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THE ARCHITECTURAL AND SOCIAL IMPACT OF MODERN LIBRARIES AS ELEMENTS OF THE PUBLIC SPACE

The article explores the architectural and social impact of modern libraries, going beyond their traditional function as knowledge repositories. Libraries are transforming into dynamic public spaces that facilitate social interaction. This research suggests a system of qualities associated with the concept of “placemaking” in architectural and urban research. The conducted content analysis of open data confirms the connection of this system with the spatial typology of modern library complexes, particularly their role as cultural and social centers.

Keywords: modern library; architectural impact; social interaction; urban identity; urban space.

Statement of the Problem Modern libraries have evolved beyond their traditional function as book repositories to become dynamic public spaces that integrate diverse activities and foster social interaction. Libraries today prioritize accessibility, comfort, and mixed-use functionality while also addressing environmental concerns such as noise management. These spaces serve as hubs for learning, community engagement, and cultural exchange, necessitating a reevaluation of their design and spatial qualities.

Beyond their interiors, modern libraries also extend their influence to outdoor spaces, creating areas for interaction, relaxation, and engagement with nature. Open-air reading zones, landscaped courtyards, and multifunctional plazas contribute to the overall library experience, blending architecture with the surrounding environment. These spaces facilitate both individual contemplation and collective social activities, reinforcing the role of libraries as urban gathering points. Libraries must also accommodate a growing digital culture, integrating technology and media-driven experiences into their architectural framework while maintaining the traditional

function of reading and studying. The adaptability of modern libraries ensures they remain valuable public institutions capable of meeting evolving societal needs.

Libraries are increasingly becoming multifunctional spaces that integrate cultural, educational, and commercial aspects. They serve as locations where different generations can interact, providing an inclusive environment for users from varied backgrounds. With the rise of remote work and online education, libraries have also adapted to serve as alternative workplaces, offering high-speed internet, private workspaces, and digital resources that cater to both students and professionals. The seamless integration of technology, user-focused amenities, and accessible design further highlights the necessity for libraries to constantly innovate to stay relevant in an increasingly digital world.

This article examines the architectural and social impact of modern libraries through four key qualities: Noise Management, Comfortability, Community Engagement, and Mixed-Use Development. By analyzing visitor reviews and research, it compares ten libraries' spatial and functional design. Additionally, it explores the role of outdoor recreational spaces and the growing emphasis on sustainability, highlighting efforts to reduce environmental impact through natural materials, renewable energy, and eco-friendly landscaping.

Literature Review. Some theoretical works on modern libraries describe important aspects that form the basis of this study. The transformation of libraries into multifunctional public spaces, incorporating both traditional and digital resources, has been explored by Johnson [1], O'Connell [2], and others, highlighting the importance of noise management and adaptive design in contemporary library architecture. The role of community engagement in shaping library environments has been examined by Taylor [3], Martinez [4], and Dawson [5], who emphasize how libraries act as social and cultural hubs by fostering public interaction through events, workshops, and open collaborative spaces.

Studies on library comfortability have been conducted by Richards [6], Hughes [7], and others, focusing on elements such as seating ergonomics, lighting, temperature control, and spatial organization, which significantly impact visitor experience and satisfaction. Research on mixed-use development in libraries has been undertaken by Sanders [8], McKinley [9], and Greene [10], who discuss the integration of co-working areas, exhibition zones, and leisure spaces, reflecting the growing trend of libraries as versatile public institutions.

The concept of placemaking in library architecture has been analyzed by Henderson [11], Edwards [12], and others, emphasizing how spatial design influences visitor perception, accessibility, and interaction with the built environment. Previous research closely related to this study includes works on library typology and spatial organization [13], shifts in library functions in the digital era [14], and design

strategies for future-proofing public libraries [15].

Recent studies confirm the increasing emphasis on experiential aspects of visitor interaction with modern libraries. The transition from traditional reading spaces to multifunctional communities and learning hubs has reinforced the necessity for adaptive, user-centered design strategies. However, a gap remains between studies addressing library placemaking principles and those focusing on architectural typology and spatial functionality. Bridging these perspectives is essential for the continued evolution of library spaces that effectively cater to diverse user needs.

