Subhasingha H.D. and Disaratna P.A.P.V.D.S., 2026. Integration of post occupancy evaluation into government office buildings to enhance user satisfaction. In: Waidyasekara, K.G.A.S., Jayasena, H.S., Chandanie, H. and Tennakoon, G.A. (eds). *Proceedings of the 14th World Construction Symposium*, 10-11 July 2026, Sri Lanka. pp. 993-1007. DOI: https://doi.org/10.31705/WCS.2026.73. Available from: https://ciobwcs.com/papers/

INTEGRATION OF POST OCCUPANCY EVALUATION INTO GOVERNMENT OFFICE BUILDINGS TO ENHANCE USER SATISFACTION

H.D. Subhasingha[1] and P.A.P.V.D.S. Disaratna[2]

ABSTRACT

Shortcomings in project delivery in government office buildings lead to occupant dissatisfaction. Post Occupancy Evaluation (POE) presents a valuable yet underutilised approach in government office buildings, especially in developing countries. Therefore, this research aims to investigate the integration of POE into government office buildings to enhance user satisfaction in Sri Lanka. Qualitative research choice was adopted, comprising a phase of semi-structured interviews with 16 experts from the industry. Empirical data were analysed using manual content analysis. The findings indicate that user satisfaction in Sri Lankan government office buildings is influenced by a context-specific combination of factors, with thermal comfort remaining consistently important while accessibility and building design emerged as particularly relevant considerations affecting the user satisfaction of government office buildings. The findings provide practical, context-sensitive guidance for developing countries to enhance the performance and user satisfaction of government office buildings, supporting more informed, evidence-based design and management decisions.

Keywords: *Government office building; POE; Sri Lanka.*

1. INTRODUCTION

People spend a substantial proportion of their daily lives indoors, with studies indicating that individuals remain within enclosed environments for nearly 90% of their time (Mannan & Al-Ghamdi, 2021). The extended duration of building occupancy demonstrates that building performance functions as a fundamental element which determines occupant health and comfort and their complete life experience (González-Lezcano, 2023). Building conditions and operational efficiency determine health outcomes as well-designed spaces promote well-being while poorly functioning areas create discomfort which leads to reduced satisfaction and decreased productivity and negative effects on user experience (Fissore et al., 2023; Zhang et al., 2022). Specifically, office employees spend one-third of their waking hours within office environments and consequently, occupant satisfaction in these spaces is a key factor influencing productivity, job performance, and overall workplace experience (Quevedo et al., 2025).

[1] Temporary Instructor, Department of Building Economics, University of Moratuwa, Sri Lanka, himashasubasinghe3@gmail.com
[2] Senior Lecturer, Department of Building Economics, University of Moratuwa, Sri Lanka, vijithad@uom.lk

The immediate surroundings of office workers have a measurable impact on cognitive function and task performance (Zhang et al., 2022). Beyond short-term effects, studies suggest that prolonged exposure to suboptimal building conditions can contribute to chronic health challenges, reinforcing the role of quality of the building as a fundamental determinant of both occupant well-being and long-term organizational success (Zhang et al., 2022). In comparative assessments, private offices generally demonstrate superior quality and maintenance standards, while government offices are frequently associated with lower levels of upkeep and overall condition (Zhao et al., 2024).

With regards to Sri Lanka, particularly the government buildings in Sri Lanka are confronted with issues relating to inadequate interior design, poor management, and maintenance practices (Subhasingha et al., 2026). Furthermore, the Sick Building Syndrome has been identified as a common concern in office buildings in Sri Lanka (Subhasingha et al., 2025). Several barriers hinder the resolution of issues pertaining to the government buildings, where lack of and knowledge poses as a major setback (Subhasingha et al., 2026).

As an intervention, the feedback provided by the occupants of a building is a crucial source of information to enable the technical and structural functions to be tailored to the well-being of end users (Lolli et al., 2022). The construction industry benefits from multiple feedback mechanisms such as construction company feedback forms, customer relationship management software, Building Information Modelling software, and inspection and reporting software (Cusumano et al., 2024; Ford & Gosling, 2024; Lin et al., 2016; Venturini & Benito, 2015). Among these mechanisms, POE stands out as a prominent feedback technique with the ability to gather effective and comprehensive feedback from the occupants (Preiser, 2002). This thorough assessment involves a multifaceted analysis, which provides information on gaps between anticipated design performance and actual performance in operation, especially with respect to occupant comfort and functional utility (Zhao et al., 2024).

Globally, POE has gained significant awareness as an assessment tool for building user satisfaction (Albuainain et al., 2021), while in Sri Lanka, very few studies have been undertaken regarding POE. Particularly in government office buildings, existing research mainly evaluates building performance in terms of technical efficiency, energy use, or physical conditions, while insufficient emphasis has been placed on how POE can be integrated as a continuous management tool to enhance user satisfaction among public-sector office occupants. Notably, the occupant experiences vary across different countries, reflecting contrasts in context, culture, and building practices, which necessitate a context-specific investigation (Ruth et al., 2025). Therefore, this study aims to investigate the integration of POE into government office buildings to enhance user satisfaction in Sri Lanka. In attending to this aim, the following objectives are put forward to 1. identify the factors affecting user satisfaction in government office buildings in Sri Lanka, 2. identify the benefits of POE in government office buildings in Sri Lanka, and to 3. investigate how to adopt the benefits of POE in government office buildings to enhance user satisfaction in Sri Lanka. Hereinafter, the paper comprises a comprehensive literature review, research methodology section, findings, discussions, followed by conclusions and recommendations.

