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User Experience Analysis of Government Property

A Case Study of Bandung Class 1 Immigration Office

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Abstract – Government properties, such as immigration offices, are critical public-facing institutions that shape citizens' and non-citizens' perceptions of state efficiency, accessibility, and legitimacy. Unlike other public facilities, immigration offices serve as key gateways for mobility, legal identity, and inclusion, making their quality, functionality, and accessibility particularly urgent in the context of increasing global migration and administrative demand. This study aims to evaluate the quality of public services at the Class I Immigration Office in Bandung City by focusing on user perceptions and experiences. Previous assessments have primarily focused on physical and administrative aspects, often overlooking the user experience, which is crucial for evaluating service quality holistically. This research adopts a qualitative method using a grounded theory approach and content analysis of 122 Google Review entries. Data analysis is conducted in four stages: decontextualization, recontextualization, categorization, and compilation, applying open coding techniques. The findings reveal patterns in user perceptions regarding comfort, accessibility, service efficiency, and the quality of human resources. This study contributes to the development of public properties that are more participatory, inclusive, and user-oriented. Moreover, it demonstrates the potential of utilizing user-generated content (UGC) as a digital data source to support adaptive and sustainable public facility management policies. The results underline the importance of incorporating digital feedback mechanisms in public service evaluations to better align with citizen expectations in the digital era.

Keywords*: content analysis, government property, user experience, user-generated content.*

I. INTRODUCTION

Public property is an integral part of the state's service infrastructure, representing the state's presence in 'people's daily lives (Dorfman, 2024; Viljoen, 2024). One form of public property is the immigration office, which is owned by the government. It functions not only as an administrative unit but also as the institutional face that facilitates direct interactions between citizens and the government. In this context, the quality of government property is not only determined by the completeness of facilities or technical compliance with development standards, but also by how users experience the space and services provided (Cohen et al., 2023; A. Li, 2021). Therefore, the development and management of government properties cannot be separated from an approach that considers user perceptions and needs as part of sustainable public service quality (Manganelli et al., 2022; van Dyk & Kip, 2024).

In Indonesia, evaluations of public properties such as government-owned buildings and facilities have traditionally emphasized administrative, procedural, and physical dimensions, including spatial efficiency, compliance with construction standards, service capacity, and adherence to service procedures. This administrative and physical orientation is evident in studies on regional asset management, for example, in Tangerang, where land value assessments consider factors such as area, road width, and proximity to the central business district, but overlook qualitative aspects of public service (Puspitarini & Devianto, 2021). Field-based evaluations also reveal recurring issues with service quality. Wou and Rumbiak (2021) documented problems at the Kelurahan Saramom Office in Biak Numfor, including a lack of transparency, delayed processing times, and inadequate informational signage. Gamal (2018) identified shortcomings in timeliness, accuracy, supporting facilities, comfort, and waiting amenities at the Pasangkayu Subdistrict Office, while Yani and Syahyuri (2024) found deficiencies in tangibles, responsiveness, and empathy at the Sukatani Subdistrict Office.

In the context of immigration offices, which represent one form of public property that functions not only as an administrative unit but also as an institutional face facilitating direct interactions between citizens and the state, service quality studies in Denpasar and Bandar Lampung highlight challenges related to responsiveness, communication, reliability, and empathy (Saraswati & Dwiwismayanti, 2024; Tawai et al., 2024). These findings suggest that existing property evaluations rarely incorporate user perspectives as a central data source and often overlook the user experience dimension, which is a crucial indicator for holistically assessing the success of public service facilities (Zhang et al., 2023). When users' perceptions and needs are excluded from evaluation and development processes, the risk of a mismatch between spatial design and public expectations increases (Huang et al., 2022; S. Li et al., 2024), potentially undermining the social function of government offices as spaces that are welcoming, responsive, and accountable to citizens (von Terzi et al., 2021). Despite the breadth of prior studies, none have combined user-generated content data with user-centered design approaches in evaluating public service properties, revealing a significant research gap in the development of participatory and data-driven models for improving government facility management (Nasrabadi et al., 2024).

Building on this gap, the increasing digital participation of the public offers a promising opportunity to incorporate user-generated content (UGC) as an alternative and complementary data source for evaluating public facilities (S. Li et al., 2024). Online published user reviews, such as comments or ratings of service experiences, can capture authentic, spontaneous, and diverse perceptions of the public as direct users (Ghalejough et al., 2024). Unlike structured surveys, which are limited by instrument design and time frame, UGC evolves organically and in real-time, reflecting the dynamics of user experience in a particular time and space (Wu & Li, 2025). In the field of property development, UGC-based approaches open up opportunities to understand user needs in a more inclusive and participatory manner, making them relevant for assessing service-oriented government-owned properties (Shan et al., 2023).

The UCG method, which includes online reviews, social media posts, and location-tagged photos, has emerged as a promising data source for evaluating public services and facilities. Studies across various sectors, including healthcare, education, and urban services, have demonstrated that UGC provides real-time, user-centered insights that surpass traditional administrative or survey data. Its strengths lie in its spontaneity, broad reach, and ability to reflect nuanced public sentiments in natural language (Ruelens, 2022). For example, sentiment analysis of UGC has been effectively used to measure satisfaction with national healthcare systems and identify service gaps not captured in formal evaluations (Ruelens, 2022).

While these strengths highlight the potential of UGC, researchers have also identified several limitations that need to be addressed before it can be widely adopted in public service evaluation. UGC can suffer from representation bias because contributors are often self-selected and may not represent the broader population. Issues of data quality, misinformation, and ethical considerations, particularly concerning unsolicited opinions, pose further challenges to integrating UGC into policy and decision-making (Wąsowicz-Zaborek, 2023; Drakopoulou, 2011). Moreover, the effectiveness of UGC is highly context-dependent, requiring strong digital literacy and equitable access to online platforms, which can vary significantly across different regions. Although international literature highlights both the promise and the pitfalls of UGC, its application in evaluating government-owned public service facilities, such as immigration offices, civil registry buildings, and licensing centers in Indonesia, remains limited. Most local research and government evaluations still rely on conventional metrics, often overlooking the lived

experiences and perspectives shared through digital platforms. Addressing this gap requires innovative approaches that can capture and integrate user perspectives into public property management.

In response to this need, the present research proposes a user-perception-based public property evaluation approach through the UGC-driven User-Centered Design for Public Property Services model. The model is designed to integrate public review data, thereby enhancing the assessment and development process of government service facilities. In addition to serving as an evaluation tool, it provides a reflective framework that can be used to redesign facilities to make them more responsive to community needs. This approach expands the scope of user-centered design practices from the private sector to the public property domain. It encourages the transformation of government property management towards a more participatory and evidence-based approach. This research aims to explore public perceptions of the Bandung City Class 1 Immigration Officean analysis of user-generated content. This research aims to explore public perceptions of the Bandung City Class 1 Immigration Office by analyzing user-generated content (UGC) sourced from online platforms. By doing so, it seeks to understand how users experience, critique, and emotionally respond to public service delivery in one of ' 'Indonesia's key government facilities.

