

# Influence of Color Schemes on Psychological Responses, User Experience, and Cultural Integration in Lagos's Cultural Centers

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## ABSTRACT

This study investigates the influence of color schemes on psychological responses, user experience, and cultural integration in Lagos's cultural centers, focusing on Terra Kulture and the John Randle Center for Yoruba Culture and History. Employing an explanatory sequential mixed-methods design, the research integrates quantitative surveys (n=284) and qualitative case study analyses to examine how color impacts diverse demographic groups. Findings reveal that earthy tones, warm accents, and cool muted tones are preferred, with earthy tones most favored (45.8%) for their connection to nature and cultural heritage. Psychological responses to colors vary significantly by ethnicity ( $p < 0.001$ ), with groups like Yoruba and Igbo favoring deep red and cool blue, while Ijaw and Edo prefer warm yellow and earthy green. Culturally significant colors enhance inclusivity when integrated through accent walls (67.3%), furniture/fabrics (66.2%), and lighting design (56.3%). Terra Kulture was identified as a leading example (48.2%) of balancing cultural identity with modern functionality. The study underscores the need for culturally informed color strategies to foster emotional resonance and inclusivity in Lagos's multicultural urban context, offering recommendations for architects to create cohesive and meaningful public spaces.

**Keywords:** Color psychology, user experience, cultural integration, Lagos, architectural design

## I. INTRODUCTION

Beyond its aesthetic function, color has profound psychological, emotional, and cultural significance. Color schemes have an important, although sometimes overlooked, role in the design of public places, particularly cultural centers where

identity, tradition, and community expression intersect (Enwin et al., 2023). Color becomes more than a design element in Lagos' dynamic urban fabric, which is noted for its ethnic diversity and visual vibrancy; it becomes a tool for storytelling, social inclusion, and psychological influence. These cultural centers are more than just architectural landmarks; they also serve as platforms for people from diverse backgrounds to connect, engage, and preserve their shared and individual histories (Bleibleh & Awad, 2020).

Color has the power to evoke mood, shape behavior, and guide interaction in such environments. It influences how people perceive a space, whether it's welcoming, energizing, contemplative, or even alienating (Cha et al., 2020). Warm tones, for example, may foster conversation and involvement, whilst colder hues may promote reflection and quiet. These psychological responses are not only influenced by individual preferences but also by socio-cultural contexts, beliefs, and traditional associations (Shavitt & Barnes, 2019). Lagos, a melting pot of ethnic identities and historical tales, has unusually varied cultural interpretations of color. A hue that represents festivity in one group may have religious meanings in another.

The experience of space, how it is used, remembered, and shared, is thus inextricably linked to the color choices incorporated into its design. As architects, planners, and cultural curators strive to create inclusive surroundings that reflect the city's multicultural character, a deliberate approach to color becomes critical. It must strike a balance between functionality and emotional resonance, psychological well-being and visual coherence, and global design principles with local cultural character (Hou, 2020). This study investigates the

relationship between color psychology, user-centered design, and cultural symbolism in the context of Lagos' cultural centers. This study examines how color schemes impact user experience and emotional involvement, as well as whether culturally-informed palettes promote or hinder inclusivity and identity expression in public cultural architecture (Cha et al., 2020).

The aim of this study is to investigate the influence of color schemes on psychological responses, user experience, and cultural integration within cultural centers in Lagos.

The Objectives are to;

- i. Examine the psychological responses of Lagos's diverse demographic groups (e.g., age, cultural background) to the different color schemes.
- ii. Identify which color scheme mostly affects user experience in cultural centers.
- iii. Determine how culturally significant colors be integrated into modern architectural spaces without compromising functionality or aesthetic cohesion.

## II. LITERATURE REVIEW

Color's function in molding human experience in constructed spaces has long been a source of interdisciplinary research, spanning architecture, psychology, anthropology, and design theory. Color has more than just a cosmetic purpose; it actively influences how spaces are viewed, how people behave inside them, and how they emotionally connect with their environment (Jain & Nayak, 2023). The purposeful use of color in public and communal architecture, particularly inside cultural centers, is even more important because of its ability to elicit emotion, express identity, and reflect shared ideals.

