

**IMPLEMENTATION OF USER-FRIENDLY DESIGN STRATEGIES IN  
THE DESIGN OF A SHOPPING MALL IN KUKWABA, ABUJA**

**EYO, MEDARAOBONG UKO  
(17CA022932)  
B.Sc Architecture, Covenant University, Ota.**

**JUNE, 2023**

**IMPLEMENTATION OF USER-FRIENDLY DESIGN STRATEGIES IN  
THE DESIGN OF A SHOPPING MALL IN KUKWABA, ABUJA**

**BY**

**EYO, MEDARAOBONG UKO  
(17CA022932)**

**B.Sc. Architecture, Covenant University, Ota.**

**A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE  
STUDIES IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR  
THE AWARD OF THE MASTER OF SCIENCE (M.Sc.) DEGREE IN  
ARCHITECTURE IN THE DEPARTMENT OF ARCHITECTURE,  
COLLEGE OF SCIENCE AND TECHNOLOGY, COVENANT  
UNIVERSITY, OTA, OGUN STATE, NIGERIA**

**JUNE, 2023**

## **ACCEPTANCE**

This is to attest that this dissertation is accepted in partial fulfilment of the requirements for the award of the degree of Master of Science (M.Sc.) Degree in the Department of Architecture, College of Science and Technology, Covenant University, Ota, Ogun State, Nigeria.

**Ms Adefunke F. Oyinloye**  
**(Secretary, School of Postgraduate Studies)**

**Signature and Date**

**Prof Akan B. Williams**  
**(Dean, School of Postgraduate Studies)**

**Signature and Date**

## **DECLARATION**

**I, EYO MEDARAOBONG UKO (17CA022932)**, declare that this dissertation was carried out by me under the supervisor of Dr. Isidore C. Ezema in the Department of Architecture, Covenant University, Ota, Ogun State, Nigeria. This research work has not been presented, either wholly or partly, for any degree elsewhere before now. All sources of scholarly information used in this research work were duly acknowledged.

**EYO, MEDARAOBONG UKO**

**Signature and Date**

## **CERTIFICATION**

This is to certify that this dissertation titled “**IMPLEMENTATION OF USER FRIENDLY DESIGN STRATEGIES IN THE DESIGN OF A SHOPPING MALL IN ABUJA, NIGERIA**” is an original research work carried out by **EYO, MEDARA OBONG UKO (17CA022932)** in the Department of Architecture, College of Science and Technology, Covenant University, Ota, Ogun state, Nigeria under the supervision of Dr Isidore C. Ezema. This dissertation has met the required standard for the award of Master of Science (M.Sc.) in Architecture.

**Dr Isidore C. Ezema**  
**(Supervisor)**

**Signature and Date**

**Prof. Adedapo. A. Oluwatayo**  
**(Head of Department)**

**Signature and Date**

**Dr. Clement O. Folorunso**  
**(External Examiner)**

**Signature and Date**

**Prof. Akan B. Williams**  
**(Dean, School of Postgraduate Studies)**

**Signature and Date**

## **DEDICATION**

This research work is dedicated to God Almighty for His grace and the privilege he has given me to see this through to the end, also, to my family for their endless love and support towards me.

## **ACKNOWLEDGEMENTS**

I would like to thank God for seeing me through my stay at Covenant University. It is through His grace, love, and unending provision that I have gotten this far. I specially thank my parents, Engr. Young Uko Eyo and Mrs. Charity Uko Eyo for the constant and consistent prayers and support.

Also, I need to recognize the hand that Covenant University has played in my substantial growth. I am sincerely grateful to the management of this great institution under the leadership of the Chancellor, Dr. David O. Oyedepo. My gratitude goes to the faculty and staff of Covenant University for availing themselves to pursuing the noble course of raising a new generation of leaders.

Furthermore, my special appreciation goes to the faculty of the Department of Architecture. I particularly thank the Head of the Department of Architecture, Prof. A. A. Oluwatayo, for her general support and encouragement, and my supervisor, Dr. I. C. Ezema for his assistance and willingness to impart knowledge every step of the way.

Finally, I appreciate all the authors of books, journals, articles, and papers I consulted and all the architects who took time out of their busy schedules to honor my interview request. I am forever grateful to my colleagues for their immense support and encouragement.

## TABLE OF CONTENT

CONTENT	PAGES
<b>TITLE PAGE</b>	<b>II</b>
<b>ACCEPTANCE</b>	<b>III</b>
<b>DECLARATION</b>	<b>IV</b>
<b>CERTIFICATION</b>	<b>V</b>
<b>DEDICATION</b>	<b>VI</b>
<b>ACKNOWLEDGEMENTS</b>	<b>VII</b>
<b>TABLE OF CONTENT</b>	<b>VIII</b>
<b>LIST OF TABLES</b>	<b>XI</b>
<b>LIST OF PLATES</b>	<b>XIII</b>
<b>LIST OF FIGURES</b>	<b>XIV</b>
<b>ABSTRACT</b>	<b>XV</b>
<b>CHAPTER ONE</b>	<b>1</b>
<b>INTRODUCTION</b>	<b>1</b>
1.1 Background to Study	1
1.2 Statement of the Research Problem	2
1.3 Research Questions	2
1.4 Aim of the Study	3
1.5 Objectives of the Study	3
1.6 Justification of the Study.	3
1.7 Scope of The Study	3
1.8 Study Area	4
1.9 Client And Users	4
1.10 Definition Of Terms	4
<b>CHAPTER TWO</b>	<b>5</b>
<b>LITERATURE REVIEW</b>	<b>5</b>
2.0 Introduction	5
2.1 Definition Of User-Friendly Strategies	5
2.2 Universal Design Principle	6
2.3 Shopping Mall	9
<b>2.3.1 History Of Shopping Mall</b>	9
2.3.2 Definition Of A Shopping Mall	10
2.3.3 Patterns of shopping mall	10
2.4 Classification Of Shopping Mall	12
<b>2.4.1 Neighbourhood Shopping Mall</b>	13
<b>2.4.2 Community Shopping Mall</b>	13
<b>2.4.3 Regional Shopping Mall</b>	14



<b>2.4.4 Super Regional Shopping Mall</b>	14
<b>2.4.5 Dead Malls</b>	15
2.5 User Friendly Design Strategies For Realizing User Friendliness In Shopping Malls	15
<b>2.5.1 User Friendly Design Procedures For Outdoor Environment</b>	15
<b>CHAPTER THREE</b>	<b>26</b>
<b>RESEARCH METHODOLOGY</b>	<b>26</b>
3.1 Research Philosophy	26
3.2 Research Approach	27
3.3 Research Design	28
3.5 Study Area	28
3.6 Study Population	29
3.6.1 Sampling Frame	30
3.7 Sample Size	30
3.6 Sampling Technique	31
3.8 Sources of Data	31
3.9 Instruments for Data Collection	32
<b>3.9.1 Questionnaire</b>	32
<b>3.9.2 Case Studies</b>	32
<b>3.9.3 Observation Guide</b>	32
<b>CHAPTER FOUR</b>	<b>34</b>
<b>DATA PRESENTATION, ANALYSIS AND DISCUSSION</b>	<b>34</b>
4.1 Survey Analysis	34
4.2 Evaluation Of User-Friendly Strategies In Case Studies	34
National Case Studies	35
International Case Studies	35
4.2.1 Case Study 1: Jabi Lake Mall	35
4.3 Analysis Of Fieldwork Survey (Questionnaire)	93
4.4. Discussion Of Findings	99
4.5 Recommendations	100
4.7 Site And Environmental Analysis	101
4.7.1 Background Information Of Abuja, F.C.T	101
4.7.2 Site Location	102
4.7.3 Site Selection Criteria	103
4.7.4 Climatic Data	104
4.7.5 Site Characteristics	108
4.8 SWOT ANALYSIS	109

<b>CHAPTER FIVE</b>	<b>110</b>
5.2 Project Goals And Objectives	110
5.3 FUNCTIONAL AND SPATIAL ANALYSIS	110
<b>5.3.1 OTHER FUNCTIONAL REQUIREMENT</b>	114
5.4 System Analysis	115
<b>5.4.1 Exterior Wall Systems</b>	115
<b>5.4.2 Roof Systems</b>	116
5.4.3 Openings	116
5.4.4 Floor Systems	116
5.4.5 Vertical Transportation System	117
5.4.6 Ceiling System	117
5.4.7 Fire Protection And Prevention System	118
5.4.8. Servicing Strategies	118
5.5 Operational Requirements	119
5.5.1. Circulation	119
5.5.2. Lighting	119
5.5.3 Ventilation	119
5.6 Technological And Environmental Criteria	120
<b>5.6.1 Materials and Finishes</b>	120
5.6.2 Services	120
5.6.3 Other Considerations	122
5.8 Legal And Planning Regulations	125
5.9 Behavioural And Aesthetics Criteria	126
<b>CHAPTER 6</b>	<b>128</b>
6.2 Design Development Process	128
6.2 Design Consideration	128
6.2.1 Weather, Ecosystem, Locality	128
<b>6.2.2 Disposition And Size</b>	129
<b>6.2.3 Scale And Viability</b>	129
6.3 Concepts And Justification	129
6.4 Design Development Process	130
6.5 Site Zoning	130
<b>6.5.1 Pros And Cons Of Site</b>	130
<b>6.5.2 Bubble Diagrams</b>	131
<b>6.5.3 Circulation Patterns</b>	131
<b>6.5.4 Design Proposal</b>	132
<b>REFERENCE</b>	<b>134</b>
<b>APPENDICES</b>	<b>138</b>
<b>APENDIX A: QUESTIONNAIRE</b>	<b>138</b>
<b>APENDIX B: OBSERVATION GUIDE</b>	<b>140</b>
<b>APENDIX A: ETHICAL APPROVAL</b>	<b>145</b>
Appendix D: Presentation Design Drawings	146
	147

## LIST OF TABLES

FIGURES	TITLE OF TABLES	PAGES
Table 3. 1	Showing the number of shopping malls in Abuja Municipal Area Council Local government	29
Table 3. 2	Showing the selected shopping malls to be studied	30
Table 4. 2	Showing compliance level of Jabi Lake Mall with user-friendly design strategies	42
Table 4. 3	Showing compliance level of Jabi Lake Mall with user-friendly design strategies	45
Table 4. 4	Compliance level of Jabi Lake Mall Escalators with User-Friendly Strategies	46
Table 4. 5	Compliance of Jabi Lake Mall sanitary appliance with User-friendly Design Strategies	48
Table 4.4. 1	Compliance level of Ceddi Plaza parking with User-Friendly strategies	54
Table 4.4. 2	Compliance level of the Ceddi Plaza walkways with User-friendly strategies	54
Table 4.4. 3	Compliance level of Ceddi Plaza ramp with User-friendly strategies	58
Table 4.4. 4	Compliance levels of surface materials in Ceddi Plaza	59
Table 4.4. 5	Compliance levels of the entrance in Ceddi Plaza	60
Table 4.4. 6	Compliance levels of the elevator in Ceddi Plaza	62
Table 4.4. 7	Compliance level of the Ceddi Plaza sanitary installation	63
Table 4.4.8	Showing Compliance level of Silverbird Galleria parking with User-Friendly strategies	67
Table 4.4.9	Compliance level of Silverbird Galleria walkways with User-Friendly strategies	68
Table 4.4.10	Showing Compliance level of Silverbird Galleria surface material with User-Friendly strategies	72
Table 4.4.11	Showing Compliance level of Silverbird Galleria entrance with User-Friendly strategies	73
Table 4.4.12	Showing Compliance level of Silverbird Galleria vertical transport with User-Friendly strategies	75
Table 4.4.13	Showing Compliance level of Silverbird Galleria sanitary appliance with User-Friendly strategies	77
Table 4.4.12	Showing Compliance level of ARG shopping Mall surface material with User-Friendly strategies	81
Table 4.4.13	Showing Compliance level of ARG shopping Mall vertical transportation with User-Friendly strategies	82
Table 4.4.12	Showing Compliance level of easton commercial enter surface material with User-Friendly strategies	88
Table 4.4.13	Showing Compliance level of Ave plaza surface material with User-Friendly strategies	92
Table 4.9. 1	Showing Response rate across the selected shopping mall	93
Table 4.9. 3	Showing Frequency of visits to the shopping malls	95
Table 4.9. 4	Showing how easy it is for the users of the shopping mall to find parking	96
Table 4.9. 5	showing how frequent users of the shopping mall make use of the pedestrian walkways provided	96
Table 4.9. 6	showing how easy users of the shopping mall can access the main entrance of the shopping mall	97

Table 4.9. 7 showing the ease at which users of the shopping mall can locate the restrooms	97
Table 4.9. 8 Showing the availability of restrooms in the shopping mall	98
Table 4.9. 9 Showing the level of assistance required to different floors	98
Table 4.9. 10 Showing the legibility of shopping mall signs	99
Table 5.0.1.: Spatial Analysis-Service Zone.	112
Table 5.0.2: Spatial Analysis-Commercial Zone.	113
Table 5.0.3 Spatial Analysis-Recreational Zone.	113
Table 5.0.4 Showing the planning regulation.	125

## LIST OF PLATES

PLATES	TITLE OF PLATES	PAGES
Plate 4.0	pictorial view of jabi lake mall	36
Plate 4.2	Picture showing parking space	39
Plate 4.3	Picture showing a dropped kerb at the entrance of the mall	40
Plate 4.4	Picture showing the handrails used in Jabi Lake Mall	41
Plate 4.5	Picture showing stairways in Jabi Lake Mall	43
Plate 4.6	Picture showing flooring material used in Jabi Lake mall	44
Plate 4.7	Showing the sanitary facility.	48
Plate 4.3. 1	Pictorial view of Ceddi Plaza	50
Plate 4.4	Image showing the First-floor plan of Cedi Plaza	52
Plate 4.3. 2	Images showing the underground parking area of the Ceddi Plaza	53
Plate 4.3. 3	Image showing the parking area of Ceddi Plaza	53
Plate 4.3. 4	Image showing the walkway in Ceddi Plaza	54
Plate 4.3. 5	Image showing the railing of Ceddi Plaza	56
Plate 4.3. 6	Image showing the entrance of Ceddi Plaza Mall	57
Plate 4.3. 7	Image showing the stairwell in Ceddi Plaza	59
Plate 4.3. 8	Image showing the elevator in Ceddi Plaza	62
Plate 4.4. 1	Image showing the ShopRite Silverbird galleria in Abuja	64
Plate 4.4. 2	Image of silverbird Galleria Floor Plans	65
Plate 4.4. 3	Image showing the car park of silverbird Galleria	66
Plate 4.4. 4	Image showing the railing and flooring surface of the Silverbird Galleria	69
Plate 4.4. 5	Image Showing the entrance of Silverbird Galleria	70
Plate 4.4. 6	Image Showing the stairway of Silverbird Galleria	71
Plate 4.4. 7	Image showing the elevator in Silverbird Galleria	74
Plate 4.4. 8	Image showing the sanitary installations in Silverbird Galleria	76
Plate 4.5. 1	Pictorial view of ARG Shopping Mall	78
Plate 4.6. 1	Pictorial view of Easton Commercial Center	84
Plate 4.6. 3	Pictorial view of Easton Commercial Center Showing the hand railing.	87
Plate 4.7.1	Image showing the Liepa Shopping Center	90
Plate 4.7. 2	Image showing the floor plans of the shopping mall	91
Plate 4.7. 3	Image showing the floor plans of the shopping mall	92
Plate 5.0.3:	Image showing a suspended ceiling system	118

## LIST OF FIGURES

<b>FIGURES</b>	<b>TITLE OF FIGURES</b>	<b>PAGES</b>
	Figure 2.5.3 Ramp Access	18
	Figure 2.5.6 stair requirement (All dimensions are in millimeters)	20
	Figure 2.5.7 Handrail requirement (All dimensions are in millimetres)	21
	Figure 4.0.1: Showing the site location map	103
	Figure 4.0.2: Average Rainfall in Abuja, Nigeria	104
	Figure 4.0.3: Average Wind speed in Abuja, Nigeria	105
	Figure 4.0.4: Average Temperature in Abuja, Nigeria	106
	Figure 4.0.5: Average sun hours and sunny days in Abuja, Nigeria	107
	Figure 4.0.6: Average humidity in Abuja, Nigeria	108
	Figure 5.0.1: An Image showing a spider curtain wall panel	116
	Figure 5.0.2: Image showing steel floor decking system	117

## **ABSTRACT**

Creating inclusive spaces and structures is one way to accommodate individuals with different abilities and experiences within the built environment. Despite this, many public buildings do not fully consider how users interact with the space, leading to limitations for certain groups of people. Architects have a social responsibility to constantly create places that are effective, efficient, and satisfying for all users. This research focuses on designing a retail mall in Abuja, Nigeria that uses user-friendly design strategies. The study utilizes a mixed-mode method of data collection, including observation schedules, case studies, and structured questionnaires. A total of 113 questionnaires were distributed to three shopping malls in Abuja. The findings reveal that most shopping centers do not meet minimum standards for accessibility and usability provisions. Thus, it is recommended that the Federal Capital Development Authority in Abuja provide regulations that encourage and enforce the adherence of user-friendly design strategies in the design and renovation of public buildings. The study concludes that there is a significant need for shopping centers to implement accessibility strategies from the design stage to the construction stage. It is essential to provide adequate information and regulations that encourage and enforce the adherence of user-friendly design strategies in the design and renovation of public buildings to cater for people with disabilities. This research emphasizes the importance of inclusive design practices in the development of public buildings, and the obligation of architects to prioritize accessibility and usability for all users.

***Keyword: User-Friendly, shopping, mall, inclusive, design***