To guide this investigation, the study is structured around the following research questions:

1. **RQ1:** What are the dominant themes and sentiments expressed in user-generated content related to the Bandung City Class 1 Immigration Office?
2. **RQ2:** How do users evaluate their service experiences in terms of accessibility, responsiveness, comfort, and efficiency?
3. **RQ3:** In what ways can insights from UGC complement or challenge traditional evaluation methods for government properties in Indonesia?

The main focuses are: (1) identifying dominant themes in user reviews related to facilities and services, (2) developing a topic structure that represents the overall user experience, and (3) mapping the relationship between topics through conceptual visualization as the basis for a perception-based evaluation model.

II. METHODOLOGY

This research employs a qualitative approach, focusing onience and satisfaction with public property at the Bandung City Class 1 Immigration Office. It is located at Jalan Surapati No. 82, a central area of Bandung City that serves as a hub for mixed administrative, educational, and residential functions. The office serves 200 to 400 users daily and holds a significant regional administrative role. However, the high foot traffic puts pressure on the surrounding infrastructure, including limited parking (less than 15 cars), inadequate sidewalks, and a lack of outdoor waiting areas, which affects the comfort of users and local residents.

This study utilized user reviews sourced from Google Maps, focusing on the Bandung City Class 1 Immigration Office. To ensure the data reflected recent user experiences, we activated Google Maps' "newest" sorting feature to collect reviews posted between 2022 and 2025. The initial dataset was further filtered using keyword-based selection to extract only those reviews directly relevant to the research topic. Keywords included terms such as *balita* (toddlers), *lansia* (elderly), service, and *alur* (process flow), chosen to target user perspectives on accessibility, service delivery, and procedural clarity. Reviews containing substantive written content in Indonesia or a foreign language were included, while purely star-based reviews, off-topic comments, and duplicates were excluded. This process yielded a focused dataset of user-generated content, suitable for qualitative analysis.

The final dataset consisted of 122 user reviews selected from Google Maps entries about the Bandung City Class 1 Immigration Office. This number was determined based on a practical balance between data manageability and thematic saturation, where no significantly new insights were emerging from additional reviews. The reviews were selected through a purposive random sampling approach: while Google's filtering tool surfaced relevant reviews using keywords such as *balita, lansia*, service, and alur, a random selection process was applied to avoid bias toward overly positive or negative entries. Only reviews with substantive written content in Bahasa Indonesia were included.

The evaluation was conducted inductively through field data collection and analysis of user reviews on Google Review, totaling 3,487 entries. These reviews reflect ”users’ digital participation in assessing public services, in line with the concept of *ecologies of participation* (Dourish & Bell, 2011). The analysis method used is *grounded theory* with *content analysis* techniques, which includes the process of decontextualization to compilation (Bengtsson, 2016). The analysis was conducted through *open coding* to organize and classify data into meaningful categories and themes (Rossman & Rallis, 1998; Reger & Kincaid, 2021).

A. Open Coding in Content Analysis

The collected reviews were analyzed using thematic analysis, following the six-phase method proposed by Braun and Clarke (2006). The data were read and re-read to ensure familiarity, after which initial codes were manually generated by identifying recurring ideas, concerns, or emotional tones. These initial codes were then grouped into broader themes related to user experience dimensions, such as accessibility, clarity of procedures, waiting time, and staff responsiveness. Themes were iteratively refined and cross-checked to ensure they accurately reflected the content and intent of the user reviews. The analysis employed an open coding approach, a qualitative method in which categories emerge directly from the data without relying on a predetermined code list (Glaser, 1992).

In this study, open coding was applied to identify issues in users’ experiences with the Bandung City Class I Immigration Office. Previous This method ensures that the coding process remains grounded in the actual data, enabling the findings to reflect participants’ real experiences rather than researchers’ assumptions. Previous studies (Osman et al., 2018; Marhefka et al., 2018; Alonso-Dos-Santos et al., 2020; Lin et al., 2007) support the view that user satisfaction is shaped by individual experiences and psychological responses toward a service, which can influence continued use. Therefore, by adopting open coding, this study sought to capture the nuances of user feedback in a way that authentically represents their perspectives and identifies areas for service improvement. In practice, the open coding approach in this study was conducted in three stages:

1. **Meaning Segment**: This stage involves dissecting qualitative data, such as field observations, spatial documentation, and digital user reviews (e.g., from Google Maps), into smaller units of meaning. The coding process in this research was conducted manually, using a line-by-line approach and narrative fragments. For example, the statement ““it is difficult to find a parking space, especially during break times”” was coded as parking difficulty, peak times, and visitor density. Emerging codes, such as disabled-friendly access, confusing service flow, and a lack of a comfortable waiting area, were identified based on actions and perceptions to capture deeper meaning.

2. **Code**’**: Each unit of meaning segment was analyzed inductively and coded to represent users’ perceptions, complaints, or direct experiences with** public facilities. The codes were then grouped based on semantic or functional similarities, serving as an initial basis for establishing relationships between issues at this stage. Thus, *open coding* is the first step in systematically unraveling the complexity of user experience, with a human-centered design approach in mind.

3. **Categorization:** The categorization stage involves analyzing the identified codes to identify similarities and group them into categories based on shared characteristics (Corbin & Strauss, 2007; Strauss & Corbin, 1990, 1998). In this analysis, the dimensions of each code can be considered, especially those that represent the position of a characteristic on a continuum or range. Category names may differ from the original codes to reflect a more comprehensive range of meanings. If necessary, subcategories can also be developed from a particular set of codes and linked conceptually to the parent category.

B. Visualization of data frequency

The categorization results from the open coding process were further analyzed for frequency and visualized using a word cloud in this study. Word clouds are visual representations of the frequency of occurrence of keywords, where the prominence of each word is emphasized through variations in font size, color, and thickness based on its frequency and relevance (Feinberg, 2010; Kuo et al., 2007; Burch

et al., 2013). This technique facilitates a quick and intuitive identification of dominant themes and patterns within the textual data. As demonstrated by Heimerl et al. (2014), word clouds can serve as an effective tool for text analysis when supported by additional contextual information and interactive features.

In this research, word clouds were generated through the Topic Analysis feature in the JMP application as a complementary visual analysis to content analysis and open coding. This visualization technique was particularly useful for identifying central themes, dominant perceptions, and key issues voiced by users in the reviews of the Bandung City Class I Immigration Office. Three distinct word clouds were produced, each representing a different dimension of user experience, ranging from infrastructure issues to service quality and inclusiveness. By distinguishing the most frequently occurring words and observing their interrelationships, the visualization confirmed and enriched the findings from the prior coding process, while also allowing the identification of shifts in user focus.