### 2.1 Color and Psychological Response

Color has a long history of influencing human emotions, behavior, and perception, according to psychological research (Devi, 2025). Warm colors, such as red, orange, and yellow, are typically associated with stimulation, vitality, and sociability, and can elicit feelings of excitement or urgency. These colors can boost energy levels and inspire interaction, making them useful in spaces intended for social interaction. Cooler tones, such as blue, green, and violet, evoke feelings of calm, introspection, and emotional stability. These colors are frequently used to create soothing environments that promote relaxation, concentration, and mental clarity. Personal experiences, environmental

exposure, and cultural background also influence such responses; thus, they are not purely biological (Pluess et al., 2020).

The use of color in architecture, particularly in public spaces such as cultural centers, goes beyond aesthetics to influence how people interpret and interact with their surroundings. Color can influence spatial perception, making a room feel larger, smaller, warmer, or cooler, as well as emotional response, depending on how it is used (Kairatovich, 2024). A well-chosen palette can help a space serve its purpose, whether it is intended for celebration, reflection, or communal dialogue. Understanding the psychological effects of color is critical in culturally varied urban settings such as Lagos, not just for practical outcomes, but also to ensure that places resonate emotionally with people from diverse backgrounds (Yu et al., 2024).

### 2.2 User Experience and Spatial Engagement

User experience in architecture goes far beyond visual appeal; it encompasses how individuals physically move through a space, interpret its meaning, and form emotional connections with their surroundings. Color plays a foundational role in shaping these interactions, serving as both a visual cue and an emotional trigger (Awad et al., 2024). In environments like cultural centers, where the diversity of functions mirrors the diversity of users, color influences how people perceive atmosphere, purpose, and belonging. A vibrant, well-balanced palette can draw users into a space, encourage exploration, and foster a sense of orientation. Disjointed or overly intense color schemes can cause discomfort, visual fatigue, or even psychological withdrawal. When colors are thoughtfully applied, they act as silent guides that help users understand how to engage with different zones within the space (Hegemann & Oulasvirta, 2024).

Color rarely works in isolation; its effect is amplified or diminished depending on the interplay with lighting, texture, materials, and spatial organization. For example, a deep blue wall under natural daylight may create a serene, contemplative feel, but under artificial lighting, the same tone might appear cold or oppressive. This dynamic quality makes color a powerful but complex design tool in shaping user experience. In cultural centers that aim to support a range of activities from exhibitions and workshops to spiritual reflection and community dialogue, the success of a space often hinges on how well its chromatic language supports its functional diversity.

(Pfeifere, 2022). In Lagos, where cultural richness is layered and multifaceted, designing for positive user engagement requires sensitivity to how different groups perceive and respond to color within shared environments.

### 2.3 Cultural Symbolism and Interpretation of Color

Color has strong symbolic importance in cultures, frequently serving as a visual language to convey identity, tradition, emotion, and ideology (Singh & Chowdhury, 2023). In a city as culturally rich and ethnically diverse as Lagos, these connotations are not only different but also occasionally conflicting. For example, while the color white is associated with purity, tranquility, and religious ceremonies in some Nigerian communities, it may also represent sadness and transition in others. Similarly, hues such as crimson, gold, and indigo are significant in traditional dress, rites, and spiritual practices, each with hidden meanings that extend far beyond aesthetics. The visual patterns found in Yoruba *adire*, Igbo *isiagu*, and Hausa embroidery are more than just decorative; they are visual narratives about lineage, spirituality, status, and historical memory. These traditions provide a reservoir of symbolic references that can enrich contemporary architectural palettes when thoughtfully applied.

In the context of cultural center design, color serves as both a bridge and a barrier between the space and its users. Relying primarily on global or Western-inspired color schemes may result in visually appealing buildings with little cultural depth or meaning, alienating the very community they seek to serve. Integrating indigenous color meanings into space architecture, on the other hand, can promote a sense of recognition, belonging, and shared identity (Bhattacharya et al., 2020). It expresses cultural respect and continuity, which strengthens the user's emotional connection to the location. For designers working in Lagos, the challenge is to navigate this mosaic of color meanings while being respectful and inclusive, balancing aesthetic innovation with cultural authenticity. This requires not just design sensitivity but also cultural literacy and community engagement throughout the design process.

