ACCESSIBILITY OF SHOPPING MALLS FOR PERSONS WITH DISABILITIES (PwDs) IN COMPLIANCE WITH MALAYSIAN STANDARDS

BY

ALAA BASHITI

A thesis submitted in fulfilment of the requirement for the degree of Master of Science (Built Environment)

Kulliyyah of Architecture and Environmental Design International Islamic University Malaysia

OCTOBER 2016

ABSTRACT

This research discusses the issue of accessibility, connectivity and usability in the facilities used by persons with disabilities (PwDs) in Malaysian shopping malls and the significance of the latest Malaysian Standards (MS 1184:2014), the Universal Design and Accessibility in the Built Environment-Code of Practice in evaluating shopping malls. The study identifies whether the provided facilities accord with the latest Malaysian standards (MS 1184:2014). The sampled shopping malls comprised Ikea in Damansara, Suria Kuala Lumpur Convention Centre (KLCC) in Kuala Lumpur and Alamanda in Putrajaya. Data were collected using semi-structured interviews with the visually impaired, hearing impaired person, and wheelchair and crutches users to determine their perception on the level of accessibility of these buildings. Access audit and site observations were also carried out to assess the buildings' accessibility, connectivity, mobility and reachability. The results show that Suria KLCC scored 80.35% for compliance with the design requirements, followed by Ikea with 74.11%, and Alamanda with 70.58%. It is hoped that the research can benefit people from all walks of life as well as generate more ideas to improve the accessibility of shopping malls for the PwDs.

خلاصة البحث

يناقش هذا البحث القضايا المتعلقة بطرق الوصول واستخدام المرافق من قبل ذوى الاحتياجات الخاصة في المراكز التسوق الماليزية كما تناقش أهمية أحدث المعايير الماليزية ذات الرقم (MS 1184:2014) والمتبعة في التصميم الشامل وقانون بناء البيئة في تطوير مراكز التسوق. إن هذه الرسالة تحتم بتحديد مدى تطبيق مراكز التسوق في ماليزيا للمعايير الماليزية ذات الرقم (MS 1184:2014) والمتبعة في التصميم الشامل وقانون بناء البيئة. اختير في هذه الدراسة ثلاثة مراكز تجارية لتعتمد دراسةً تطبيقية لتطوير وصول واستخدام المرافق من قبل ذوي الاحتياجات الخاصة في مراكز التسوق، وهذه المراكز هي (إكيا) في منطقة دمنسارا ولاية سيلنغور - ماليزيا مركز تسوق كوالالامبور في ماليزيا ومركز (ألماندا) التجاري في مدينة بوترجايا الحديثة. تم تطبيق أسلوبي الكمية والنوعية في مناهج البحث كما أن المعلومات المستخدمة في هذا البحث قد أخذت من خلال المقابلات مع ذوي الاحتياجات الخاصة من المكفوفين والصم والبكم ومن مستخدمي الكرسي المتحرك ومن مستخدمي العكازات لمعرفة مدى رضاهم عن مستوى الوصول والاستخدام للمرافق في تلك المراكز. أظهرت نتائج البحث أن مركز تسوق كوالالامبور قد حقق نسبة 88.35% من مطابقته للمعايير العالمية الخاصة بالتصاميم المحددة لذوي الاحتياجات الخاصة ومركز (إيكيا) نسبة 74.11 % ومركز (ألماندا) التجاري نسبة 70.58 % . ومن المأمول أن يتم الاستفادة من البحث الذي أجري بطريقة أو بأخرى لتحسين حياة ذوي الاحتياجات الخاصة، فضلا عن توليد المزيد من الأفكار لغرض تحسين طرق الوصول واستخدام المرافق من قبل ذوى الاحتياجات الخاصة في مراكز التسوق.