C. Topic Analysis

Topic analysis can be understood as a form of *compilation* in context analysis (Fig. 1). It begins by selecting a concept to study and focuses on examining the relationships between concepts. In this approach, each concept is not seen as inherently meaningful; rather, its meaning is formed through relationships with other concepts (Bengtsson, 2016). Other concepts were discovered during the process of open coding and visualizing the data frequency.

Content analysis, open coding, data visualization, and topic analysis methods are widely used in property research, particularly to measure user satisfaction and environmental impact. In this study, these methods were combined to form a comprehensive approach for analyzing user experiences of government-owned facilities. The integration of these methods enabled the systematic identification of service quality themes, infrastructure conditions, and user satisfaction levels, which were then synthesized into a proposed model for the development of space and service programs. Fig. 1 illustrates the research framework applied in the case study of the Bandung City Class 1 Immigration Office.

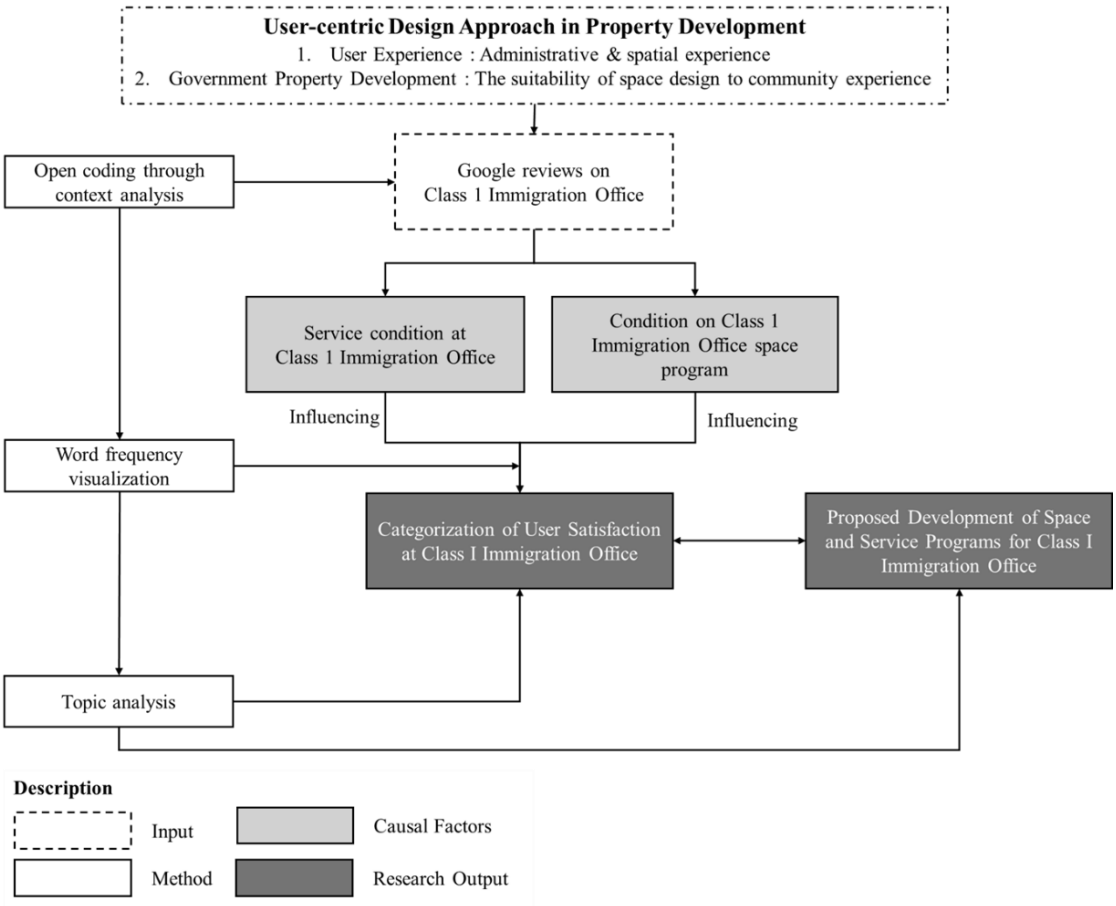

Fig. 1. Research Framework

III. RESULTS AND DISCUSSION

A. Open Coding in Content Analysis

The coding process creates an inventory of data to gain deep and comprehensive insights into the data (Miles et al., 2019). In the user experience analysis of the Bandung City Class 1 Immigration Office, coding was carried out on 122 reviews found on Google. Reviews are taken randomly, but still pay attention to the vulnerable time, namely, 2022-2025. Furthermore, open coding is used to identify the categories of perceptions visitors have about the immigration office's facilities and services. An example of open coding done on Google reviews is as follows:

> *""The office is on the edge of the highway, the parking lot is not too large... maybe it is better to use public transportation or park outside the office. For the officers here are very friendly and informative so as to facilitate service. The service is also fast and does not take long.. hopefully services like this can be maintained""*

The quote above illustrates the user perceptions of facilities and services at the Immigration Office Class I in Bandung City. The meaning segments contained in the quote are ""parking is not wide"", "roadside location", "friendly and informative officers", "fast and efficient service", and "hope that quality is maintained". Findings of meaning or key phrases from the review are analyzed in more depth through coding. Each coded segment reflects users' perceptions, complaints, or experiences of public facilities. The codes were then grouped into categories to identify similarities in meaning or function as a basis for establishing relationships between issues. Table 1 presents the results of the content analysis, conducted through open coding.

Table 1. Results of Content Analysis through Open Coding

Code	Frequency	Category	Frequency
Disabled parking facilities available	1	Special facilities for persons with disabilities	1
Cafeteria facilities available	8	Food facilities	8
Administrative support facilities available	5	Supporting facilities	7
Availability of smoking area	1		
ATM facilities	1		
Well-maintained toilet facilities	3	Sanitation facilities	3
Adequate facilities	15	Facility quality	15
Fast service	31	Service quality	45
Excellent service	11		
Service convenience	3		
Staff competence	7	Human resource quality	23
Staff friendliness	16		
Strategic location on the main road	4	Public service office location	4
Inadequate children's play area	1	Issues with children's play facilities	1
Poorly maintained cafeteria facilities	1	Issues with food facilities	1
Poor cleanliness in the waiting area	2	Issues with waiting room facilities	2
Limited parking space	40	Issues with parking facilities	40
Poor service quality	4	Issues with service quality	7
Unclear administrative instructions	3		
Incompetent staff	1	Issues with human resource quality	5
Unfriendly staff	4		
Vehicle congestion around the location	7	Issues with public service office location	7
Priority service	44	Service priority	44
Availability of mother and child room	5	Mother- and child-friendly	28
Children's play facilities	23		
Priority for public transportation use	4	Public transportation facilities	4
Inadequate toilet facilities	12	Issues with sanitation facilities	12
Total	**257**	**Total**	**257**

1) Most Frequent Review Categories

The open coding process applied to 122 Google Review entries generated a total of 257 codes, which were subsequently classified into 27 distinct code types and grouped into 19 categories. Among the identified codes, the most dominant were "priority service" (n = 44) and "limited parking space" (n = 40). The prominence of the "priority service" code indicates the presence of expedited access for

vulnerable groups, particularly children. However, the issue of limited parking facilities reflects discomfort associated with the spatial infrastructure of the Immigration Office in Bandung City. This illustrates a mismatch between available parking capacity and the volume of visitors, resulting in inconvenience and making it a common point of complaint. A user review that illustrates both codes reads:

"Queueing is relatively fast, and there is a special line for toddlers which is very helpful for parents. Staff are friendly and responsive throughout the process. Service is only available via the M-Paspor app, so please come prepared with the required documents. The only drawback is the limited parking area, so we had to park along the roadside."