### 2.4 Gaps in Literature

While the existing literature on color psychology and architectural design is extensive, there is a significant gap in research that specifically investigates the intersection of color,

psychological responses, user experience, and cultural integration in African urban environments, particularly in Lagos. The majority of the studies accessible are based on research conducted in Western environments, which tends to generalize color associations and psychological effects across cultures (Krys et al., 2024). These broad findings ignore the distinct cultural, socioeconomic, and historical factors that influence color perception and interpretation in various African cities. This disparity is exacerbated in Lagos, where a diverse range of ethnic groups coexist, each with their own customs and symbolic associations with color. The absence of empirical evidence examining the nuanced relationships between color schemes and emotional or behavioral responses within public cultural spaces further underscores the need for research that is deeply embedded in the local context (Zhang & Kim, 2023).

This literature analysis underlines the crucial need for a more culturally aware, context-specific approach to color use in architectural design, particularly in densely populated areas like Lagos. It proposes a multidisciplinary approach that includes local cultural traditions, collective memory, and community perspectives to better understand how color might improve user comfort, participation, and overall experience in cultural centers (Odetti, 2023). By addressing these gaps, future study can provide useful insights into how chromatic tactics can encourage cultural cohesiveness, increase identity expression, and create venues that resonate profoundly with the different people they serve.

## III. METHODOLOGY

### 3.1. Research Design

This study adopts an explanatory sequential mixed-methods design that systematically integrates quantitative and qualitative approaches to comprehensively examine the research objectives. The research design unfolds in three carefully structured phases, each serving distinct yet complementary purposes in addressing the study's objectives.

The study targeted two case study analysis of two prominent cultural centers in Lagos: Terra Kulture and the John Randle Center for Yoruba Culture and History, to examine their application of color psychology in architectural design and its impact on user experience.

### 3.1.1. Terra Kulture



Figure 3.1: Terra Kulture Arena

Source:

Terra Kulture, located in Victoria Island, serves as a vibrant hub for Nigerian arts, language, and cultural education.

### 3.1.2. John Randle Center



Figure 3.2: John Randle Center

Source:

The John Randle Center, situated in Onikan, presents a more contemporary interpretation of Yoruba cultural heritage through its architecture. Its color strategy combines modern

### 3.2. Population

The study population comprises the diverse user groups of the two selected case studies, Terra Kulture and John Randle Center for Yoruba Culture and History. While the exact number of users is undocumented, both institutions attract substantial visitor numbers, with Terra Kulture receiving an estimated 50,000 annual

visitors and John Randle Center approximately 30,000, based on available attendance records and management reports. This large, heterogeneous population includes several distinct user categories that are particularly relevant to the research objectives.

### 3.3. Sample Size Calculation

Since the total population is unknown, a sample size formula is required for the quantitative survey. Cochran's formula is applied to determine the minimum required sample size:

$$n_0 = \frac{Z^2 \times p \times (1 - p)}{E^2}$$

Where:  $Z=1.96$ (for 95% confidence level);  $p=0.5$  (assumed proportion of the population with relevant characteristics);  $E=0.05$ (margin of error)

$$\begin{aligned} n_0 &= \frac{(1.96)^2 \times 0.5 \times (1 - 0.5)}{(0.05)^2} \\ n_0 &= \frac{3.8416 \times 0.25}{0.0025} \\ n_0 &= \frac{0.9604}{0.0025} \\ n_0 &= 384.16 \\ n_0 &\approx 384 \end{aligned}$$

Thus, the minimum sample size for the survey is 384 respondents.

### 3.4. Data Collection Method

A structured questionnaire was administered to 284 visitors at Terra Kulture and John Randle Center, capturing demographic data (age, ethnicity, occupation), color associations, psychological responses, and preferences for cultural center design. The questionnaire adopts a mixed-format approach, combining closed-ended and open-ended questions to gather both quantitative and qualitative data. The case studies, Terra Kulture and John Randle Center were analyzed for their color strategies, user feedback, and cultural resonance.

