Users' Satisfaction Level with Universal Design Strategies: A Case Study of Barracuda Beach Resort, Eti-Osa, Lagos

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Abstract: This study aimed to evaluate the satisfaction level of users with universal design strategies implemented at Barracuda Beach Resort, in Eti-Osa, Lagos State, Nigeria, with the notion of pinpointing areas for improvement, towards promoting inclusivity in the establishment of leisure facilities in the study area. The research is a case study that adopted quantitative research approaches to collect, analyse and present data, with purposive sampling as the sampling method. A sample size of 44 was derived from the number of rooms of the resort which is 50. Data was obtained with a structured questionnaire from 31 respondents made up of staff and guests. The data were analysed by descriptive and inferential statistics using statistical product and service solutions software (SPSS). The findings were presented descriptively in themes with tables. The results indicated that while most of the users were satisfied with the universal design strategies implemented at the resort, a small number of them expressed uncertainty on their satisfaction level, while a few signified dissatisfactions with provision of different means of access. Suggestions made include: raising awareness on the significance and benefits of incorporating universal design strategies into the planning of recreational facility and enforcing accessible design guidelines in the development of resorts to ensure usability for all individuals, particularly individuals with disabilities, thereby promoting social inclusivity in leisure facility development. The research provides a blueprint for developing resort settings that prioritize the needs of all user groups ensuring they are secure, safe, inclusive, resilient and sustainable in line with the objective of the 11th target of the 17 sustainable development goals.

Keywords: Universal Design, Social Inclusion, Accessibility, Usability, People with Disabilities, Recreational Facilities, Beach Resort, Lagos.

1. Introduction

The concepts of inclusion and accessibility have become more important in a societies that are ever more diverse and connected, in sectors ranging from architecture to urban planning. The way public spaces like resorts, recreation centres, and recreational facilities are constructed has a big impact on people's experiences. A comprehensive inclusive design approach known as universal design (UD) concept has arisen to ensure that the built environment and its facilities are pleasurable, usable, and accessible to individuals of all ages, abilities, and backgrounds. But considering the range and intricacy of amenities, events, and resort geography, one can question whether the UD concept is being sufficiently applied in the

development of resorts in emerging cities like Lagos, Nigeria. Introducing designs that are consistent with the UD concept is an effective way of ensuring social inclusion in the development of the built environment.

"*A concept that encompasses strategies in design that provide comfort, flexibility, and adaptability in the built environment and improves quality of life of all human beings,*" is how Adewale, Jegede, and Sogbetun (2022) described UD in a recent study. UD aims to create environments, products, and systems that people of all ages, abilities, and backgrounds may use and access without the need for any special design or adaptation. The UD concept encourages inclusion and equal involvement in communities by guaranteeing that everyone, regardless of physical or cognitive disabilities, may connect with and benefit from the developed product or environment. Rather than making products that appeal to the needs of the average user, the key goals of UD are usability, accessibility, and growing the user base to accommodate everyone or as many individuals as possible (Sholanke, Adeboye and Alagbe, 2019).

Ron Mace who was the pioneer and advocate of the UD concept described it as "*a design that is usable by all people, to the greatest extent possible, without the need for adaptation or specialized design*." Under the guidance of Ron Mace, a team of environmental design experts, architects, engineers, and product designers from North Carolina State University created the seven guiding principles that serve as the foundation for UD in 1997 (Burgstahler, 2009). Equitable use, adaptability, ease of use, observable information, error tolerance, little physical exertion, and size and space for approach and use are the guiding principles.

By ensuring that everyone may participate in social, economic, and political processes, regardless of ability, UD seeks to advance social inclusion. In order to do this, the experience and the variety of abilities of possible users are considered (Burgstahler, 2023; Perry, 2022). Social inclusion in the context of UD is critical to an individual's independence, safety, sense of self-worth, and capacity to live a better life. Questions have been made regarding the degree to which the concept of Universal Design (UD) has been integrated into the design of various building types, given the evident accessibility issues that people with disabilities (PWDs) encounter (Bumma, Ayagere, Amakiri-Whyte, and Ubani; 2020). The accessibility of public buildings has become a significant social issue of international concern. It is driven by the desire to guarantee that no individual receives unjust treatment due to their size, ability, or limitations on their mobility (Babalola, Eke, Opoko, Izobo-Martins, Ediae, and Akinola, 2020). The built environment can help or hinder people's ability to participate in society (Perry, 2022). It has recently been evident that inclusivity has a major role in the profitability and success of the hotel business. Knippenberg (2023) asserts that a sincere dedication to diversity, equity, and inclusion can spur business success and client loyalty. Companies in the hotel, resort, spa, and wellness industries should start by talking about inclusion in their marketing materials if they wish to become more inclusive. A more inclusive and sustainable hospitality experience could be produced by designing with sustainability in mind. Using smart technology, investing in renewable energy sources, and selecting environmentally friendly construction materials are all part of this (Knippenberg, 2023).