However, the most frequent codes do not always correspond to the most dominant category overall. In this analysis, the leading category was "service quality," comprising three key codes: "service speed," "excellent service," and "service convenience." These findings indicate that services at the Class I Immigration Office in Bandung City are generally perceived as satisfactory by users. This reflects the office's efforts to meet or exceed public expectations by providing efficient and customer-oriented services.

2) Least Frequent Review Categories

The analysis of the Google Review dataset through open coding also revealed several codes with the lowest frequencies: "accessible parking for persons with disabilities," "inadequate children's play area," and "poorly maintained cafeteria facilities," each appearing only once. These findings suggest that such issues were not perceived as significant concerns by most users. The low frequency may also indicate that the majority of visitors did not encounter direct barriers related to these aspects during their visit. The following are review excerpts that exemplify each respective code:

"I truly appreciate the fast and friendly service, even though the space is limited. They even provide special parking for vehicles of persons with disabilities."

"The service is now excellent, with friendly and agile staff at the entrance. Everything was done in one visit. Please consider improving the cafeteria, especially the seating."

"The service at the Bandung Immigration Office (Suci PHH Mustofa) is very satisfying! The process is fast and orderly. I brought a toddler and was given priority. PS: perhaps the playground could be slightly enlarged. Thank you for the friendly and efficient service!"

These low-frequency codes were categorized into: "children's play facility issues," "food service facility issues," and "facilities for persons with disabilities." Although these categories were not dominant, they highlight specific needs that remain partially unmet, especially for subgroups such as children, individuals with disabilities, and visitors requiring food and resting spaces. Therefore, despite their limited occurrence, these findings remain relevant for service managers, as they highlight the importance of developing more inclusive and user-friendly public facilities.

B. Data frequency visualization

To provide a comprehensive understanding of user feedback, three distinct word clouds were generated using the JMP Text Explorer feature as a form of data frequency visualization (see Figure 2). Word clouds visually represent the frequency of terms in the dataset, where the size and prominence of each word indicate its relative frequency of occurrence. Each word cloud was produced based on a different analytical focus. The first word cloud, derived from the *Meaning Segment*, emphasizes frequently used terms that capture the underlying sentiment and thematic meaning of user reviews. The second word cloud, generated through *Code*, highlights terms that correspond to manually assigned coding categories, enabling the identification of key issues and recurring topics. The third word cloud, based on *Category*, clusters terms to reveal broader patterns related to service quality, infrastructure, and user experience. This multi-layered approach enables clearer differentiation of dominant themes across meaning segments, coding structures, and categorical groupings, thereby enriching the interpretation of user perceptions.

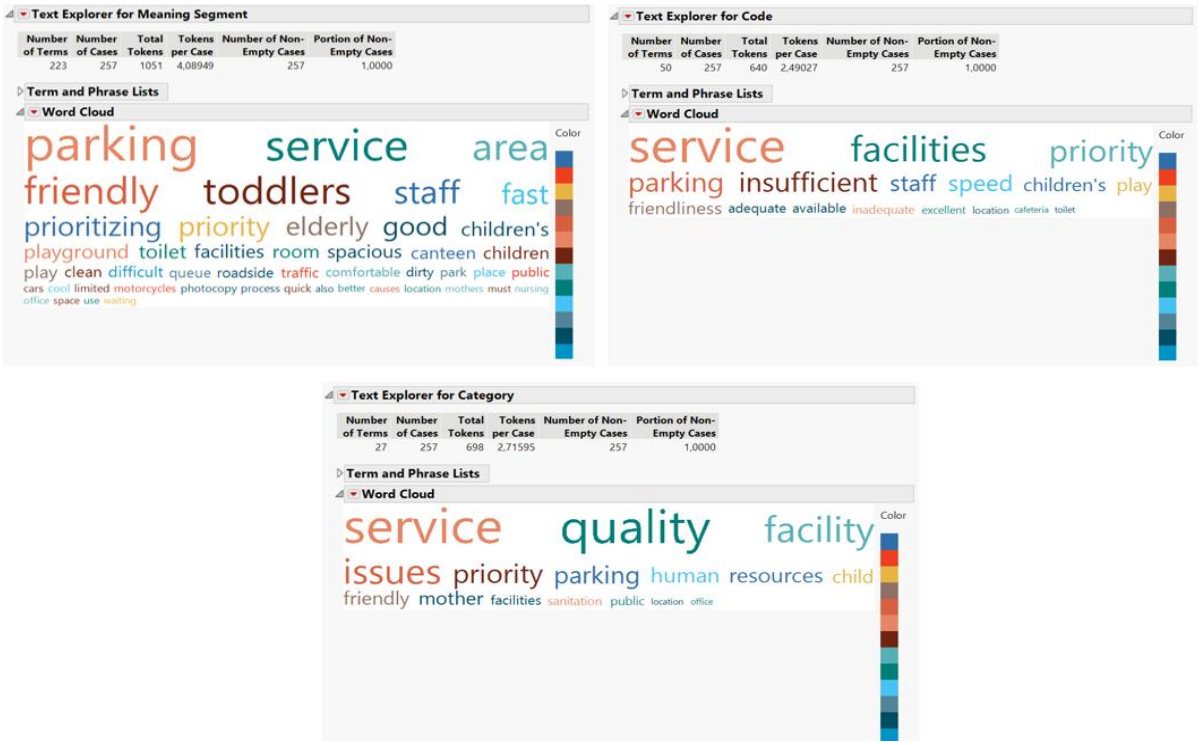

Fig. 2. JMPWord Cloud Analysis Results Using the JMP Application

1) Word Cloud 1: General Perception of Facilities and Environment

The word cloud visualization highlights dominant terms such as "parking", "service", "area", "friendly", "toddlers", "staff", "fast", and "priority", reflecting key aspects of user concerns and experiences. The prominence of the word "parking" suggests that parking availability is a major topic among users, often linked to space limitations. Words such as "friendly", "good", and "fast" indicate positive evaluations of service quality and staff performance, while "priority", "elderly", and "children's playground" point to the importance of facilities and services for vulnerable groups. Terms like "toilet", "facilities", "spacious", and "canteen" show attention to physical amenities that support comfort during visits.