The main goal of this research is to identify a system of key qualities that define the attractiveness and effectiveness of modern libraries, reflecting contemporary changes in their design and social function. This system aims to provide a framework for describing and differentiating the spatial and experiential characteristics of libraries based on visitor perceptions.

The following research tasks were established to achieve this goal:

1. Define a set of qualities that contribute to the appeal of modern libraries, focusing on Noise Management, Comfortability, Community Engagement, and Mixed-Use Development.

2. Assess whether this set of criteria effectively distinguishes different library typologies through content analysis of visitor reviews and research literature.

Discussion of Results. At the beginning of the 21st century, research on libraries has increasingly focused on the sensory and behavioral experience of visitors, examining how architectural space influences user interaction, comfort, and engagement [5]. This shift moves away from standardized design approaches, aligning with contemporary urban planning principles that prioritize adaptability, inclusivity, and sustainability in public spaces. Modern libraries are now seen as dynamic social landscapes, evolving beyond their traditional roles to accommodate a wide range of activities, from individual study to collaborative learning and community events [3].

A growing field of study explores the concept of spatial identity in libraries and how architectural and environmental qualities shape user perception and behavior [12]. This approach emphasizes the integration of physical space, user movement, and functional diversity to create an engaging library experience. Organizations such as the International Federation of Library Associations and Institutions (IFLA) outline key elements that contribute to a library's effectiveness, including accessibility, spatial flexibility, environmental comfort, and cultural relevance [11]. These principles reflect an increasing recognition of libraries as multi-purpose environments that serve educational, social, and recreational functions.

This evolving perspective underscores the importance of libraries as urban anchors, spaces that foster interaction between users and their surroundings [7]. The

interaction between architectural design and visitor behavior plays a significant role in shaping how libraries are experienced, reinforcing their position as integral components of city life. However, the concept of spatial experience in libraries requires further theoretical refinement to better understand how design elements influence user engagement [10]. The model proposed by Sanders in "The Meaning of the Built Environment" provides a useful foundation, identifying three primary dimensions of spatial perception: the physical form, patterns of activity, and the symbolic associations users attach to a space. Applying this model to library environments allows for a deeper analysis of how design choices impact visitor comfort, interaction, and long-term engagement with the space [8].

This idea was further refined and adapted by McKinley in the context of using the concept of "spatial experience" as a unit for describing how people perceive library environments, alongside the concept of "situated interaction" [9]. "Situated interaction" is an essential component in modeling the user experience, as it helps establish structured sequences of activities within the library space. The category of "spatial experience," in turn, defines the environmental and architectural aspects that shape these interactions.

Both spatial experience and situated interaction are examined through physical, functional, and symbolic dimensions, which determine how different qualities of a library environment are perceived [14]. In this context, spatial experience is particularly useful for describing libraries as multifunctional environments with strong architectural and social characteristics. Understanding what makes a library attractive and effective requires considering visitors' preferences and needs [4].

Analyzing public perception of library spaces demands an appropriate methodological tool – a classification system of qualitative environmental factors based on visitor feedback. Such a system provides a structured way to compare reviews and assess how different libraries perform in terms of Noise Management, Comfortability, Community Engagement, and Mixed-Use Development [6].

To this end, existing frameworks that classify user-centered characteristics of libraries were reviewed [15]. Some studies from the 1990s to–2020s emphasize the role of subjective and experiential factors, which have historically been overlooked. These factors, grouped into categories such as "ambiance," "engagement," and "functionality," describe how users emotionally and physically interact with library spaces [13]. A key finding from this body of research is the increasing role of recreational and collaborative areas in library planning, highlighting the transition of libraries from primarily book-centric spaces to interactive, experience-driven environments [9].

The broad and often overlapping nature of existing classification systems, particularly in their selection of evaluation parameters, along with their insufficient

focus on architectural and spatial properties in the perception of libraries as interactive environments, makes them inconsistent with the objectives of this study [7].

