



Building Managers' Views on Accessibility and UD Implementation in Public Buildings: Putrajaya

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Abstract

This paper discusses the interview data collection of an on-going research on accessibility of public buildings in Putrajaya. Main issues include the public awareness of PWD rights and the true concepts of Universal Design (UD). Main purposes are to investigate the building managers' level of awareness and perception regarding the accessibility of their buildings and to study their knowledge on UD theory. Semi-structured interview was carried out with building managers from three public buildings in Putrajaya. Findings show that UD knowledge needs to be enhanced among building managers in order to increase awareness on inclusive environment in public buildings.

Keywords: Public awareness; accessibility; Universal Design; semi-structured interview

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1.0 Introduction

Numerous disability studies found that among the social factors that hinder people with disabilities (PWD) from participating in every day's mainstream are inaccessible built environment (Wiman and Sandhu, 2004), ignorance in the policy making system (Bickenbach et al., 1999; Metts, 2004), lack of employment opportunity (Jenaro et al., 2002), and public ignorance of PWD rights and their capabilities (Meyers et al., 2002; Wiman and Sandhu, 2004). Many of precedent studies focus on the inaccessible architecture and PWD level of satisfaction, but little has concentrated on public awareness on accessibility and UD implementation in built environment. Therefore, this study aims to learn about the level of awareness among building managers from several public buildings in Putrajaya regarding the building's plans to provide better accessibility to visitors, as well as their knowledge about UD theory. This study may complement precedent studies and contribute to a better public awareness on user-friendly environment in Malaysia.

2.0 Literature Review

2.1 Public awareness on PWD rights

From the social model's point of view, disability is caused by the complex interactions between human and the surrounding environment, which consists of various elements like society, culture, politic, climate, topography, technology and built environment (Meyers et al., 2002). Society, one of the key elements in this complex relation, plays a significant role in influencing the life of PWD. Positive supports encourage them to prove their capabilities while public stereotype and prejudice towards PWD may diminish their self-esteem and confidence to participate in the social and economic mainstream. Other than negative support from the society, Imrie and Hall (2001) establish that policies, values, and practices of people who are responsible in creating the built environment also contribute to PWD exclusion from the mainstream. Similarly, the people who manage a public space or public building can also be seen as an important agent in providing an inclusive environment to the visitors.

Various acts and legislation have been created for PWD rights in the developed as well as developing countries. Although there is a lack of enforcement in certain countries, the establishment of such standards rules and legislation signify a strong ethical value and positive support from the government to ensure equal rights and treatment for all citizens. In Malaysia, other than continuous revision of Malaysian Standards (MS) for accessibility, the government has also established the first right-based legislation for PWD. Abdul Rahim (2008) lists the main objectives of People with Disabilities Act 2002 as "to ensure that persons with disabilities in Malaysia have the same rights to equality before the law as the rest of the community in the country; to eliminate, as far as possible, discrimination against persons on the ground of disability in various areas of life; and to promote recognition and acceptance within the community of the principle that persons with disabilities be afforded equal opportunities and full participation to enable them to live as a rightful citizen of the country."

The legislation serves as a recommendation and guide for professionals to practice ethical value in their profession. However, many professionals neglect the moral

responsibility to provide adequate facilities in order to cut cost or get faster profit. They lack awareness that a user-friendly environment can generate higher profit than an inaccessible environment. Shaftoe (2008) emphasizes the idea of convivial place that can attract more visitors to come and spend more money in the place. Other than gaining good business profit due to the user-friendly environment, providing an accessible building at the early stage of construction may avoid future alteration that causes extra expenditure to the company.