2. LITERATURE REVIEW

2.1 FACTORS AFFECTING USER SATISFACTION IN GOVERNMENT OFFICE BUILDINGS

Public offices play an effective and fundamental role in any country since they pursue the national values of serving the citizens and residents in the country (Albuainain et al., 2021; Pirabath et al., 2019). Nevertheless, several researchers observed significant differences in job satisfaction, productivity, performance, behaviour, motives, and commitment between employees in public offices compared to private offices (Albuainain et al., 2021). Recent occupant-centred research has further expanded the understanding of user satisfaction beyond traditional indoor environmental quality indicators. Candido et al. (2018) argue that occupant experience should be viewed as a multidimensional concept incorporating workplace functionality, perceived productivity, health, well-being, and organisational performance. According to Wijaya et al. (2020) it had appeared that, in many countries the condition and maintenance of government office buildings have been unsatisfactory with various issues arising which can impact the performance of buildings and user satisfaction (Dahal & Dahal, 2020). Moreover, researchers have highlighted that inadequate maintenance leads to the deterioration of building interior, which in turn degrades the quality of indoor environments experienced by occupants (Li, 2025). Such deterioration can negatively influence occupants' comfort, perceptions of the workplace, and overall satisfaction with the building environment (Kadhim & Altaie, 2023). Therefore, improving maintenance practices in government buildings is essential not only for effective building management but also for enhancing occupant satisfaction and the overall workplace experience (Albuainain et al., 2021). User satisfaction and building performance are closely linked, with several key factors influencing both aspects (Pestana et al., 2021). Moreover, Khalil and Nawawi (2009) reported that past studies demonstrate a strong correlation of 74% between performance criteria and occupant satisfaction in public buildings. Numerous studies have identified a plethora of factors which affects user satisfaction in a building space. Accordingly, thermal comfort, spatial comfort, Indoor Air Quality (IAQ), building design and fenestration appear as the most cited factors out of the 16 identified factors (Bengi & Toprakli, 2020; Frontczak & Wargocki, 2011; Halicioglu et al., 2023; Mindeel et al., 2024; Pestana et al., 2021). Moreover, visual comfort, acoustic comfort, hygiene, and lighting comfort remain moderately cited factors (Davoodi et al., 2020; Li et al., 2018; Pirabath et al., 2019; Wargocki et al., 2012). However, accessibility, building aesthetics, and outdoor climate variations emerge as the least cited factors which affect user satisfaction (Norazman et al., 2023; Preiser, 2002).

Although thermal comfort, IAQ, and spatial comfort are consistently identified as dominant determinants of occupant satisfaction in office buildings (Frontczak & Wargocki, 2011; Pestana et al., 2021; Mindeel et al., 2024), there is no clear consensus regarding the relative importance of these factors across different building contexts. Studies conducted in developed countries often emphasise indoor environmental quality indicators such as thermal comfort, air quality, and energy performance as primary determinants of occupant satisfaction (Frontczak & Wargocki, 2011; Li et al., 2018; Zhao et al., 2024). In contrast, research undertaken in developing countries has highlighted the influence of building condition, maintenance practices, and operational challenges on user satisfaction (Albuainain et al., 2021; Dahal & Dahal, 2020). Furthermore, relatively

limited attention has been paid to accessibility and inclusivity within government office buildings despite their importance in accommodating diverse user groups and ensuring equitable access to public services (Pirabath et al., 2019; Norazman et al., 2023). These variations suggest that factors affecting user satisfaction are highly context-dependent and cannot be universally generalised, thereby necessitating investigation within the Sri Lankan government office building sector.

2.2 POE AND ITS BENEFITS

Preiser (2002) defined, "post-occupancy evaluation is the process of evaluating buildings systematically and rigorously after they have been built and occupied for some time." POE directly assesses the factors influencing user satisfaction to investigate the relationship between occupants' comfort and well-being and the building's performance (Kasi & Kaliluthin, 2024) utilising both subjective approaches, such as occupant surveys, interviews, expert walkthroughs, and objective physical measurements, including on-site assessments (Hamida & Hassanain, 2020; Lolli et al., 2022). Hence POE delivers numerous benefits to achieve a comprehensive understanding of the user satisfaction and building performance (Bae & Martin, 2023). Research indicates that POE primarily facilitates innovation by identifying and replacing dysfunctional building features while providing a robust feedback loop for iterative design improvement (Aliyu et al., 2016; Bengi & Toprakli, 2020; Preiser, 2002). By generating empirical data to support behavioural adjustments and optimizing life-cycle performance, these evaluations refine pre-design programming and minimize the recurrence of design errors (Hadjri & Crozier, 2009). Furthermore, POE serves as a strategic organizational tool that reduces long-term operating costs, streamlines resource allocation, and informs the development of rigorous design standards and policy frameworks (Aliyu et al., 2016). It also acts as a communicative bridge between stakeholders, ensuring building quality is monitored against established benchmarks (Li et al., 2018). Ultimately, by identifying emerging user needs and enhancing occupant satisfaction through participatory evaluation, POE effectively balances budgetary constraints with owner requirements to maximize space utilization and design quality (Roberts & Edwards, 2022).