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a thesis for the degree of Master of Science (Built Environment).		
	Asiah Abdul Rahim Supervisor	
I certify that I have read this study and that in my standards of scholarly presentation and is fully ac thesis for the degree of Master of Science (Built En	dequate, in scope and quality, as a	
	Ruzita Binti Mohd Amin Internal Examiner	
	Mohd Hamdan Hj Ahmad External Examiner	
This thesis was submitted to the Department of fulfilment of the requirement for the degree of Mas	1	
	Nurul Hamiruddin Bin Salleh Head, Department of Architecture	
This thesis was submitted to the Kulliyyah of Archand is accepted as a fulfilment of the requirement (Built Environment).	E	
	Alias Abdullah Dean, Kulliyyah of Architecture and Environmental Design	

DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except
where otherwise stated. I also declare that it has not been previously or concurrently
submitted as a whole for any other degrees at IIUM or other institutions.
Alaa Bashiti
Signature Date

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

DECLARATION OF COPYRIGHT AND AFFIRMATION OF FAIR USE OF UNPUBLISHED RESEARCH

ACCESSIBILITY OF SHOPPING MALLS FOR PERSONS WITH DISABILITIES (PwDs) IN COMPLIANCE WITH MALAYSIAN STANDARDS

I declare that the copyright holders of this dissertation are jointly owned by the student and IIUM.

Copyright © 2016 Alaa Bashiti and International Islamic University Malaysia. All rights reserved.

No part of this unpublished research may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without prior written permission of the copyright holder except as provided below

- 1. Any material contained in or derived from this unpublished research may be used by others in their writing with due acknowledgement.
- 2. IIUM or its library will have the right to make and transmit copies (print or electronic) for institutional and academic purposes.
- 3. The IIUM library will have the right to make, store in a retrieved system and supply copies of this unpublished research if requested by other universities and research libraries.

By signing this form, I acknowledged that I have read and understand the IIUM Intellectual Property Right and Commercialization policy.

Affirmed by Alaa Bashiti	
Signature	Date
S.B. W. C.	2 4.00

ACKNOWLEDGEMENTS

In the name of Allah, the most gracious and the most merciful Alhamdulillah, all praises to Allah for the strengths and his blessing in completing this thesis. Foremost, I would like to express my sincere gratitude to my advisor Prof. Dato' Sri Ar. Dr. Asiah Abdul Rahim for the continuous support of my Masters study and research, for her patience, motivation, enthusiasm, and immense knowledge. Her support made it possible for me to work on a topic that was of a great interest to me. Her guidance helped me in all the time of research and writing of this thesis. I could not have imagined having a better advisor and mentor for my Masters study. Besides my advisor, I would like to thank the rest of my thesis committee for their encouragement, insightful comments, and hard questions.

Secondly, my husband, Ahmad Al Asseh has been extremely positive and supportive of all the time and attention given over to put this together. To those who indirectly contributed in this research, your kindness means a lot to me. Thank you very much. Last but not least, my deepest gratitude goes to my beloved parents; Mr. Emad Bashiti and Mrs. Haifa Mubarak and also to my brothers and sisters for their endless love, prayers and encouragement.

TABLE OF CONTENTS

Abstrac	rt	ii
Abstrac	et in Arabic	iii
Approv	al Page	iv
	tion Page	
	ght page	
	vledgments	
	Abbreviation	
	Tables	
List of	Figures	xvi
CHAP'	TER ONE: INTRODUCTION	
1.1	Introduction	
1.2	Research Background	
1.2	Problem Statement	
1.4	Research Aim And Objectives	
1.5	Research Question	
1.9	Research Methodology	
1.7	Scope and Limitation Of Research	
1.8	Significance of The Research	
1.9	Conclusion	
CHAP'	TER TWO: UNIVERSAL DESIGN AND ACCESSIBILITY	11
2.1	Introduction	11
2.2	Universal Design	11
2.2	Universal Design Definition and Principles	11
2.2		
2.2	Universal Design Thinking	16
2.2	Doubts in The Concept of Universal Design	19
2.2	2.5 Raising Awareness on The Concept of Universal Design	20
2.2		
2.2	2.7 Development of Universal Design in Malaysia	24
2.3	Shopping Mall as a Public Space and its Importance	26
2.3		
2.3		
2.3	11 0	
		29
2.3		
2.4 C	Conclusion	
CHAP'	TER THREE: PERSONS WITH DISAILITIES (PWDS)	32
3.1	Introduction	
3.2	Persons With Disabilities (Pwds) from Islamic Perspective	32
3.3	Persons With Disabilities (Pwds) in Built Environment	34