2.2 The concept of Universal Design

Although there is a positive development in terms of public awareness on accessibility in Malaysia, accurate understanding of UD theory is still low among Malaysian society. Based on personal experience and daily conversation with friends and strangers, it seems that quite a number of people have little knowledge about UD while many who claim to know its definition have misinterpreted the term as a disability product. Genuinely, UD can be defined as the design of products and environment which is usable by everyone, to the greatest extent possible, without specialized design for a certain group of people (NCSU, 1997). Among the key terms of UD are universality and flexibility, which promote a design that does not discriminate people, based on different abilities and other aspects. The seven principles of UD are described as follow:

Table 1. The key principles of UD

| PRINCIPLE | DESCRIPTION |
|-------------------------------------|---|
| Equitable Use | The design is useful and marketable to people with diverse abilities. |
| Flexibility in Use | The design accommodates a wide range of individual preferences and abilities. |
| Simple and Intuitive Use | Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level. |
| Perceptible Information | The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities. |
| Tolerance for Error | The design minimizes hazards and the adverse consequences of accident or unintended actions. |
| Low Physical Effort | The design can be used efficiently and comfortably and with a minimum of fatigue. |
| Size and Space for Approach and Use | Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility. |

(Source: NCSU, 1997)

Some people have misunderstood UD as disability design that merely caters the need of PWD accessibility in architecture and surrounding environment. What have not been emphasized among the public is that other than accessibility in architecture, UD also covers various areas including retail product, information technology, website design and transportation (NARIC, 2008). The term "Universal Design" was founded in the United States of America, while "Design for all" is commonly used in Europe, and "Inclusive Design" is popular in the Great Britain. These terms are based on the same fundamental idea as Bringolf (2008) neatly put it as "designing for the whole of the population bell curve by creating the maximum utility for the maximum number of people regardless of age, culture, and education or ability level."

UD cultivates creativity, marketability, attractiveness, reduction of stigmatization, and affordability of products designed for all range of users (NARIC, 2008). Applying its principles

in the design phase may challenges designers' creative mind to see beyond artistic value and limited range of potential users. Among the objectives of UD are to hide people's impairment, avoid such attention to their impairments, and minimize public tendency to 'social ostracism' (Imrie and Hall, 2001). Bringolf (2008) clarifies that UD "automatically includes people with a disability, but the semantic difference is that it is not specifically for people with a disability thereby suggesting the exclusion of others."

3.0 Methodology

This paper discusses the semi-structured interviews with building managers as a part of an in-progress research on UD implementation in public buildings located in Putrajaya. Unlike other methods such as site observation and questionnaire survey, the qualitative method of semi-structured interview allows the study to focus more on the interviewee's point of view (Bryman, 2008). Through purposive sampling, the chosen participants are building managers from three significant public buildings in Putrajaya; Perdana Leadership Foundation, Putrajaya International Convention Centre (PICC), and Tuanku Mizan Mosque. Purposive sampling allows researcher intentionally choose participants who are relevant to the research questions.

The one-to-one interviews were performed in an open-ended manner and recorded using digital voice recorder upon permission from the participants. Notes were also taken throughout the course of the interview as for additional documentation. Question were divided to two segments of topics; accessibility of the building and UD theory. The interviews intend to answer two research questions as follow:

- What are the current and future plans of building managements in improving the building accessibility?
- How does the building manager perceive the building accessibility in relation to UD theory?

The recordings and notes were then transcribed for data analysis. Answers from interviewees were compared to previous studies' findings, and the condition and function of the building were also taken into consideration during the qualitative analysis.

Because of the small sample size, results of this study may not be generalized. Further research and more interviews in the topic area should be considered. However, such findings in case study interview are valid because

the interviewees in qualitative research are not meant to represent a population (Bryman, 2008). Bryman (2008) claims, "the findings of qualitative research are to generalize to theory rather than to populations. In other words, it is the quality of the theoretical inferences that are made out of qualitative data that is crucial to the assessment of generalization."

Case Studies

Putrajaya is chosen as the site study due to its identity as the centre of government administration and tourist attraction. It locates many public buildings that serve various kinds of people in a daily basis. Public building can be defined as a building that is "opened to all

or could be used by any member of the community” (Useh, Moyo and Munyonga, 2001). Building is an important element in Putrajaya because architecture has been seen as the strongest symbol of this modern city. A survey study on residents’ perception of Putrajaya identity found that most respondents pointed buildings as the distinctive identity to Putrajaya (Ismail, Shamsuddin and Sulaiman, 2008). Since architecture is the main attraction to the city tourists and its residents, it is significant to ensure positive support from public and building managers in providing better accessibility in the city.

