism. By scrutinizing the socio-economic, spatial, and cultural dimensions of Airbnb's influence, scholars contribute to a nuanced comprehension of its impacts and the formulation of efficacious policy interventions. Looking ahead, interdisciplinary research endeavors are imperative to address the multifaceted challenges and opportunities engendered by the integration of sharing economies into the urban fabric.

3. Methods and Materials

This research aimed to investigate the landscape of Airbnb accommodations within Istanbul's Beyoğlu district, with particular attention to the Cihangir neighborhood (Figure 1), renowned for its appeal to tourists. Utilizing data sourced from insideairbnb.com (https://insideairbnb.com, 2023), the analysis delved into the spatial characteristics, socio-economic dimensions, and their interplay within the local tourism economy. The methodological framework involved several sequential steps, including the meticulous curation of listings by district, detailed proximity analyses concerning notable tourist attractions, comprehensive exploration of socio-economic variables, and a longitudinal examination of evolving trends.

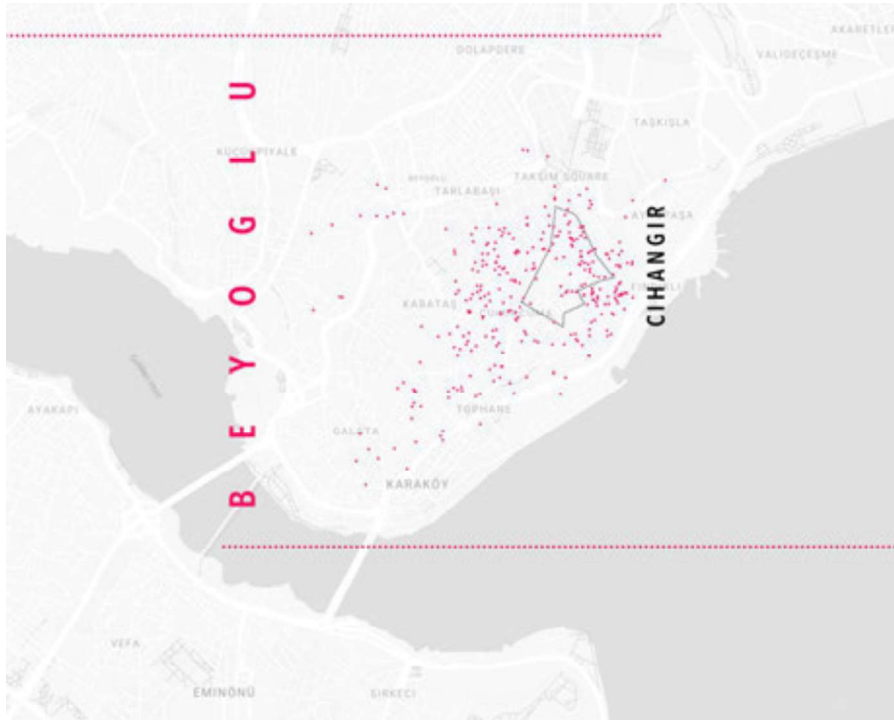


Figure 1: Map of the case area (produced by the authors, 2024)

By the end of 2023, Beyoğlu emerged as a host to a substantial inventory of Airbnb rental units, totaling 34,446, with 18.6% of Istanbul's listings concentrated within this district, constituting 6,393 units, exclusively comprising entire home offerings (Figure 2). Among these, 452 units were situated in Cihangir, thus forming the central focus of this inquiry. The analytical scrutiny concentrated on these Cihangir-based rental units, excluding those without prior rental history or those garnering fewer than 10 reviews, culminating in a comprehensive assessment of 312 units.

