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Human-Centered Workplace Design for Employee Well-Being and Productivity:

A Case Study of Manzil Designs, Nairobi, Kenya

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Abstract

This study examined the application of human-centered design principles within workplace environments of Manzil Designs, Nairobi, and their influence on employee well-being and productivity. A mixed-method case study involving 12 respondents was conducted using observations, questionnaires, interviews, spatial measurements and photographic documentation. Qualitative data were analyzed thematically, while quantitative data were analyzed using descriptive statistics. The findings revealed that the workplace incorporated collaborative spaces, natural lighting, ergonomic furniture and open-plan layouts. Most employees, however, identified the need for improvements in lighting (91.7%), furniture (75.0%) and spatial layout (66.7%). Additionally, 80.0% agreed that workplace design directly influences comfort, concentration, task performance and productivity. The study concludes that workplace design is more effective when employees actively participate in the design process. It contributes empirical evidence on human-centered workplace design in Kenya and recommends co-design guidelines to support healthier, more productive office environments and participatory human-centered design in workplace design practice and policy in Kenya.

Keywords: Co-design, employee productivity, employee well-being, human-centered design, Kenya, mixed methods, workplace design

INTRODUCTION

Employees spend a considerable part of their lives working at their place of employment (Njeri, 2018). As a result, the design and quality of office spaces play a critical role in shaping employee experiences, well-being, and productivity. It is therefore essential for organizations to create spaces that positively influence employee well-being and productivity (Njeri, 2018; Miska & Azzahra, 2025). Workplace environments are no longer viewed solely as functional settings for completing tasks but as evolving environments that influence collaboration, social interactions, creativity, employee satisfaction and overall organizational performance.

The relationship between workplace design and employee performance has been widely recognized in environmental psychology and organizational studies. Environmental psychology in workplace environmental design suggests that the physical characteristics of work environments—including lighting, spatial layout, furniture design, and environmental comfort—can significantly influence employee morale and job performance (Gifford et al., 2011; Vischer, 2007).

However, global research shows that many organizations still overlook the importance of workplace environment design in shaping employee experiences. Previous research indicates that limited attention has been given to the role of workplace environments in influencing human behavior and productivity (McCoy, 2002). Many organizations continue to prioritize operational efficiency, organizational hierarchy, and aesthetics over employees' physical and psychological needs

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(Ruohomäki et al., 2015). As a result, employees may occupy office environments that fail to adequately support their physical, psychological, and social needs.

Human-centered design (HCD) has emerged as a framework that addresses this challenge by placing users at the center of the design process. HCD refers to a problem-solving approach that involves designing solutions while engaging those who will utilize the solutions (Rosinsky, 2022). Human-centered design seeks to understand how individuals interact with their environments and translate these insights into design solutions that enhance usability, comfort, and well-being (Norman, 2013).

In workplace environments, human-centered design emphasizes designing office spaces that support employee needs, preferences, and behaviors. This includes providing flexible workspaces, comfortable furniture, collaborative areas, and access to natural environmental elements.

Despite the growing importance of human-centered design, its practical implementation within workplace environments remains inconsistent, particularly in developing contexts such as Kenya. Many offices incorporate contemporary aesthetics and technological features without fully considering how employees interact with workplace design decisions. While international studies demonstrate the effectiveness of human-centered workplace design, Kenyan studies have largely focused on isolated environmental factors rather than the intentional application of human-centered design principles. This reveals a significant contextual and conceptual gap. Consequently, there is limited empirical evidence regarding the extent to which human-centered design principles are intentionally applied within Kenyan workplace environments.

This study therefore investigates how human-centered design principles are applied within the office environment of Manzil Designs in Nairobi.

Statement of the Problem

Despite growing recognition of employee-centered workplace environments globally, there remains a gap that reflects both theoretical and empirical limitations. Theoretically, previous studies have not sufficiently integrated human-centered design with environmental psychology to explain how workplace environment design influences employee productivity and well-being. Empirically, little research has investigated the intentional application of human-centered design principles in Kenyan workplace environments, such as offices, including Manzil Designs, and their influence on employee morale and productivity. No previous Kenyan study has examined the intentional application of human-centered design in workplace environments through the combined lens of Human-Centered Design and Environmental Psychology. This lack of theoretical and localized empirical evidence represents a scholarly and practical gap in understanding how workplace environments support employee well-being.

Research Objective

To fill these gaps, this paper addresses the following research objective:

To investigate the extent and forms of application of human-centered design principles at Manzil Designs offices.

This study therefore aims to contribute to scholarship by showing how human-centered design and environmental psychology can be integrated in workplace environment design within the Kenyan context. Specifically, the study is among the first Kenyan workplace design studies to integrate Environmental Psychology and Human-Centered Design in evaluating office environments. Practically, the findings provide evidence-based recommendations that can help develop guidelines for professional practice, institutions and policymakers who seek to create workplace environments that enhance employee productivity and well-being.

The remainder of this paper provides the literature review of the study, describes the research methodology, reports empirical findings, discusses their implications in relation to existing literature, and concludes with recommendations for workplace design practice, policy and future research. Together, these sections demonstrate how the study addresses the identified research gap and advances human-centered workplace design research in Kenya.

THEORY

Environmental Psychology

Environmental psychology provides the theoretical base for understanding the relationship between individuals and the built environment. Gifford (2007) defines environmental psychology as the study of interactions between individuals and their physical surroundings, arguing that individuals shape their environments while their behavior and experiences are also shaped by those environments (Gifford et al., 2011). Therefore, built environments such as offices play a crucial role in shaping employees' experiences, behaviors and productivity. Additionally, workplace environments influence cognitive processes such as concentration and stress levels, hence affecting overall job performance. The relationship between individuals and their environments is illustrated in **Figure 1**, showing how the setting, personal characteristics and sociocultural context interact to influence behaviour, cognition, emotions and well-being.