Five (5) categories were created from the identification of various UD tactics found in literature in order to achieve inclusion in the construction of the built environment within the context of the UD principles:

i. Providing various access points, like escalators, travellators,

passenger elevators, ramps, and staircases (Tatano and Revellini, 2023; National Disability Authority (NDA), 2012a).

ii. Positioning access points in the right places. The UD access provisions must be positioned appropriately and in close proximity to one another (NDA, 2012a).

iii. Ergonomic fixtures and furniture must be provided (Engel, 2023).

iv. Appropriate lighting, color schemes, and signage must be provided. This strategy is more helpful for people who are visually impaired.

v. Giving wheelchair users enough room to maneuver in places like restrooms, rooms, parking lots, walkways, and other areas where they are required (Santoso, 2023; Milstein, 2021; Elkink, 2015; NDA, 2012b; Department of Justice, 2010).

Owing to the notion of UD's significance in attaining social inclusion in the development of the built environment, studies on the subject have been carried out in Nigeria. The bulk of these studies, however, focused on areas like academic buildings, offices, retail stores, and education (Oyeniyi, Taiye, Ife Akande, and Olabode, 2022; Natália, Lea, and Zuzana, 2022; Ubani, Bumaa, Ayagere, Amakiri-whyte, Kpalap and Naabura, 2020; Rangga, Nangkula, Nazlina, Sumarni, and Ratri, 2020; Sholanke, Adeboye, and Alagbe, 2019; Spooner, Browder, and Ahlgrim-Delzell, 2007). A few studies on resort architecture were also found, but they focused more on the use of eco-friendly materials, health benefits, and how design empathy affects the experience of visitors (Ekhaese and Ndimako, 2023; Zhou, 2023; Hamsanandini and Oun-Foung, 2022; Bal and Czalczynska-Podolska, 2021; Wang and Zheng, 2020; Zhang, Zhu, Zhang, Zhang, and Lu, 2020; Ka Wai Lai, Yang, and Hitchcock, 2020). Although there is an increase of knowledge on this topic, no study has looked into how satisfied customers are with UD strategies in resorts, particularly in Lagos, one of Nigeria's largest emerging cities.

Therefore, to address the aforementioned gaps, this study evaluated users' satisfaction with the way UD strategies were implemented at Barracuda Beach Resort in Eti-Osa, Lagos State, Nigeria with the aim of identifying areas that need improvement towards promoting social inclusion in the development of recreational facilities.

With an abundance of landmarks and tourist attractions that make it the perfect location for exploration and leisure, the study region of Lagos is recognized as a major centre for leisure and tourism. It is therefore an ideal research area for the study. The lack of physical accessibility features for individuals with physical disabilities in certain types of developments and the general need for more accessibility in public spaces, as revealed by Bumma, Ayagere, Amakiri-Whyte, and Ubani (2020), further provides a justification for this research in the study area.

The study supports encouraging the development of inclusive, safe, resilient, and sustainable cities and communities which is the eleventh target of the seventeen sustainable development goals. Furthermore, it emphasizes how important it is to design public spaces, especially leisure centres like resorts, so that everyone may use them and access them regardless of their physical capabilities or limitations, in line with the UD principles. January 2024 was when the data was collected from the participants of the study with the use of

questionnaire, which contained a scale used to rate the satisfaction level of the users with the UD strategies.

2. Materials and Methods

In evaluating users' satisfaction level with the implementation of UD strategies in Barracuda Beach Resort in Eti-Osa, Lagos State, Nigeria, the study employed quantitative research approaches to collect, analyse and present data. Barracuda Beach Resort was chosen for the study as a result of being one of the most patronized beach resorts in the study area, as well as the only one where the management allowed data to be gathered in its premises. The research is therefore a case study.

The study's participants were staff and guests of the resort that agreed to provide answers to the survey questions on the days the copies of questionnaire were distributed in the resort. The sample size of the respondents was determined based on the staff and guests that were available within the days and time duration data was collected in the resort. A total of 44 copies of the questionnaire was shared to both staff and patronisers of the resort. The participants were chosen at random in the premises of the resort on 3 weekdays within the hours of 10 a.m. and 5 p.m. in January 2024.