The successful integration of POE is contingent upon several enablers including organizational, technical, and managerial enablers. Strong management support is essential for allocating resources, setting up evaluation policies, and ensuring POE findings are employed within facility management practices, as the absence of institutional commitment results in the underutilisation of POE outcomes (Murguía et al., 2020). Furthermore, stakeholder engagement is another critical enabler facilitating the active participation of several key stakeholders throughout the evaluation process to improve the reliability of the outcomes (Preiser, 1995). Alongside these, having access to precise data collection techniques allows for systematic data collection and analysis to conduct effective POEs (Uşma & Ölçer, 2024). Moreover, the organisation culture, communication networks, and knowledge sharing platforms act as enabling mechanisms that support the successful application of POE recommendations (Rane et al., 2023).

Despite the widely acknowledged benefits of POE, its practical implementation remains limited in many developing countries. Consequently, a disconnection exists between the theoretical value of POE and its practical application. While the literature extensively discusses the benefits of POE, comparatively few studies have examined how these benefits can be operationalised to address specific user satisfaction issues within

government office buildings. This gap highlights the need for research that moves beyond identifying POE benefits towards understanding how they can be translated into practical interventions.

2.3 IMPORTANCE OF USING POE TO ENHANCE USER SATISFACTION IN DEVELOPING COUNTRIES

POE has become well-regarded as a strategy for increasing occupant satisfaction by systematically understanding how well their building is meeting their needs (Li et al., 2018). Candido et al. (2018) highlights that effective workplace assessment should capture users' experiences, perceptions, and behavioural responses rather than relying solely on technical performance indicators. By addressing occupant perceptions, POE provides a transparent account of occupants' experience living or working in a building (Aliyu et al., 2016). This feedback assists industry stakeholders in recognising the gap between designed performance and actual user experience, leading to sustained and actionable upgrades that enhance comfort, productivity, and well-being (Hamida & Hassanain, 2020). Recent studies have noted that incorporating POE feedback improves user satisfaction and contributes to sustainability by reducing rework and operational inefficiency by incorporating POE feedback into future design and management strategies (Lolli et al., 2022). In developed nations, POE has become an institutionalised practice, representing common means to collect user feedback, assess building performance, and inform policy development (Preiser, 2002). The formal use of POE within those contexts has led to incremental improvements in the quality of design, user satisfaction, and sustainability benefits (Li et al., 2018). In contrast, many developing countries have limited POE adoption and have yet to realise its full potential, mainly due to a lack of awareness, technical expertise, and financial resources restricting its wider implementation (Roberts & Edwards, 2022). In addition, scholars have noted that developing countries still struggle to systematically understand user feedback and develop and learn from the experience of POE (Aliyu et al., 2016). Consequently, buildings in these regions are often delivered without a structured evaluation of their effectiveness in meeting user needs, cultural relevance, or long-term sustainability (Albuainain et al., 2021).

Recent POE studies have increasingly emphasised occupant-centred approaches, sustainability performance, and evidence-based facility management. Nevertheless, most studies examine either factors affecting user satisfaction or the benefits of POE in isolation. Limited research has investigated the relationship between these two dimensions, particularly within government office buildings in developing countries. Furthermore, the Sri Lankan context remains underexplored despite the unique climatic, organisational, and operational characteristics of government facilities. Therefore, a knowledge gap exists regarding how POE benefits can be systematically utilised to address user satisfaction factors and improve building performance in Sri Lankan government office buildings.

3. METHODOLOGY

This study adopted the qualitative research choice due to the exploratory nature of the study and the need to obtain in-depth insights into the relationships between user satisfaction factors and POE enablers (Yin, 2018). In this research, the qualitative approach enabled the exploration of professional perspectives on the relevance of factors

identified through the literature and facilitated a deeper understanding of how POE enablers could be linked to these factors within the context of Sri Lankan government office buildings. Semi-structured interviews were employed as the primary data collection method, as this format allows researchers to follow a set of guiding questions while maintaining flexibility to probe deeper into participants' responses and capture detailed expert insights (Kallio et al., 2016). Following the arguments of Campbell et al. (2020), purposive sampling was used to select participants deliberately for the interview phases to ensure that respondents possessed the required expertise and contextual knowledge. Participants were required to have more than ten years of industry experience, and more than three years of experience POE to ensure an informed understanding of the context of Sri Lankan government office buildings as revealed in Table 1. The interview guide was developed based on the literature review and structured around the three research objectives. The first set of questions focused on validating and refining factors affecting user satisfaction in government office buildings identified from the literature. The second set explored the applicability and significance of POE benefits within the Sri Lankan government office context. The final set examined how POE benefits could be utilised to address user satisfaction issues and improve building performance. Open-ended questions were employed to encourage participants to elaborate on their professional experiences and provide context-specific insights. The data obtained from the interviews were subsequently analysed using manual content analysis, which enabled the systematic identification, categorisation, and interpretation of recurring themes and relationships within the collected qualitative data (Castro et al., 2020). The analysis was undertaken in three stages. First, factors affecting user satisfaction and POE benefits identified through the literature review were used as preliminary coding categories. Second, interview transcripts were manually coded to identify statements confirming, modifying, merging, or introducing new factors and benefits. Third, cross-case comparisons were conducted across the 16 interviews to identify recurring patterns and establish relationships between user satisfaction factors and POE benefits. Factors repeatedly endorsed by participants were retained, while overlapping factors were consolidated into broader categories. New themes emerging from the interviews, such as safety, building amenities, benchmarking, and adaptation to local work culture, were incorporated into the final output. The resulting thematic structure was then used to develop the linkage matrix presented in Table 3. Through this process, the factors affecting user satisfaction and the benefits of POE were further refined and the potential linkages between these elements were established.