Similarly, Moser and Uzzell (2003) assert that spatial characteristics in the workplace environment shape employees' cognitive, emotional and behavioral responses. Although the perspectives of Gifford et al. (2011) and Moser and Uzzell (2003) both acknowledge the relationship between people and their environment, they differ slightly in emphasis. Gifford et al. (2011) emphasize that the physical environment is one of the most important factors affecting employees. However, Moser and Uzzell (2003) emphasize that companies have started paying more attention to workplace environment design to align with organizational goals and cultural identity while catering for employee needs and job demands for improved performance. Together, these perspectives argue that employee productivity and well-being are not based solely on individual ability but are also influenced by the quality of the physical environment.

Recent studies support this theoretical perspective. Gifford et al. (2011) argue that spatial layout, furniture design, lighting and thermal comfort directly influence employee concentration, stress levels, satisfaction and productivity. Additionally, Appel-Meulenbroek et al. (2020) show that workplace environments designed by prioritizing employees' needs and experiences improve creativity, engagement, satisfaction and employee retention. While Gifford et al. (2011) emphasize the psychological consequences of physical environmental conditions, Appel-Meulenbroek et al. (2020) extend this argument by demonstrating the organizational benefits of environments that respond to employee experiences. Together, these studies indicate that workplace design affects both individual psychological responses and broader organizational outcomes.

Environmental psychology also explains why

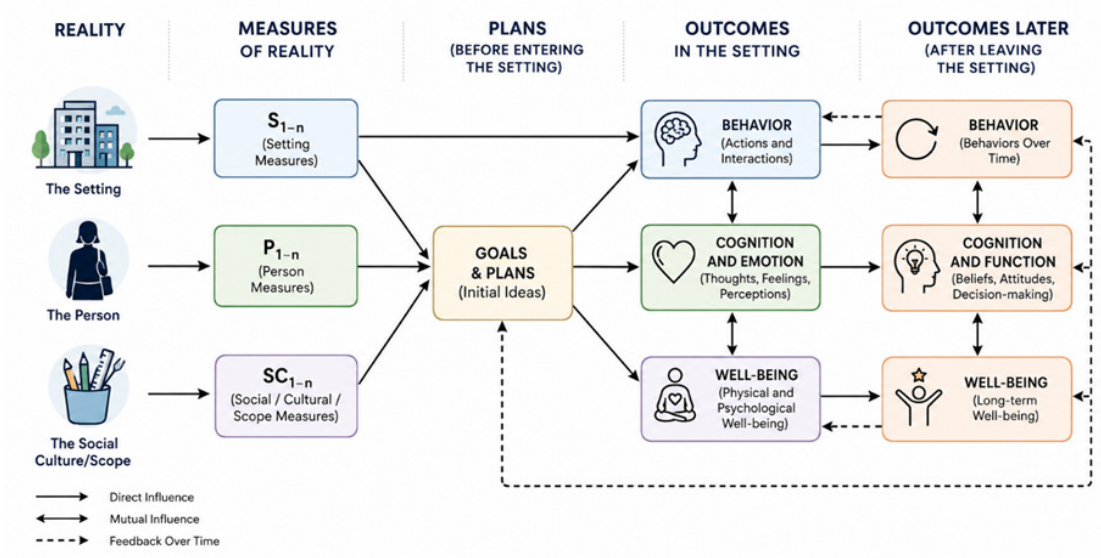

FIGURE 1
Relationship between people and their environments
Source: Environmental psychology. IAAP handbook of applied psychology, 440–470, 2011

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employees naturally modify their workspaces to better suit their preferences. Flexible workspaces such as activity-based working and hot-desking have therefore emerged from the recognition that employees require different environments for different activities, such as focused work, collaboration, private meetings and social interactions (Moser & Uzzell, 2003). Many offices, however, limit the extent to which employees may personalize their spaces or fail to seek employees' opinions when offices are planned. This creates a distinction between recognizing the psychological importance of workplace environments and actively incorporating employees' experiences into workplace design decisions.

In summary, environmental psychology highlights three principles related to workplace design:

i). Human-environment transactions – individuals shape their environments, while their behaviors and experiences are shaped by those environments.
ii). Holistic environmental experience – integration of physical, social and psychological aspects of environments shapes human experiences.
iii). User participation – individuals actively participate and suggest ideas about environmental conditions rather than passively experiencing them (Gifford, 2007).

These principles informed this study by providing a theoretical basis for investigating how employees of Manzil Designs experience the physical characteristics of their workplace environments and how their morale and productivity are influenced.

Despite the importance of environmental psychology in workplace design, many office environments, including those within the Kenyan context, are still designed based on functionality and organizational hierarchy rather than employee experience. These theoretical and empirical gaps provide the foundation for this study. While Environmental Psychology explains how workplace environments influence human behavior and experience, Human-Centered Design provides practical principles for translating these insights into workplace environments that respond to employees' needs.

Human-Centered Design in Workplace Environments

Norman (2013) defines human-centered design (HCD) as a philosophy of empathy that puts human needs, capabilities and behavior first, then designs to accommodate those needs, capabilities and ways of behaving. Conversely, Rosinsky et al. (2022) define HCD not only as a design philosophy but also as a practical decision-making process involving those who will utilize the solutions and capable of improving user satisfaction. Collectively, these perspectives suggest that successful workplace design extends beyond creating aesthetically pleasing environments to developing spaces that respond directly to employees' functional and psychological needs.

Unlike traditional design approaches that prioritize aesthetics or technical efficiency, human-centered design emphasizes user engagement processes that involve users in shaping the built environment rather than being passive users of the environment (Gifford et al., 2011).

Therefore, in workplace environments, HCD contributes to improved workplace outcomes by recognizing employees as active participants rather than passive occupants. Appel-Meulenbroek et al. (2020) argue that by prioritizing employee experiences, preferences and behaviors, organizations can create environments that enhance creativity, engagement, satisfaction and employee retention. Additionally, Appel-Meulenbroek et al. (2020) state that through embracing flexible layouts, investing in ergonomic furniture, encouraging personalization, collaboration and communication, human-centered design is integrated into office environments, thus leading to job satisfaction, improved employee well-being and productivity.