A structured questionnaire developed from data obtained from past relevant literatures was used to gather data from the respondents. The questionnaire contained UD strategies which were grouped in five categories as explained in the sixth paragraph of the introduction. A range of 1 to 5 was used to indicate the ratings of implementation. The numbers were assigned as follows: Highly Unsatisfactory - 1; Unsatisfactory - 2; Not Certain - 3; Satisfactory - 4; and Highly Satisfactory - 5. Copies of the survey instrument were randomly distributed to the staff and patronisers of the resort who were adults, regardless of their physical abilities or disabilities. Descriptive and inferential statistics were used to analyse the data with the aid of statistical products and service solutions (SPSS) software. The results grouped in themes and presented accordingly with the aid of tables.

3. Results

Analysis of the survey instrument used to collect data on the users' satisfaction level with UD strategies implemented in the resort revealed that 31 copies of the questionnaire was retrieved out of the sample size of 44 shared to record a response rate of 70.45%, as all the retrieved questionnaire were found to be duly completed, useful and examined. The response rate is significantly higher than 50% of the sample size of respondents, hence the result is considered adequate for generalization.

The socio-demographic characteristics of the users investigated include: gender, age group, marital status, educational background, mobility status, need for recommended glasses, and if they require mobility aid for free movement. The socio-demographic attributes of the participants are displayed in Table 1.

Table 1: Socio-Demographic Characteristics of the Respondents

SN	Variables	Categories	Frequency	Percentage (%)
1	Gender	Male	13	41.9
		Female	18	58.1
		Total	31	100
2	Age Group	Less than 18	0	0
		18-30 years	14	45.2
		31-40 years	7	22.6
		41-50 years	3	9.6
		Above 50 years	7	22.6
		Total	**31**	**100**
3	Marital Status	Single	12	38.7
		Married	17	54.8
		Widowed	1	3.2
		Divorced	1	3.2

		Others	0	0
		Total	**31**	**100**
4	Educational Qualification	Primary Education	0	0
		Secondary Education	7	22.6
		Ordinary National Diploma (OND)	5	16.1
		Higher National Diploma (HND)/ College of Education Certificate	4	12.9
		Bachelor's Degree	11	35.5
		Master's Degree	4	12.9
		Ph.D	0	0
		Total	**31**	**100**
5	User Category	Staff	8	25.8
		Guest	23	74.2
		Total	**31**	**100**
6	Mobility Status	Able-Bodied	25	80.6
		Physically Challenged	6	19.4
		Total	**31**	**100**
7	Mobility Aid Needed for Free Movement	Wheelchair	0	0
		Walking stick	2	6.5
		Walking frame	1	3.2
		Crutches	4	12.9
		None	24	77.4
		Total	**31**	**100**
8	Need for Recommended Glasses	Yes	6	19.4
		Not certain	4	12.9
		No	21	67.7
		Total	**31**	**100**

Source: Author's work

Table 1 data shows that the study's respondents are made up of 18 (58.1%) females and 13 (41.9%) males. This suggests that even if there are a greater number of female participants in the survey than male participants, the significant proportion of male responses suggests a reasonable degree of gender balance in the opinions expressed. No respondent under the age of 18 took part in the study, according to the participant age data. 3 (9.6%) of the respondents are between the ages of 41 and 50, 7 (22.6%) are between the ages of 31 and 40, and 14 (45.2%) of the participants are between the ages of 18 and 30. This shows that majority of the respondents are within the age category of 18-30 years, while the least age group represented in the study is 31-40 years.

In terms of marital status, 12 (38.7%) of the respondents are single, while 17 (54.8%) are married. Those that are widowed, divorced and in the category of "others", are just 1 (3.2%) respondents each to indicate that most of the participants are married. Though the respondents' educational backgrounds vary, 11 (35.5%) of them who are in the majority have a bachelor's degree. Secondary education certificate holders are 7 (22.6%). Just 5 (16.1%) of the respondents are OND holders. HND/College of Education holders are 4 (12.9%), Master's degree holders are 4 (12.9%), whereas Ph.D degree holders are 0 (0%). Regarding the category of users that participated in the research, majority, that is, 23 (74.2%) of them are visitors, while 8 (25.8%) of the participants are workers.

On the physical ability of the respondents, most of the participants, that is, 25 (80.6%) of them are able-bodied, while 6 (19.4%) respondents are physically challenged. A closer look at the data indicates that the participants who make use of crutches are 4 (12.9%). There are no wheelchair users, walking stick users are just 2 (6.5%), while 1 (3.2%) walking

frame user participated in the study. Respondents who have no need for mobility aid are in the majority, that is 24 (77.4%) participants. Most of the respondents, that is 21 (67.7%) of them do not have a need for recommended glasses. A total of 6 (19.4%) of the participants make use of prescribed glasses, while 4 (12.9%) of them are unsure of their opinion.