Therefore, it was necessary to establish a new framework for assessing the qualities of modern libraries, one that integrates both methodological tools for describing library spaces as key elements of urban life and their spatial typology within contemporary library design [12].

Several key qualities have influenced the evolution of modern libraries, primarily emphasizing physical comfort, spatial organization, the integration of diverse activities, and the overall sensory and aesthetic experience of the environment [5]. While the educational function of libraries has historically been paramount, the non-informational aspects of library space, such as social engagement, recreational opportunities, and architectural appeal, play an equally significant role in defining their contemporary function [3].

In modern mixed-use library spaces, these non-informational qualities contribute to a richer social and psychological experience, making visits more than just functional engagements with knowledge [6].

Researchers have long recognized the synergistic relationship between a library's primary role as an information hub and its secondary role as a community and recreational space, noting that this interplay enhances both visitor engagement and overall usability (Fig. 1) [11].

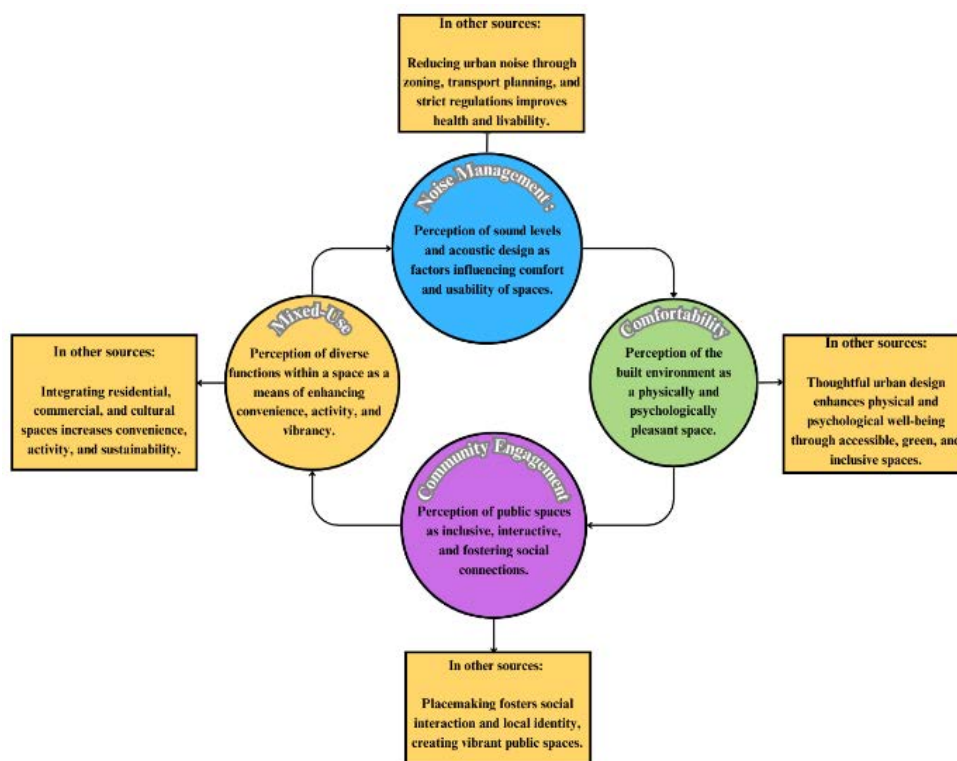


Fig. 1. Proposed classification of non-crucial qualities of Modern library complexes under four categories with analogues from other classifications

Aligned with the objectives of this study, a new classification system for analyzing modern library attractiveness was developed based on spatial perception theories [10].

This framework builds on the concepts outlined by Sanders [8], who identified three interrelated dimensions in the perception of built environments: physical attributes, user activities, and symbolic meanings. Accordingly, the following key qualities were distinguished in the study of modern libraries: "comfortability," "activation of communal and intellectual engagement," and "architectural and spatial articulation of the environment" [15].

Specifically, "spatial identity," which refers to the symbolic meaning users assign to spaces, corresponds to "architectural and spatial articulation" [10]. "Spatial dependency," which relates to functional use and social interaction, aligns with "activation of communal and intellectual engagement" [9].