3.4	Disability Classification	. 35
3.5	Background of Persons With Disabilities in Malaysia	. 37
3.6	Attitude Toward Persons With Disabilities	. 38
3.7	Pwds Rights in Some Developed Countries	. 39
3.7.		
3.7.	2 The United Nations (Un)	. 39
3.7.	· · ·	
3.8	Legislation And Standards for Persons With Disabilities (Pwds)	
3.8.		
3.9	Conclusion	
СНАРТ	TER FOUR: RESEARCH METHODOLOGY	43
4.1	Introduction	
4.2	Research Approach	
	1 Case Study	
	2 Methodological Triangulation	
	3 Mixed Methodology	
4.3	Precedent Researches With Similar Methods	
	esearch Methods	
4.4.		
4.4.		
4.4.		
4.4.		
4.4.		
	Research Instruments	
4.5.		
4.5.	Tr · · · · · · · · · · · · · · · · · · ·	
4.5.		
	Conclusion	
CHADT	TER FIVE: CASE STUDIES	5 (
5.1	Introduction	
5.1		
5.3	The Significance of Putrajaya	
5.3 5.4	The Framework of Presentation of The Analysis, Results, Findings and	. 39
	sals	61
5.5	Access Audit Approach	
5.6	Case Studies	
5.6.		
	.6.1.1 Checklist For Four Categories Of Disability At Suria Klcc	
	.6.1.2 Suria KLCC Compliance According to MS	
	.6.1.3 Access Audit- Simulation Layout Plan	
3	5.6.1.3.1 Wheelchair User	
	5.6.1.3.1 Wheelchair Oser	
	5.6.1.3.3 Visual Impaired	
	5.6.1.3.4 Crutches User	
5.6	2 Second Case Study	
	.6.2.1 Checklist for Four Categories Of Disability at Alamanda Putrajaya	
	.6.2.2 Alamanda Compliance According to MS	92

5.6.2.3	Access Audit- Simulation Layout Plan	104
5.6.2.	3.1 Wheel Chair User	105
5.6.2.	3.2 Visual Impaired	106
5.6.2.	3.3 Hearing Impaired	107
5.6.2.	3.4 Crutches User	108
5.6.3	Third Case Study	
5.6.3.1	Checklist for Four Categories of Disability at Ikea	
	Ikea Compliance According to Malaysian Standards	
	Access Audit- Simulation Layout Plan	
	3.1 Wheelchair User	
	3.2 Visual Impaired	
	3.3 Hearing Impaired	
	3.4 Stick Or Crutches User	
5.7 Concl	lusion	131
CHAPTER SI	IX: DATA ANALYSIS AND FINDINGS	132
	luction	
	of Accessibility Compliance in Shopping Malls	
	Compliance Score of The Public Facilities in The Case Study Bui	
•	······································	132
	Level of The Accessibility Compliance in The Case Study Buildin	
-	tionnaire Analysis	
	Part I: General Data	
6.3.1.1	Gender	
6.3.3.2	Age	
6.3.1.3	Status	
6.3.1.4	Education Level	
6.3.1.5	Work Nature	
6.3.1.6	Nature of Disability	
6.3.1.7	Level of Disability	
	Reason of Disability	
	Part II: Participants' Level of Satisfaction for The Public Facilitie	
Study .		144
6.3.2.1	Overall Participants' Level of Satisfaction and Perception on	
	bility in Case Study Buildings	
	Part III: Participants' Perception of Quality	
6.3.3.1	Overall Accessibility in Case Study Buildings	
	Emergency Means of Escape	
6.3.3.2	\boldsymbol{J}	
6.3.4 P	Pert IV: Participants Perception Based on Semi-Structured Intervi	
-		
	ssibility Findings According to Malaysian Standards	
_	parison Between Findings From Site Observation and Interview	
6.6 Concl	lusion	160