Table 1: Expert selection criteria

Expert ID	Designation	Experience in the Built Environment		Experience in POE	Educational Qualifications in the Built Environment		Professional Qualifications in the Built Environment
		10-20 years	> 20 years	> 3 years	BSc	Postgraduate	
I1	Managing Director		✓	✓	✓	✓	✓
I2	Architect		✓	✓	✓	✓	✓
I3	Planning Engineer		✓	✓	✓	✓	✓

Expert ID	Designation	Experience in the Built Environment		Experience in POE	Educational Qualifications in the Built Environment		Professional Qualifications in the Built Environment
		10-20 years	> 20 years	> 3 years	BSc	Postgraduate	
I4	Maintenance Engineer	✓		✓	✓		✓
I5	Senior Cost Manager		✓	✓	✓		✓
I6	Facilities Manager		✓	✓	✓	✓	
I7	Architect		✓	✓	✓		
I8	Facilities Manager		✓	✓	✓	✓	
I9	Professor		✓	✓	✓	✓	
I10	Facilities Manager	✓		✓	✓	✓	
I11	Senior Architect	✓		✓	✓		✓
I12	Senior Quantity Surveyor		✓	✓	✓		✓
I13	Senior Lecturer	✓		✓	✓	✓	✓
I14	Project Manager	✓		✓	✓		✓
I15	Project Manager	✓		✓	✓		
I16	Civil Engineer	✓		✓	✓	✓	✓

4. ANALYSIS AND FINDINGS

4.1 IMPORTANT FACTORS AFFECTING USER SATISFACTION IN GOVERNMENT OFFICE BUILDINGS IN SRI LANKA

In total, 16 factors affecting user satisfaction in office buildings were identified through the literature review. During the expert interviews, the list of factors was further refined to 13 factors to better reflect its relevance to Sri Lankan government office buildings, particularly within a tropical climate context. The outcomes of this interview phase are presented in Table 2. The content analysis generated three overarching themes: Indoor Environmental Quality, Functional and Spatial Performance, and User-Centred Building Design. Within these themes, thirteen categories representing factors affecting user satisfaction were identified. Table 2 presents the refined categories derived from the coding process. Thermal comfort emerged as the most crucial factor, with all respondents emphasizing its importance in Sri Lanka's tropical climate, particularly in densely occupied government buildings where discomfort is immediately noticeable. Equally,

visual comfort and acoustic comfort were identified as other related parameters attached to productivity. IAQ was another unanimously important factor, with respondents linking it directly to health outcomes and work performance. Moreover, accessibility was identified as a critical requirement to the public government buildings, making it both an ethical and legal obligation to accommodate diverse users, including individuals with disabilities. Additionally, building design and ergonomics were emphasized for their importance in ensuring space efficiency and supporting worker health, as poor design can hinder workflow while inadequate ergonomic conditions may lead to long-term physical issues among employees. Expert interviews facilitated the refinement of factors identified in the literature through the elimination, consolidation, and reclassification of several elements. Outdoor climate variations and fenestration were considered less significant when adequate thermal comfort is maintained, while lighting comfort was combined with visual comfort. The study used technical parameters to create broader thermal comfort categories instead of using them as separate elements. The interviews discovered safety measures and building amenities as practical needs, which previous studies did not extensively cover, highlighting user-centred aspects often overlooked in theoretical frameworks.

Table 2: Factors affecting user satisfaction

Factors Identified from the Literature Review	Refined Factors after Expert Interviews
Thermal Comfort	Thermal Comfort
Radiant Temperature Asymmetry	
Thermal Zone Size	
Visual Comfort	Visual Comfort
Lighting Comfort	
Acoustic Comfort	Acoustic Comfort
IAQ	IAQ
Accessibility	Accessibility
Building Design	Building Design
Furniture Ergonomics	Furniture Ergonomics
Privacy	Privacy
Spatial Comfort	Spatial Comfort
Building Aesthetic	Building Aesthetic
Hygiene	Indoor Hygiene
Fenestration	Safety
Outdoor Climate and Seasonal Changes	Building Ergonomics

4.2 BENEFITS OF POE IN GOVERNMENT OFFICE BUILDINGS IN SRI LANKA

The literature review revealed multiple benefits in the application of POE in building management. Strikingly, all experts interviewed confirmed the applicability of these enablers to government office buildings in Sri Lanka as depicted in Table 3. The agreement found among professionals with academic and industry bent provides an added value to the universal importance in the application of POE in this context. The findings

underscore the role of POE as a critical mechanism for continuous improvement, with respondents emphasizing its function in providing an evidence-based foundation for operational adjustments that enhance building performance. Furthermore, POE was identified as instrumental in informing future design practices by enabling designers to avoid recurring shortcomings, thereby supporting the development of more efficient government office spaces. In addition to these, several practical facilitators were highlighted, including the reduction of long-term operational costs through targeted interventions, improved space utilization by identifying underperforming areas, and the promotion of sustainability through the detection of energy inefficiencies. Notably, benchmarking emerged as a significant yet underrepresented benefit, with POE enabling the establishment and assessment of performance standards across facilities.