Negative impressions are reflected through words such as "difficult", "queue", "dirty", and "traffic", which highlight challenges in accessibility, cleanliness, and convenience. On the other hand, positive terms such as "clean", "comfortable", and "good" illustrate user satisfaction in certain service or facility aspects. Overall, the word cloud presents a mixed narrative of appreciation for staff friendliness and service speed, alongside constructive criticism of infrastructure capacity and supporting amenities.

2) Word Cloud 2: Focus on Service and Officer Responsiveness

The second word cloud highlights the terms "service", "facilities", "priority", "parking", "insufficient", and "staff" as dominant, reflecting both positive recognition and critical feedback from users. The prominence of "service" and "staff" underscores that direct interaction between users and officers is a key determinant of perceived service quality. Positive elements such as "priority" and "children's play" indicate appreciation for facilities and services dedicated to specific user groups, while "speed" reflects satisfaction with service efficiency.

On the other hand, terms like "insufficient" and "inadequate" point to user concerns about the adequacy of facilities, particularly parking, which remains a recurring issue. Supporting terms such as "adequate", "available", and "cafeteria" suggest that users also evaluate the completeness of supplementary amenities. Overall, this word cloud reinforces the notion that an ideal public service environment integrates professional and responsive service delivery with sufficient and well-maintained supporting facilities.

3) Word Cloud 3: Themes Critical to Quality and Problems

The third word cloud highlights dominant terms such as "service", "quality", "facility", "issues", and "priority", reflecting the dual nature of user feedback that includes both appreciation and criticism. The co-occurrence of "quality" and "issues" suggests that reviews are evaluative, with users acknowledging strengths while also pointing out areas for improvement. The presence of terms like "friendly" and "human resources" suggests the perceived importance of courteous interactions and the staff's competence in delivering effective services.

Additionally, words such as "mother", "child", and "public" emphasize the need for inclusive facilities that cater to diverse user groups, including families and the general public. The recurring mention of "parking" reinforces infrastructure as a recurring point of concern. Overall, this word cloud portrays user perspectives that go beyond surface-level satisfaction, encompassing institutional effectiveness, staff performance, and the adequacy of public facilities.

The three-word cloud visualizations show consistency in themes among users' perceptions of services. The word "service" emerges as the most dominant and generally has a positive connotation. However, issues related to parking and the condition of physical facilities reflect recurring infrastructure problems. On the other hand, appreciation of priority lanes, friendliness of officers, and speed of service are major strengths in public service delivery. Some minor issues, such as the availability of breastfeeding facilities, children's rooms, and cleanliness, still require attention to create more inclusive services. Overall, this word cloud supports the findings of the previous open coding analysis and reinforces the importance of policy formulation that is responsive to service user perceptions.

C. Topic Analysis

Data frequency visualization was the tool used in the topic analysis. Topic analysis was determined through the JMP application. This analysis is used to extract the main themes from a set of reviews that have been processed through open coding into meaning segments, codes, and categories. The analysis results from the JMP application, based on the content analysis through open coding for the Bandung City Immigration Office, are as shown in Fig. 3.

Top Loadings by Topic

Topic 1		Topic 2		Topic 3		Topic 4		Topic 5	
Term	Loading	Term	Loading	Term	Loading	Term	Loading	Term	Loading
children's	0,9876	parking	0,9677	friendliness	0,9936	priority	0,8957	speed	0,9467
play	0,9876	insufficient	0,9665	staff	0,7961	service	0,5904	service	0,5054
facilities	0,5580	service	-0,2893	service	-0,2198	staff	-0,2991	staff	-0,2170
service	-0,2126	staff	-0,2210	facilities	-0,1403	facilities	-0,1875	priority	-0,1939
		priority	-0,1886	priority	-0,1394	speed	-0,1229	facilities	-0,1464
		facilities	-0,1741			insufficient	-0,1116		

Topic 6		Topic 7		Topic 8		Topic 9		Topic 10	
Term	Loading	Term	Loading	Term	Loading	Term	Loading	Term	Loading
available	0,9723	adequate	0,9721	excellent	0,9829	inadequate	0,9800	location	0,9756
facilities	0,5022	facilities	0,4795	service	0,2762	facilities	0,2357	staff	-0,1456
service	-0,1727	service	-0,1682	priority	-0,1318	service	-0,1402	service	-0,1367
staff	-0,1577	staff	-0,1564	staff	-0,1181	staff	-0,1366	priority	-0,0900
		priority	-0,1097			priority	-0,0917	facilities	-0,0818

Fig. 3. Topic Analysis Results Using JMP Application

A topic modeling analysis of 122 Google Review user reviews of the Bandung City Class 1 Immigration Office resulted in ten main topics that represent public perceptions of service quality and facility conditions. Each topic is formed from keywords with high loading, which indicates the significance of their contribution to the theme structure. The first topic focuses on family-friendly services, particularly for mothers and children. The second topic focuses on office location and facilities, while the third topic describes attention to people with disabilities. The fourth and fifth topics address infrastructure issues, including transportation, parking, and facility limitations. Meanwhile, the sixth to eighth topics relate to the quality of waiting rooms, priority services, and staff competence. The ninth and tenth topics address supporting facilities, including sanitation, food, and the need for children's play spaces.

These results show that public perceptions of public services are influenced by a combination of personal and structural factors. Personal aspects include the attitude and competence of officers, especially towards vulnerable groups such as mothers and children and people with disabilities. Meanwhile, structural aspects include the physical condition of facilities, accessibility, and feasibility of supporting facilities. These findings are consistent with user-generated content-based studies that emphasize that inclusive and participatory public services can shape positive public perceptions (Shan et al., 2023). However, unlike Shan et al. (2023), who found that physical facilities often dominate user evaluations, this study highlights that institutional image and governance principles have a more significant role in shaping trust and satisfaction. This indicates a contextual difference, as public perceptions in Indonesia are strongly tied to institutional credibility and governance practices. Research by Amir et al. (2023) further emphasizes that the presence of good governance, particularly principles like accountability and transparency, is essential for restoring public trust (Theetol et al., 2017).

Amir et al. (2023) argue that the management variables of public services or offices, particularly the tangible dimensions such as physical facilities, personnel, and communication, do not significantly influence the implementation of good governance. This contrasts with some previous studies that highlight the direct impact of physical facilities on public satisfaction, suggesting that in the Indonesian context, the quality of public services is more closely linked to procedural fairness and complaint resolution rather than the mere availability of infrastructure. Public service quality is often evaluated using six dimensions: reliability, responsiveness, assurance, empathy, tangibles, and complaint handling (Amir et al., 2023). The findings show that among these dimensions, the highest quality is reported in complaint, suggestion, and feedback handling, while the lowest is in the empathy dimension. Similarly, public satisfaction is highest in complaint handling and lowest in reliability (Istiqomah, 2017).