### 3.5. Data Analysis

This section outlines the quantitative and qualitative data analysis procedures to be conducted using SPSS (Statistical Package for the Social Sciences). The analysis is structured according to the three research objectives, employing appropriate statistical tests and thematic coding techniques to derive meaningful insights.

**Table 3.1: Data Analysis Plan by Research Objective**

| Objective                                               | Analysis Type               | Statistical Method/Tool                                         | Variables Involved                                                 | Output Interpretation                                                                             |
|---------------------------------------------------------|-----------------------------|-----------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <b>Identify culturally significant color schemes</b>    | Descriptive & Inferential   | - Frequency Distribution (Q4)<br>- Chi-square Test (Q4 x Q1–Q3) | - Cultural color associations (Q4)<br>- Demographics (Q1–Q3)       | - Most/least selected colors.<br>- Variations by age/ethnicity.                                   |
| <b>Examine psychological responses to colors</b>        | Comparative & Correlational | - ANOVA (Q6 x Q1–Q3)<br>- Mean Scores (Q6)                      | - Emotional ratings (Q6)<br>- Demographics (Q1–Q3)                 | - Significant differences in emotional responses across groups.<br>- Highest/lowest-rated colors. |
| <b>Identify color schemes affecting user experience</b> | Descriptive & Predictive    | - Friedman Test (Q8 rankings)<br>- Cross-tabulation (Q9 x Q8)   | - Color scheme preferences (Q8)<br>- Color-induced discomfort (Q9) | - Most/least preferred schemes.<br>- Discomfort linked to specific colors.                        |

Source: Author, 2025

#### IV. FINDINGS AND DISCUSSION

This chapter presents the results of the data collected from respondents and provides a comprehensive analysis aligned with the research objectives. Drawing on both descriptive and inferential statistics, the chapter interprets how different color schemes influence user experience, engagement, and comfort within cultural and youth-oriented spaces. Through frequency tables, bar charts, cross-tabulations, Friedman tests, chi-square tests, and regression analyses, the chapter critically evaluates patterns in user preferences,

discomfort levels, and the perceived functionality of color applications.

##### 4.1. Demographic Analysis of Respondents

Demographic analysis is crucial in understanding how different user groups may perceive and interact with culturally expressive architectural spaces. The diversity in age, cultural background, and occupation among respondents forms the basis for interpreting their psychological and aesthetic responses to colour use in cultural centers. Tables 1–3 provide a breakdown of these demographic distributions.

**Table 4.1: Frequency table of respondents Age group**

|                 | N   | %     |
|-----------------|-----|-------|
| <b>Under 18</b> | 18  | 6.3%  |
| <b>18-30</b>    | 94  | 33.1% |
| <b>36-45</b>    | 150 | 52.8% |
| <b>46-60</b>    | 15  | 5.3%  |
| <b>Above 60</b> | 7   | 2.5%  |

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

Table 4.1 show that most respondents fall within the 36–45 age bracket, representing 52.8% of the sample. This group is followed by the 18–30

age group (33.1%), while smaller proportions are observed in the under-18 (6.3%), 46–60 (5.3%), and above-60 (2.5%) categories.

**Table 4.2: Frequency table of Respondents' Cultural/ethnic background**

|             | N   | %     |
|-------------|-----|-------|
| Yoruba      | 119 | 41.9% |
| Igbo        | 100 | 35.2% |
| Hausa       | 22  | 7.7%  |
| Ijaw        | 15  | 5.3%  |
| Rivers      | 6   | 2.1%  |
| Niger delta | 6   | 2.1%  |
| Isoko       | 2   | 0.7%  |
| Edo         | 10  | 3.5%  |
| Ikwerre     | 2   | 0.7%  |
| Opameri     | 2   | 0.7%  |

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

As shown in Table 4.2, the respondents are largely from Nigeria's three major ethnic groups: Yoruba (41.9%), Igbo (35.2%), and Hausa (7.7%).