Recent international studies have broadened the application of HCD beyond physical comfort to include psychological well-being. Gao et al. (2023) demonstrated that integrating HCD with biophilic design helps reduce stress and mental fatigue in employees. Likewise, Collins (2023) reported that workplace environments with ergonomic furniture result in higher employee satisfaction and productivity and reduced absenteeism. While Gao et al. (2023) emphasize the psychological benefits associated with biophilic elements, Collins (2023) highlights the physical and organizational benefits associated with ergonomic interventions. Taken

together, these studies demonstrate that HCD operates through multiple workplace features and can support both employee well-being and productivity.

Despite the acknowledgement of HCD principles in workplace environments, the extent to which they are applied in contemporary offices remains a subject of scholarly debate. Ruohomäki et al. (2015) argue that many office environments continue to be designed with prioritization of functional efficiency and organizational hierarchy rather than employee experiences. This results in limited consideration of employee functional and experiential needs. Others introduce collaborative spaces, ergonomic furniture, natural lighting and flexible workstations and describe their workplaces as human-centered.

However, the presence of these physical features does not necessarily mean that a workplace is genuinely human-centered. While Appel-Meulenbroek et al. (2020) associate flexible and collaborative workplace environments with improved creativity, engagement and satisfaction, Kamarulzaman et al. (2011) and Moser and Uzzell (2003) state that although open-plan offices encourage collaboration, they may also increase distractions, reduce privacy and diminish employees' sense of territoriality. These contrasting findings suggest that the effectiveness of HCD depends less on the adoption of specific design features than on the extent to which employees are actively involved throughout the design process to identify workplace problems, generate ideas and evaluate proposed solutions (Antonini, 2021; Rosinsky et al., 2022).

Within the Kenyan context, the application of HCD in workplace environments remains under-researched. Existing studies by Thuo (2018) and Kangethe et al. (2022) examined workplace environmental factors such as office spatial layout, lighting, health and safety. However, while these are important factors to consider when designing a desirable workplace environment, the intentional inclusion of human-centered design processes or the active inclusion of employees in the design process is rarely investigated. This distinguishes existing Kenyan workplace research from international HCD scholarship, which increasingly emphasizes employee participation alongside physical workplace characteristics.

From the reviewed literature, HCD enhances employee well-being, satisfaction and productivity. However, a knowledge gap exists because research has largely focused on developed countries and has emphasized workplace outcomes rather than examining how HCD principles are intentionally implemented in office environments. Additionally, there is limited research on the integration of HCD with environmental psychology in contemporary workplace environments within the Kenyan context. This study addresses this gap by examining the application of HCD principles at Manzil Designs and interpreting employee experiences through environmental psychology.

The application of HCD principles ultimately becomes visible through specific characteristics of the physical workplace. Interior design therefore provides an important connection between human-centered principles and the spatial, environmental and ergonomic conditions employees experience during everyday work.

Influence of Interior Design on Employee Morale and Productivity

Interior design is not only a visual element but also a strategic aspect that affects employee experience, morale and performance in an organization or company. Among the most important interior design factors are spatial layout, natural and artificial lighting, thermal comfort, ergonomic furniture and biophilic design (Kamarulzaman et al., 2011; McCoy, 2002; Collins, 2023; Gao et al., 2023; Miska & Azzahra, 2025). Although these factors affect different aspects of employee experience, they collectively contribute to physical comfort, psychological well-being, collaboration and work performance.

Kamarulzaman et al. (2011) argue that flexible office layouts encourage communication and teamwork but may also reduce privacy and increase distractions when poorly designed (Kamarulzaman et al., 2011; Moser & Uzzell, 2003). Access to natural lighting, appropriate thermal conditions, ergonomic furniture and biophilic elements has been associated with improved concentration, reduced stress, lower fatigue and higher employee satisfaction (Boyce, 2014; McCoy, 2002; Collins, 2023; Gao et al., 2023; Miska & Azzahra, 2025). These findings suggest that workplace performance depends not on individual interior design features but on how they

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are integrated to support employees' functional, psychological and social needs.

The literature therefore presents both opportunities and limitations associated with workplace interior design. Features such as flexible layouts may encourage collaboration, while the same features can undermine concentration and privacy when they are not responsive to employee needs. Similarly, lighting, furniture, thermal comfort and biophilic elements can enhance employee experiences, but their effectiveness depends on how they function collectively within the workplace rather than their mere presence. This reinforces the HCD position that interior design decisions should be informed by employees' actual experiences and requirements.

While previous studies have examined individual workplace interior design factors, limited research has investigated how these elements collectively reflect HCD principles in office environments within the Kenyan context. This study addresses this gap by evaluating how interior design features at Manzil Designs influence employee well-being and productivity from an HCD perspective.

Although international research provides considerable evidence concerning these workplace design characteristics, their applicability must also be examined within specific social, organizational and geographical contexts. This makes it necessary to consider how workplace design has been studied within Kenya.

Workplace Designs in Kenya

In Kenya, several studies have highlighted the importance of workplace design in influencing employee performance. For instance, in a study examining workplace environments in public institutions, factors such as office layout, noise and lighting were found to have a significant influence on employee productivity (Kangethe et al., 2022). Similarly, in research conducted in Kenyan government institutions, factors such as employee health and safety and social support were found to have a direct influence on employee performance and job satisfaction (Thuo, 2018). However, these studies primarily examine individual workplace characteristics rather than evaluating workplace design through an HCD perspective.

International research emphasizes that effective workplace design extends beyond improving physical conditions to actively involving employees throughout the process (Rosinsky et al., 2022). In contrast, studies from Kenya suggest that many organizations continue to prioritize functionality, cost efficiency and traditional office layouts, with limited attention to employees' physical, psychological and social needs (Ntarangwi, 2025). This distinction indicates that although Kenyan studies acknowledge the importance of workplace environmental conditions, employee participation as a deliberate component of workplace design remains less developed in the literature.

Although recent trends such as digital workspaces resulting from technological advancements and hybrid working models are bringing about flexible and adaptive workplace environments and gradually reshaping workplace design in Kenya (Too et al., 2025; Ntarangwi, 2025), empirical evidence on the intentional integration of HCD principles and active employee participation in the design process remains limited. This results in a knowledge gap addressed in this study by examining the application of HCD principles at Manzil Designs, thereby contributing empirical evidence to workplace design in Kenya.