In line with the disconfirmation theory (Oliver, 1980), expectations have a direct influence on satisfaction. Kaosiri et al. (2017) emphasize that strong ties in user-generated content (UGC) on social media shape user expectations, which are closely related to factors enhancing user comfort in public spaces, such as friendliness, service quality, and security. These aspects, often based on opinions rather than facts, help explain the characteristics of property spaces. Despite positive feedback on certain services, recurring complaints in user reviews highlight gaps that require improvement. In the Indonesian context, UGC reflects the voice of users who demand accountability and transparency, revealing service gaps that go beyond physical facilities. To gain a deeper understanding of these issues, ten identified topics have been mapped and categorized into key user-related themes, as illustrated in Fig. 4.

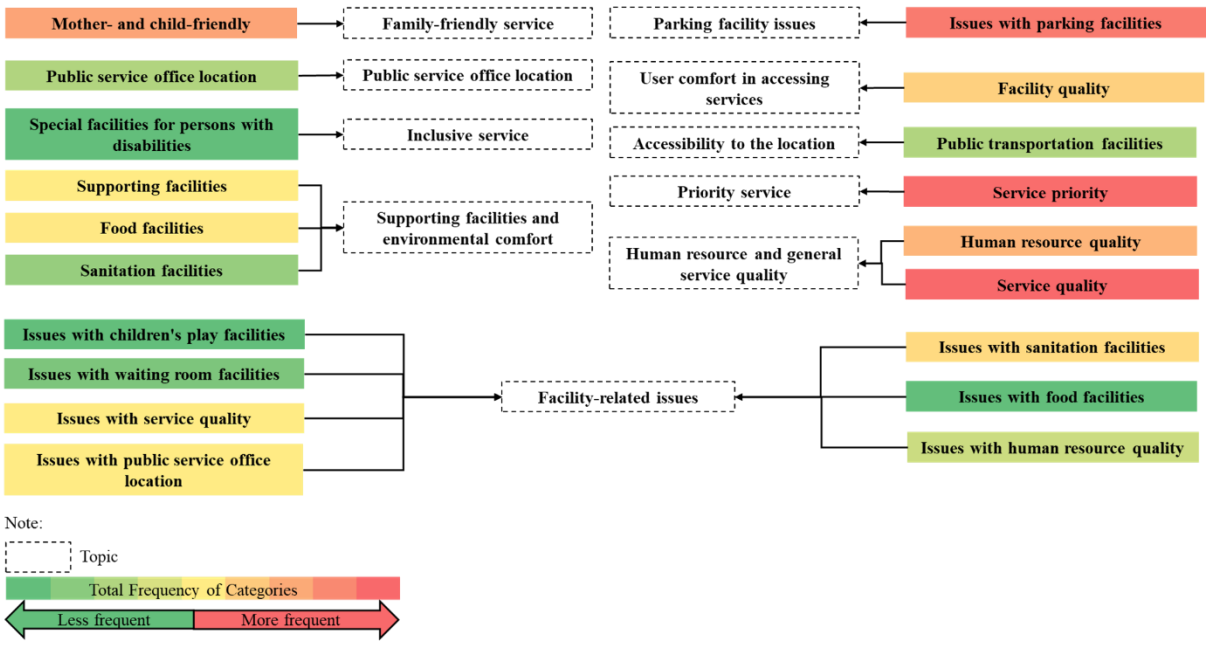

Fig. 4. Results of Mapping Property User Analysis Topics by Category

Topic mapping from *user-generated content* (UGC) analysis shows that service aspects are closely correlated with users' perceived convenience and priorities (Lee & Kang, 2022). This theme dominated reviews, emphasizing the importance of human resource quality in shaping positive public service experiences (Gonçalves et al., 2023). In addition, the issue of limited parking facilities emerged as one of the most dominant topics. Its presence as a separate *topic* in the *topic modeling* results indicates the urgency and weight of this issue in users' perceptions (Yuan et al., 2021). This finding supports the UGC approach that allows people to convey their experiences directly and intermediary-free on digital platforms (Cheng et al., 2023). Therefore, improving parking facilities should be a priority concern for local governments to respond to public aspirations based on participatory data.

In addition to service and parking aspects, many user complaints are also directed at the condition of supporting facilities such as sanitation and canteens. Despite their importance in supporting the comfort of public service users, the quality and maintenance of these facilities often do not meet expectations (Wang et al., 2022). Complaints in UGC-based reviews suggest that users' perceptions are not only determined by the availability of facilities, but also by the convenience in daily use (Yuan et al., 2021). This reinforces the finding that the quality of physical facilities is an integral part of the overall public service experience and consistently emerges as an important issue that needs to be addressed in various topics (Lee & Kang, 2022).

D. Policy Recommendations

Based on an analysis of Google R, this study recommends five strategic policy directions to improve service quality at the Bandung City Class 1 Immigration Office. First, optimization of parking infrastructure and transportation access needs to be done to reduce congestion and improve accessibility. Second, routine maintenance of supporting facilities such as toilets, canteens, and waiting rooms should be strengthened to maintain the comfort and image of the institution. Third, increasing the capacity of human resources through periodic training and performance evaluation based on public feedback is an important step to maintain professionalism and consistency of services.

Furthermore, it is important for agencies to ensure inclusive and technology-based public services. Facilities should be designed with a universal design approach to be friendly to people with disabilities, mothers and children, and other vulnerable groups. On the other hand, the effective utilization of information technology, such as digital queuing systems, service applications, and online review monitoring, needs to be thoroughly integrated to enhance service efficiency, transparency, and responsiveness. This strategy not only addresses user complaints directly, but also builds an adaptive and participatory public service model based on community perceptions.

IV. CONCLUSION

Content analysis of 122 Google reviews of the Bandung City Class I Immigration Office using open coding revealed key themes and sentiments in user perceptions of public services and facilities. The user-generated content (UGC) approach proved effective in capturing the interplay between public perception, service quality, and the physical characteristics of government properties. The analysis identified 257 codes grouped into 19 thematic clusters, with service quality aspects such as priority service, staff friendliness, and efficiency receiving the most positive feedback. These findings indicate strong public appreciation for the human facing elements of service delivery, especially for vulnerable groups such as children. On the other hand, the most frequent complaint concerned limited parking capacity, highlighting a mismatch between infrastructure and visitor volume. This shows the importance of space planning in ensuring comfort, even when service quality is high. Less frequent but notable concerns included the availability of facilities for people with disabilities, children’s play areas, and canteens, all of which are important for inclusiveness. These issues point to the distinct needs of specific user groups that should be addressed through equitable and inclusive facility planning.

Beyond answering the first two research questions, the findings also demonstrate how UGC can complement traditional evaluation methods for government properties in Indonesia. Unlike conventional assessments that tend to focus on operational performance metrics and compliance with service standards, UGC analysis captures lived experiences, nuanced sentiments, and specific user needs that may be overlooked in formal evaluations. This highlights the potential of integrating UGC into the evaluation process to enrich the evidence base, identify service gaps more holistically, and guide participatory improvements in facility planning and management.