Minority groups, including Ijaw, Rivers, Niger Delta, Isoko, Edo, Ikwerre, and Opameri, account for the remaining percentage.

**Table 4.3: Frequency distribution of Respondents Occupation**

|                                                     | N   | %     |
|-----------------------------------------------------|-----|-------|
| Student                                             | 53  | 18.7% |
| Creative Professional (Artist, Architect, Designer) | 52  | 18.3% |
| Corporate Worker                                    | 132 | 46.5% |
| Government/Civil Service                            | 7   | 2.5%  |
| Entrepreneur                                        | 40  | 14.1% |

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

Table 4.3 reveal that corporate workers make up the largest share of respondents (46.5%), followed by students (18.7%), creative professionals (18.3%), entrepreneurs (14.1%), and a small fraction in civil service (2.5%). This distribution reflects a varied occupational landscape, with a notable balance between formal

sector employees and individuals in creative or entrepreneurial professions.

#### 4.2. Objective II: Examine the psychological responses of Lagos's diverse demographic groups to the different colour schemes.

Table 4.6 shows that psychological responses to colors varied significantly by ethnicity ( $p < 0.001$ ).

**Table 4.6: Statistical Significance Across Groups (ANOVA Results)**

| ANOVA                 |                | Sum of Squares | df  | Mean Square | F     | Sig. |
|-----------------------|----------------|----------------|-----|-------------|-------|------|
| Feelings_Deep_Red     | Between Groups | 43.587         | 9   | 4.843       | 5.378 | .000 |
|                       | Within Groups  | 246.761        | 274 | .901        |       |      |
|                       | Total          | 290.349        | 283 |             |       |      |
| Feelings_Cool_Blue    | Between Groups | 94.026         | 9   | 10.447      | 8.503 | .000 |
|                       | Within Groups  | 336.661        | 274 | 1.229       |       |      |
|                       | Total          | 430.687        | 283 |             |       |      |
| Feelings_Warm_Yellow  | Between Groups | 88.658         | 9   | 9.851       | 8.442 | .000 |
|                       | Within Groups  | 319.737        | 274 | 1.167       |       |      |
|                       | Total          | 408.394        | 283 |             |       |      |
| Feelings_Earthy_Green | Between Groups | 74.224         | 9   | 8.247       | 8.297 | .000 |
|                       | Within Groups  | 272.350        | 274 | .994        |       |      |
|                       | Total          | 346.574        | 283 |             |       |      |

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

Table 4.7: Descriptive statistics highlighting the substantial inter-ethnic variation in colour preferences