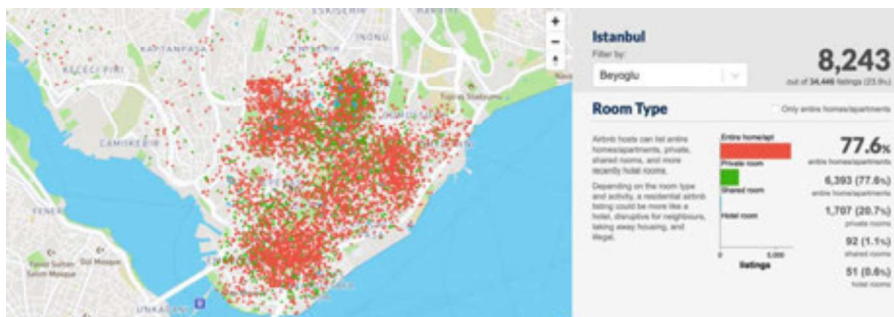


Figure 2: A graphical visualization for Beyoğlu on the website Inside Airbnb (<https://insideairbnb.com>, 2023)

The analysis focused on spatial characteristics, socio-economic factors, and their influence on the local tourism economy as outlined in the paper. This included assessing proximity to tourist attractions, the socioeconomic status of neighborhoods, and the distribution of Airbnb listings across Beyoğlu. The data provided contained a detailed listing of Airbnb accommodations in Istanbul, including location descriptions, URLs, and reviews. To align with the study's focus on the Beyoğlu district, the following phases were taken:

- Phase 1: Listings were filtered by district to isolate entries specific to Beyoğlu based on the neighborhood overview or any district identifier present in the data.

- Phase 2: Spatial analysis

Proximity to Attractions

- The examination commenced by assessing the proximity of accommodations to key tourist attractions. Leveraging latitude and longitude data from the dataset, distances were calculated to prominent landmarks in Beyoğlu, including Taksim Square and Istiklal Street.
- The majority of listings are situated in close proximity to Taksim Square, with distances ranging from approximately 0.46 km to 0.77 km. This close proximity is likely to enhance their appeal to tourists seeking convenient accommodation options.
- Listings also boast close proximity to Istiklal Street, a prominent shopping and cultural hub in Istanbul. This proximity offers visitors easy access to shopping, dining, and nightlife experiences, further enhancing their attractiveness.

Accommodation Features

- The listings exhibit a diverse range of bed arrangements, suggesting accommodation options suitable for individuals as well as larger groups. While the dataset lacks information on the number of bedrooms, the provided number of beds offers insight into the accommodation's capacity.
- Phase 3: Pricing Dynamics
 - Prices display variability, potentially influenced by factors such as proximity to key attractions, bed capacity, and other amenities not explicitly detailed. Prices display variability, potentially influenced by factors such as proximity to key attractions, bed capacity, and other amenities not explicitly detailed. For example, the average nightly price for homes is 3,002 Turkish Lira, with an annual average income of 198,803 Turkish Lira, indicating a diverse array of accommodation options catering to different market segments.
 - Economic Impact: Trend analysis examined the distribution and evolution of listings over time, and their relationship with local economic data such as housing prices and income levels.
- Phase 4: Socio-economic analysis explored variables related to the socioeconomic status, such as perceived neighborhood quality from listing descriptions and review sentiments.

4. Results

This study adopts a content analysis methodology to delve into the keywords and sentiments expressed within guest reviews sourced from Insideairbnb.com. Leveraging the comprehensive features of the MAXQDA program¹, the analysis process is structured to meticulously explore

¹ MAXQDA is a qualitative data analysis software that facilitates in-depth exploration and interpretation of textual, audio, video, and image data. It offers a range of powerful tools for organizing, coding, and analyzing qualitative data, making it an invaluable resource for researchers conducting content analysis and qualitative research (<https://www.maxqda.com>, 2023).

the textual data, enabling the identification of underlying themes, patterns, and trends. By employing content analysis coupled with sophisticated analytical tools, this research aims to gain nuanced insights into the perceptions and experiences of Airbnb guests, contributing to a deeper understanding of the platform's impact on urban tourism dynamics.

Review analysis utilized natural language processing techniques to extract keywords and sentiments from guest reviews, providing insights into overall guest satisfaction. By examining the content of reviews, common themes and sentiments expressed by guests regarding their stays in Beyoğlu's Airbnb accommodations were identified. The analysis yielded the following key findings:

- *Cultural and Scenic Appeal*: Guest reviews frequently highlight the proximity of accommodations to cultural sites and scenic areas, such as seaside bars in Cihangir, underscoring Beyoğlu's vibrant nightlife and aesthetic allure.
- *Location Advantages*: Many reviews underscore the strategic positioning of accommodations, emphasizing their proximity to key areas within Beyoğlu and well-known streets, which enhances their appeal to guests.
- *Neighborhood Characteristics*: Discussions in reviews often emphasize the safety, beauty, and historical richness of Beyoğlu's neighborhoods, indicating that guests value these attributes when selecting accommodations.
- *Proximity to Taksim*: Numerous reviews specifically mention the proximity to Taksim Square as a significant factor for tourists seeking convenient access to Istanbul's central attractions, highlighting its importance in guest satisfaction.
- *Safe and Established Areas*: Safety and the established nature of the area emerge as recurring themes in guest reviews, reflecting a preference for secure and well-known locales among guests.