Nevertheless, this study has several limitations. It did not incorporate the perspectives of internal office staff regarding the spatial programming and layout of the office, despite employee comfort being an important dimension in public office design. It also overlooked the perspectives of the surrounding community, despite daily operations often leading to traffic congestion that impacts the local environment. Furthermore, technical aspects such as the suitability of room capacity relative to visitor volumes and the ratio of parking space to vehicle traffic were not analyzed. Future studies should therefore adopt a more holistic approach by integrating internal, external, and technical perspectives to ensure a more comprehensive and actionable evaluation of public service facilities.

REFERENCES

Alonso-Dos-Santos, M., Soto-Fuentes, Y., & Valderrama-Palma, V. A. (2020). Determinants of Mobile Banking Users' Loyalty. *Journal of Promotion Management*, *26*(5), 615–633. https://doi.org/10.1080/10496491.2020.1729312

Amir, M., Cavallari, L., Cavallari, Z., Witjaksono, J., & Seerasarn, N. (2023). Consistency of Public Service Management in Implementing Good Governance in Indonesia: A case study in Kendari City. *Academic Journal of Interdisciplinary Studies*, *12*(6), 176–186. https://doi.org/10.36941/ajis-2023-0162

Bengtsson, M. (2016). How to Plan and Perform A Qualitative Study Using Content Analysis. *NursingPlus Open*, *2*, 8–14. https://doi.org/10.1016/j.npls.2016.01.001

Braun, V., & Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Burch, M., Lohmann, S., Pompe, D., & Weiskopf, D. (2013). Prefix Tag Clouds. *Proceedings of the 17th International Conference on Information Visualisation (IV), IEEE Computer Society 2013*, 45–50. https://doi.org/10.1109/IV.2013.5

Cheng, Z., Xu, J., & Zhang, T. (2023). Examining Public Engagement and Co-Creation Through User-Generated Content in Digital Government. *Government Information Quarterly*, *40*(2), 101778. https://doi.org/10.1016/j.giq.2023.101778

Cohen, V., Bereznauskė, E., Burinskas, A., & Raslanas, S. (2023). Efficiency and Challenges In Public Real Estate Management: Insights From Lithuania. *International Journal of Strategic Property Management*, *27*(4), 275–289. https://doi.org/10.3846/IJSPM.2023.20362

Corbin, J. M., & Strauss, A. C. (2007). *Basics Of Qualitative Research: Techniques and Procedures For Developing Grounded Theory* (3rd ed.). Sage Publications.

Dorfman, A. (2024). Public Ownership. *Law and Philosophy*, *43*(3), 303–331. https://doi.org/10.1007/S10982-023-09488-8

Dourish, P., & Bell, G. (2011). *Divining a Digital Future: Mess And Mythology In Ubiquitous Computing*. MIT Press

Drakopoulou, S. (2011). User Generated Content: An Exploration and Analysis of The Temporal Qualities and Elements of Authenticity and Immediacy in UGC. *Proceedings of the First International Conference on Emerging Research Paradigms in Business and Social Sciences*. Middlesex University. https://repository.mdx.ac.uk/item/83q83

Feinberg, J. (2010). Wordle. In J. Steele & N. Iliinsky (Eds.), *Beautiful Visualization* (pp. 37–58). O'Reilly Media. (DOI is not available)

Gamal, M. S. (2018). Analisis kualitas pelayanan di Kantor Kelurahan Pasangkayu Kabupaten Mamuju Utara. *e Jurnal Katalogis*, *6*(2), 162–171. https://jurnal.untad.ac.id/jurnal/index.php/Katalogis/article/view/1323663

Ghalejough, A. P., Avval, S. A., Haghparast, F., & Gharehbaglou, M. (2024). Star Architecture in Online Public Discourse: Exploring Reddit User-Generated Content on The Vessel, New York, Through a Text Analytics Approach. *Archnet-IJAR: International Journal of Architectural Research*, *19*(2), 372–389. https://doi.org/10.1108/ARCH-03-2024-0095

Glaser, B. G. (1992). *Emergence vs Forcing: Basics of Grounded Theory Analysis*. Sociology Press.

Gonçalves, G., Silva, P., & Oliveira, T. (2023). Human Resource Quality and Public Service Delivery: A Machine Learning Analysis of Online Reviews. *Government Information Quarterly*, *40*(1), 101755. https://doi.org/10.1016/j.giq.2022.101755

Heimerl, F., Lohmann, S., Lange, S., & Ertl, T. (2014). Word Cloud Explorer: Text Analytics Based on Word Clouds. *2014 47th Hawaii International Conference on System Sciences*, 1833–1842. https://doi.org/10.1109/HICSS.2014.231

Huang, Y., Li, Z., & Huang, Y. (2022). User Perception of Public Parks: A Pilot Study Integrating Spatial Social Media Data With Park Management in The City Of Chicago. *Land*, *11*(2). https://doi.org/10.3390/LAND11020211

Istiqomah, D. (2017). Hubungan Antara Kualitas Pelayanan Dengan Tingkat Kepuasan Masyarakat (Studi Kasus Pembuatan E-KTP di Kecamatan Sumberrejo Kabupaten Bojonegoro). *JPAP: Jurnal Penelitian Administrasi Publik*, *3*(1). https://doi.org/10.30996/jpap.v3i1.1235

Kaosiri, Y. N., Fiol, L. J. C., Tena, M. Á. M., Artola, R. M. R., & García, J. S. (2017). User-Generated Content Sources In Social Media: A New Approach to Explore Tourist Satisfaction. *Journal of Travel Research*, *58*(2), 253–265. https://doi.org/10.1177/0047287517746014

Kuo, B. Y.-L., Hentrich, T., Good, B. M., & Wilkinson, M. D. (2007). Tag Clouds for Summarizing Web Search Results. In *Proceedings of the 16th International Conference on World Wide Web (WWW '07)* (pp. 1203–1204). ACM. https://doi.org/10.1145/1242572.1242765

Lee, H., & Kang, M. (2022). Public Opinion Mining Through Topic Modeling on Government Service Reviews. *Information Processing & Management*, *59*(2), 102857. https://doi.org/10.1016/j.ipm.2021.102857

Li, A. (2021). How People Perceive and Interact With Public Space Through Social Media Big Data: A Case Study Of Xiamen, China. *Chinese Journal of Sociology*, *7*(3), 390–412. https://doi.org/10.1177/2057150X211027371

Li, S., Wang, C., Rong, L., Zhou, S., & Wu, Z. (2024). Understanding How People Perceive and Interact With Public Space Through Social Media Big Data: A Case Study Of Xiamen, China. *Land*, *13*(9). https://doi.org/10.3390/LAND13091500

Lin, C., Shih, H., & Sher, P. J. (2007). Integrating Technology Readiness Into Technology Acceptance: The TRAM Model. *Psychology and Marketing*, *24*(7), 641–657. https://doi.org/10.1002/mar.20177