CHAP	TER SEVEN: CONCLUSION AND RECOMMENDATIONS	161
7.1	Introduction	161
7.2	Accessibility Based on Compliance and Participants' Level of Satist	action
7.3	Research Summery	162
7.4	Recommendations	163
7.5	Future Researches	166
7.6 (Conclusion	166
REFE	RENCES	168
APPE	NDIX A:: COMPLIANCE CHECKLIST	177
APPE	NDIX B: PARTICIPANTS' LEVEL OF SATISFACTION	
QUES	TIONNAIRES	190
_	NDIX C: PARTICIPANTS' PERCEPTION INTERVIEW	

LIST OF ABBREVIATION

ADA American with Disabilities Act

DBKL Dewan Bandaraya Kuala Lumpur

DSM Department of Standards Malaysia

DSWM Department of Social Welfare Malaysia

ICF International Classification of functioning

IDEA Centre of Inclusive Design and Environmental Access

JKMM Jabatan Kebajikan Masyarakat Malaysia

KAED Kulliyyah of Architecture and Environmental Design

KLCC Kuala Lumpur convention Centre

KUDU KAED Universal Design Unite

MENA Middle East and North Africa

MS Malaysian Standards

MWFCD Ministry of Women, Family and Community Development

NCLG National Council of Local Government

NCSU North Carolina State University
NGOs Non-governmental organizations

PwDs Persons with Disabilities

QL Qualitative Method

QN Quantitative Method

SPSS Statistical Package for Social Sciences

SWD Social Welfare Department

UBBL Uniform Building Bylaws

UD Universal Design

UK United Kingdom

UN United Nations

UNESCAP United Nations Economic and Social Commission for Asia and the

Pacific

UNDP United Nations Development Programme

WDU World Disability Union

WHO World Health Organization

LIST OF TABLES

Table 1.1	The Matrix of research framework	7
Table 2.1	Some Definitions of Place-Accessibility	12
Table 2.2	The Principles of Universal Design	13
Table 2.3	Universal Design Index	14
Table 2.4	Brief History of Universal Design	16
Table 2.5	Doubts on Universal Design	19
Table 2.6	Types and Characteristics of Shopping Mall	28
Table 2.7	Tourist Experience in Visiting Shopping Center	30
Table 2.8	Design Approach of Shopping Mall	31
Table 3.1	Disability Classification According To Ontario	36
	Government	
Table 3.2	Types of Disability According To Department of Social	37
	Welfare	
Table 3.3	Breakdown of Different Categories of PwDs Registered in April 2014	38
Table 3.4	The ADA's Titles	41
Table 3.5	The Development of Malaysian Standards	42
Table 4.1	Purposes for Mixed Methods Based on Several Sources	47
Table 4.2	Precedent Studies With Similar Methods	48
Table 5.1	Shopping Malls' Information	58
Table 5.2	Colour Codes Indicating Level of Accessibility of Case	64
	Study Areas	
Table 5.3	Checklist for Suria Klcc	67
Table 5.4	Checklist for Alamanda	90
Table 5.5	Checklist for Ikea	113
Table 6.1	Scoring Distribution for The Level of Accessibility	133
	Compliance	
Table 6.2	Compliance Score of The Public Facilities in Alamanda, Putrajaya.	134