The limited attention given to employee participation within Kenyan workplace design highlights the need to consider co-design as a practical mechanism through which HCD can be implemented. Co-design provides a structured approach for moving employees from passive occupants to active contributors in workplace design decisions.

Co-Design

Co-design (collaborative design) refers to the process of bringing people, also known as users, and design professionals together in order to find new and innovative solutions for different aspects of everyday life, which can vary from the creation of technological products to the management of complex social issues (Antonini, 2021). The users become experts in their own experiences, having a role in knowledge development, idea generation and concept development. Design professionals play the role of collaborating with and supporting users by providing them with tools for ideation and expression, facilitating expressions of creativity at all levels and, finally, synthesizing and embodying ideas and opportunities (Antonini, 2021).

In the workplace design process, research suggests that employee participation leads to workplace environments that support employee productivity, well-being and job satisfaction (Rosinsky et al., 2022). While HCD establishes the broader principle of designing around users' needs and experiences, co-design provides a participatory mechanism through which employees can directly contribute to identifying workplace problems, generating ideas and evaluating possible solutions. Co-design therefore strengthens the practical application of HCD by ensuring that workplace design decisions reflect employees' lived experiences rather than designers' assumptions alone.

Despite these benefits, employee involvement in the workplace design process remains limited within the Kenyan context. This study therefore addresses this knowledge gap by examining the role of employee participation in the application of HCD at Manzil Designs.

Conceptual Framework

The conceptual relationships among human-centered workplace design elements, employee psychological responses, and workplace outcomes are illustrated in **Figure 2**.

The conceptual framework positions workplace design characteristics and human-centered design principles as the independent variables because they represent the physical and participatory conditions that can be intentionally modified within the workplace environment. These include spatial layout, lighting, ergonomic furniture, environmental comfort, flexibility, collaboration and employee participation in workplace design decisions.

Employee psychological responses operate as mediating variables because workplace characteristics do not influence productivity and morale only through their physical presence. Employees interpret and respond to these conditions through experiences such as comfort, satisfaction, concentration, stress, sense of control and perceived support. These psychological responses therefore provide the mechanism through which physical and human-centered workplace conditions influence employee outcomes.

Employee productivity and morale constitute the principal outcomes of this relationship. Where workplace design responds effectively to employees' physical, psychological and

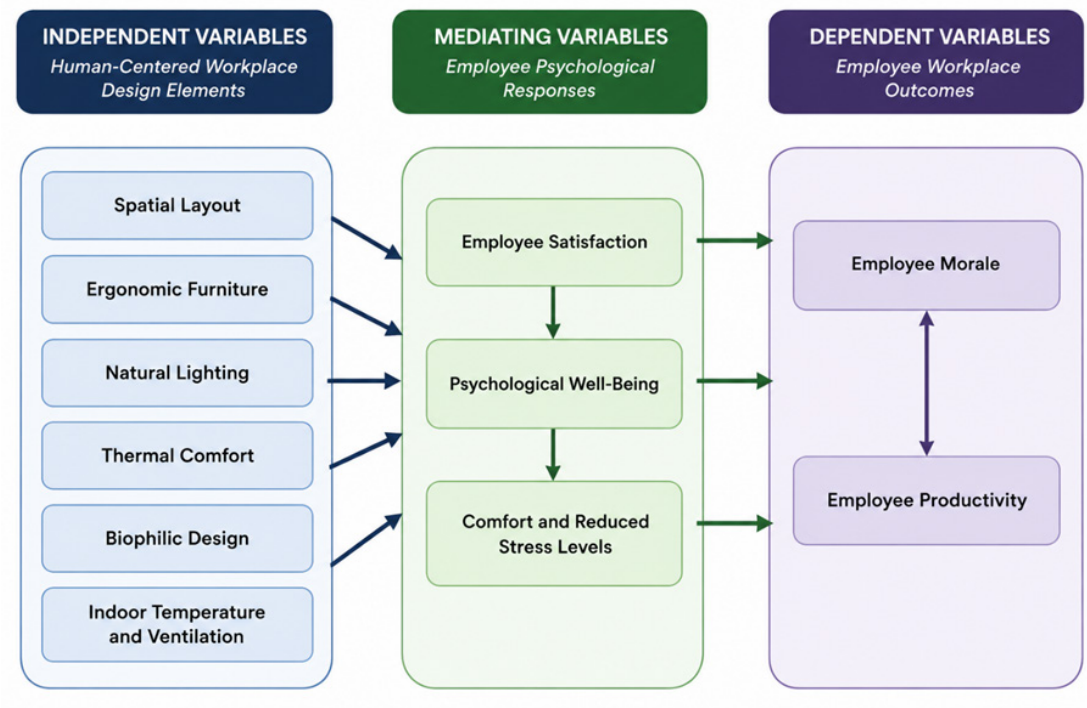

FIGURE 2
Conceptual framework linking workplace design, psychological responses and employee outcomes
Source: Author, 2026

social needs, positive psychological responses are expected to support concentration, task performance, satisfaction, morale and productivity. Conversely, poorly designed environments may contribute to discomfort, distraction, stress and dissatisfaction, thereby negatively affecting employee performance.

Overall, the reviewed literature demonstrates that although workplace design has been widely studied internationally, limited research has examined the intentional integration of Human-Centered Design, Environmental Psychology and employee participation within Kenyan office environments. International evidence establishes the importance of physical workplace conditions and employee-centered approaches, while Kenyan studies have largely concentrated on individual environmental characteristics and workplace outcomes. The limited integration of these perspectives leaves an important contextual and conceptual gap. This study addresses this gap through an empirical case study of Manzil Designs, examining how human-centered design principles are applied, how employees experience the workplace environment, and how these experiences relate to employee well-being and productivity.

RESEARCH METHODS

The study adopted a pragmatic research philosophy, which was appropriate for mixed-methods research because it allowed the integration of qualitative and quantitative approaches to obtain a comprehensive understanding of workplace design and employee experiences.