Finally, "spatial attachment," which accounts for comfort and accessibility, is associated with "comfortability" [5].

Based on this classification, a content analysis was conducted. The study examined visitor reviews and academic evaluations of ten prominent modern libraries worldwide, complemented by five significant Moroccan libraries, to provide a diverse and geographically representative dataset. A total of 100 reviews per library were analyzed from academic sources, media articles, and publicly available user feedback, ensuring a comprehensive assessment of their Noise Management, Comfortability, Community Engagement, and Mixed-Use Development.

Selected International Libraries for Analysis.

Seattle Central Library (Seattle, USA) – Designed by Rem Koolhaas and OMA, this library is recognized for its radical spatial organization, multi-tiered design, and high-tech integration. The structure incorporates transparent façades to invite natural light while offering designated zones for both quiet study and collaborative work. The library's unique "Books Spiral" arranges materials in a continuous, flowing manner, reducing interruptions in research and reading sequences.

Vennesla Library and Culture House (Vennesla, Norway) – This Norwegian library is a model of architectural sustainability, featuring wave-like wooden ribs that form a seamless reading and gathering space. The integration of digital resources and social engagement areas makes it a benchmark for modern library design. Its highly accessible layout, combined with natural ventilation and acoustic planning, contributes to its reputation as a comfortable and community-friendly space.

Tianjin Binhai Library (Tianjin, China) – Known as the "Eye of Binhai", this futuristic library is famous for its undulating bookshelves and atrium resembling a giant eye. While its initial aesthetic appeal drew international attention, further analysis reveals challenges in functionality and accessibility. Some sections of the

shelves are non-functional facades, reducing the library's effectiveness in actual book lending, yet its mixed-use spaces for public gatherings support a high level of community engagement.

Bibliotheca Alexandrina (Alexandria, Egypt) – A modern revival of the legendary ancient Library of Alexandria, this facility integrates historical reverence with cutting-edge technology. The library includes a digital archive, museums, and research centers, making it a global center for knowledge exchange. Its reading halls are designed for noise management, using carefully spaced terraces and acoustic ceiling materials to minimize sound disruption.

Stuttgart City Library (Stuttgart, Germany) – Designed by Eun Young Yi, this minimalist, cube-shaped library is a study in geometric harmony and controlled acoustics. The central white void, flooded with natural light, creates a meditative reading environment. However, critiques point to its overly rigid aesthetic, which some visitors find impersonal despite its efficient organization of space for various user needs.

Sendai Mediatheque (Sendai, Japan) – A model of flexibility and transparency, this library by Toyo Ito reimagines library spaces as fluid, adaptable, and interactive. The lack of fixed partitions allows for reconfiguration, adapting to evolving user needs. Its emphasis on accessibility and open-plan quiet zones enhances its reputation as one of the most progressive library spaces in the world.

New York Public Library (New York, USA) – An iconic institution, the NYPL blends historical grandeur with contemporary functionality. The Rose Main Reading Room exemplifies comfort and quietness, while newer branches incorporate community programs, children's learning centers, and coworking areas. Its wide adoption of digital services and mixed-use spaces makes it a key reference point in modern library design.

Médiathèque de Biarritz (Biarritz, France) – A library that combines regional identity with contemporary aesthetics, emphasizing public accessibility and comfort. It features dedicated outdoor reading terraces, promoting integration with the natural environment. Visitor reviews highlight well-regulated noise control, making it a favorite for students and researchers.

Médiathèque Romain-Rolland (Villejuif, France) – A local-scale library that prioritizes intimate study areas and social interaction zones. Its compact yet effective zoning strategies create a balance between quiet reading spaces and interactive cultural events. Unlike large-scale libraries, this facility excels in community-driven programming.

Amsterdam Public Library (OBA, Netherlands) – A multifunctional library, OBA incorporates art installations, study lounges, performance areas, and a rooftop café. Its innovative layout, with sound-insulated reading zones alongside social

gathering areas, highlights the importance of mixed-use design in contemporary library models.