Moreover, the interviews revealed the importance of contextual insights, such as the influence of local work habits and social norms on space utilization, further reinforcing the relevance of POE in adapting buildings to the Sri Lankan context. The unanimous agreement on all identified enablers demonstrates POE's comprehensive value proposition for government buildings.

4.3 ADOPTION OF ENABLERS OF POE IN GOVERNMENT OFFICE BUILDINGS TO ENHANCE USER SATISFACTION IN SRI LANKA

The synthesis of literature and expert interviews identifies 24 key enablers of that function as both diagnostic and developmental instruments within the built environment as represented in Table 3. Strikingly, all interviewees confirmed the applicability of these benefits to government office buildings in Sri Lanka, particularly considering the tropical climate. In addition, during the interviews, two additional enablers surfaced, namely benchmarking of facilities and adaptation to local work culture and social norms. Primarily, these enablers facilitate innovation by identifying dysfunctional features and establishing a robust feedback loop that aligns design intent with actual performance. By providing empirical data for behavioural adjustments and life-cycle optimisation, POE refines pre-design programming and minimises the recurrence of design errors. In the specific context of Sri Lankan government buildings, these enablers extend to benchmarking facilities and adapting to local work cultures and social norms. Furthermore, by monitoring environmental performance. such as IAQ, visual, and acoustic comfort, POE enablers directly mitigate user dissatisfaction and enhance productivity. Ultimately, this participatory approach fosters a sense of ownership among occupants while providing a data-driven framework for strategic resource allocation and continuous design improvement.

Table 3: Linkage between factors and benefits

Factor	Relevant POE Benefits	Adoption
Accessibility	Facilitates redesign of dysfunctional features Assists informed pre-design decisions Identifies emerging needs Adapts to local work culture and norms	POE can determine where several users experience a lack of accessibility, which allows designers to alter layouts, advocate for reallocation, or consider accessibility means that are culturally or locally standard, considering inclusivity and comfort for users.
Building Aesthetics	Acts as feedback mechanism to design Provides insights for pre-design programming Uses benchmarking and best practices Helps understand budget constraints on design quality	User evaluations will allow designers to reflect on aesthetic aspects with occupant expectations. User feedback can lead to improvements in aesthetic aspects without jeopardizing aesthetic value or satisfaction.
Privacy	Assists informed pre-design decisions Predicts effectiveness of new designs Increases occupant participation Adapts to local norms	POE evaluates user feedback on noise handling, spatial division, and visual barriers. These critiques on layouts can be taken into consideration and inform future projects regarding spatial division that improves privacy and sensitive cultural perceptions of personal space.
Building Design	Facilitates redesign of rarely used features Acts as feedback mechanism Provides insights for pre-design programming Predicts effectiveness of new designs	POE evaluates user remarks on poorly designed or ineffective spaces. The evaluation data improves spatial configurations, functionality, and efficiencies regarding design that more accurately align with actual user behaviour and user needs.
Building Amenities	Facilitates replacement/redesign Identifies emerging needs Identifies developer requirements Guides resource allocation during refurbishments	POE makes the user aware of amenities that may not be designed or performed well, providing focus for refurbishment while ensuring required functions are not eliminated. With respect to diminished functionalities, POE can direct to effectively advocate and restrain future resources and budget allocations.
Ergonomic Furniture	Provides insights for pre-design programming Identifies owner/developer requirements Guides resource allocation during refurbishments Helps understand budget constraints	User feedback from POE can indicate discomfort or inefficiencies regarding ergonomic issues. The POE feedback infers how to refine the specifications with the justifiable budget allocation to enhance comfort and productivity issues.
Visual Comfort	Provides data for ongoing improvement Assists developing performance measures Encourages accountability to standards Improves environmental sustainability	The monitoring conducted through POE ensures that the levels of lights and the availability of daylight meet the needs of the people using the building. The interventions based on the data keep the visual comfort and the glare under control while practicing the sustainable energy methods.

Factor	Relevant POE Benefits	Adoption
Acoustic Comfort	Provides data for improvement Assists developing performance measures Measures and monitors building quality Encourages accountability to standards	The POE provides qualitative and quantitative data regarding the noise issues. This information supports improvements in acoustic insulation, the maintenance of systems, and the enforcement of design standards to ensure acceptable noise levels.
Thermal Comfort	Measures and monitors building quality Encourages accountability to standards Improves environmental sustainability Reduces operating costs	POE enables continuous monitoring of indoor temperature, humidity, and thermal conditions. The collected data supports adjustments to HVAC systems and passive design strategies to maintain optimal thermal comfort. This ensures that indoor environments align with user expectations while also improving energy efficiency and reducing operational costs.
Safety	Measures and monitors building quality Encourages accountability to standards Assists informed pre-design decisions Supports policy formation and design standards Aids communication among stakeholders	POE identifies safety concerns such as inadequate emergency access, poor lighting, or unsafe layouts through user feedback and inspections. These insights help enforce safety standards and inform design improvements. Continuous monitoring ensures that buildings maintain safe conditions and comply with regulatory requirements.
Spatial Comfort	Acts as feedback mechanism to design Facilitates redesign of dysfunctional features Provides insights for pre-design programming Identifies emerging needs Guides resource allocation	POE evaluates how users interact with spaces in terms of layout, density, and movement. Feedback on overcrowding or underutilized areas allows designers to reconfigure spatial arrangements. This improves usability, circulation, and overall comfort by aligning spatial design with actual user behaviour and requirements.
Indoor Hygiene	Provides data for ongoing improvement Measures and monitors building quality Improves environmental sustainability Reduces operating costs	POE assesses cleanliness, sanitation facilities, and maintenance effectiveness through user feedback and performance data. This enables timely interventions in cleaning practices, waste management, and ventilation systems. As a result, indoor hygiene standards are maintained, promoting healthier environments and improving overall user satisfaction.
IAQ	Provides data for improvement Assists developing performance measures Measures and monitors building quality Improves environmental sustainability Reduces operating costs	POE allows continuous monitoring of air temperature, humidity, and CO_2 levels. This facilitates the HVAC systems to work efficiently while improving the thermal comfort and air quality, thus saving on operational costs.

