TITLE OF DISSERTATION: CENTERED, DOUBLE SPACED



Full Name of the Scholar Registration Number

Submitted in the partial fulfillment of the requirements for the Degree of Doctor of Philosophy in **ARCHITECTURE**

University of Management and Technology, Lahore.

Name of Research Supervisor

2023

Department Name

University of Management & Technology, Lahore

CERTIFICATE OF APPROVAL

Accepted by the Faculty of School of Architecture and Planning, University of Management and

Technology, Lahore in partial fulfillment of the requirements for the degree of PhD in Architecture.

Supervisor

Research Supervisor Name School of Architecture & Planning, UMT

Co-Supervisor

Research Supervisor Name School of Architecture & Planning, UMT

External Examine#1

External Examiner#2

Chairperson Department of Architecture

Dean School of Architecture & Planning

2023

University of Management & Technology, Lahore

© 2023 Scholar's Full Name All Rights Reserved

Any part of this thesis cannot be copied, reproduced or published without the written approval of the Scholar.

DECLARATION

I ______ hereby declare that the matter printed in the thesis titled "______" is my

own work and has not been printed, published and submitted as research work, thesis or publication in any form in any University, Research institution etc. in Pakistan or Abroad.

Dated: December 00, 2023

Signature of Student

PLAGIARISM UNDERTAKING

I solemnly declare that research work presented in the dissertation titled
"______" is solely my research work with no significant
contribution from any other person. Small contribution or help wherever taken has been duly

acknowledged and the complete dissertation has been written by me.

I understand the zero tolerance policy of the HEC and University of Management & Technology towards plagiarism. Therefore, I as an author of the above titled dissertation declare that no portion of my dissertation has been plagiarized and any material used as references properly referred or cited.

I undertake that if I am found guilty of any formal plagiarism in the above titled dissertation even after award of Ph.D. degree, the University reserves the rights to withdraw or revoke my Ph.D. degree and that HEC and the University has the right to publish my name on the HEC/University Website on which names of students are placed who submitted plagiarized dissertation.

> Student Name Dated: December, 00, 2023

SIMILARITY REPORT

CERTIFICATE BY SUPERVISOR

Ι	certify	that	Ι	have		read
··					;;	by
		, and th	at in my opini	on this work meet	s the cri	teria
for approving a	dissertation submitt	ed in partial fulfi	llment of the r	equirements for th	ne Docto	or of
Philosophy deg	ree at the University	of Management a	and Technolog	у.		

Research Supervisor Name

ABSTRACT

This section contains the dissertation abstract, designed as a standalone document for a broad audience. The abstract provides a comprehensive summary of the work, emphasizing the problem statement, theoretical background, methodology, experimentation, and key results. Adhering to the text format of the entire dissertation, this one-page document is structured with paragraphs. References are typically excluded from the abstract.

DEDICATION

	First and foremost, my lost backbone	e who ini	tiated me wi	ith the	idea of	doing a	Ph.D. My
father		who	dreamt	it	and	my	Mother
	, who push	hed me th	roughout a	nd pra	yed for	me cour	tlessly.

ACKNOWLEDGMENT

Thanks and gratitude are due to Allah for whom this work would not take place except with His will and His support, wishing that it will show among my good deeds in the latter-day.

Scholar Name

*PhD (Scholar)*Department of ArchitectureUniversity of Management and Technology, Lahore.

TABLE OF CONTENTS

Page
ABSTRACT iv
ACKNOWLEDGMENTSv
STATEMENT OF ORIGINALITY vi
TABLE OF CONTENTS
LIST OF FIGURES ix
LIST OF TABLES
NOMENCLATURE xi
1. INTRODUCTION1
1.1. FIRST LEVEL HEADINGS 1
1.1.1. Second Level Headings 1
1.1.2. Second Level Headings that are Longer, Single- Spaced Lines
1.2. TABLE OF CONTENTS, LIST OF TABLES, LIST OF FIGURES 2
1.2.1. Table of Contents
1.2.2. Formatting Figures
1.2.3. Formatting Equations
1.2.4. Formatting Tables
2. MISCELLANEOUS INFORMATION ON FOMATTING
2.1. MISCELLANOUS INFORMATION
2.2. DISSERTATION FINAL BINDING
APPENDICES

LIST OF TABLES

Tables	& Charts	
1.1	Terminologies for Climatically Designed Buildings	6
2.1	Electricity Consumption GWH Pakistan	22
2.1	Electricity Consumption GWH Pakistan (Chart)	29
2.2	Sale (GWh) of Electricity (Chart)	29
2.3	Electricity Consumers (Chart)	30
2.4	Sale (GWh) of Electricity (Chart)	30

LIST OF FIGURES

Figures		
1.1	Graphical Illustration of the Research Strategy	15
1.2	Methodology of the Thesis Study Based on Theoretical and Simulation Analysis	16
2.1	Three Tier Design Approach	25
2.2	Architects vs. Engineers Approach	25
2.3	Electricity Consumers -Sale (Gwh) of Electricity	28
2.4	Comparison Between Karachi And Lahore Solar and Wind Turbines	31

Thesis Chapter	Font Size 14, Centered,	Heading 0
Headings	Capitalized, Numbered	
First Level Headings	Font Size 12, Centered,	Heading 1
	Capitalized, Numbered	
Second Level Headings	Same as above and just first letter	Heading 2
	capitalized	
Figures Formatting	As followed the chapter and	For example figures in
	section details	chapter 1 should be
	Captions feature in the MS word	numbered 1.1 and then
	should be used for figures	continue in the same format
Table Formatting	Tables should be formatted	For example tables in chapter
	similar to figures	1 should be numbered 1.1
	Captions feature in the MS word	and then continue in the same
	should be used for tables	format

FOR EXAMPLE:

The focus of the research is on the residential buildings in Lahore, Pakistan, with various house forms and geometrical shapes in different proportions and orientations of the plot in diverse urban settings investigated dynamically (Williamson, 1997). The cooling and heating loads were premeditated for each model house unit designed. The results were evaluated to optimize the thermal behavior of the models. The quantitative method adopted has been extended to test the model house as a valid resolution to address the issue explored in the thesis as in Fig 1.1.

METHODOLOGY LAYOUT

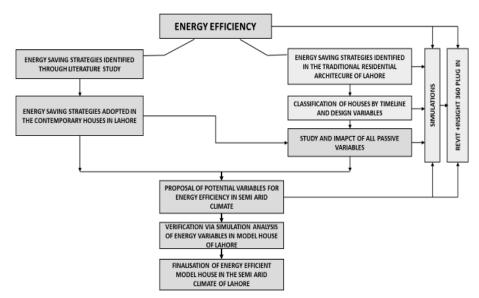


Figure 1.1 Graphical Illustration of the Research Strategy. Source: Author

- Devising a problem statement based on observations and literature archives. Previous research is carefully studied and analyzed. Relevant approaches are formulated based on the building design process, performance assessment methodologies, building simulation and optimization and theories.
- Both Current and previous research pieces, concepts and philosophies aided in collecting information on the problem area.
- 3) Investigations based on the collected strata and explanation of the problem statement. A model house proposed after detailed studies and a testable model house was planned as the problem solution. A prototype computer tool Autodesk Revit with 360 plug-in that implements the proposed model house design, was adopted (Del et al., 2019). The simulation software gives the cooling and heating loads of the house's performance in a simplistic form (Reddy, et al., 2016). Therefore, the model house is viewed as a scientific object and the thematic models describing the scientific item are studied during experiments applying the suggested solution to answer the problem. The majority of the

research was conducted utilizing both theory and simulation, as in Fig 1.2.

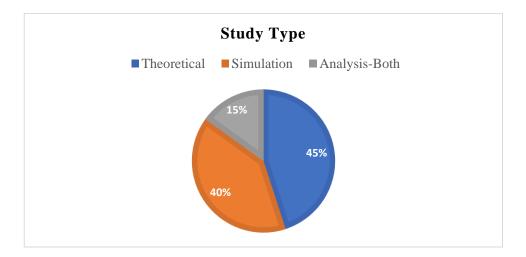


Figure 1.2 Methodology of the Thesis Study based on Simulation Analysis. Source: Author

Activity	Start Date	Duration	End Data
Literature Review	Sep 1, 2020	8 Months	April 30, 2021
Model Development	January 1, 2020	3 Months	March 30, 2021
Experimentation	April 1, 2021	6 Months	September 30, 2021
Dissertation Writing	June 2022	3 Months	August 2022

Table 1.1 A Sample Table

GENERAL RECOMMENDATIONS:

ITEM	SPECIFICATIONS
External Cover	Hard Cover and Binding
	Color = Maroon with Golden Writing
Writing on Cover	The first page is the template for cover page with inscription in golden
Page	Recommended font is Times New Roman with 22
	UMT logo should also be in gold
Writing on Spine	Inscription on Gold Color (sample is provided below)
Paper Size	A4 (8.2'' x 11.6'')-80g
Margins	Left = 1.5 inch Right = 1.0 inch; Top = 1.1 inch; Bottom = 1.0 inch
Thesis Word Limit 50 to 70 thousand words (excluding the references, appendices etc.)	

TITLE OF THE DISSERTATION. TIMES NEW ROMAN WITH 22 SIZE

SCHOLAR NAME REGISTRATION #

2023

Sample Formatting for the Spine

BIBLIOGRAPHY

It is recommended that a reference management software such as EndNote, Mendeley is used for bibliography. The references should be downloaded directly from the authentic sources to ensure accuracy of information.

Double spacing should be used between each reference. References that are morethan one line long should be single-spaced within.

Separate sections for references and bibliography may be added as well if required.

FOR EXAMPLE:

References

Abdel-Aziz, D. M., Shboul, A. A., & Al-Kurdi, N. Y. (2015). Effects of tree shading on building's energy consumption-the case of residential buildings in a mediterranean climate. *American Journal of Environmental Engineering*, 5(5), 131-140.

APPENDICES

Appendices are generally used to provide useful information about your work for more details but are not essential part of your research. Some of the items that become part of your appendices include detailed explanations and elaborations, additional or largediagrams, additional or long tables, detailed mathematical derivations, experimental standards and protocols etc.

Use letters to label the appendices e.g. Appendix A, Appendix B, etc. Each appendix should have a suitable title and should contain a specific type of information. Each appendix should start on a new page. Every appendix must be referred in your bodytext.