Manganelli, B., Tataranna, S., Vona, M., & Del Giudice, F. P. (2022). An Innovative Approach for The Enhancement of Public Real Estate Assets. *Sustainability*, *14*(14). https://doi.org/10.3390/SU14148309

Marhefka, S. L., Turner, D., & Lockhart, E. (2018). Understanding Women's Willingness to Use E-Health for HIV-Related Services: A Novel Application of the Technology Readiness and Acceptance Model to a Highly Stigmatized Medical Condition. *Telemedicine Journal and e-Health*, *25*(6), 511–518. https://doi.org/10.1089/tmj.2018.0066

Miles, M. B., Huberman, A. M., & Saldana, J. (2019). *Qualitative Data Analysis: A Methods Sourcebook* (4th ed.). Sage Publications. (DOI is not available)

Nasrabadi, M. A., Beauregard, Y., & Ekhlassi, A. (2024). The Implication of User-Generated Content in New Product Development Process: A Systematic Literature Review and Future Research Agenda. *Technological Forecasting and Social Change*, *206*, 123551. https://doi.org/10.1016/J.TECHFORE.2024.123551

Oliver, R. L. (1980). A Cognitive Model of The Antecedents and Consequences of Satisfaction Decisions. *Journal of Marketing Research*, *17*(4), 460–469. https://doi.org/10.1177/002224378001700405

Osman, H. M., Mahinderjit, M., Serafin, M., Rahman, A., & Abu, A. (2018). Enhanced Analytical Hierarchy Process for U-Learning with Near Field Communication (NFC) Technology. *International Journal of Advanced Computer Science and Applications*, *9*(12). https://doi.org/10.14569/ijacsa.2018.091241

Puspitarini, I., & Devianto, I. R. (2021). Determinants of Public Asset Value for Land Property: A Study in The City of Tangerang, Indonesia. *Planning Malaysia*, *19*(17). https://doi.org/10.21837/pm.v19i17.1000

Reger, R. K., & Kincaid, P. A. (2021). Content and Text Analysis Methods for Organizational Research. *Oxford Research Encyclopedia of Business and Management*. https://doi.org/10.1093/acrefore/9780190224851.013.336

Rossman, G., & Rallis, S. F. (1998). *Learning in The Field: An Introduction to Qualitative Research*. Sage Publications. (DOI is not available)

Ruelens, A. (2022). Analyzing User-Generated Content Using Natural Language Processing: A Case Study of Public Satisfaction With Healthcare Systems. *Journal of Computational Social Science*, *5*(1), 731–749. https://doi.org/10.1007/S42001-021-00148-2

Saraswati, A. I., & Dwiwismayanti, K. W. (2024). The Quality Of Service in Processing Passports of Indonesian Citizens at The Immigration Office Class I TPI Denpasar. *West Science Social and Humanities Studies*, *2*(02), 250–258. https://doi.org/10.58812/wsshs.v2i02.642

Shan, J., Cai, G., Lin, A., & Xu, B. (2023). Improvement Strategies for Enhancing User Satisfaction With Spatial Publicness in Privately Owned Public Open Space In Post-COVID-19: A Case From Italy. *Buildings*, *13*(7). https://doi.org/10.3390/BUILDINGS13071773

Strauss, A. L., & Corbin, J. M. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Newbury Park, CA: Sage Publications. (DOI is not available)

Strauss, A. L., & Corbin, J. M. (1998). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (2nd ed.). Thousand Oaks, CA: Sage Publications. (DOI is not available)

Tawai, A., Sani, L. O. A., Hussin, S., Tosepu, R., Sani, A., Pagala, M. A., Zulkarnain, D., & Munadi, L. O. M. (2024). Public Services and Community Satisfaction in East Kolaka District, Indonesia. *Pakistan Journal of Life and Social Sciences (PJLSS)*, *22*(1). https://doi.org/10.57239/pjlss-2024-22.1.0076

Theetol, Y., Indartuti, E., & Soenarjanto, B. (2017). Pelayanan Publik Berbasis Good Governance. *Jurnal Administrasi Penelitian Publik*, *3*(1), 668–674. https://doi.org/10.30996/jpap.v3i1.1236

van Dyk, S., & Kip, M. (2024). Rethinking Social Rights As Social Property: Alternatives to Private Property, and The Democratization of Public Politics. *Critical Sociology*, *50*(3), 437–452. https://doi.org/10.1177/08969205231195378

Viljoen, S. M. (2024). Public Property in South Africa: A Human Rights Perspective. *African Human Rights Law Journal*, *24*(1), 77–100. https://doi.org/10.17159/1996-2096/2024/V24N1A4

von Terzi, P., Tretter, S., Uhde, A., Hassenzahl, M., & Diefenbach, S. (2021). Technology-Mediated Experiences and Social Context: Relevant Needs in Private vs. Public Interaction and the Importance of Others for Positive Affect**.** *Frontiers in Psychology*, *12*, 718315. https://doi.org/10.3389/fpsyg.2021.718315

Wang, Y., Liu, Z., & Zhang, R. (2022). Infrastructure Quality and Citizen Satisfaction: Insights From Online Feedback. *Sustainable Cities and Society*, *80*, 103776. https://doi.org/10.1016/j.scs.2022.103776

Wąsowicz-Zaborek, E. (2023). Content Analysis of Hotel Reviews as a Quality Management Tool: Preliminary Verification of the SERVQUAL Scale. *Turyzm/Tourism*, *33*(1), 29–40. https://doi.org/10.18778/0867-5856.33.1.03

Wou, A., & Rumbiak, P. M. (2021). Analisis Pelayanan Administrasi Pemerintahan di Kelurahan Saramom Distrik Biak Kota Kabupaten Biak Numfor. *Journal Governance and Politics (JGP)*, *1*(1), 44–52. https://e-journal.iyb.ac.id/index.php/jgp/article/view/138

Wu, X., & Li, X. (2025). Multi-Source Data-Driven Quality Assessment of Waterfront Public Spaces in Urban Contexts. *Land*, *14*(2). https://doi.org/10.3390/LAND14020231

Yani, Y., & Syahyuri, S. (2024). Analisis Kualitas Pelayanan Publik Pada Kantor Kecamatan Sukatani Kabupaten Bekasi. *Transparansi Jurnal Ilmiah Ilmu Administrasi*, *6*(2), 249–256. https://doi.org/10.31334/transparansi.v6i2.3464

Yuan, J., Liu, S., & Li, Y. (2021). Mapping Urban Service Dissatisfaction: Topic Modeling of Google Maps Reviews. *Cities*, *115*, 103248. https://doi.org/10.1016/j.cities.2021.103248

Zhang, B., Song, Y., Liu, D., Zeng, Z., Guo, S., Yang, Q., Wen, Y., Wang, W., & Shen, X. (2023). Descriptive and Network Post-Occupancy Evaluation of The Urban Public Space Through Social Media: A Case Study of Bryant Park, NY. *Land*, *12*(7). https://doi.org/10.3390/LAND12071403