| Descriptives          |             |     |      |                |            |                                  |             |         |         |
|-----------------------|-------------|-----|------|----------------|------------|----------------------------------|-------------|---------|---------|
|                       |             | N   | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean |             | Minimum | Maximum |
|                       |             |     |      |                |            | Lower Bound                      | Upper Bound |         |         |
| Feelings_Deep_Red     | Yoruba      | 119 | 2.20 | 1.005          | .092       | 2.02                             | 2.38        | 1       | 5       |
|                       | Igbo        | 100 | 2.05 | .702           | .070       | 1.91                             | 2.19        | 1       | 5       |
|                       | Hausa       | 22  | 2.41 | 1.008          | .215       | 1.96                             | 2.86        | 1       | 4       |
|                       | Ijaw        | 15  | 2.73 | 1.387          | .358       | 1.97                             | 3.50        | 1       | 5       |
|                       | Rivers      | 6   | 3.50 | .548           | .224       | 2.93                             | 4.07        | 3       | 4       |
|                       | Niger delta | 6   | 3.50 | 1.643          | .671       | 1.78                             | 5.22        | 2       | 5       |
|                       | Isoko       | 2   | 3.00 | .000           | .000       | 3.00                             | 3.00        | 3       | 3       |
|                       | Edo         | 10  | 3.20 | 1.317          | .416       | 2.26                             | 4.14        | 2       | 5       |
|                       | Ikwere      | 2   | 3.00 | .000           | .000       | 3.00                             | 3.00        | 3       | 3       |
|                       | Opameri     | 2   | 4.00 | .000           | .000       | 4.00                             | 4.00        | 4       | 4       |
|                       | Total       | 284 | 2.31 | 1.013          | .060       | 2.19                             | 2.42        | 1       | 5       |
| Feelings_Cool_Blue    | Yoruba      | 119 | 2.34 | 1.224          | .112       | 2.12                             | 2.57        | 1       | 5       |
|                       | Igbo        | 100 | 1.89 | 1.163          | .116       | 1.66                             | 2.12        | 1       | 5       |
|                       | Hausa       | 22  | 2.73 | .456           | .097       | 2.53                             | 2.93        | 2       | 3       |
|                       | Ijaw        | 15  | 3.47 | .990           | .256       | 2.92                             | 4.02        | 2       | 5       |
|                       | Rivers      | 6   | 2.50 | .548           | .224       | 1.93                             | 3.07        | 2       | 3       |
|                       | Niger delta | 6   | 4.50 | .548           | .224       | 3.93                             | 5.07        | 4       | 5       |
|                       | Isoko       | 2   | 5.00 | .000           | .000       | 5.00                             | 5.00        | 5       | 5       |
|                       | Edo         | 10  | 2.90 | .738           | .233       | 2.37                             | 3.43        | 2       | 4       |
|                       | Ikwere      | 2   | 4.00 | .000           | .000       | 4.00                             | 4.00        | 4       | 4       |
|                       | Opameri     | 2   | 3.00 | .000           | .000       | 3.00                             | 3.00        | 3       | 3       |
|                       | Total       | 284 | 2.38 | 1.234          | .073       | 2.23                             | 2.52        | 1       | 5       |
| Feelings_Warm_Yellow  | Yoruba      | 119 | 2.09 | 1.221          | .112       | 1.87                             | 2.31        | 1       | 5       |
|                       | Igbo        | 100 | 1.69 | 1.080          | .108       | 1.48                             | 1.90        | 1       | 5       |
|                       | Hausa       | 22  | 2.23 | .685           | .146       | 1.92                             | 2.53        | 1       | 3       |
|                       | Ijaw        | 15  | 3.60 | .986           | .254       | 3.05                             | 4.15        | 2       | 5       |
|                       | Rivers      | 6   | 2.00 | .000           | .000       | 2.00                             | 2.00        | 2       | 2       |
|                       | Niger delta | 6   | 4.00 | .000           | .000       | 4.00                             | 4.00        | 4       | 4       |
|                       | Isoko       | 2   | 3.00 | .000           | .000       | 3.00                             | 3.00        | 3       | 3       |
|                       | Edo         | 10  | 2.10 | .738           | .233       | 1.57                             | 2.63        | 1       | 3       |
|                       | Ikwere      | 2   | 4.00 | .000           | .000       | 4.00                             | 4.00        | 4       | 4       |
|                       | Opameri     | 2   | 4.00 | .000           | .000       | 4.00                             | 4.00        | 4       | 4       |
|                       | Total       | 284 | 2.11 | 1.201          | .071       | 1.97                             | 2.25        | 1       | 5       |
| Feelings_Earthy_Green | Yoruba      | 119 | 2.97 | 1.089          | .100       | 2.77                             | 3.16        | 1       | 5       |
|                       | Igbo        | 100 | 2.58 | .966           | .097       | 2.39                             | 2.77        | 1       | 5       |
|                       | Hausa       | 22  | 2.64 | .902           | .192       | 2.24                             | 3.04        | 1       | 4       |
|                       | Ijaw        | 15  | 3.93 | 1.100          | .284       | 3.32                             | 4.54        | 2       | 5       |
|                       | Rivers      | 6   | 3.00 | .000           | .000       | 3.00                             | 3.00        | 3       | 3       |
|                       | Niger delta | 6   | 4.00 | .000           | .000       | 4.00                             | 4.00        | 4       | 4       |
|                       | Isoko       | 2   | 5.00 | .000           | .000       | 5.00                             | 5.00        | 5       | 5       |
|                       | Edo         | 10  | 4.30 | .823           | .260       | 3.71                             | 4.89        | 3       | 5       |
|                       | Ikwere      | 2   | 4.00 | .000           | .000       | 4.00                             | 4.00        | 4       | 4       |
|                       | Opameri     | 2   | 5.00 | .000           | .000       | 5.00                             | 5.00        | 5       | 5       |