The study adopted a mixed-methods research design that integrated qualitative and quantitative approaches. The mixed-methods approach enabled the researcher to obtain both descriptive and measurable data about the workplace environment to examine the application of HCD principles within the office environment of Manzil Designs.

Qualitative methods were used to explore employee experiences and perceptions of the workplace environment, while quantitative methods were used to analyze the measurable physical characteristics of the office space, such as furniture dimensions, spatial layouts, workspace configurations and trends in employee responses. Thematic analysis was used to analyze qualitative data, while descriptive statistical analysis was used to analyze quantitative data.

Case Study Approach

Manzil Designs was selected as the case study for this research because it represents a contemporary office where the workplace environment plays an important role in supporting collaborative and creative work processes. The case study approach allowed for an in-depth investigation of how human-centered design principles are reflected within the workplace environment in a real-life context while enabling the integration of employees' experiences with measurable characteristics of the physical environment.

Respondent Profile

From a study target of 28 employees, 12 respondents from Manzil Designs who interacted with the office environment at least three days per week participated in the study through questionnaires, interviews and employee workshops. The sample comprised 10 employees selected through simple random sampling and two management staff, the Chief Executive Officer (CEO) and the Chief Operations Officer (COO), selected purposively. The 10 employees comprised five male and five female employees who are interior designers by profession. This combination ensured representation of both operational employees and management, providing diverse perspectives on workplace experiences and design decision-making.

Simple random sampling was used when selecting the 10 employees to minimize selection bias, while purposive sampling was applied to include the CEO and COO because of their direct involvement in organizational and workplace design decisions. The sample size was considered adequate for an in-depth case study where the objective was to obtain detailed contextual information. The sample size was appropriate because qualitative case study research emphasizes information richness rather than statistical representation.

Table 1 presents the frequency distribution of the respondents who participated in the study.

Figure 3 illustrates the distribution of respondents who participated in the study across the different population categories.

TABLE 1
Frequency distribution of study respondents

Population Category	Frequency	Percentage
Male employees	5	41.67
Female employees	5	41.67
Chief Executive Officer	1	8.33
Chief Operations Officer	1	8.33
Total	**12**	**100**

Source: Field survey, 2026

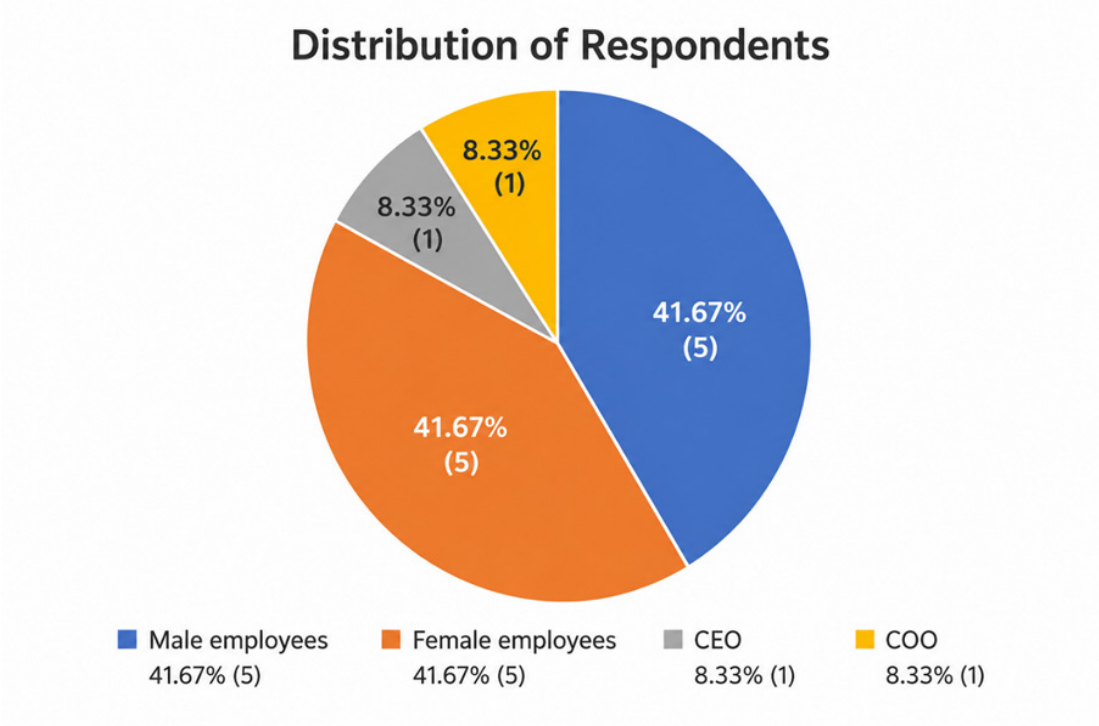

FIGURE 3
Distribution of respondents who participated in the study
Source: Author, 2026

Data Collection Instruments
Data were collected through:

- Non-participant observation
- Interviews
- Questionnaires
- Photographic documentation
- Spatial measurements of office elements

To enhance the reliability and validity of the findings, triangulation procedures were applied by comparing data collected from various sources, such as observations, questionnaires, photographs, interviews and office measurements. Triangulation enhanced the credibility of the findings by allowing evidence from multiple data sources to corroborate the same workplace design phenomena. This enabled the researcher to identify and examine the relationship between human-centered office design, employee morale and workplace productivity.

Reliability was further strengthened through the use of standardized data collection instruments and consistent observation procedures. For analytical sequence purposes, the researcher first analyzed qualitative data to identify themes related to human-centered design in the workplace environment and how it supports employee needs.

The researcher then analyzed quantitative data to describe the measurable components of the office environment and trends in employee responses. The findings from both approaches were then integrated to develop a holistic analysis of the extent of application of human-centered design in the case study.

Ethical approval for the study was obtained from the University of Nairobi through a permit letter, and a research permit was obtained from the National Commission for Science, Technology and Innovation (NACOSTI) before data collection. Participation of the respondents was voluntary, and all respondents provided informed consent before taking part in the study. Participants were assured of confidentiality and anonymity. Lastly, data collected were used exclusively for academic purposes and stored securely.