The three public buildings being assessed in this interview study were chosen according to their significances to public, and the regularity of public visiting in a daily basis. These buildings are listed as below:

Table 2. The three public buildings in Putrajaya and their significances

| BUILDING | YEAR BUILT | FUNCTION |
|--|------------|--|
| Perdana Leadership Foundation | 2003 | Educational foundation |
| Putrajaya International Convention Centre (PICC) | 2002 | International conference or event centre |
| Tuanku Mizan Zainal Abidin Mosque | 2009 | Worshipping place |

4.0 Findings and Analysis

The key topics discussed in the interviews are the current plans for accessibility; future plan to improve the building’s accessibility; understanding of UD theory; and the building’s coherence to UD theory. The interview findings can be summarized and highlighted as follow:

Table 4. Interviewee 2 (Tuanku Mizan Mosque)

| TOPIC | INTERVIEWEE’S PERCEPTION |
|--------------------------------------|---|
| Current plans for accessibility | The building was built according to specifications provided. So far there are no complaints from visitors in regards to the building accessibility. Some facilities which were in the specifications were built later such as the railings for ramp which were just built two months ago. |
| Future plan to improve accessibility | To shorten travelling distance from the entrance to main praying hall; to make way finding easier. |
| Understanding about UD | Universal design is accessibility to a place, which must be equally convenient to all users, regardless of different abilities, ages, background and culture. |
| Building coherence to UD theory | Yes, the building complied to UD theory. Since there are no complaints from visitors yet, the building management assumes that the building is accessible. Any relevant complaints from visitors will be discussed and furthered to the main administrator. |
| Other remarks | The future plan has to be put aside for the mean time. Building management needs to focus on other priority, such as the need to fix leaking pool around praying area. |

Table 5. Interviewee 3 (PICC)

| TOPIC | INTERVIEWEE'S PERCEPTION |
|--------------------------------------|--|
| Current plans for accessibility | Facilities provided include an adequate number of PWD bathrooms in the public as well as private meeting area, and elevators with sufficient space for people on wheelchair are also provided on each level. |
| Future plan to improve accessibility | Need a team of professionals who can perform sign language for ease of people with a hearing problem. Other than that, PICC plans to add more wheelchairs. |
| Understanding about UD | It is the design that can be used by everyone, all range of users whether they are disabled people or people without impairments. |
| Building coherence to UD theory | The building is pertinent to UD theory. The design of the building has considered accessibility, as well as safety. The facilities provided include ramps and audible messaging in elevators. Other than that, PICC provides messaging system via plasma monitor and billboard outside event hall/room so that visitors may be informed what event are being held in room. |
| Other remarks | PICC also has a Fire Rescue Team that also serves as PWD rescue team during fire incident or emergency situation. |

In terms of the building's accessibility, all interviewees perceive their building as accessible to visitors. The current plans for accessibility mentioned by the interviewees match the list of facilities with good accessibility in the previous study findings (Abdul Kadir & Jamaludin, 2011). Future plan to improve the building's accessibility are one of the important elements in the interview questions because "plans for refurbishment or alterations should be taken into account as they may affect access or may present an opportunity to make access improvements" (Sawyer and Keith, 2004 as cited in Abdul Rahim, 2008). Each building's future plan differs from each other due to different condition, design and function of the building. For example, PICC, as an international event and convention place, sees that it is important for them to provide sign language during events especially the ones with speech presentation.

In regards to awareness of UD theory, Interviewee 1 and Interviewee 3 seems to understand the fundamental concepts of UD, but Interviewee 2 mentions "accessibility to place" as the meaning of UD. Both Interviewee 1 and Interviewee 3 use the key terms of 'design that is useable by everyone' in explaining their understanding of UD, while Interviewee 2 slightly misunderstood the concept as design only for accessibility in built environment. However, his further explanation of "equally convenient to all users, regardless of different abilities, ages, background and culture" shows that the interviewee does grasp a huge part of UD principles. All interviewees also give appropriate examples of UD implementations in their buildings.