The findings on the users' satisfaction level with the implementation of UD strategies is presented in Table 2.

Table 2: Users' Satisfaction Level with the Implementation of Universal Design Strategies

SN	Universal Design Strategies	Highly Unsatisfactory	Unsatisfactory	Not Certain	Satisfactory	Highly Satisfactory	Total
1.	Provision of Different Access Means	0 (0%)	3 (9.7%)	6 (19.4%)	8 (25.8%)	14 (45.2%)	31
2.	Proper Positioning of Access Means	0 (0%)	0 (0%)	7 (22.6%)	10 (32.3%)	14 (45.2%)	31
3.	Provision of Ergonomic Furniture and Fixtures	0 (0%)	1 (3.2%)	5 (16.1%)	12 (38.7%)	13 (41.9%)	31
4.	Provision of Proper Lighting, Colour Schemes and Signage	0 (0%)	0 (0%)	2 (6.5%)	11 (35.5%)	18 (58.1%)	31
5.	Provision of Sufficient Manoeuvring Space for Wheelchair Users	0 (0%)	0 (0%)	3 (9.7%)	11 (35.5%)	17 (54.8%)	31

Source: Author's work

The data in Table 2 shows that for the result on provision of means of access, 0 (7.0%) participants responded with highly unsatisfactory answer; 3 (9.7%) of the users selected unsatisfactory response; 6 (19.4%) respondents were not certain of their opinion; 8 (25.8%) of them chose satisfactory as their answer; while 14 (45.2%) respondents were found to be highly satisfied with the provisions of the means of access in the resort. This result revealed that despite majority of the respondents signifying either satisfied or highly satisfied with the means of access provided in the resort, a considerable number of the users showed some level of dissatisfaction or uncertainty in their opinion.

Regarding the second strategy, which is the proper positioning of access means, the responses reveal that 0% of participants thought the means were highly unsatisfactory; none (0%) chose unsatisfactory answer; 7 (22.6%) of the users were not certain of their opinion; 10 (32.3%) of them are satisfied, while 14 (45.2%) of the respondents indicated a high satisfaction level with the positioning of the means of access. Most of the participants indicated that they are either satisfied or highly satisfied with the positioning of the means of access provided in the resort.

On the third strategy which is on, provision of ergonomic furniture and fixtures, no respondent (0%) decided it was highly unsatisfactory; 1 (3.2%) of the users decided it was unsatisfactory; 5 (16.1%) were not certain of their opinion; 12 (38.7%) decided it is satisfactory; while 13 (41.9%) responded with highly satisfactory answer to indicate that again, majority of the users are either satisfied or highly satisfied with the provision of ergonomic furniture and fixtures in the resort.

None of the survey participants are of the opinion that the fourth strategy, provision of proper lighting colour schemes and signage were highly unsatisfactory or satisfactory; just 2 (6.5%) of the participants were uncertain of their opinions; those who selected satisfactory and highly satisfactory as their answer are 11 (35.5%) and 18 (58.1%),

respectively. This result also shows that the users are satisfied or highly satisfied with the provision of lighting, colour schemes and signage used in the resort.

The findings on the fifth strategy, provision of sufficient manoeuvring space for wheelchair users show that once again, none of the survey participants signified that the strategy were highly unsatisfactory or satisfactory, while only 3 (9.7%) of the participants were uncertain of their view; those who selected satisfactory and highly satisfactory as their answer are 11 (35.5%) and 17 (54.8%), respectively to once again show that most of the respondents are either highly satisfied or satisfied with the provision of sufficient manoeuvring space for wheelchair users.

4. Discussion

This study evaluated users' satisfaction level with the implementation of UD strategies in Barracuda Beach Resort, Eti-Osa, Lagos State, Nigeria. The findings revealed that the strategy that received the highest level of satisfaction was the provision of proper lighting, colour schemes and signage. This is closely followed by provision of sufficient manoeuvring space for wheelchair users. Out of the five strategies that were investigated, provision of access means received the lowest level of satisfaction compared to the other strategies. This is followed by proper positioning of access means, before provision of ergonomic furniture and fixtures. However, in general, the users are to a large extent satisfied with the level of implementation of the five UD strategies investigated in the resort.