The text from neighborhood reviews was analyzed to identify common themes or sentiments that might have influenced guests' experiences. This analysis aimed to understand what guests valued most about their stays in Beyoğlu and could have implications for review scores. Simple keyword extraction was utilized to identify frequently mentioned terms in the neighborhood descriptions. The results of this text analysis are as follows:

"Istanbul": Indicates the broader geographic reference, emphasizing the location within the city.

"Galata" and **"Taksim"**: These are specific areas within Beyoğlu, known for their cultural and historical significance as well as vibrant nightlife and shopping options.

"Istiklal": Refers to Istiklal Street, a famous pedestrian street in Beyoğlu, lined with shops, cafes, and historic sites.

"Street", **"Square"**, **"Minutes"**, **"Walk"**: These terms suggest that proximity and ease of access to attractions are important features.

"Restaurants": Highlights the culinary experiences available in the area, which is a key attraction for many visitors.

The top keywords extracted from the reviews offer insights into the aspects guests most frequently mention in their reviews for Cihangir Airbnb listings:

"Apartment": The most common term, likely reflecting discussions about the accommodations themselves.

"Great", **"Location"**, **"Place"**, **"Stay"**: These words highlight positive experiences related to the quality of the stay and the geographic convenience of the accommodations.

"Clean", **"Nice"**: Often associated with guests' satisfaction with the cleanliness and overall appeal of the places they stayed.

"Host": Indicates that interactions with hosts are a notable aspect of guest experiences, which can significantly affect their overall satisfaction.

To offer more nuanced insights, we conducted a detailed sentiment analysis, focusing on specific categories mentioned in the reviews, such as cleanliness, location, and interaction with hosts. This approach allows us to understand how different aspects of the stay contribute to the overall sentiment. Detailed sentiment analysis results by category, targeting specific aspects of the Airbnb experience, yielded the following average sentiment scores:

Cleanliness Sentiment: 0.378 - This score indicates a generally positive sentiment when reviews mention cleanliness, reflecting satisfaction with the cleanliness of the accommodations.

Location Sentiment: 0.419 - Similarly, this score demonstrates a positive sentiment, suggesting that guests often appreciate the location of their accommodations in Cihangir.

Host Sentiment: 0.427 - This category yielded the highest sentiment score, indicating very positive experiences with hosts. It highlights good service and hospitality as significant factors contributing to guest satisfaction. Analysis of guest reviews uncovers a strong theme of community interaction, with many guests appreciating the "local" experience facilitated by their hosts. This includes participating in local festivities, visiting neighborhood markets, and engaging with local artists. Such interactions underscore Airbnb's role in enhancing cultural exchange and deepening guests' understanding of Istanbul's diverse cultural tapestry.

The average sentiment score of the reviews stands at approximately 0.345, suggesting a generally positive sentiment among guests. This score indicates that the majority of reviews convey favorable experiences, potentially reflecting satisfaction with both the accommodations and the neighborhood attributes of Cihangir. The sentiment and thematic analysis of the reviews from Airbnb listings in Cihangir indicate a generally positive guest experience, with significant emphasis placed on the quality and location of accommodations, as well as cleanliness and host interaction. These factors play a pivotal role in upholding high guest satisfaction levels and can offer valuable insights for Airbnb hosts in Cihangir to enhance guest experiences even further.

4.1. Spatial Analysis

To explore the spatial experience of guests, the urban context, and the architecture and interior design of Airbnb accommodations in Beyoğlu, we focused on elements within the reviews that specifically mentioned the physical aspects of the spaces, their aesthetic appeal, and their integration into the urban environment. Terms and phrases within the reviews related to these themes, such as "design", "architecture", "spacious", "layout", "modern", "traditional", "style", and "urban", were identified. This helped us to capture insights related with the spatial and architectural characteristics of the Airbnb listings in Beyoğlu. This focused analysis was performed to provide insights into the spatial and architectural experience of guests.