Table 6.3	Compliance Score of The Public Facilities in Ikea,	135
	Damansara	
Table 6.4	Compliance Score of The Public Facilities in KLCC	136
Table 6.5	Level of Accessibility Compliance of The Case Study	137
	Buildings	
Table 6.6	Rating Distribution for Participants' Level of Satisfaction on Public Facilities in Case Study Buildings	144
Table 6.7	Participants' Level Of Satisfaction for The Public Facilities Provided in Suria Klcc	145
Table 6.8	Participants' Level of Satisfaction for The Public Facilities Provided in Ikea Damansara.	146
Table 6.9	Participants' Level of Satisfaction for The Public Facilities Provided in Alamanda, Putrajaya	147
Table 6.10	Means of Participants' Level of Satisfaction for The Five Case Study Building.	149
Table 6.11	Overall Percentages of Participants' Level of Satisfaction for The Public Facilities	150
Table 6.12	Rating Distribution for Participants' Perception on The Overall Accessibility of Case Study Buildings	152
Table 6.13	Presents The Result of Participants' Perception on The Overall Accessibility in Case Study Buildings	152
Table 6.14	Participants' Perception on The Emergency of Escape in Case Study Buildings	154
Table 6.15	Participants' Perception on The Connectivity in Case Study Buildings	156
Table 6.16	Participants' Feedback To The Semi-Structured Interview, Suria KLCC	157
Table 6.17	Participants' Feedback To The Semi-Structured Interview, Alamanda	157
Table 6.18	Participants' Feedback To The Semi-Structured Interview,	158
	Ikea	
Table 6.19	Comparison Between Results of Accessibility Based on Compliance and PwDs Perspectives	159

Table 7.1	Physical Recommendations for Suria Klcc Based on MS For Accessibility	163
Table 7.2	Physical Recommendations for Alamanda Putrajaya Based on MS for Accessibility	164
Table 7.3	Physical Recommendations for Ikea Damansara Based on MS for Accessibility	165

LIST OF FIGURES

Figure 1.1	Population Ratio	4
Figure 1.2	Stages of Research Process	8
Figure 2.1	Population Ratio Estimates Based on UN 2002	22
Figure 2.2	Various Categories of Shopping Mall Users	31
Figure 3.1	Chart Showing Common Disabilities Persons Experience in Syria Due To The War	42
Figure 4.1	Methodological Triangulation of This Research.	46
Figure 4.2	Frame work of Data Collection	53
Figure 5.1	The Location of Kuala Lumpur in Malaysia	59
Figure 5.2	Location of Putrajaya in Peninsula Malaysia	61
Figure 5.3	Flow Charts Diagram of Access Audit Data Analysis in This Research	63
Figure 5.4	Case Studies Location in Map of West Malaysia	64
Figure 5.5	Suria Klcc	65
Figure 5.6	Klcc Concourse and Ground Level	68
Figure 5.7	Suria Klcc First and Second Level	69
Figure 5.8	Suria Klcc Third and Fourth Level	70
Figure 5.9	Signage Symbol of Access	71
Figure 5.10	Accessible Parking Width	71
Figure 5.11	Uneven Pedestrian Surface	72
Figure 5.12	Obstruction in The Middle of Way	72
Figure 5.13	The Width of Bus Stop is Acceptable for Disabled Accessibility	73
Figure 5.14	Handrail on Two Levels of Height	73
Figure 5.15	Narrow Landing Area	73
Figure 5.16	Warning Tactile Indication	74
Figure 5.17	Proposed Directional Guiding Blocks for Visual Impaired	74
Figure 5.18	Proposed Directional Indicator as Stated in MS 1184:2014	74
Figure 5.19	As Stated in MS 1184:2014 Example of Tactile Walking	