The outcome of the result could be attributed to the fact that majority of the respondents are not people living with disabilities. Those who have no need for any form of mobility aid amongst the participants are 77.4%, while those who do not need recommended glasses to move around freely are 67.7% or the respondents. Though users are largely satisfied with the UD strategies of the resort, few numbers of dissatisfaction and uncertainty were still recorded. This shows that users' feedback is important in the design and evaluation process of public spaces as it emphasizes the necessity of considering diverse user groups opinion in the design process.

To some extent, the result supports the findings of Bumma, Ayagere, Amakiri-Whyte, and Ubani (2020), that revealed that public spaces do not make adequate provisions for people with disabilities (PWDs) to use facilities alongside able-bodied individuals. The study advocated for greater accessibility for PWDs in public spaces. The research of Babalola, Eke, Opoko, Izobo-martins, Ediae, and Akinola (2020) revealed that accessibility in public buildings is a major social problem and that it is necessary to ensure equal treatment for all individuals regardless of size, ability, or mobility limitation. The revelation from this study also partially aligns with the work of Oyeniyi, Taiye, Akande, and Olabode (2022) that investigated the implementation of UD strategies in selected public buildings in Lagos State, Nigeria and found that while some of the buildings examined conformed with UD principles, overall, accessibility still remains an issue in public buildings.

The results also show that it is necessary for public environments such as a Beach resort to conform with the following towards achieving social inclusion in its development: UD strategies; the eleventh target of the sustainable development goals that encourages the development of cities and communities to be safe, resilient, inclusive and sustainable; the Discrimination Against Persons With Disabilities (Prohibition) Act (2018) that prohibits the discrimination of PWDs in any manner in Nigeria; and the National Disability Authority (2012) requirements for the development of

accessible environments. It is expected that the empirical data from this study will serve as a useful guide for designing future developments in the hospitality sector.

5. Conclusion

The study investigated users level of satisfaction with the implementation of universal design strategies in Barracuda Beach Resort in Eti-Osa, Lagos State, Nigeria, and found few levels of dissatisfaction with the provision of different means of access, while some universal design strategies such as adjustable furniture and good lighting received great levels of satisfaction from the users. However, most of the users found majority of the strategies satisfactorily implemented, but with a considerably small number of them either dissatisfied or uncertain of their opinions.

Based on the results, the study recommends retrofitting the resort with all the different accessibility features and amenities that guests have identified to be lacking or inadequate. When installing accessibility amenities like elevators and ramps, it should be prioritized. In order to promote social inclusion in the establishment of recreational facilities, it is important that every area of the resort be freely accessible to all user groups. When ramps are required, they should be placed next to steps at building entrances and outdoor spaces. Elevators or ramps should be adapted to suitable areas within resort buildings with upper levels.

In addition, parking lots should be clearly marked with white line markings. Accessible parking lots should be available, appropriately marked with an accessibility emblem, and positioned close to entrances to allow wheelchair users to utilize parking spaces comfortably. Wheelchair users should be accommodated by having accessible restrooms in convenient locations within the resort. Wheelchair users should be comfortably accommodated by the size of the stalls and doorways. In order to help nursing parents and their children, baby changing facilities should also be established.

Additionally, it is imperative that the resort has easily comprehensible signs. In order to facilitate easy navigation of the resort by individuals with visual impairments, tactile floors and walls ought to be deliberately constructed at vital areas. Periodic compliance inspections with universal design criteria should be conducted to address areas that need improvements in order to guarantee that the resort always complies with the requirements of universal design. Providing staff with training on universal design principles and accommodating guests with varying needs will also significantly contribute to creating a welcoming environment for visitors. It's critical to interact with users, particularly those who have disabilities, to get their input on future developments. By putting these suggestions into practice, resort spaces can be made to be more welcoming to visitors, encouraging social interaction and guaranteeing that everyone has equal access to amenities.

Though the research is a case study with recommendations specifically beneficial to Barracuda Beach Resort, the implication of the results extends beyond the specific case of the Beach resort, as it provides a framework for the evaluation of universal design strategies in resorts and similar hospitality establishments, towards ensuring that they meet the needs of all user groups in conformity with universal design ideology. It is further envisaged that the study would contribute to bringing about a systematic change on how leisure facilities are planned, designed and evaluated, emphasizing the necessity of inclusivity to enhance social inclusion and the quality of life for all individuals.

In conclusion, as the research is a single case study, the authors suggest that further studies should be conducted using multiple case studies to allow for comparative analysis of the results. Future studies can also investigate other types of leisure or recreational facilities to provide a broader insight on the implementation level of universal design strategies in the hospitality environment. The study underscores the need to promote accessibility, usability and inclusivity for diverse users in the development of recreational facilities.

Conflict of Interest

The authors disclose that there is no conflict of interest.

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