The focused analysis on the spatial experience, architectural design, and urban context of Airbnb accommodations in Beyoğlu provided the following insights based on the frequency of related terms in the reviews:

Interior Design & Architecture: 274 mentions - Guests often noted elements of design and architecture, such as style, modernity, and traditional aspects of the interiors, suggesting their importance in the guest experience. While not as prominently mentioned as other factors, comments on unique architectural features and modern interior design were frequent, aligning with literature on "Interior Design" and "Architecture" codes. This underscores the significance of visual and functional appeal in guest satisfaction, with mentions of "modern amenities" and

"beautifully designed interiors" reflecting appreciation for contemporary and traditional styles alike.

Review data emphasized the significance of amenities in elevating the guest experience, with specific mentions of "comfortable beds," "well-equipped kitchens," and "spacious bathrooms" aligning with detailed amenity codes such as "Beds," "Kitchen," and "Bathroom." Additionally, the frequent discourse on views and environmental comfort elements like air conditioning and heating provides further support for themes categorized under "Functional" aspects related to space quality and usability.

Listings often highlight the architectural uniqueness of the properties, which may range from restored Ottoman-era homes to modern apartments with panoramic city views. For example, a listing might describe, "Our home combines Ottoman architectural grace with contemporary design, featuring high ceilings and large windows overlooking the Golden Horn." Guests frequently express their appreciation for these features, with comments like, "The architecture of the place was a blend of classic and modern, which really added to our experience of the city."

In terms of interior design and space quality, hosts frequently leverage interior design as a selling point, showcasing how spaces are tailored for comfort and aesthetic appeal. A typical description might read, "Designed with a keen eye for style, our apartment features bespoke furniture and art pieces that complement its historical context." Reviews support this focus, with guests noting, "The beautifully decorated interiors made our stay feel luxurious and comfortable, a perfect retreat after a day of touring."

Urban Context & Experience: 533 mentions - Significant mention of the urban experience, including the vibe of the neighborhood, local community, and the general atmosphere, was observed. This indicated that guests appreciated accommodations that integrated well with the urban environment and provided a genuine experience of city life in Beyoğlu.

These findings suggested that while the interior design and architectural elements were appreciated, guests placed a higher value on the functionality and quality of the space, as well as the broader urban experience offered by the accommodations. This could be a key consideration for Airbnb hosts looking to improve their offerings, as well as for urban planners and local policymakers aiming to integrate tourism more deeply into the urban fabric of Beyoğlu.

To provide a detailed analysis of the "*Urban Context and Experience*" theme from the Airbnb reviews in Beyoğlu, the focus was on extracting and interpreting guest comments that discussed the interaction between the accommodations and their urban environment. This included examining how guests perceived the neighborhood's atmosphere, the characteristics of the local community, and the overall city life surrounding them. The sample reviews gathered under this theme highlighted various aspects of how guests perceived and interacted with the urban environment in Beyoğlu. Here's a breakdown of the key elements derived from these reviews:

Neighborhood Atmosphere: Descriptions of the ambiance, vibe, or spirit of the neighborhood as perceived by the guests. Guests appreciated the local ambiance, noting the vibrancy and cultural richness of the neighborhood. For example, one review mentioned enjoying the local cafes and glimpses into Turkish life, suggesting that the neighborhood's character significantly enhanced their experience.

Local Community and Culture: Observations about the people, cultural practices, and daily life in the neighborhood from the guests' perspective. Many reviews highlighted interactions with the local community or observations of daily life, indicating that the social environment was an integral part of the urban experience. Comments about children playing in the streets or local customs provided a deeper connection to the place.

Proximity to Urban Amenities: Many Airbnb listings in Beyoğlu underscore their proximity to Istanbul's cultural and historical landmarks, such as museums, historic mosques, and art galleries. For instance, a host highlights, "Just a five-minute walk from the famous Galata Tower and the bustling Istiklal Street, our apartment offers guests a chance to immerse themselves in the city's historical charm." Reviews often express appreciation for these locations, with one guest noting, "Loved being so close to major attractions, it made our cultural excursions easy and enjoyable."