Selected Modern Libraries from Morocco for Comparative Analysis.

National Library of the Kingdom of Morocco (Rabat, Morocco) – One of the most significant libraries in North Africa, this facility integrates archival research, public reading rooms, and exhibition spaces. Reviews praise its climate-controlled environments, which maintain comfortable reading conditions year-round.

Bibliothèque Universitaire Mohamed Sekkat (Casablanca, Morocco) – Known for its student-centered design, this university library incorporates both quiet study halls and group collaboration rooms, offering an optimal balance of noise management.

Bibliothèque de l'Institut Français de Marrakech (Marrakech, Morocco) – A culturally significant library, blending French and Moroccan literary traditions. Visitors appreciate its well-curated multilingual collections and interactive spaces designed for literary discussions and public engagement.

Médiathèque de Tanger (Tangier, Morocco) – This modern multimedia library emphasizes digital accessibility and technological integration. It features recording studios, interactive exhibition spaces, and high-speed digital resources, making it a benchmark for contemporary mixed-use libraries.

Bibliothèque Ibn Youssef (Marrakech, Morocco) – A historically rich library that has been modernized to meet contemporary needs, offering dedicated research archives, climate-controlled reading rooms, and a tranquil garden courtyard for outdoor reading.

The methodology of this analysis mirrors that of the previous study [14]. Reviews were assessed by the frequency of mentions corresponding to one of the four key qualities: Noise Management, Comfortability, Community Engagement, or Mixed-Use Development [6].

An additional comparative indicator was introduced to evaluate how libraries perform concerning their historical or cultural significance, providing a broader understanding of their role in the contemporary urban landscape [3]. The statistical reliability of the content analysis results was verified using the split-half reliability method. The calculated Pearson correlation coefficient for the review analysis across all libraries was 0.9351 on average, with the lowest recorded value being 0.9024, which remains within the acceptable threshold (above 0.7), confirming the consistency and reliability of the results.

The classification method for content analysis was determined based on the study's core hypothesis – that the selected categories of Noise Management, Comfortability, Community Engagement, and Mixed-Use Development would significantly contribute to differentiating library typologies. Therefore, the most

critical factor in interpreting the results is the connection between visitor perception of library qualities and the spatial and functional design of the libraries analyzed.

A comparative analysis across all libraries reveals that basic functional attributes (access to books, digital resources, and research materials) account for 31.42% to 45.89% of total mentions in visitor reviews.

However, two notable exceptions exist.

Tianjin Binhai Library has a lower percentage (27.61%), as visitors often focus on its architectural spectacle rather than its functional efficiency. New York Public Library has a higher percentage (47.93%), likely due to its historical significance and emphasis on academic research facilities, as revealed in a semantic analysis of user feedback. Accordingly, 54% to 69% of visitor reviews focus on additional experiential qualities that enhance the library beyond its core function as a knowledge hub.

This trend was observed in 14 of the 15 analyzed cases, reinforcing the growing expectation that libraries provide more than just books—they must also be engaging, comfortable, and interactive spaces. The breakdown of reviews into Noise Management, Comfortability, Community Engagement, and Mixed-Use Development exhibits a greater degree of variation than the basic functional category, highlighting how differently libraries are perceived in these aspects.

Noise Management: Mentions range from 9.57% to 30.88%, excluding two outliers.

Comfortability: Values fluctuate between 10.23% and 33.27%, discarding extreme cases.

Community Engagement: Percentages vary from 13.42% to 34.61%, showing the most significant range.

Mixed-Use Development: Differences in mentions lie between 8.72% and 29.98%, excluding the two highest and lowest values.

Thus, the range of variation in basic functional reviews is 14.47%, while the differences in perception for Noise Management, Comfortability, Community Engagement, and Mixed-Use Development are significantly wider: 21.31%, 23.04%, 21.19%, and 21.26%, respectively. This suggests that visitors differentiate libraries much more strongly based on their experiential qualities rather than their core functionality.