5.0 Conclusion

All three interviewees of this study perceive the assessed buildings as accessible to building's visitors; however, their understanding of UD in terms of the application in areas other than built environment can be enriched more. This is parallel to the issues of lack of public awareness on the importance of barrier-free environment. One of the ways to enrich public awareness on UD is through fundamental education particularly in the design school so that

future designers will be able to incorporate UD in their creations. Bringolf (2008) asserts that education and re-branding of UD may help in correcting the misinterpretation of UD as a disability product. On top of that, society also needs to be educated about the importance of barrier-free environment and PWD rights and capabilities. One of the effective ways to encourage positive support among the community is by getting everybody involved in PWD experience through campaigns and interactive activities with the disabled people.

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References

- Abdul Kadir, S. & Jamaludin, M. (2011). Applicability of Malaysian Standards and Universal Design Implementation in Putrajaya Public Buildings. *Proceedings ASEAN Conference on Environment-Behaviour Studies, Bandung, Indonesia, 15-17 June 2011*.
- Abdul Rahim, A. (2008) What is Access Audit and Access Audit for Existing Buildings in Meeting Universal Designs, Workshop on Access Audit for "Kajian Audit Akses Untuk Ruang Awam bagi Orang Kurang Upaya di Malaysia" for Ministry of Women, family and Community Development, 7th to 8th June 2008.
- Bickenbach, J.E., Chatterji, S., Badley, E.M. & Ustun, T.B. (1999). Models of Disablements, Universalism and the International Classification of Impairments, Disabilities and Handicaps. *Social science & Medicine*, 48, 1173-1187.
- Bringolf, J. (2008). Universal Design: Is It Accessible? *Multi*, 1 (2), 45-52.
- Bryman, A. (2008). *Social Research Methods* (Third Edition). Oxford University Press Inc.: New York.
- Imrie, R. and Hall, P. (2001). *Inclusive Design: Designing and Developing Accessible Environments*, Spoon Press, New York.
- Ismail, I.S., Shamsuddin, S. and Sulaiman, A.B. (2008). An Evaluation of Residents Perception of Identity in Putrajaya New Town. *Jurnal Alam Bina*, 13 (4).
- Jenaro, C., Mank, D., Bottomley, J., Doose, S. & Tuckerman, P. (2002). Supported Employment in the International Context: An analysis of processes and outcomes. *Journal of Vocational Rehabilitation*, 17, 5-21.
- Metts, R. (2004). *Disability and development*. Background paper prepared for the Disability and Development Research Agenda Meeting, World Bank Headquarters, Washington D.C. 16 November 2004.
- Meyers, A.R., Anderson, J.J., Miller, D.R., Shipp, K. & Hoenig, H. (2002). Barriers, Facilitators, and Access for Wheelchair Users: Substantive and Methodologic Lessons from a Pilot Study of Environmental Effects. *Social Science & Medicine*, 55, 1435-1446.
- NARIC (National Rehabilitation Information Center) (2008). Universal Design: Architecture and Visitability. *Research*, 3(3).

NCSU (North Carolina State University) (1997). The Center for Universal Design, Retrieved 21 May 2010 from <http://www.design.ncsu.edu/cud>

Shaftoe, H. (2008). *Convivial Urban Spaces*, Earthscan: United Kingdom and United States of America.

Useh, U. Moyo, A.M., and Munyango, E. (2001). Wheelchair Accessibility of Public Buildings in the Central Business District of Harare, Zimbabwe. *Disability and Rehabilitation*, 23, 490-496.

Wiman, R. & Sandhu, J. (2004). *Integrating Appropriate Measures for People with disabilities in the Infrastructure Sector*. A study in collaboration with Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), the National Research and Development Centre for Welfare and Health in Finland (STAKES), and Inclusive Design Associates Limited (INDRA).