	Surface Indicator (Twsi) Used in Open Area	74
Figure 5.20	Existing Curb Cut	75
Figure 5.21	Contrasting Colors And Textures	75
Figure 5.22	Example of Curb Ramp. MS Describe The Suitable Gradient For Ramp	75
Figure 5.23	Signage Difficult To Be Read, Small Fonts Used	76
Figure 5.24	Proposed Height of Signs	76
Figure 5.25	Proposed Location Of Door Signs on The Latch Side of The Door	76
Figure 5.26	Gentle Floor Level at The Entrance	76
Figure 5.27	Proposed Guiding Blocks According MS	76
Figure 5.28	Surau Door, Need Effort To Open.	77
Figure 5.29	Proposed Door With Sufficient Visual Contrast as Described in MS 1184:2014	77
Figure 5.30	Width of Corridor	78
Figure 5.31	Example of MS 1184:2014 Proposed Corridor Widths Determined By Intensity Of Use	78
Figure 5.32	Inaccessible Information Counter for Wheelchair User	78
Figure 5.33	Proposed Height of The Counter Is Reachable By Wheelchair User	78
Figure 5.34	Continues Handrail Of Staircase	79
Figure 5.35	Proposed Tactile Walking Surface at Start And Bottom of Stair Case	79
Figure 5.36	Ramp Width 1200mm	80
Figure 5.37	Ramps With Alternative Stepped Approach	80
Figure 5.38	Ramp Handrail Profile	80
Figure 5.39	Example of Ramp With Slope 1:20 And Horizontal Landings at Beginning And End	80
Figure 5.40	Lift Near To Parking Entrance	81
Figure 5.41	Example of Arrangement of a Single Row Of Square or Round Push Buttons.	81
Figure 5.42	Examples of Handrail Profiles, Support and Clearance	81

Figure 5.43	Entrance to Surau And Ablution Area	82
Figure 5.44	Accessible and Wide Praying Room	82
Figure 5.45	Clear Guiding Signage to Surau	82
Figure 5.46	Poor Level of Reach Ability at The Ablution Area	83
Figure 5.47	Sink and Mirror Position	83
Figure 5.48	Positioning of Grab Rails, Water Supply and Toilet Paper in Type C Corner Toilet	83
Figure 5.49	Toilet Handrail	83
Figure 5.50	Level of Accessibility for Wheelchair User In Suria Klcc	84
Figure 5.51	Level of Accessibility for Visual Impaired User in Suria	85
	Klcc	
Figure 5.52	Level of Accessibility For Hearing Impaired User in Suria Klcc	86
Figure 5.53	Level of Accessibility for Stick or Crutches User in Suria Klcc	87
Figure 5.54	Alamanda Putrajaya	88
Figure 5.55	Alamanda Lower Ground Level	90
Figure 5.56	Alamanda Ground Level	91
Figure 5.56	Accessible parking in Alamanda	92
Figure 5.57	Parking Vertical Sign	92
Figure 5.58	High Threshold	92
Figure 5.59	Narrow Path for Wheelchair User	93
Figure 5.60	Grating With Big Hole	93
Figure 5.61	A Place at Bus Station for Wheelchair User	94
Figure 5.62	Bus Station Ramp With 1500mm Width	94
Figure 5.63	Inappropriate Slop of Curb Ramp	95
Figure 5.63	Small Font of Signage	95
Figure 5.64	Wrong Indication of Toilet Signage	96
Figure 5.65	Wide Entrance Door With Glazed Marks	96
Figure 5.66	Visual Contrast of Entrance Landing Compared to The	97
	Floor	
Figure 5.67	Door Open Outward With Lever Handles	97
Figure 5.68	Raised Step in Middle of Corridor	98

Figure 5.69	Wide Interior Pathway	98
Figure 5.70	Inaccessible Reception for Wheelchair User	99
Figure 5.71	Information counter provide a wheelchair for visitors	99
Figure 5.72	Continuous Railing for Emergency Stair Case	100
Figure 5.73	Convenient Ramp	100
Figure 5.74	Bus Station Handrail	101
Figure 5.75	Lighted Alert at The Lift.	101
Figure 5.76	Inaccessible Ablution Room for Wheelchair User	102
Figure 5.77	Accessible Toilet at Alamanda	103
Figure 5.78	Level Of Accessibility for Wheelchair User at Alamanda	105
Figure 5.79	Level Of Accessibility for Visual Impaired at Alamanda	106
Figure 5.80	Level Of Accessibility for Hearing Impaired at Alamanda	107
Figure 5.81	Level Of Accessibility for Stick Or Crutches User at Alamanda	108
Figure 5.82	Ikea Damansara	109
Figure 5.83	Ikea Ground Level	110
Figure 5.84	Ikea First Level	111
Figure 5.85	Entrance To Parking	113
Figure 5.86	Vertical Sign at Parking	113
Figure 5.87	Drainage Cover as Obstacle	114
Figure 5.88	Broken Tiles at Pedestrian	114
Figure 5.89	Bus Station	115
Figure 5.90	No Guiding Blocks	115
Figure 5.91	No Guiding Blocks	116
Figure 5.92	Signage Using Small Font And Contrasting Color	116
Figure 5.93	Exit of Ikea	116
Figure 5.94	Stair Leading To Entrance With No Railing	117
Figure 5.95	Doors Operated Without Effort	118
Figure 5.96	Free of Obstruction Pathway	119
Figure 5.97	Well Illuminated Reception	119
Figure 5.98	1000mm Height of Reception	120
Figure 5.99	Open Staircase at Ikea	120
Figure 5.100	Proposal of Closing Up The Open Staircase	120