5. DISCUSSION

The literature review identified 16 factors influencing user satisfaction in government office buildings, with thermal comfort consistently highlighted as the most critical factor at the global level (Bengi & Toprakli, 2020; Frontczak & Wargocki, 2011; Li et al., 2018). Similarly, IAQ and spatial comfort were frequently emphasized as key determinants of occupant satisfaction (Mindeel et al., 2024; Pestana et al., 2021; Preiser, 2002). However, the findings from the expert interviews did not establish a strict prioritization of factors but instead indicated a context-sensitive emphasis. Thermal comfort remained a consistently significant consideration, particularly given Sri Lanka's tropical climate, while factors such as accessibility and building design gained notable importance due to the public nature and functional demands of government office buildings. The global research shows a limited focus on accessibility, yet the interview results exhibited its greater importance for Sri Lanka because it demonstrated actual issues related to insufficient facilities which served different user groups (Pirabath et al., 2019). The interviews revealed that IAQ and spatial comfort hold essential value according to previous research, yet these aspects receive equal treatment with other elements which share equivalent significance. The study results show that user satisfaction at Sri Lankan government buildings develops through environmental factors and functional aspects and contextual elements. The research results show that accessibility and building design function as major elements in this environment. The substantive enablers of undertaking POE, including supporting continuous improvement, informing future design, reducing operational costs, and improving occupant satisfaction (Bengi & Toprakli, 2020; Hadjri & Crozier, 2009; Preiser, 2002) were corroborated through the semi-structured interviews, and the interviews additionally provided context-specific insights that were not addressed firmly in the literature, such as benchmarking and consideration of the local work culture. This research advances beyond the existing knowledge base by empirically connecting distinct factors and POE enablers, while almost all prior research has treated these as separate concepts. The findings illustrated that theoretical enablers are not self-driven but are stimulated through core factors. This establishes an approach progressing from identifying POE enablers to prioritizing the attainment of key factors through the enablers, ultimately enhancing the occupant satisfaction.

6. CONCLUSIONS AND RECOMMENDATIONS

This study aims to investigate the potential of POE to address the issues in the government office buildings and to enhance user satisfaction. The study revealed that compared to the office employees at private institutions, the government office employees are not satisfied with the current condition of government office buildings. This user dissatisfaction is attributable to the non-conformance of key factors affecting user satisfaction with the requirements of the occupants, impacting negatively on the occupants' well-being. In this context, POE emerged as an effective approach to address this concern. Building on these enablers, key factors can be achieved to ensure occupant satisfaction. Fundamentally, the factors guide the enablers through operationalizing them for continuous improvement and occupant satisfaction. This study contributes to developing countries by demonstrating the applicability of its findings to similar contexts, while adding to the limited literature on POE, specifically on government office buildings. Furthermore, the outcomes of this research will be beneficial for industry stakeholders to recognise the importance of POE for addressing similar challenges in upcoming construction undertakings. Given the

resource constraints, this study is limited to government office buildings in Sri Lanka. Hence, further studies are encouraged to investigate the potential of POE in other building sectors to obtain a broader understanding of its effectiveness.

7. REFERENCES

Albuainain, N., Sweis, G., AlBalkhy, W., Sweis, R., & Lafhaj, Z. (2021). Factors affecting occupants' satisfaction in governmental buildings: The case of the Kingdom of Bahrain. *Buildings*, *11*(6), 231. https://doi.org/10.3390/buildings11060231

Aliyu, A. A., Muhammad, M. S., Bukar, M. G., & Singhry, I. M. (2016, April 28). *A review of post occupancy evaluation as a tool and criteria for assessing building performance.* Proceedings of the Academic Conference on Agenda for Sub-Sahara Africa. Abuja FCT-Nigeria. https://www.researchgate.net/publication/303382704_A_REVIEW_OF_POST-OCCUPANCY_EVALUATION_AS_A_TOOL_AND_CRITERIA_FOR_ASSESSING_BUILDING_PERFORMANCE

Bae, S., & Martin, C. S. (2023). The impact of measurable findings from pre- and post-occupancy evaluations of indoor environmental quality in the primary workspace. *Buildings*, *13*(10), 2486. https://doi.org/10.3390/buildings13102486

Bengi, S. I., & Topraklı, A. Y. (2020). The perspective of Turkey in the post occupancy evaluation studies. *Periodica Polytechnica Architecture*, *51*(1), 83–91. https://doi.org/10.3311/ppar.15318

Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters, D., & Walker, K. (2020). Purposive sampling: complex or simple? Research case examples. *Journal of Research in Nursing, 25*(8), 652–661. https://doi.org/10.1177/1744987120927206