A relatively consistent pattern is observed in libraries with similar spatial configurations, yet notable differences emerge due to architectural choices, spatial layouts, and user-focused innovations. The fact that 54-69% of reviews focus on experiential qualities underscores the importance of library design as an active contributor to visitor satisfaction rather than merely a backdrop for accessing information. These findings indicate that a library's perceived success is closely tied

to its spatial organization and user experience design, making architectural and functional planning critical elements in shaping its identity and impact.

The observed distribution of visitor preferences for each category was analyzed to identify common patterns among libraries with similar spatial, functional, and social characteristics. By comparing the review data across all 15 libraries, distinct trends emerged, confirming that different types of libraries prioritize Noise Management, Comfortability, Community Engagement, or Mixed-Use Development to varying degrees.

To visualize these trends, leaf diagrams of the review distribution were created for each library. These diagrams reveal patterns that support the hypothesis that specific experiential qualities define the architectural and functional identity of different library types.

1. The Contemplative Libraries (Focus on Noise Management). Libraries in this category prioritize acoustic control, zoning strategies, and spatial layouts that ensure optimal noise management. They are primarily used for individual study and research, and visitor feedback often highlights soundproofing measures, dedicated quiet zones, and effective noise regulation.

Stuttgart City Library (Germany) – Recognized for its central void, layered reading spaces, and strict noise regulations, creating a meditative study environment.

National Library of the Kingdom of Morocco (Rabat, Morocco) – A library with an emphasis on controlled soundscapes, ensuring a focused and tranquil research atmosphere.

Bibliothèque Ibn Youssef (Marrakech, Morocco) – Combines historical ambiance with noise reduction strategies, creating an ideal space for academic research. These libraries are characterized by a high percentage of reviews on Noise Management (above 25%), demonstrating the importance of acoustic control in their design.

2. Comfort-Centered Libraries (Focus on Comfortability). These libraries are designed for extended stays, integrating ergonomic seating, optimized lighting, thermal comfort, and inviting reading spaces. Visitors frequently highlight interior warmth, accessibility, and user-friendly spatial layouts.

Vennesla Library and Culture House (Norway) – Features a seamless wooden interior, maximizing thermal and seating comfort for long study sessions.

Médiathèque Romain-Rolland (France) – A compact library with thoughtful seating arrangements and efficient climate control, ensuring visitor comfort.

Bibliothèque Universitaire Mohamed Sekkat (Casablanca, Morocco) – Known for student-friendly reading halls, well-lit interiors, and ergonomic study stations.

Bibliothèque de l'Institut Français de Marrakech (Morocco) – Merges French and Moroccan design elements, offering calm and inviting study zones. These

libraries received Comfortability mentions between 27% and 33%, indicating strong visitor preference for user-centered design

3. The Social Hubs (Focus on Community Engagement)

Libraries in this category function as vibrant cultural and social hubs, hosting community events, lectures, art exhibitions, and interactive programs. They serve broad demographics, encouraging active participation in cultural and intellectual activities.

New York Public Library (USA) – A globally recognized institution that blends historical richness with modern social programming, attracting diverse audiences.

Seattle Central Library (USA) – Features open-plan interiors, interactive zones, and community-driven initiatives to enhance public participation.

Tianjin Binhai Library (China) – A visually striking space designed for public interaction, cultural showcases, and social engagement beyond its book collection.

Médiathèque de Tanger (Morocco) – Focuses on literary discussions, multimedia experiences, and cultural collaborations, promoting active visitor involvement. Libraries in this category received Community Engagement mentions exceeding 25%, reinforcing their role as civic and cultural anchors.

4. The Hybrid Knowledge Centers (Focus on Mixed-Use Development)

These libraries redefine traditional library functions, integrating cafés, coworking spaces, digital media zones, and outdoor reading areas. They blend informal learning, cultural interaction, and leisure activities into a single multi-purpose environment.

Sendai Mediatheque (Japan) – A flexible, interactive space with exhibition areas, media zones, and digital labs, encouraging creative exploration.

Bibliotheca Alexandrina (Egypt) – A multi-functional research and cultural center, integrating lecture halls, museum spaces, and multimedia rooms.