|  |       |     |      |       |      |      |      |   |   |
|--|-------|-----|------|-------|------|------|------|---|---|
|  | Total | 284 | 2.96 | 1.107 | .066 | 2.83 | 3.09 | 1 | 5 |
|--|-------|-----|------|-------|------|------|------|---|---|

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

Deep red was highly significant for Yoruba (mean = 2.20) and Igbo (mean = 2.05), evoking power and protection, but less so for Ijaw (mean = 2.73) and Rivers (mean = 3.50). Cool blue garnered mixed reactions, with Yoruba (mean = 2.34) and Igbo (mean = 1.89) rating it positively, while Niger Delta (mean = 4.50) found it more meaningful. Warm yellow was strongly valued by Ijaw (mean = 3.60) and Niger Delta (mean = 4.00), symbolizing energy, but less so by Igbo (mean = 1.69). Earthy green resonated with Isoko (mean = 5.00) and Edo (mean = 4.30), suggesting a connection to nature.

#### 4.3. Objective III: Identify which colour scheme mostly affects user experience in cultural centers.

##### Summary

- i. Earthy Tones 45.8%
- ii. Warm Accents 44.4%
- iii. Cool Muted Tones 43.3%
- iv. Bold Contrast Colours 35.6%

Earthy tones were ranked most preferred, closely followed by warm accents and cool muted tones. Bold contrast schemes, while still favoured by over a third of respondents, were the least preferred overall.

The Friedman test was employed to compare the ranked preferences across four colour schemes because the same respondents rated each scheme on an ordinal scale. It tests whether differences in rankings are statistically significant.

**Table 4.8: Friedman Test – Ranking Significance**

| Ranks                    |           |
|--------------------------|-----------|
|                          | Mean Rank |
| Lobby_Pref_Bold_Contrast | 2.58      |
| Lobby_Pref_Earthy_Tones  | 2.38      |
| Lobby_Pref_Cool_Muted    | 2.51      |
| Lobby_Pref_Warm_Accents  | 2.53      |

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

Since  $p > 0.05$ , the differences in rankings were not statistically significant, though slight preferences still emerged. While not definitive, the

trends suggest moderate user consensus around earthy and warm palettes, with bold contrast least favored.

**Table 4.9: Chi-Square Tests**

|                              | Value               | df | Asymptotic Significance (2-sided) |
|------------------------------|---------------------|----|-----------------------------------|
| Pearson Chi-Square           | 28.365 <sup>a</sup> | 9  | .001                              |
| Likelihood Ratio             | 32.151              | 9  | .000                              |
| Linear-by-Linear Association | 2.154               | 1  | .142                              |
| N of Valid Cases             | 284                 |    |                                   |

a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is .72.

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

Results from Table 4.8 show Pearson Chi-Square = 28.365, df = 9,  $p = 0.001$ , and Likelihood Ratio = 32.151,  $p = 0.000$

A significant association exists between colour discomfort and cultural/ethnic background, indicating that colour sensitivity and expectations are culturally mediated.

#### 4.4. OBJECTIVE: Determine how culturally significant colours can be integrated into modern architecture without compromising functionality or aesthetics.

**Rationale for Analysis:** This objective focuses on practical design integration strategies for traditional colours, honouring cultural identity while meeting modern architectural demands for

functionality and visual cohesion. The data collected through frequency tables and cross-tabulations helps:

- i. Reveal preferred methods of cultural colour incorporation.

- ii. Identify user-perceived exemplary buildings that have achieved a balanced fusion.
- iii. Understand cultural diversity in perception, which supports inclusive design decisions.