Candido, C., Thomas, L., Haddad, S., Zhang, F., Mackey, M., & Ye, W. (2018). Designing activity-based workspaces: Satisfaction, productivity and physical activity. *Building Research & Information*, *47*(3), 275–289. https://doi.org/10.1080/09613218.2018.1476372

Castro, J. D. A., Landeira, C., Da Silva, J. R., & Ribeiro, C. (2020). Role of content analysis in improving the curation of experimental data. *International Journal of Digital Curation*, *15*(1), 14. https://doi.org/10.2218/ijdc.v15i1.705

Cusumano, L., Farmakis, O., Granath, M., Olsson, N., Jockwer, R., & Rempling, R. (2024). Current benefits and future possibilities with digital field reporting. *International Journal of Construction Management*, *25*(5), 572–583. https://doi.org/10.1080/15623599.2024.2340923

Dahal, R. C., & Dahal, K. R. (2020). A review on problems of the public building maintenance works with special reference to Nepal. *American Journal of Construction and Building Materials*, *4*(2), 39. https://doi.org/10.11648/j.ajcbm.20200402.12

Davoodi, A., Johansson, P., & Aries, M. (2020). The use of lighting simulation in the evidence-based design process: A case study approach using visual comfort analysis in offices. *Building Simulation*, *13*(1), 141–153. https://doi.org/10.1007/s12273-019-0578-5

Fissore, V. I., Fasano, S., Puglisi, G. E., Shtrepi, L., & Astolfi, A. (2023). Indoor environmental quality and Comfort in offices: A review. *Buildings*, *13*(10), 2490. https://doi.org/10.3390/buildings13102490

Ford, G., & Gosling, J. (2024). Professional perceptions of right-first-time and quality management in construction projects through open-ended feedback. *International Journal of Quality & Reliability Management*, *41*(10), 2665–2696. https://doi.org/10.1108/ijqrm-08-2023-0246

Frontczak, M., & Wargocki, P. (2011). Literature survey on how different factors influence human comfort in indoor environments. *Building and Environment*, *46*(4), 922–937. https://doi.org/10.1016/j.buildenv.2010.10.021

González-Lezcano, R. A. (2023). Editorial: Design of efficient and healthy buildings. *Frontiers in Built Environment, 9,* 1210956. https://doi.org/10.3389/fbuil.2023.1210956

Hadjri, K., & Crozier, C. (2009). Post-occupancy evaluation: Purpose, benefits and barriers. *Facilities*, *27*(1-2), 21–33. https://doi.org/10.1108/02632770910923063

Halicioglu, F. H., Demirkapi, H. B., Gurel, K., & Kasul, N. (2023). Exploring Key Quality Indicators (KQIS) in green office buildings through pareto analysis. *Architecture, Civil Engineering, Environment*, *16*(2), 15–27. https://doi.org/10.2478/acee-2023-0012

Hamida, M. B., & Hassanain, M. A. (2020). Post occupancy evaluation of adaptively reused buildings: Case study of an office building in Saudi Arabia. *Architecture Civil Engineering Environment*, *13*(1), 29–40. https://doi.org/10.21307/acee-2020-003

Kadhim, E. M., & Altaie, M. R. (2023). Factors affecting building maintenance practices: Review. *Journal of Engineering*, *29*(12), 153–172. https://doi.org/10.31026/j.eng.2023.12.10

Kallio, H., Pietilä, A., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing*, *72*(12), 2954–2965. https://doi.org/10.1111/jan.13031

Kasi, J., & Kaliluthin, A. K. (2024). A comprehensive approach to assess occupant's satisfaction and performances of residential building. *Civil Engineering Journal*, *10*(2), 444–455. https://doi.org/10.28991/cej-2024-010-02-07

Khalil, N., & Nawawi, A. H. (2009). Performance analysis of government and public buildings via post occupancy evaluation. *Asian Social Science*, *4*(9), 103-112. https://doi.org/10.5539/ass.v4n9p103

Li, G. (2025). Indoor environmental quality in architecture: A Review. *Building Engineering*, *3*(1), 2375. https://doi.org/10.59400/be2375

Li, P., Froese, T. M., & Brager, G. (2018). Post-occupancy evaluation: State-of-the-art analysis and state-of-the-practice review. *Building and Environment*, *133*, 187–202. https://doi.org/10.1016/j.buildenv.2018.02.024

Lin, Y., Chang, J., & Su, Y. (2016). Developing construction defect management system using BIM technology in quality inspection. *Journal of Civil Engineering and Management*, *22*(7), 903–914. https://doi.org/10.3846/13923730.2014.928362

Lolli, F., Marinello, S., Coruzzolo, A., & Butturi, M. (2022). Post-Occupancy Evaluation's (POE) applications for improving indoor environment quality (IEQ). *Toxics, 10*(10), 626. https://doi.org/10.3390/toxics10100626

Mannan, M., & Al-Ghamdi, S. G. (2021). Indoor air quality in buildings: A comprehensive review on the factors influencing air pollution in residential and commercial structure. *International Journal of Environmental Research and Public Health*, *18*(6), 3276. https://doi.org/10.3390/ijerph18063276

Mindeel, T. A., Spentzou, E., & Eftekhari, M. (2024). Energy, thermal comfort, and indoor air quality: Multi-objective optimization review. *Renewable and Sustainable Energy Reviews*, *202*, 114682. https://doi.org/10.1016/j.rser.2024.114682