Methodological Limitations

As a single case study, the findings are context-specific and therefore cannot be generalized to all workplace environments. Nevertheless, the study provides valuable insights into the application of HCD principles within Kenyan office environments and offers evidence that may inform future comparative studies.

RESULTS

The findings are presented according to the study objective of examining the application of HCD principles within the office environment of Manzil Designs. Data were obtained through non-participant observation, questionnaires, interviews, spatial measurements and photographic documentation.

Table 2 summarizes the application of the identified HCD elements based on observations and employee responses.

Employee Perceptions of Workplace Design (Quantitative Findings)

Questionnaire findings indicated that employees perceived workplace design as an important contributor to morale and productivity. **Figure 4** shows the workplace elements that respondents identified as requiring improvement, with ratings ranging from 1, indicating no need for change, to 5, indicating a high need for change.

From the questionnaire findings presented in **Figure 4**, 91.7% of respondents agreed on the need to improve lighting, 75.0% agreed on the need to change furniture, 66.7% agreed on the need to change the spatial layout, while 16.0% agreed on the need to change the interior colour and aesthetics in their existing office environment to improve productivity and well-being. This indicates that lighting was the most significant workplace design concern among employees, followed by furniture and spatial layout, while colour and aesthetics were considered a relatively lower priority.

Overall, lighting and furniture emerged as the highest-priority areas requiring improvement, while colour and aesthetics were viewed as relatively satisfactory.

Figure 5 illustrates employees' perceptions of the relationship between workplace design and productivity. Ratings ranged from 1, indicating that the element does not significantly affect employee productivity, to 5, indicating that the element significantly affects productivity.

TABLE 2

Application of human-centered design elements at Manzil Designs

HCD Element	Observation	Employee Response	Overall Finding
Collaborative spaces	Present	Supported teamwork but lacked flexibility	Partially achieved
Spatial openness	Present	Improved interaction but reduced privacy	Partially achieved
Natural lighting	Present	Improved comfort and concentration	Successfully achieved
Ergonomic furniture	Present	Insufficient quantity for all employees	Partially achieved
Display and storage areas	Present	Display adequate, storage insufficient	Partially achieved