Table 28: Preferred Strategies for Colour Integration

|                                    |                                             | Responses |         | Percent of Cases |
|------------------------------------|---------------------------------------------|-----------|---------|------------------|
|                                    |                                             | N         | Percent |                  |
| How can traditional colours blend? | As accent walls/art installations           | 191       | 35.4%   | 67.3%            |
|                                    | Through furniture/fabrics                   | 188       | 34.9%   | 66.2%            |
|                                    | In lighting design (e.g., coloured filters) | 160       | 29.7%   | 56.3%            |
| Total                              |                                             | 539       | 100.0%  | 189.8%           |

a. Dichotomy group tabulated at value 1.

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

- i. Accent walls and art installations are the most preferred method (67.3%) for integrating traditional colours. This suggests users value visual focal points that blend heritage and creativity without overwhelming the spatial context.
- ii. Furniture and fabrics follow closely at 66.2%, indicating a preference for tactile and changeable design elements.
- iii. Lighting design, while slightly less popular (56.3%), is still significant. It represents a modern and adaptive way of using colour,

suggesting that ephemeral or dynamic colour cues are also appreciated.

This aligns with (Author, Year), who assert that cultural meaning is more successfully conveyed when materials and design elements are contextually embedded in everyday architectural touchpoints. Also, (Author, Year) advocates that culturally rooted colours are best integrated in accent features to preserve modern aesthetics and user acceptability.

Table 29: Real-World Inspirations: Culturally Balanced Buildings

| Which modern Lagos building best balances culture + functionality? |     |       |
|--------------------------------------------------------------------|-----|-------|
|                                                                    | N   | %     |
| Freedom Park                                                       | 42  | 14.8% |
| Nike Art Gallery                                                   | 73  | 25.7% |
| John Randle Center                                                 | 32  | 11.3% |
| Terra kulture                                                      | 137 | 48.2% |

Source: Researcher's field survey data (2025) analyzed using IBM SPSS Statistics.

## V. CONCLUSION AND RECOMMENDATIONS

### 5.1 CONCLUSION

The study explores the relationship between color schemes, psychological responses, user experience, and cultural integration in Lagos' cultural centers, Terra Kulture and the John Randle Center for Yoruba Culture and History. It found that color is more than just an aesthetic tool; it serves as a dynamic medium for emotional engagement, cultural expression, and spatial functionality. Earthy tones were the most preferred color palette, fostering a sense of connection to nature and cultural heritage, particularly among ethnic groups like the Isoko and Edo. Warm accents and cool muted tones were also preferred, creating inviting

and contemplative environments. Bold contrast colors were less preferred, often associated with discomfort or overstimulation. The study also found that culturally significant colors enhance user experience when integrated thoughtfully into architectural design. Accent walls, art installations, furniture, fabrics, and lighting design were highly favored, allowing for the seamless incorporation of traditional color meanings without compromising modern functionality or aesthetic cohesion. This highlights the need for culturally informed design approaches that respect and reflect the diverse symbolic meanings of color in Lagos.

### 5.2 RECOMMENDATIONS

Based on the findings, the following recommendations are proposed to guide architects,

planners, and cultural curators in the design and management of cultural centers in Lagos and similar multicultural urban contexts:

- i. Adopt Culturally Informed Color Palettes: Designers should use earthy tones, warm accents, and cool muted tones to create inclusive spaces, drawing from local cultural symbolism like Yoruba's deep red and Ijaw's warm yellow, to enhance user connection and engagement.
- ii. Integrate Traditional Colors Strategically: Utilize accent walls, art installations, furniture, and fabrics to incorporate culturally significant colors, allowing flexibility while maintaining modern aesthetic standards. Explore lighting design with colored filters for dynamic experiences.
- iii. Engage Communities in the Design Process: Architects should involve local communities in color scheme selection, using participatory workshops or surveys to identify cultural preferences and foster ownership in cultural centers.
- iv. Balance Functionality and Aesthetics: Designers in Lagos must consider practical factors like maintenance to maintain vibrant colors, choosing durable materials and finishes for long-term aesthetic and functional integrity.
- v. Conduct Further Research: Future studies should expand to include more cultural centers in Lagos and explore lighting conditions and material textures' impact on color perception for improved design strategies.

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