Norazman, N., Mohd Nashruddin, S. N. A., & Che-Ani, A. I. (2023). Exploring the factors influencing building sustainability of low-cost low-rise residential towards user satisfaction. *Journal of Facilities Management*, *22*(5), 949–974. https://doi.org/10.1108/JFM-08-2022-0089

Pestana, T., Flores-Colen, I., Pinheiro, M. D., & Sajjadian, S. M. (2021). User perception on key performance indicators in an in-service office building. *Infrastructures*, *6*(3), 45. https://doi.org/10.3390/infrastructures6030045

Pirabath, M. D. C., Rajini, D., Mahendrarajah, G., & Premanathan, T. (2019, December 12-14). *Space planning and management practices in government office buildings: Case studies in Sri Lanka*. 10th International Conference on Sustainable Built Environment (ICSBE). Kandy, Sri Lanka. https://www.researchgate.net/publication/349304384_Space_Planning_and_Management_Practices_in_Government_Office_Buildings_Case_Studies_in_Sri_Lanka

Preiser, W. F. (1995). Post-occupancy evaluation: How to make buildings work better. *Facilities*, *13*(11), 19–28. https://doi.org/10.1108/02632779510097787

Preiser, W. (2002). The evolution of post occupancy evaluation: Toward building performance and universal design evaluation. *Learning from our buildings: A State-of-the-Practice* (pp. 9–22). National Academy Press. https://nap.nationalacademies.org/read/10288/chapter/3

Quevedo, M. V. D., Luna-Navarro, A., Pottgiesser, U., & Blum, U. (2025). Methods and approaches for evaluating occupant satisfaction with office space design: A systematic review. *Ergonomics, 69*(4), 724–748. https://doi.org/10.1080/00140139.2025.2480271

Rane, N. L., Choudhary, S. P., & Rane, J. (2023). Leading-edge technologies for architectural design: A comprehensive review. *International Journal of Architecture and Planning*, *3*(2), 12–48. https://www.researchgate.net/publication/378119365_Leading-Edge_Technologies_for_Architectural_Design_A_Comprehensive_Review

Roberts, C. J., & Edwards, D. J. (2022). Post-occupancy evaluation: Identifying and mitigating implementation barriers to reduce environmental impact. *Journal of Cleaner Production*, *374*, 133957. https://doi.org/10.1016/j.jclepro.2022.133957

Ruth, O., Kuga, K., & Ito, K. (2025). Subjective and objective measurement of indoor environmental quality and occupant comfort in a multinational graduate student office. *Environments*, *12*(4), 117. https://doi.org/10.3390/environments12040117

Subhasingha, H., Disaratna, P., & Perera, B. (2026). User satisfaction in government office buildings: An empirical analysis of influencing factors in Sri Lanka. *International Journal of Construction Management*, *Ahead-of-Print*. https://doi.org/10.1080/15623599.2026.2643739

Subhasingha, H., Disaratna, P., & Wijerathna, M. (2025). Post Occupancy Evaluation (POE) in government office buildings: A literature review. In K.G.A.S. Waidyasekara, H.S. Jayasena, P.L.I. Wimalaratne, & G.A. Tennakoon (Eds.), *Proceedings of the 13th world construction symposium*, (pp. 1083-1097). CIOB. https://doi.org/10.31705/WCS.2025.81

Uşma, G., & Ölçer, D. E. (2024). Development and assessment of a Post-Occupancy Evaluation Scale for sustainable office environments; Insights from the FNN Sustainability Centre. *Prostor*, *32*(1(67)), 26–37. https://doi.org/10.31522/p.32.1(67).3

Venturini, W. T., & Benito, Ó. G. (2015). CRM software success: A proposed performance measurement scale. *Journal of Knowledge Management*, *19*(4), 856–875. https://doi.org/10.1108/jkm-10-2014-0401

Wargocki, P., Frontczak, M., Schiavon, S., Goins, J., Arens, E., & Zhang, H. (2012, January). *Satisfaction and self-estimated performance in relation to indoor environmental parameters and building features*. 10th International Conference on Healthy Buildings, Brisbane, Queensland. https://escholarship.org/uc/item/451326fk

Wijaya, L., Latief, Y., & Machfudiyanto, R. A. (2020). Development of preventive maintenance guidelines for architectural components on government building based on work breakdown structure. *Civil Engineering and Architecture*, *8*(3), 312–319. https://doi.org/10.13189/cea.2020.080315

Yin, R. K. (2018). *Case study research and applications design and methods* (6th ed.). SAGE Publications. https://opac.atmaluhur.ac.id/uploaded_files/temporary/DigitalCollection/YTE3NDlmYTY0ZjE2MDA5ODE4NGI1Y2FhMjdkMjRmYWNkMDA2MTVhOQ==.pdf

Zhang, F., Liu, S., Hu, W., & Yadav, M. (2022). Editorial: Effects of indoor environmental quality on human performance and productivity. *Frontiers in Built Environment*, *8*, 1095443. https://doi.org/10.3389/fbuil.2022.1095443

Zhao, J., Aziz, F. A., Deng, Y., Ujang, N., & Xiao, Y. (2024). A review of comprehensive post-occupancy evaluation feedback on occupant-centric thermal comfort and building energy efficiency. *Buildings*, *14*(9), 2892. https://doi.org/10.3390/buildings14092892