Amsterdam Public Library (Netherlands) – Designed for blended usage, incorporating cafés, performance areas, and public lounges.

Médiathèque de Biarritz (France) – A modern space that combines regional heritage with open-air reading terraces and community-driven activities. With Mixed-Use Development mentioned between 19% and 25%, these libraries redefine how public institutions engage with modern audiences.

It is worth noting that for the Comfortability category, the lack of quality leads to negative reviews and results in greater attention to this category. Visitors who feel uncomfortable due to poor seating, inadequate lighting, or insufficient climate control are more likely to explicitly mention these aspects in their feedback. In contrast, in other categories, such as Community Engagement or Mixed-Use Development, the absence of certain features tends to result in fewer positive mentions rather than outright complaints. This suggests that Comfortability is perceived as a baseline

necessity, while qualities related to engagement and mixed-use spaces are viewed as enhancements rather than essential features.

This trend supports the idea of a hierarchy of visitor expectations in modern library environments, akin to Maslow's hierarchy of needs in human psychology. Noise Management [1] and Comfortability form the foundation, ensuring that libraries meet fundamental user needs. Once these conditions are met, visitors begin to evaluate higher-level experiential qualities, such as opportunities for social interaction and the integration of multi-functional spaces. Libraries that fail to provide basic comfort often receive higher levels of criticism, whereas those that lack community-oriented spaces or multifunctional areas may still be positively reviewed for their primary function [2].

However, Community Engagement and Mixed-Use Development do not display a strict hierarchical relationship that places one above the other. Libraries with highly developed social programming but minimal mixed-use spaces can still be perceived positively, as seen in cases such as the New York Public Library and Seattle Central Library. Conversely, libraries that emphasize multi-functionality and leisure spaces, like Sendai Mediatheque and Bibliotheca Alexandrina, may still receive praise despite offering fewer structured community events. This suggests that the relative importance of social interaction versus spatial flexibility is shaped by local cultural expectations and the library's role within its urban setting rather than a universal ranking of qualities.

Issues related to Comfortability tend to stand out more in visitor feedback because they are immediately noticeable and affect every visitor, regardless of how they use the library. In contrast, problems related to Community Engagement and Mixed-Use Development are only perceived as missed opportunities rather than direct failures. For example, a library with poor seating or excessive noise will generate negative reviews, but a library that lacks interactive spaces or cultural programming might simply receive fewer mentions in these areas rather than direct criticism. This suggests that while Comfortability is a fundamental expectation, other qualities serve as differentiators that enhance visitor satisfaction rather than dictate it.

The findings indicate that visitor expectations shape how different categories influence overall perceptions of libraries. Users who visit Contemplative Libraries primarily for study and research expect Noise Management to be optimal and will critique any deviation from this standard. Meanwhile, visitors engaging with Social Hubs value community interaction, and their reviews focus on event programming, public accessibility, and interactive learning spaces. Similarly, Hybrid Knowledge Centers attract users with a wide range of expectations, resulting in diverse review patterns that reflect the balance of comfort, engagement, and multi-functionality.

These results suggest that while all four qualities contribute to the attractiveness

of modern libraries, their importance varies depending on the library's design and primary function. Libraries that effectively address their dominant quality while maintaining baseline levels of comfort and noise control tend to receive the most positive reviews, reinforcing the idea that modern libraries must be designed with a clear understanding of visitor priorities and spatial typology.

Conclusions. The following conclusions were formulated as a result of the research:

1. The experiential qualities of modern libraries play a crucial role in shaping visitor perception, reinforcing their function as dynamic public spaces. In light of contemporary shifts in library design, Noise Management, Comfortability, Community Engagement, and Mixed-Use Development emerge as key factors influencing visitor satisfaction. These qualities extend beyond traditional library functions, positioning libraries as multifunctional spaces that support diverse user needs. However, existing classification systems for library attractiveness often overlook spatial and architectural properties, necessitating a more refined framework for evaluating modern libraries.