Source: Field survey, 2026

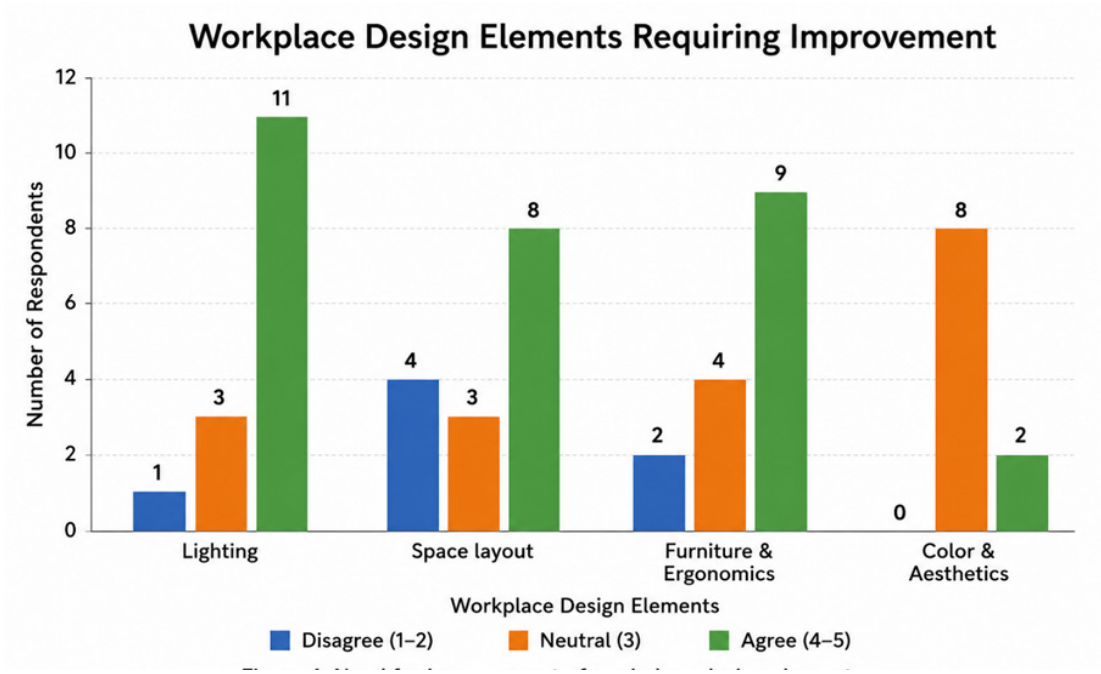

FIGURE 4
Need for improvement of workplace design elements
Source: Author, 2026

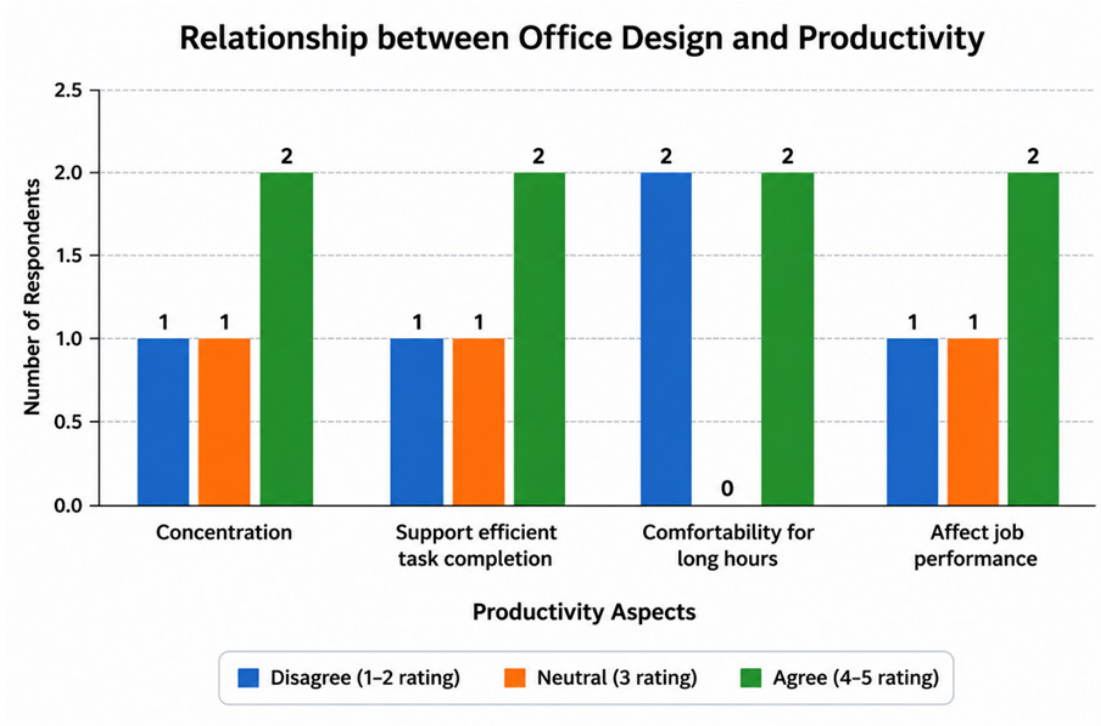

FIGURE 5
Relationship between office design and employee productivity
Source: Author, 2026

The findings showed that 80.0% of respondents agreed that office environment design affects concentration, efficient task completion, comfort during long working hours and job performance. This indicates that most respondents perceived the physical workplace environment as an important

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factor influencing their ability to work comfortably and productively.

Overall, the quantitative findings indicate that employees associate workplace design with their productivity and well-being, while also identifying specific physical elements that require improvement. However, the analysis highlighted limitations in how these elements respond to employee needs and support workplace productivity.

Collaborative Spaces
Observation and questionnaire responses revealed that the office environment includes collaborative spaces that allow employees to interact, facilitate meetings, discuss ideas and work together on projects. However, observation also showed that these collaborative areas lacked flexibility to support different work activities.

The findings therefore indicate that collaborative spaces were present and supported teamwork, although their limited flexibility restricted their ability to accommodate different workplace activities.

Spatial Openness
The office has an open-plan layout that includes open spaces allowing employees to move freely and interact with one another. Most respondents reported that the layout enhanced communication and teamwork. However, interview responses indicated that the open arrangement provided limited privacy for tasks requiring concentration.

The findings therefore show that spatial openness supported employee interaction and teamwork but presented limitations for employees undertaking tasks requiring privacy and focused concentration.

Natural Lighting
Observational findings showed that workstations and collaborative spaces received adequate natural lighting through large window openings. Employees reported that natural lighting improved visual comfort, maintained concentration and reduced fatigue during working hours. There was, however, insufficient artificial lighting in the office.

The findings indicate that natural lighting was successfully incorporated into the workplace environment, although inadequate artificial lighting remained a concern among employees.

Ergonomic Furniture
Through observation, the office was found to be equipped with ergonomic chairs and workstations. Nevertheless, the available seating and workstations were insufficient for all employees, particularly during meetings and project discussions. Consequently, some employees used low-height storage cabinets and bar stools as alternative seating.

The findings therefore indicate that ergonomic furniture was incorporated within the workplace, but its insufficient quantity limited its availability to all employees when required.

Display and Exhibition Units
Display units, including TVs, were used for project presentations during client meetings. However, storage space was limited, resulting in overcrowded cabinets and inadequate accommodation of material samples and employees' personal belongings.

The findings indicate that although display facilities adequately supported project presentations and client interactions, storage provision remained insufficient for workplace materials and employees' belongings.

Summary of Findings in Relation to the Research Objective
Table 3 summarizes how the principal findings address the research objective of investigating the extent and forms of application of HCD principles at Manzil Designs offices.

Overall Findings
Generally, the findings indicate that Manzil Designs has incorporated several human-centered design features, including collaborative spaces, natural lighting, ergonomic furniture and open workspaces. However, the workplace shows inconsistencies in their implementation, particularly regarding workspace flexibility, employee privacy, seating capacity and storage provision.

The quantitative findings further show that lighting, furniture and spatial layout were the principal workplace design elements identified by employees as requiring improvement. Lighting

TABLE 3
Application of human-centred design principles at Manzil Designs offices

Research Objective	Key Finding	Evidence
Application of HCD principles	Collaborative spaces were incorporated but lacked flexibility	Observation, questionnaires and interviews
Application of HCD principles	Spatial openness enhanced interaction but reduced privacy	Observation, questionnaires and interviews
Application of HCD principles	Natural lighting was successfully incorporated and supported comfort and concentration	Observation and employee responses
Application of HCD principles	Ergonomic furniture was available but insufficient for all employees	Observation and questionnaires
Application of HCD principles	Display facilities were adequate, but storage provision was insufficient	Observation and employee responses
Application of HCD principles	Lighting was identified as the highest-priority design element requiring improvement	91.7% of questionnaire respondents
Application of HCD principles	Furniture was identified as another major area requiring improvement	75.0% of questionnaire respondents
Application of HCD principles	Spatial layout required improvement to better respond to employee needs	66.7% of questionnaire respondents
Application of HCD principles	Workplace design was perceived as influencing employee productivity	80.0% of questionnaire respondents

Source: Field survey, 2026

recorded the highest proportion at 91.7%, followed by furniture at 75.0% and spatial layout at 66.7%, while only 16.0% identified interior colour and aesthetics as requiring improvement. In addition, 80.0% of respondents agreed that workplace environment design affects concentration, efficient task completion, comfort during long working hours and job performance.

Overall, the findings demonstrate that while several Human-Centered Design principles have been incorporated at Manzil Designs, their implementation remains partial because workspace flexibility, employee privacy, adequate ergonomic seating, storage facilities and other supporting workplace provisions have not been fully addressed. These findings provide the basis for examining their implications in relation to Human-Centered Design, Environmental Psychology and existing workplace design literature in the Discussion section.