Accessibility and Convenience: Guest reviews commonly highlight the ease of accessing public transportation, facilitating exploration of Istanbul. One review mentions, "The proximity to the metro station made it effortless to explore the city, from historical sites to modern shopping areas." Listings also mention amenities like cafes, markets, and nightlife within walking distance, indicating the urban convenience that Beyoğlu offers. For example, one listing states, "Surrounded by local cafes and vibrant street markets, our location is perfect for those who want to experience Istanbul's lively urban life."

Challenges and Concerns: Some reviews also discussed challenges related to the urban context, such as difficulty navigating backstreets, the condition of sidewalks, or the general maintenance of the area. These insights were crucial for understanding potential areas for improvement in urban planning and tourism management.

These findings suggested that the urban context of Beyoğlu significantly shaped guests' experiences, with cultural vibrancy, community interaction, and accessibility playing key roles. Understanding these aspects could help stakeholders in tourism and urban planning capitalize on strengths and address any weaknesses. This detailed insight into the urban experience could guide improvements in local infrastructure, cultural engagement strategies, and overall hospitality practices to enhance the attractiveness and functionality of urban tourism environments like Beyoğlu.

4.2. Economic Impact Analysis

Looking at the annual earnings, Figure 3 shows an increase in income as the length of stay increases. This indicates that longer-term rentals generally yield higher total income. However, the highest earnings are not in the range of 241 days or more, but rather in medium-term rentals (such as 91-120 days). This may be due to the popularity or higher prices of medium-term rentals. Additionally, according to the graph, as the rental duration of Airbnb properties in Beyoğlu increases, there is a general downward trend in the number of properties used. While the highest number of properties is in the range of 1-30 days, this number slightly increases for 241 days or more, but is less than other duration ranges.

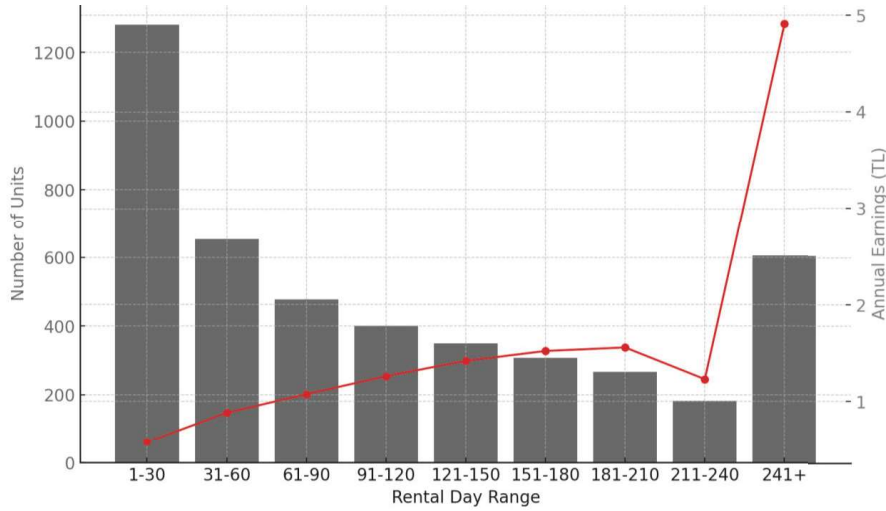


Figure 3: Beyoğlu Airbnb rental periods and annual earnings

The analysis of listing descriptions reveals a noteworthy trend wherein local amenities feature prominently, indicating Airbnb's substantial influence on the local economy. Specifically:

- Restaurants: These are mentioned 1,325 times, underscoring their significance to guests seeking dining options during their stay.
- Shops: With 1,308 mentions, the presence of nearby retail establishments emerges as a key consideration for guests, reflecting the convenience and accessibility of shopping opportunities.
- Markets: Mentioned 425 times, the presence of local markets highlights the appeal of proximity to fresh produce and other goods for Airbnb guests.
- Cultural Sites: These are referenced 387 times, indicating the interest of guests in exploring cultural attractions within the vicinity of their accommodations.
- Tourist Sites: With 608 mentions, the proximity to tourist hotspots emerges as a major selling point for Airbnb listings in Beyoğlu, catering to travelers keen on exploring popular landmarks and attractions.