2. This study proposed a new classification of modern library qualities based on three fundamental aspects of human perception: spatial characteristics, user interaction, and assigned meaning. Building on established theories of place perception, the identified categories were adapted into four key qualities:

- Noise Management – The effectiveness of acoustic control, zoning strategies, and spatial layout in minimizing disruptions.

- Comfortability – Integrating ergonomic design, lighting, temperature control, and seating to create a welcoming environment.

- Community Engagement – The role of events, cultural programs, and interactive spaces in fostering public participation.

- Mixed-Use Development – The incorporation of co-working areas, exhibition zones, and leisure spaces to enhance multi-functionality.

3. A content analysis of visitor feedback from 15 modern libraries across different geographic and cultural contexts was conducted to test this classification system. The libraries selected represent a diverse range of architectural styles, spatial configurations, and functional priorities. The results indicate clear patterns in the distribution of qualities, reinforcing the hypothesis that visitor perception aligns with the architectural and operational focus of each library type.

Contemplative Libraries (e.g., Stuttgart City Library, National Library of Morocco) prioritize Noise Management, ensuring an optimal environment for study and research. Comfort-Centered Libraries (e.g., Vennesla Library, Bibliothèque Universitaire Mohamed Sekkat) emphasize ergonomic design and user comfort, making them ideal for prolonged visits. Social Hubs (e.g., New York Public Library,

Tianjin Binhai Library) focus on community interaction, integrating public programming and cultural engagement. Hybrid Knowledge Centers (e.g., Sendai Mediatheque, Bibliotheca Alexandrina) blend traditional library functions with multi-use spaces, offering versatile learning and social environments.

4. The findings reveal that while all four experiential qualities contribute to library success, their relative importance depends on the library's typology and user expectations. Comfortability appears to be a baseline requirement, where its absence generates negative reviews, while other qualities enhance visitor perception but do not necessarily result in criticism if lacking. This reinforces the idea that modern libraries must be designed with a clear understanding of user priorities, balancing functional efficiency with experiential enrichment.

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АРХІТЕКТУРНИЙ І СОЦІАЛЬНИЙ ВПЛИВ СУЧАСНИХ БІБЛІОТЕК ЯК ЕЛЕМЕНТІВ ГРОМАДСЬКОГО ПРОСТОРУ

Досліджується архітектурний та емпіричний вплив сучасних бібліотек, визначається вплив шуму на формування комфортних умов у сучасних бібліотеках як елементах громадського простору, що обумовлює залучення спільноти та формування багатофункціонального простору. Оскільки бібліотеки виходять за рамки своїх традиційних ролей, вони повинні

поєднувати функціональну ефективність із динамічним залученням громадськості, щоб залишатися актуальними у сучасному міському середовищі.

Дослідження запровадило класифікацію щодо привабливості бібліотек, що дозволяє розрізняти бібліотеки відповідно до їхньої домінуючої емпіричної якості. Контент-аналіз відгуків відвідувачів з 15 сучасних бібліотек виявив чіткі тенденції в очікуваннях користувачів, підкріплюючи гіпотезу про те, що просторовий і функціональний дизайн по-різному впливає на задоволеність відвідувачів залежно від типології бібліотеки.

Висновки підкреслюють, що комфортність є базовою вимогою, де недоліки призводять до негативних відгуків, тоді як залучення спільноти та багатофункціональний розвиток служать відмінними рисами, які покращують досвід відвідувачів. Бібліотеки, які направляють зусилля на боротьбу з шумом, такі як Штутгартська міська бібліотека, головний пріоритет надають тихим навчальним середовищам, тоді як ті, що розроблені як соціальні центри, як-от Публічна бібліотека Нью-Йорка, зосереджені на взаємодії з громадськістю і культурним програмуванням.

Ці ідеї підкреслюють важливість архітектурної адаптивності у дизайні бібліотеки, демонструючи, що добре збалансоване поєднання функціональних і емпіричних якостей є важливим для створення ефективних, орієнтованих на користувача громадських просторів.

Ключові слова: сучасні бібліотеки; архітектурне середовище; дизайн бібліотеки; залучення громадськості; громадський простір

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