DISCUSSION

The findings demonstrate that several human-centered design (HCD) features, including collaborative spaces, natural lighting, ergonomic furniture and an open-plan layout, are present within the Manzil Designs office environment and influence employee experience, morale and productivity. However, these features were largely shaped by functional and spatial constraints rather than intentional participatory design processes. Consequently, although the workplace provides a generally functional environment, it only partially satisfies employees' physical, psychological and social needs. This supports Ruohomäki et al. (2015), who argue that workplace environments are often shaped by functional and organizational priorities despite the importance of user-centered approaches.

Employees reported varying levels of satisfaction with different workplace elements. Natural and artificial lighting, furniture and spatial layout influenced their morale and productivity, while breakout areas, acoustic and thermal control, and biophilic design were identified as areas requiring attention. These findings are consistent with studies showing that lighting, thermal

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comfort, ergonomic furniture and biophilic elements influence concentration, stress, fatigue, satisfaction and workplace performance (Boyce, 2014; Collins, 2023; Gao et al., 2023; McCoy, 2002; Miska & Azzahra, 2025).

The findings support environmental psychology, which explains that workplace environments influence employees' behaviour, well-being and productivity through interaction between individuals and their physical surroundings (Gifford et al., 2011). Positive experiences with natural lighting, spatial openness and ergonomic furniture indicate their contribution to employee comfort and morale. However, limited privacy, insufficient storage, inadequate seating and restricted flexibility demonstrate that environmental quality alone cannot guarantee positive employee experiences. Workplace design must also respond to employees' functional and psychological needs (Moser & Uzzell, 2003).

The findings are also consistent with international studies associating natural lighting, ergonomic furniture and collaborative spaces with employee satisfaction and productivity (Appel-Meulenbroek et al., 2020; Miska & Azzahra, 2025). However, open-plan offices may encourage collaboration while simultaneously reducing privacy and concentration (Kamarulzaman et al., 2011; Moser & Uzzell, 2003). The findings therefore demonstrate the need to balance collaborative spaces with private areas for focused work.

A significant finding was that HCD features were largely introduced without employee participation. This contrasts with HCD theory, which emphasizes continuous user involvement in identifying needs, generating ideas, implementing solutions and evaluating outcomes (Norman, 2013; Rosinsky et al., 2022). Similarly, co-design recognizes users as experts in their experiences and active contributors to design decisions (Antonini, 2021). Therefore, incorporating HCD features alone is insufficient without meaningful employee participation.

Within Kenya, the findings correspond with Thuo (2018) and Kangethe et al. (2022), who demonstrate that workplace conditions influence employee performance and satisfaction. However, financial constraints, organizational growth, traditional hierarchies and limited awareness of HCD may encourage organizations to prioritize operational efficiency and available space over employee-centered planning (Ntarangwi, 2025; Too et al., 2025).

Theoretically, the findings extend environmental psychology by demonstrating that employee experiences depend not only on physical environmental factors but also on how intentionally HCD principles and employee participation are integrated into workplace design. Employee participation therefore provides an important mechanism through which HCD interventions can translate into improved well-being, morale and productivity (Gifford et al., 2011; Norman, 2013; Rosinsky et al., 2022).

Practically, designers and employers should involve employees in workplace planning, provide flexible work settings, improve storage, balance collaborative and private spaces, and address lighting, acoustic, thermal and ergonomic requirements. Organizations should also institutionalize employee participation through regular workplace evaluations and post-occupancy assessments (Antonini, 2021; Rosinsky et al., 2022). Collectively, the findings demonstrate that successful workplace design depends on both appropriate physical interventions and meaningful employee participation throughout the design process.

CONCLUSION

This study examined the application of human-centered design principles within the office environment of Manzil Designs in Nairobi using a mixed-methods case study approach. The findings reveal that several interior design elements consistent with human-centered design principles are present, including collaborative spaces, natural lighting, ergonomic furniture, open workspaces and display areas. However, these features were implemented inconsistently without being supported by an intentional co-design or participatory design process involving employees. Therefore, while the workplace environment promotes collaboration and employee comfort, limitations relating to privacy, workspace flexibility, seating capacity, artificial lighting and inadequate storage reduce its ability to fully support employee well-being and productivity.

The study contributes to human-centered design scholarship by demonstrating that the effectiveness of workplace design depends not only on the presence of user-centered design features but also on intentional employee involvement in the design process. By integrating Environmental Psychology with Human-Centered Design, the study provides empirical evidence that employees' experiences are shaped by both the physical workplace environment and the extent to which their needs are considered and addressed during workplace design. Furthermore, the study contributes to the limited body of research on HCD within Kenyan office environments and highlights the importance of incorporating participatory workplace design practices within the Kenyan context.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made:

- *Adoption of human-centered workplace design*: Architects, interior designers and employers should adopt human-centered design approaches when creating new offices or renovating existing workplace environments. Employees should be actively involved in identifying workplace needs, generating ideas and evaluating proposed design solutions to ensure that office environments adequately respond to different work activities.
- *Improvement of workplace design elements*: Workplace design should provide a balanced combination of collaborative and private spaces to support both teamwork and tasks requiring concentration. Adequate ergonomic furniture, sufficient storage, appropriate natural and artificial lighting, thermal and acoustic comfort, and biophilic elements should also be incorporated to enhance employee well-being and productivity.
- *Institutionalization of employee participation*: Organizations should establish regular mechanisms for employee involvement in workplace planning through employee feedback, workplace evaluations and post-occupancy assessments. These mechanisms would enable employers to identify changing workplace needs and continuously improve office environments in response to employees' functional, psychological and social requirements.
- *Development of professional workplace design guidelines:* Professional bodies such as the Interior Design Association of Kenya (IDAK), policymakers and institutions that teach interior design and workplace planning, such as the University of Nairobi, should develop guidelines that promote human-centered design principles and employee participation within Kenyan office environments. Integrating these principles into professional practice and design education would encourage healthier and more productive workplaces.
- *Further research on human-centered workplace design:* Future research should extend this study across multiple companies and organizations in Kenya and undertake comparative multi-case studies involving different workplace design models. Longitudinal studies should also examine how HCD principles influence employee well-being, morale and productivity over time and investigate participatory workplace design across different organizational sizes, industries, and hybrid and flexible workplace models.

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