Figure 5.101	Wide Ramp Links Ikea to IPC Mall	121
Figure 5.102	Handrail With Two Profiles at Two Levels	121
Figure 5.103	Embossed Braille Lettering	122
Figure 5.104	Praying Room at Ikea	123
Figure 5.105	Poor Level of Reach Ability at The Ablution Area	124
Figure 5.106	Foldable Grab Rails	124
Figure 5.107	Level of Accessibility for Wheelchair Users at Ikea	125
Figure 5.108	Level of Accessibility for Visual Impaired at Ikea	126
Figure 5.109	Level of Accessibility for Hearing Impaired at Ikea	127
Figure 5.110	Level of Accessibility for Stick or Crutches User at Ikea	128
Figure 6.1	Percentage of Accessibility Compliance of Case Study Buildings	137
Figure 6.2	Gender Distribution of Interviewee	138
Figure 6.3	Age Distribution of Interviewee	138
Figure 6.4	Marriage Statue of Interviewee	139
Figure 6.5	Education Level Distributions	140
Figure 6.6	Work Nature Distributions	140
Figure 6.7	Nature of Disability Distribution	141
Figure 6.8	Level of Disability Distribution	142
Figure 6.9	Reason of Disability Distribution	142
Figure 6.10	Mean Scores of Participants' Level of Satisfaction for The Three Case Study Buildings	149
Figure 6.11	Overall Percentages of Participants' Level of Satisfaction for The Public Facilities	150
Figure 6.12	Mean Scores of Participants' Perception on The Overall Accessibility in Case Study Buildings	152
Figure 6.13	Mean Scores of Participants' Perception on The Emergency Means of Escape in Case Study Buildings	153
Figure 6.14	Mean Scores of Participants' Perception on The Connectivity in Case Study Buildings	155

CHAPTER ONE INTRODUCTION

1.1 INTRODUCTION

This chapter investigated the needs of persons with disabilities (PwDs) to propose standards to reshape the attitudes of society and institutions towards disability. To this end, the fundamental elements of universal design are explored in the context of the architectural issues affecting PwDs in Malaysian shopping malls based on combining guidelines from the Malaysian Standards (MS) and Universal Design (UD) principles. This chapter introduces readers to the fundamental aspects of the research, namely the research background, research statement, aim and objectives, research questions, research methods, scope and limitations, and the significance of the research. The findings would be particularly useful for the rights of PwDs for local government, transport planners, professionals in the building industry and those involved with improving the built environment and accessibility.

1.2 RESEARCH BACKGROUND

Removing barriers and providing access are among the fundamental needs of PwDs to achieve social equity in access to public facilities, amenities, services and buildings; public transport facilities; education; employment; information, communication and technology; cultural life; recreation, leisure and sport. Apart from accessibility, disabled persons should also have access to health and rehabilitation (Laws of Malaysia, Act 658, Persons with Disabilities Act Malaysia, 2008). The cited laws recognise that improved accessibility enhances the value of buildings and its built

environment. Thus, it creates cities that facilitate a better quality of life and opportunities to participate in all aspects of life.