These findings suggest a strategic positioning of Airbnb listings in Beyoğlu, capitalizing on the allure of local economic and cultural amenities to enhance their appeal to tourists. Reviews further substantiate this trend, with guests frequently mentioning nearby attractions and businesses:

"The location is also phenomenal, a short walk to museums and galleries which enriched our cultural experience."

"His flat is well situated for easy access for local festivals and markets."

"This is a very happening area with many shops and cafes which add to the vibrant neighborhood feel."

"You can find shops, coffees, and restaurants nearby which makes it very convenient."

Overall, the emphasis on local amenities in both listing descriptions and guest reviews underscores the symbiotic relationship between Airbnb accommodations and the broader economic and cultural landscape of Beyoğlu.

4.3. Socio-Cultural Impact Analysis

The analysis of the text for socio-cultural impacts revealed several key insights into how Airbnb might have influenced the local culture and community in Beyoğlu:

"Historic": Mentioned 1,002 times, highlighting the significance of historical aspects of the neighborhood in attracting guests.

"Neighborhood": Mentioned 790 times, reflecting the emphasis on the local community and environment in listing descriptions.

"Traditional": Mentioned 126 times, indicating the value placed on traditional elements of the local culture.

"Community": Mentioned 62 times, showing some focus on community engagement or aspects.

"Heritage": Mentioned 46 times, underscoring the cultural heritage of the area.

"Local Life": Mentioned 9 times, which could indicate a lesser focus but still present interest in the everyday life and experiences of local residents.

In terms of host-guest Interaction; the data highlighted the significant role of hosts in shaping the Airbnb experience. Positive interactions, characterized by personalized tips and warm welcomes, were highly valued by guests, aligning with the "Host-visitor relations" and "Communication" codes. These interactions often extended to include local recommendations and assistance with navigating the city, underscoring the importance of host engagement in shaping the social dynamics of guest experiences. Host descriptions and guest reviews often highlight the personal touch provided by hosts. For example, a host might offer, "I love sharing my local knowledge with guests, from hidden gems to the best dining spots." Guests frequently appreciate this interaction, with reviews stating, "Our host's recommendations transformed our visit; we felt like locals thanks to his insider tips."

Some reviews reflect direct interactions with the local community facilitated by Airbnb. A guest shared, "We attended a neighborhood festival recommended by our host, which was a highlight of our trip, giving us a true taste of local culture." Hosts also mentioned community engagement in their listings, such as, "We support local businesses and encourage our guests to visit nearby artisans and cafes, helping to sustain our vibrant community."

While Airbnb brings numerous benefits, it also poses challenges to traditional neighborhood dynamics. Some residents express concerns over increased noise and a shift in neighborhood character due to the influx of tourists. This aspect of the socio-cultural impact calls for a balanced approach in managing Airbnb's integration into community life to maintain the authenticity and tranquility of residential areas.

Additionally, when evaluated in terms of community engagement and security; while less explicitly emphasized in the review data, indications suggest that guests prioritize secure accommodations and feel more comfortable when safety features are clearly communicated, in line with the "Security" codes. Occasional references to engaging with the local community and participating in neighborhood activities imply that Airbnb can facilitate deeper social interactions, although further detailed data collection could enhance understanding in this area.

5. Discussion and Conclusion

Drawing upon insights derived from both the comprehensive Beyoğlu dataset and the detailed Cihangir reviews, we assert that Airbnb exerts a substantial positive influence on both the local economy and cultural tourism within the Beyoğlu district. Our analysis not only underscores

the favorable impact of Airbnb on urban tourism in Beyoğlu but also underscores prospects for sustainable growth and community advancement.

Urban context is a significant indicator for Airbnb experience and consummates with the home experience, neighborhood atmosphere, culture involvement, accessibility and proximity to tourism attractions. The Airbnb usage affects the economy of tourism venues like restaurants, shops, markets and tourism sites. Due to the location of Beyoğlu in Istanbul, social engagement and consciousness on historical aspects of the neighborhood and local life works as a motivator for socio-cultural dynamics in the region.

Thematic examination reveals that Airbnb listings in Beyoğlu serve as integral components of the tourism infrastructure, seamlessly merging urban living with tourist experiences. These themes illuminate how Airbnb enhances guest access to cultural and social facets, offers aesthetically pleasing and functional living spaces, and fosters community engagement.

Furthermore, sentiment and thematic analyses of the Cihangir dataset underscore key factors contributing to guest satisfaction, including accommodation quality, host responsiveness, and property location. To further elevate guest experiences, Airbnb hosts in Cihangir are encouraged to prioritize maintaining high standards, leveraging location advantages, and enhancing host-guest interactions.

The content analysis underscores the multifaceted role of Airbnb in shaping urban tourism landscapes. By deepening tourism integration into the urban fabric, Airbnb facilitates distinctive experiences often absent in traditional accommodations. However, the integration of short-term rentals into urban areas necessitates cautious consideration of their effects on local communities and urban dynamics.

Additionally, our analysis confirms a significant correlation between literature-derived codes and themes identified in Airbnb reviews, particularly in functional and cognitive domains. The physical attributes of accommodations, encompassing design, amenities, and maintenance, significantly shape guest experiences. While social interactions, primarily facilitated by hosts, also wield considerable influence, more explicit data on broader community engagement and security could further enrich our understanding in these realms.

This systematic approach guarantees rigorous analysis of the dataset and its seamless integration into the broader academic discourse of the paper, enriching theoretical discussions on urban tourism and the sharing economy with empirical depth. For further research, these findings could be contextualized within the broader urban ecosystem, examining Airbnb's impact on Beyoğlu's urban landscape and comparing it with similar trends in other global cities to identify unique or common patterns.

6. References

Alexander, J. (2018). Domesticity On-Demand: The Architectural and Urban Implications of Airbnb in Melbourne, Australia. *Urban Science*, 2(3), p.88. doi:<https://doi.org/10.3390/urbansci2030088>.

Benítez-Aurioles, B. (2019). Barcelona's peer-to-peer tourist accommodation market in turbulent times Terrorism and political uncertainty. *International journal of contemporary hospitality management*, 31(12), pp.4419–4437. doi:<https://doi.org/10.1108/IJCHM-01-2019-0090>.

Curto, R.A., Rubino, I. and Verderosa, A. (2021). Investigating Airbnb evolution in an urban tourism context: the application of mathematical modelling and spatial analysis. *Current Issues in Tourism*, pp.1–16. doi:<https://doi.org/10.1080/13683500.2021.1932767>.

Gurran, N. (2017). Global Home-Sharing, Local Communities and the Airbnb Debate: A Planning Research Agenda. *Planning Theory & Practice*, 19(2), pp.298–304. doi:<https://doi.org/10.1080/14649357.2017.1383731>.

Gutiérrez, J. et al. (2017) “The eruption of Airbnb in tourist cities: Comparing spatial patterns of hotels and peer-to-peer accommodation in Barcelona,” *Tourism management*, 62, pp. 278–291. doi: 10.1016/j.tourman.2017.05.003.

Gyódi, K. (2019) “Airbnb in European cities: Business as usual or true sharing economy?,” *Journal of cleaner production*, 221, pp. 536–551. doi: 10.1016/j.jclepro.2019.02.221.

Hall, C.M., Prayag, G., Safonov, A., Coles, T., Gössling, S. and Naderi Koupaei, S. (2022). Airbnb and the sharing economy. *Current Issues in Tourism*, [online] 25(19), pp.1–11. doi:<https://doi.org/10.1080/13683500.2022.2122418>.

Inside Airbnb (2023). Istanbul AirBnb Analytics Data. Available at: <https://insideairbnb.com> (Accessed: 10 December 2023).

Ioannides, D., Röslmaier, M. and van der Zee, E. (2018). Airbnb as an instigator of ‘tourism bubble’ expansion in Utrecht’s Lombok neighbourhood. *Tourism Geographies*, 21(5), pp.822–840. doi:<https://doi.org/10.1080/14616688.2018.1454505>.

Liqing, L. (2022). Location of Airbnb and hotels: the spatial distribution and relationships. *Tourism review (Association internationale d’experts scientifiques du tourisme)*, 77(1), pp.209–224. doi:<https://doi.org/10.1108/TR-10-2020-0476>.

7. Acknowledgements

This study was prepared within the scope of the General Research Project titled "Determining Design Criteria for Sharing-Based Tourism Accommodation Units," supported by Istanbul Technical University.