The built environment needs to be accessible to all users. The needs of PwDs in development cannot be ignored (Jayasooria, Krishnan, & Ooi, 1997). However, access and facilities provided for disabled groups are often unable to meet their needs (Soltani, Abbas, & Awang, 2012). In Malaysia, Bylaws 34A of the Uniform Building Bylaws makes it mandatory for all public buildings to make available facilities for disabled persons. In Sep. 20th 1990, an amendment was made to the Uniform Building Bylaws (UBBL) at the 35th National Council of Local Government (NCLG). The amendment, introduced section 34A in UBBL, making it compulsory for buildings to provide access to enable disabled persons to get into, out of and within the buildings. Previous studies revealed that Malaysian development policies and regulations are lacking in the provision of user-friendly built environments which include barrier-free and disabled-friendly environments despite being requirements in the building code and legislation (Tan, 2008). More studies which highlight PwDs' satisfaction and perception on accessibility in the built environment need to be conducted to assess the buildings from the perspective of PwDs.

However, despite legislation Malaysia has practised limited enforcement regarding accessibility regulations. One of the concerns was the local authorities' role in having their mechanisms to create an accessible built environment (Hussein & Yaacob, 2012). The current legislation is not enough for local authorities to monitor whether the built environment industry complies with minimum standards for accessibility for PwDs in Malaysia. The local authorities must strive harder to create its mechanisms to create an accessible environment based on universal design values

(Ch'ng, 2010). The government has focused on the role of local authorities to spearhead the motivation for a more accessible Malaysia. This study addresses the gap in the implementation of such regulations.

Numerous scholars have highlighted the issues of accessibility and PwDs in various countries including Malaysia. Among the main issues according to Azlinariah (2007) were constant complaints by PwDs about accessibility provisions in public buildings being inconsistent regarding the continuity between one place to another which inevitably affects the convenience of PwDs while accessing public buildings. One example is the interconnection from public transportation hubs to the main entrance of buildings. Some public buildings do not provide proper pathways with guiding blocks or curb cuts or ramps that enable PwDs to access the building from a bus or taxi stop smoothly and safely.

This research assesses the current accessibility of selected shopping malls in Putrajaya and Kuala Lumpur by combining compliance to existing standards and PwDs feedback on the accessibility of the buildings using the universal design approach.

1.2 PROBLEM STATEMENT

The world is experiencing an ageing population as most countries around the world including Malaysia have experienced improved life expectancy as shown in Figure 1.1. This renders accessibility in the built environment increasingly relevant to Malaysia, to prepare for the ageing population and PwDs. By the year 2050, the population over 65 years in Malaysia would be 15% (Abdul Rahim, 2014). The increased number of PwDs in Malaysia increases the demand for the provision of

access and facilities in and outside buildings, especially in government institutions (Sanmargaraja & Seow Ta Wee, 2012). Besides, the lack of a comprehensive database of the specific problems faced by people with disabilities in Malaysia poses a significant challenge (See and Hashim, 2011). Obviously it is in the interests of the shopping malls to be as accessible as possible in order to attract more and more people. Shopping malls also should allow people with a disability to access the entire shopping centre and enable everyone to enjoy the range of shops and services.

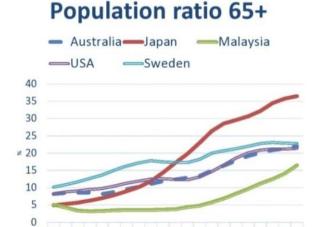


Figure 1.1 Population Ratio Source: (Satoshi Kose, STUD, 2014)

2000

2020

1.4 RESEARCH AIM AND OBJECTIVES

This research assesses how the shopping malls are accessible to PwDs and to investigate the problems that PwDs are facing in the sampled facilities of shopping malls. To address this aim, the research examines the implementation of requirements and the guidelines of accessibility issues for the PwDs in Malaysia to improve the built environment for the PwDs.

In line with the research aim, two research objectives are outlined as follow: