

A STUDY ON THE DISABLED FACILITIES AND PERSONS WITH DISABILITIES (PWDs) CUSTOMERS' SATISFACTION IN SUNWAY PYRAMID

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ABSTRACT

Shopping malls in Malaysia have provided the public a source of convenience and entertainment by offering various types of retail shops with a wide variety of goods, food and beverage stores, cinemas, gaming zones and facilities like restrooms, ATMs and more. As more people visit the malls as part of their social and leisure activities, the demand for safer, convenient and ease of usage of all facilities and services in the mall has also increased. This includes the facilities for the disabled which are deemed to have been provided as per the requirements of the latest Malaysian Standards (MS 11884:2014) code of practice regarding the Uniform Design and Accessibility in the Built Environment; which is delivering a barrier-free environment for the Persons with Disabilities (PwDs). The accessibility of the disabled facilities is crucial in ensuring security and independence for PwDs who are customers in the shopping mall. A case study has been adopted to evaluate the accessibility of disabled facilities of the shopping mall and customers' satisfaction on the facilities specifically for PwDs provided by Sunway Pyramid shopping complex in Subang Jaya, Selangor. This study firstly focused on reviewing the current physical condition and facilities for the disabled as well as the mall's practices to cater for the PwDs customers, assess their satisfaction levels and identified the shortfalls of the disabled facilities provided. Lastly, practical suggestions on the enhancement of the disabled facilities in Sunway Pyramid was also addressed and discussed in this study. A qualitative method was implemented in gathering data, by using short interviews together with the details obtained through observations and photographs. These findings can serve as a benchmark for a better-built environment in Sunway Pyramid including the considerations of the marginalized members of society, specifically the PwDs in accessing public areas like the shopping malls.

Key words: Disabled facilities, People with Disabilities (PwDs), Customer's Satisfaction

INTRODUCTION

In recent years, there is better awareness amongst society on protecting and upholding the equity on human rights specifically the marginalized members of society such as PwDs. Society is now showing more concern about the unfair treatment to those with physical impairment, and want the PwDs to be given equal opportunities to have access in all life aspects. In order to ensure that equal opportunity is provided, it also means providing them with easier of physical access to all facilities provided. With the growing number of PwDs, changes in regulations have been introduced globally in approaching a barrier-free environment in order to ensure that PwDs are able to utilize the same standards of equality, rights and facilities as the non-disabled. Likewise, authorities in Malaysia have been putting effort in safeguarding the rights of PwDs particularly in revising standards and regulations on disabled facilities and barrier-free design in buildings.

Disabled facilities are amenities and resources provided by relevant authorities in accordance with the Malaysian Standard Code of Practice for Access of Disabled Persons. In the findings of Tan (2008), he had encouraged society and government to be more alert on the advocacy for independent living of PwDs by providing information support services, personal assistance, etc in raising awareness towards the rights of PwDs. This includes basic provisions such as tactile paving, barrier-free toilets, access ramps, handrails, reserved parking in public buildings, reserved seats for public transport, tactile lift button, wheelchair-accessible public transports, visible signage, etc.

Bashiti & Rahim (2015b) highlighted that accessibility of disabled facilities in a built environment is vital in assisting PwDs to engage themselves in daily life activities to promote independence that can lead to an improved quality of life. Thus, efforts by the Malaysian government include introducing legislation, statutory and guidelines which serve as the standard in providing accessibility for disabled facilities in buildings; such as the Uniform Building (amendment) By-Laws (UBBL)1991 and; the Malaysian Standard Code of Practice on Access for Disabled Persons (MS). Furthermore, the Equality Act 2010 was also established to ensure businesses treat everyone fairly, by giving the PwDs access to goods and services in the same way as that enjoyed by the non-disabled.

Shopping malls are public spaces that encourage the public to visit and engage in business and leisure activities as well as to utilize the facilities. Hence, shopping mall buildings must be planned and constructed according to the Malaysian Standards and UBBL by incorporating the necessary disabled facilities to facilitate the access of PwDs within the mall. In the findings of AccessDeeds (2017), the accessibility of disabled facilities should be incorporated in all shopping malls to facilitate and enhance PwDs customers' experience. In the vein of previous findings on the matter of accessibility of disabled facilities in shopping malls, PwDs still face difficulties in accessing the requisite facilities. Hashim et.al (2011) discovered that shopping malls in Malaysia have yet to overcome the issues in providing obstacle-free access in the malls.

With that being said, the conformity of disabled facilities and assistance in public spaces like shopping malls is an important aspect to be highlighted and addressed in the current society where the equality of human rights for PwDs is highly advocated.

PROBLEM STATEMENT

Despite the establishment of a barrier-free environment in society that has been strongly advocated for decades, the concern on the provision of disabled facilities and its accessibility in public buildings is yet to be fully resolved. As claimed in the findings of Kamarudin et. al. in 2014, there is still a lot of room for improvement for the government and local authorities to improvise on the accessibility of disabled facilities especially in public buildings so that the facilities provided are kept in pace with the needs of PwDs.

In the National Conference on "Accessibility and Universal Design: Implications for Public Transport and the Built Environment"(2010), a statement was made by Kamal Malhotra, the United Nations President, where he opined that the implementation and compliance for universal building design in Malaysia are yet to be enhanced. He also added that more expertise or research in this sector and the reassessment of current standard codes on buildings are demanded. (Bashiti & Rahim, 2016) It is also found in the same research that the standard outlines of barrier-free design and accessibility of facilities for the buildings are not widely complied with, even in public buildings. This is further exacerbated with the fact the designs and facilities in existing public buildings are seldom able to meet the specifications as well as expectations of the Malaysian Standards codes on Universal Design and Accessibility in the Built Environment. Therefore, it is vital that shopping malls are able to accommodate all the necessary access of facilities to the customers including PwDs.

Besides that, study also found that in Malaysia, the percentage of the elderly population defined as those who are 60 years and above, is expected to rise from 6.3% in the year 2000 to 9.8% of the population or, about 3.26 million in the year 2020. (Mafauzy,2000) This inadvertently further increases the needs and thus awareness of accessibility of disabled facilities in public buildings like shopping malls. A recent study by Bashiti & Rahim (2015b) has discovered that the elderly group is one of the classifications of shopping mall users and this directly affects the efforts to be taken into consideration when assessing accessibility of facilities in shopping malls

In fact, there is research done by Bashiti & Rahim (2016) which outlines the examples of physical barriers compromise listed as below:

- Absence of an emergency alarm system inaccessible toilets.
- Height of reception or counter desks that are difficult to be reached by wheelchair user or other mobility instruments and no voids underneath the counter workspace to allow wheelchair users to roll under.
- Ablution room is not disabled-friendly for wheelchair users.
- Inaccurate signages to accessible toilets, emergency exits, etc.

With the issues mentioned above, the call for further research on the matter of disabled facilities in shopping malls is much demanded as there is still much room for improvements on shopping malls in Malaysia in delivering better shopping experience to every customer. This will enhance customers' loyalty while at the same time ensuring the rights of PwDs are not overlooked by society.

In consequence, this study firstly identifies the current condition of disabled facilities via conducting a case study in Sunway Pyramid, being one of the top 10 largest shopping centers by world standards located in Subang Jaya. Then, determine the shortfalls and shortcomings of the existing disabled facilities of Sunway Pyramid by measuring the satisfaction levels of PwDs in accessing the facilities. The subsequent findings are then able to contribute in suggesting improvements of disabled facilities in Sunway Pyramid and can also be used as a guide for other similar shopping malls in the country.

LITERATURE REVIEW

PERSONS WITH DISABILITIES (PWDs)

Persons with Disabilities (PwDs) is defined in both Persons with Disabilities Act 2008 (Act 685) as a person with a physical or mental impairment whose his/her major or minor life interest has been fully/partially affected to a great extent. However, PwDs was further explained in PWD Act 2008, PwDs comprises of people with an impairment, senior citizens as well as pregnant women. (Mohd Isa, Zanol, Alauddin & Nawi, 2016) The findings of Tan (2008), as cited in Hashim et al (2011), also emphasizes that a person is said to become disabled at the moment where society neglects their human rights and exclude them in all life processes including social and infrastructural development deliberately or unintentionally, due to the social biases and the environmental barriers.

A report by Social Statistics Bulletin Malaysia 2018 revealed Malaysia's statistic on the number of registered PwDs at the Department of Social Welfare in Malaysia reached 488,948 persons as at October 2018, which translates to 1.53% of the country's population. This is only the registered number whilst there are probably many more who are not registered.

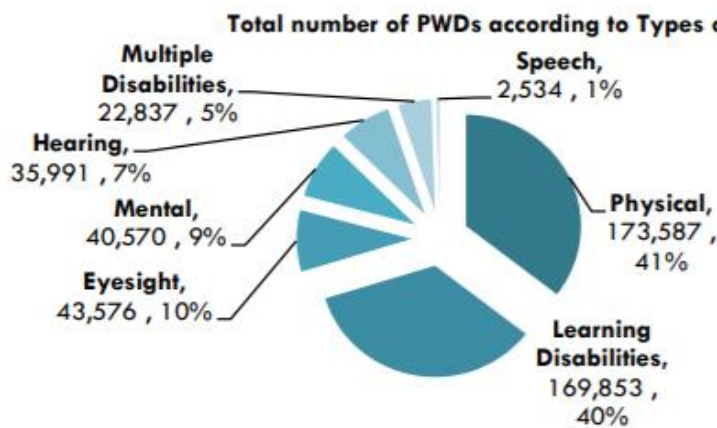


Figure 1: Total number of PwDs according to Types of Disabilities. (Source: Department of Social Welfare (JKM); 2018)

TYPES OF PWDS

The ICF by WHO (2001) classified disabilities into 8 main groups, which comprise of various physical and mental impairments that can hinder or weaken a person’s capability to perform their daily life activities. There are:

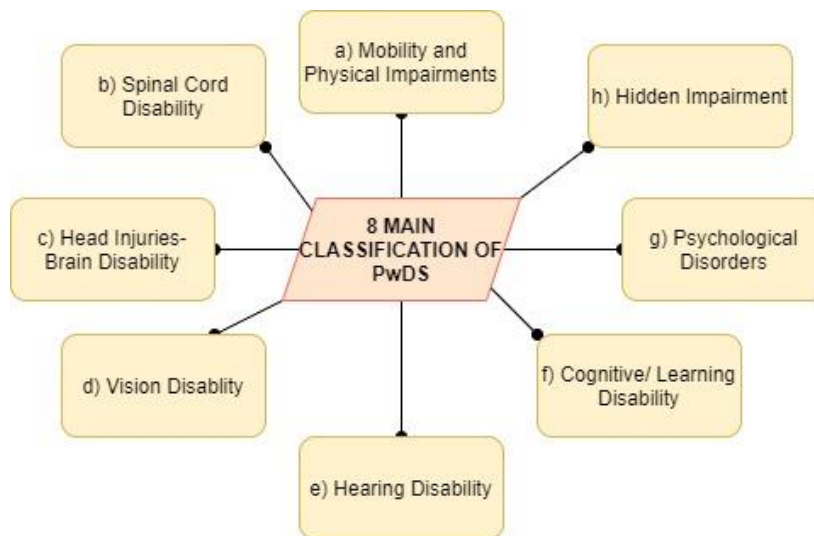


Figure 2: 8 Main Classification of PwDs. (Source: World Health Organisation; 2001)

Nevertheless, the findings of Bashiti & Rahim (2015) clearly outlines categories of Shopping Mall customers who require additional assistance through engaging the disabled facilities in order to access the mall effortlessly. The various categories are shown in figure 3 below.

ACCESSIBILITY ISSUES FACED BY PWDS IN PUBLIC AREAS

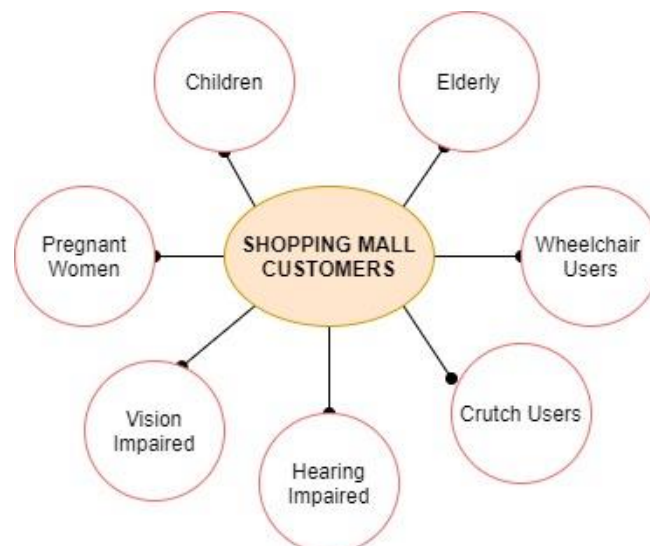


Figure 3: Various Categories of Shopping Mall Customers. (Source: Bashiti & Rahim; 2015)

The findings of Jackson (1974) as cited by Birch (2008), defined public area as “a place accessible to all citizens, for their use and enjoyment” and this includes shopping malls, community atria and city-wide facilities. Furthermore, an adequate public space envisages diverse dynamics of participation, in particular ensuring that people and communities can engage as fully integrated social subjects in urban life. (Cruz et al., 2018)

Hence, the incorporation of accessibility in public areas is relatively important so that everyone including the PwDs are able to fully utilize the function of a public area. Although the government of Malaysia has been advocating many policies and Acts in safeguarding the rights for PwDs, there are still some issues yet to be settled. This can be supported through a discussion on several major accessibility issues in public areas of Kuala Lumpur city in an article by Kutty (2019) as follows:

- a. Blatant misuse of the scarce disabled parking spaces at public outlets by the ignorant abled-bodied citizens that meant to be under reservation for the PwDs drivers.
- b. Absence of ramps for easier access to entrance of building.
- c. Absence of wider lanes or sidewalk areas for wheelchair users, particularly in the circulation area.
- d. Lack of facilities in PwDs toilets.
- e. Inadequate public transportations, ie. stairs as the only access to board into public busses, inappropriate design consideration of bus/taxi stand, narrow walkway in public busses which makes traveling across the busses difficult for wheelchair user/persons with crutch, the gap between the platform and the entrance door of the train is dangerous for wheelchair users, etc.
- f. Impractical design of doorknobs that are hard to grasp for persons with arthritis.

LATEST VERSION OF RELATED LEGISLATION AND GUIDELINES FOR BUILT ENVIRONMENT IN MALAYSIA

The 6th Prime Minister of Malaysia, once quoted in the National Council on Local Government in 2010, that ‘‘all buildings and public amenities must be friendly to PWD to cater for their needs,...’’ ‘‘ aside from new buildings, existing buildings and public amenities, the local authorities should provide the guidelines to make these places friendly to them’’. (Malaysia Information Network on Disabilities, 2010). Therefore, the government had initiated a few legislations, statutory and guidelines regarding accessibility and facilities for PwDs that are to be complied within the built environment, which will be illustrated in table 1. The findings of Kamarudin et. Al. (2012) indicated that existing buildings will have the maximum period of 3 years to make suitable modifications to accommodate the requirements since the enactment of the by-law.

Table 1: Latest Legislation, Statutory & Guidelines for Built Environment in Malaysia. (Source: Kamarudin, Muhamad Ariff, Wan Ismail, Bakri & Ithnin, 2014; Asiah Abdul Rahim, 2014)

Latest Legislation, Statutory & Guidelines	Elaboration
Town and Country Planning Act 1976 (Act 172)	Manages criteria of planning approval
Street, Drainage and Building Act 1974 (Act 133)	Has been specified in the UBBL as the approval requirements for Building Planning
Uniform Building By-Law (UBBL) 34A	Necessitate buildings to incorporate with the Malaysian Standard Code of Practice on Access for Disabled Person (MS)
Malaysia Standard Code of Practice (MS)	It is made mandatory by regulatory authorities. This document was prepared to include with the latest standards, data and information to accommodate persons with disabilities (PwDs), the aged and children in various building typologies such as heritage, parks and other public spaces.

DISABLED FACILITIES IN SHOPPING MALLS

Shopping Malls are perhaps one of the more popular the public/tourists spot with very high human traffic as they can have various types of activities. In the study of Martinez (2020), he mentioned that shopping malls should enable PwDs customers to travel safely in the mall by providing helpful and effective signage system that ensures the accessibility for all within the indoor complex.

As a result, the table below is captured by referring to the latest MS (MS 1184:2014) for academic purposes. (Abdul Rahim, 2016; Bashiti & Rahim, 2015; Siva, G., 2006)

Table 2: Disabled Facilities in Shopping Malls (Source: Abdul Rahim, 2016; Bashiti & Rahim, 2015; Siva, G., 2006)

Disabled Facilities	Elaboration	PwDs involved
Disabled Parking Spaces	Designated parking spaces should be properly marked and be visible enough. A minimum width of the parking space for a car must be 3600mm, and the minimum length to be 5400mm while the minimum width requires a transition area of at least 1200mm beside the vehicle to ensure sufficient spaces for wheelchair users to get in the car/out of the car.	a. Wheelchair user b. Crutch user c. Vision impaired d. Hearing impaired e. Elderly
Kerb ramp to access in the building	Ramps are probably the only feasible alternative for those who are unable to use steps or stairs in order to access in between the changes of floor levels. Aside to a ramp, a flight of steps should be given if the change in level exceeds 300mm	a. Wheelchair user b. Crutch user c. Vision impaired
Wide passing walkways for wheelchair users	A horizontal walkway of minimum width of 1800mm for two people using wheelchairs, with a minimum length of 2000mm shall be provided in the mall.	a. Wheelchair user b. Crutch user c. Vision impaired
Stairs	Maximum riser height of 180mm high and maximum tread width of 260mm wide. Furthermore, the landing area shall be obstacle-free with the minimum width of 1500mm wide for the flexible movement for stretcher. Warning tactile shall be included before the first step of the stairs.	a. Crutch user b. Hearing impaired
Escalators & Elevators	All accessible levels of the building shall be made accessible with escalators and lifts. According to the MS, the space for an accessible lift with a minimum internal lift car size is 1100mm-1400mm with the weight of 630kg that comes with a mirror located in the opposite of the lift door.	a. Crutch user c. Vision impaired d. Hearing impaired e. Elderly
Toilets	Sanitary facilities and toilet rooms shall be built to accommodate a variety range of users, by catering the needs of both abled-bodied and PwDs, which consists of, people of both genders, for parents and children, for PwDs and their carers in all gender combinations.	a. Wheelchair user b. Crutch user c. Vision impaired d. Hearing impaired e. Elderly
Visual and Tactile Warnings	The visual contrast shall be obvious and noticeable from landings to top and bottom step of a flight of stairs. Ideally, the front edge of the tread shall be provided with a visual warning line with a single strip of 40mm to 50mm without a break and also being able to return down the riser for a maximum of 10mm.	a. Vision impaired
Automated Doors	The function of the automatic sliding doors could cater the needs of the PwDs especially for the people who are less capable in walking at a moderate speed, a wheelchair user or a visual impaired	a. Wheelchair user b. Crutch user c. Vision impaired d. Hearing impaired e. Elderly
Provision of Graphic Symbols	The incorporation of graphic symbols in the building is one of the standard requirements in the MS.	a. Wheelchair user b. Crutch user c. Vision impaired d. Hearing impaired e. Elderly
Benches along the walkway	A shopping mall shall always provide the benches or suitable public spaces as it allows the elderly and the one with walking difficulties to sit and rest their weary legs every now and then after a long walk in the mall.	a. Crutch user b. Vision impaired c. Hearing impaired d. Elderly
Reception counter (disabled amenities)	Maximum height of 1400mm above the ground to allow the wheelchair user to communicate with the employees at eye level. Engaging hearing induction loop system to enable the employees' voice to be heard directly via the hearing aid. (Frumos et. al., 2018)	a. Wheelchair user b. Hearing impaired c. Elderly

FACTORS INFLUENCING CUSTOMERS' SATISFACTION ON THE PROVISION OF DISABLED FACILITIES IN SHOPPING MALLS

A study done by Hui & Zheng (2010) decided to only adopt one of the commonly accepted concepts, that is the "satisfaction which is a post-choice evaluative judgment of a specific transaction, which can be viewed directly as an overall feeling, best specified as a function of perceived quality", which he referred to past researches of Parasuraman et al., (1985) and Bastos & Gallego (2008) as this seems more feasible in relation to facility management services. The importance of customer satisfaction towards the business profitability has also been stressed on in the work done by Khadka (2017).

The two fundamental factors that potentially affect PwDs customers' satisfaction on the provision of disabled facilities in shopping mall are:-

- a. **The quality of service;** the importance of service quality has been stressed upon in the work of Campbell and Finch (2004) when the researcher applied organizational theory to facility management in order to increase the customer satisfaction with the services received. Furthermore, Hui & Zheng (2010) also supported the idea of relying on service quality as the most crucial factor influencing customer satisfaction, as researchers realized past literatures showed an anticipated positive relationship between customer satisfaction and service quality. For this reason, the quality of the disabled facilities services delivered in the shopping mall should be regularly inspected by the management team to ensure the provision of such facilities is of the highest standards.
- b. **Ways of Communication;** The management team of shopping malls should never overlook the importance of communication style conveyed by the employee (as the representative of the organization) to the customer as it will leave either a good or bad impression of the employee as well as the organization's image which directly affects the customer satisfaction. (Lepkova & Žūkaitė-Jefimovienė, 2012) It is also agreed by Parasuraman et al (1985) where they mentioned that friendly and helpful employees can result in a happy customer.

SUGGESTION ON THE ENHANCEMENT OF DISABLED FACILITIES IN SHOPPING MALLS

The most common approaches that could be taken to improvise on the current provision of disabled facilities in shopping malls have been identified as below:

- a. **External Access Audit;** External Access audit is a method of assessment that can be used by people with a variety of access impairments (PwDs) in determining the ease of access and ease of use of an environment (for example, a building or landscape), a service or facility. It is rather complicated as it requires experienced specialist consultants like specialist architects or an accredited access consultant, representatives from PwDs together with the Persons In Charge (PIC) of the shopping mall's facility management team in inspecting particular areas to determine the degree of compliance against the latest MS.
- b. **Internal Access Audit;** Similarly, conducting internal access audits consistently from time to time will be able to assist the management team in the same way as carrying out external access audits. The main difference between internal and external audit is the personnel involved in this process, ie. only internal management team with certified auditors who received training from Malaysian Access Audit Consultants will be assessing within the building premises.
- c. **Customer Satisfaction Survey;** Conducting customer satisfaction surveys routinely allows the management team to gain insights into customer demands thus recognizing the shortcomings and/or the strength of the facilities provided. By doing so, the management team is able to develop improvement strategies in planning proportional allocation to the budget of the building owner in upgrading those facilities which can satisfy the PwDs customers; and thus, increasing rate of returning customer in visiting the mall.

RESEARCH METHODOLOGY

RESEARCH FRAMEWORK

The research framework is described in Figure 3 which allows the researcher to understand the scope of work thoroughly and carry out the research process accordingly.

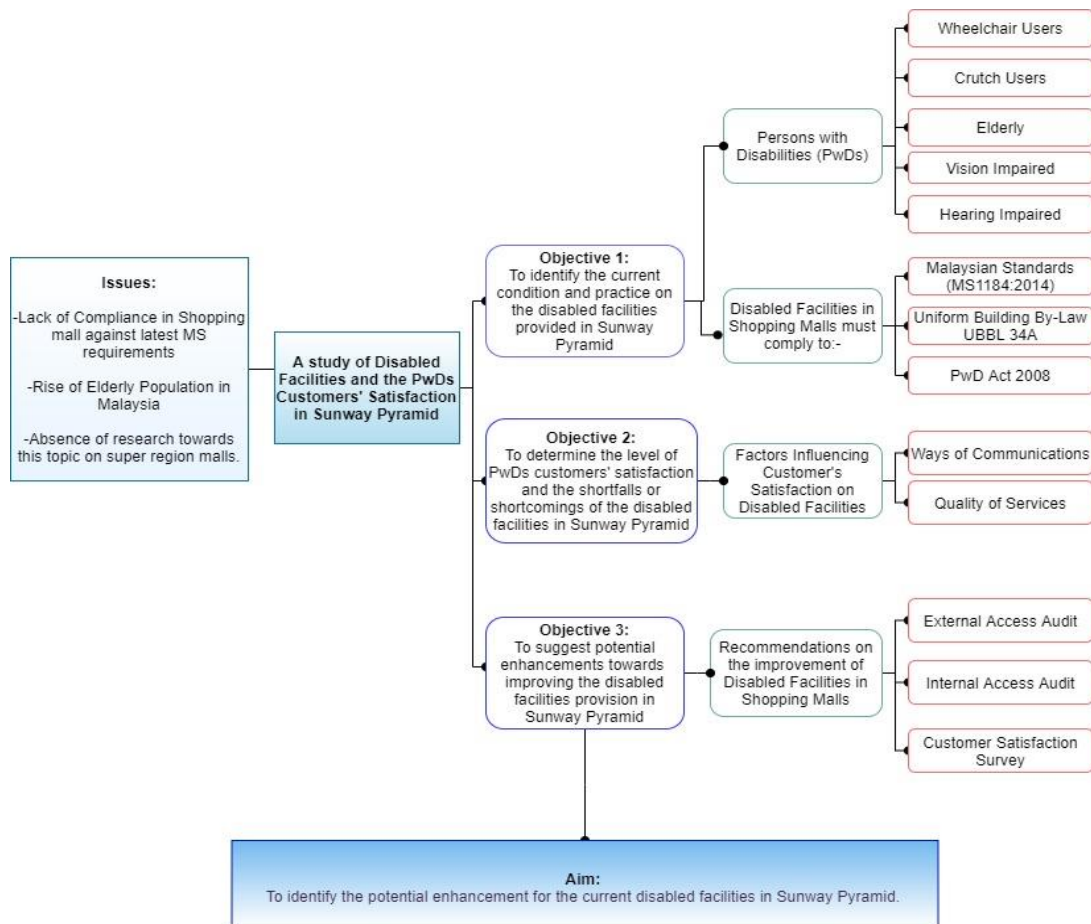


Figure 4: Research Conceptual Framework

QUALITATIVE RESEARCH METHOD

A qualitative research technique was engaged for this research study to promote a higher accuracy in gathering primary data as this technique focuses on obtaining data based on textual observations that portray attitudes, perceptions or intentions of the group of PwDs via interviews. (ACAPS, 2012) Qualitative research methods will be more advantageous for this study especially when an in-depth understanding of the underlying reasons of the answers towards the discussed research questions. Furthermore, it also enables the researcher in acquiring data and information based on an empirical investigation and evidence, in this case by conducting site observations in Sunway Pyramid on their provision of disabled facilities.

Hence, the determined primary data collection will be via conducting structured interviews with the respondents that meet the requirements of the research objectives which in this case will be targeting a focus group of PwDs. It allows the researcher to ask participants the same set of predetermined but open-ended questions which promotes a highly comprehensible topical focus and well-developed understanding of the subject matter at hand. (Sajjad Kabir, 2016) In this case, the opinion and thoughts on the same issue can be considered by the same group of participants where they will be able to provide reliable insights into the matter of shortfalls of the disabled facilities in Sunway Pyramid, and thereafter being able to propose sound recommendation towards the said matter.

Furthermore, the other method adopted in collecting primary data for this research will be via observation. It involves gathering data through systematic viewing, physical inspection or deliberate analysis through observation in a real or simulated scenario. (Owlgen, 2019) The benefits of observation data collection method is that it includes an immediate access to study a phenomena, high levels of versatility in terms of application and it provides a permanent record of the phenomena to be referred in future. (Dudovskiy, 2018) With this method, the question towards the condition of the disabled facilities in Sunway Pyramid can be answered more comprehensively as the researcher is able to observe the facilities in person.

TARGET POPULATION AND SAMPLE FRAME

The nature of qualitative research requires a non-sampling data collection method, thus judgment sampling was adopted in this research study. This involves choosing a group from the population that usually comprise of individuals with certain expertise in the specific area on the basis of the details available where the researcher assumes that it is reflective of the entire population. (Pandey & Pandey, 2015)

Hence, the target population and sampling for this research study focussed on a specific group of respondents, which is the group of PwDs including the hearing impaired, vision impaired, wheelchair users, crutches users as well as the elderly, who visited and utilized the disabled facilities in Sunway Pyramid. Due to the time limitation and constraints from the Restricted Movement Control Order (RMCO), a number of 5 respondents with disabilities were pre-established as the reasonable number of respondents to be interviewed via a video conference method for the collection of primary data which will be further interpreted as the findings towards achieving the respective research objectives. Table 3 below shows the selected respondents' profile.

Table 3: Respondents' Profile

Respondents	Nature of Disability	Age	Requirement of Personal Assistance in shopping malls	Frequency of Visit to Sunway Pyramid
Respondent 1	Low Vision	70	Not necessary if visiting familiar places	Once every quarter of the year
Respondent 2	Crutch User	38	No	Once every 2 months
Respondent 3	Suffers from Quadriplegia (wheelchair-bound)	55	Yes, thus had self-acquired a Personal Assistance to assist him at all time	At least once a month
Respondent 4	Complete blindness with Hearing impairment	55	Yes, the difficulties in carrying out life activities come from the nature of blindness while hearing issues can be resolved with the utilization of hearing aids	2-3 times a month
Respondent 5	Weak legs (Elderly)	79	Yes, experience fatigue in prolonged walking due to weak legs.	Once a month

DATA ANALYSIS

In this research study, content analysis method was applied throughout the data analysis process in order to allow abstraction processes to happen in a draggy transcribed data. Generally, all data gathered during an interview or an observation was first transcribed into written data, followed by coding, or breaking down the text into manageable code categories to eliminate much of the subjectivity in summaries as well as simplifying the trend detection. (Elo et al., 2014)

Conceptual analysis is chosen for the interpretation of collected data. It is a tool that considers concepts as classes of objects, occurrences, properties or relationships. It emphasizes on looking at the occurrence of the selected words in the transcribed data, regardless of whether the words are implicit or explicit. Although explicit terms are clearly easy to be discovered, coding for implicit wordings and determining their level of implication can be complex as the researcher needs to build judgments over a subjective system. As far as conceptual analysis is concerned, the coding method is fundamentally one of the selective reduction techniques. This is because the researcher will concentrate on particular terms or patterns that are indicative of the research questions via a coding process where long texts can be minimized into categories consisting of word, set of words or phrases. (Palmquist, Carley & Dale, 1997) The adoption of this data analysis method assists the researcher in focusing on extracting important keywords from the long and cumbersome interview answers to produce a comprehensive interpretation of all findings before drawing the conclusion.

FINDINGS

CASE STUDY ON SUNWAY PYRAMID



Figure 5: Sunway Pyramid. (Source: FMT Reporter, 2020)

Sunway Pyramid is the first themed shopping and entertainment mall with an ice skating rink in Malaysia. The unique and imposing design which is modeled after an Egyptian-inspired Pyramid that also incorporates the statue of a huge lion standing guard as the exterior design. It was first operated in 1997 and went through a major expansion which was completed in 2016, the mall now has a retail floor area of 4.3 million square feet spanning over 5 floors, hence earning it the title of a super regional shopping centre. (Tandon, 2015;Ibrahim, Bon, Nawawi & Mohd Safian, 2019)

CURRENT CONDITION OF DISABLED FACILITIES IN SUNWAY PYRAMID

The data acquired from physical surveys was analyzed by observing the availability of facilities in Sunway Pyramid as well as its degree of abundance to the latest MS. Photographs of these facilities were also taken by the researcher on 28 September 2020 at Sunway Pyramid mall to support the statements made from the observation.

Figure 6 illustrates the range of types of facilities that are currently provided within the shopping mall premises. There are a total of 13 types of disabled facilities observed in Sunway Pyramid namely disabled parking spaces, external pedestrians pathway, bus and taxi stop, main entrance, corridors and interior pathway, reception and information counter, stairs, disabled toilets, elevators, escalators resting benches as well as indoor lightings.

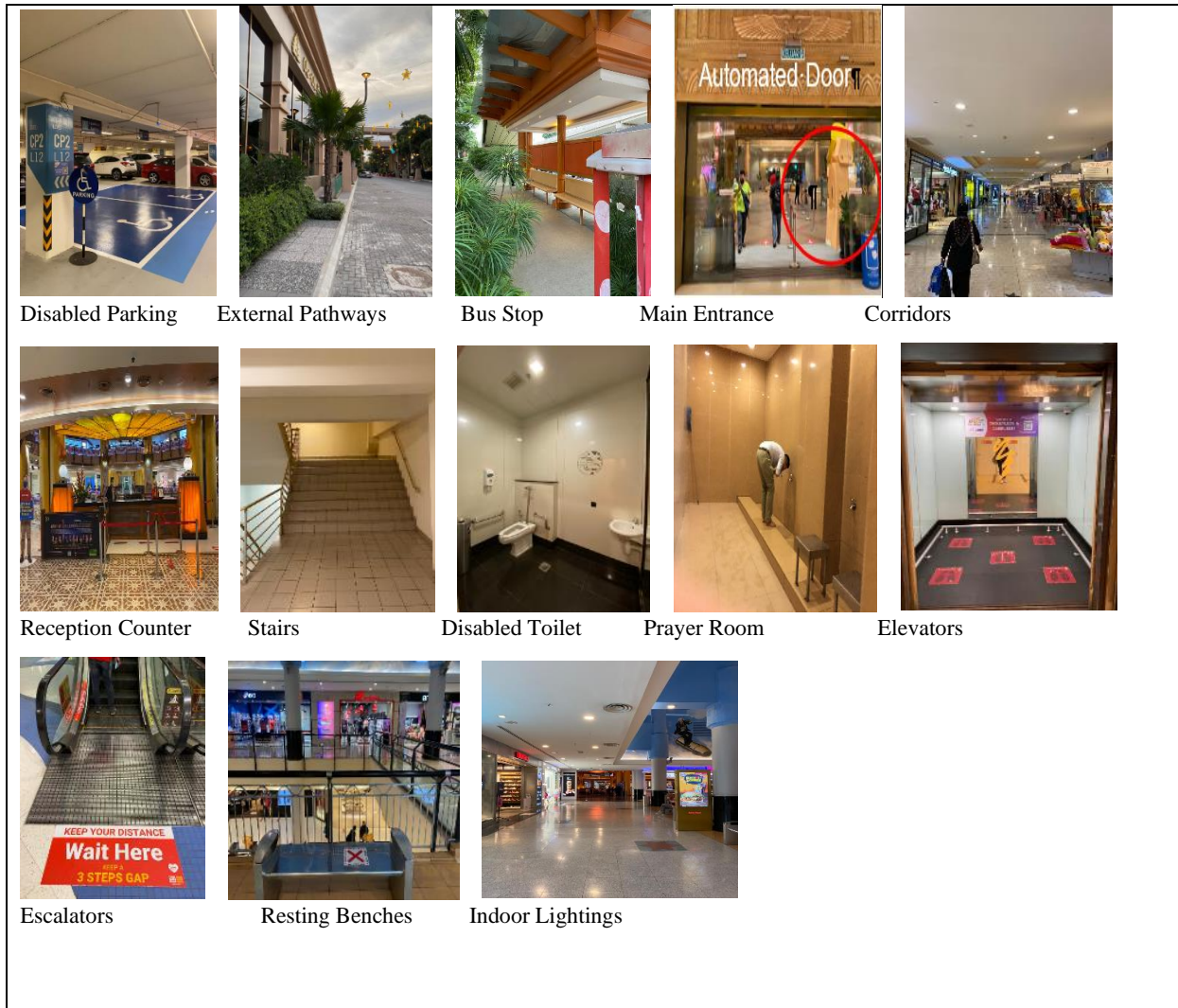


Figure 6: Types of Disabled Facilities in Sunway Pyramid.

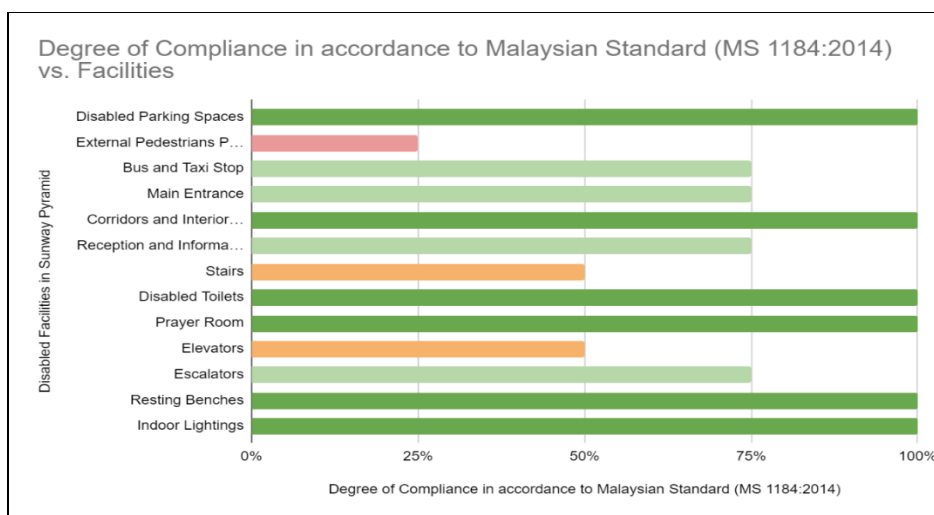


Figure 7: Summary of the findings on the degree of compliance of disabled facilities in Sunway Pyramid against the latest MS

In order to present the analysis towards the degree of compliance of disabled facilities shown above with the latest MS in a concise form, a bar chart summarizes the analysis which is graded based on the availability of the standard of requirements after the observation process. Refer to Figure 6 and 7, the disabled parking spaces, corridors, disabled toilets, prayer room, resting benches and indoor lightings had achieved 100% compliance as they acquired all the necessary requirements to enable the PwDs to utilize their function in a maximum.

On the other hand, the bus and taxi stop has complied 75% against the standard requirement although there is no tactile paving or guiding blocks installed for the vision impaired community. The same goes to the main entrance where it lacks proper signage indicating the entrance, but due to the eye-catching design of the main entrance, it is relatively visible to the shoppers. The reception and information counter had abide well to the requirements with 75% of compliance as it also provides disability equipment aids to the needy upon request. However, it would be better if they could install an hearing induction loop system for the hearing impaired. As for the escalators, these have the same degree of compliance and the only lacking aspect of this facility is the absence of guiding blocks at the approaches to notify the vision impaired on its presence.

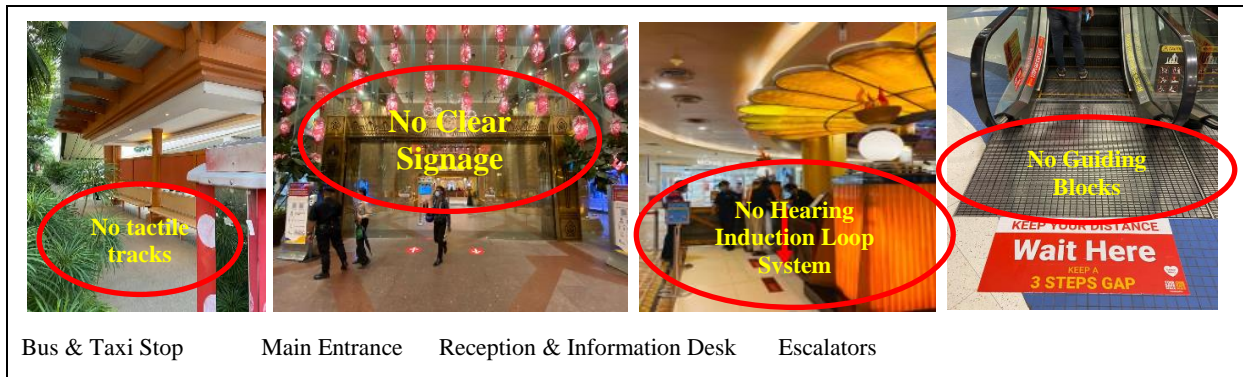


Figure 8: Facilities with 75% degree of compliance towards the MS standard requirements.

The facilities with 50% degree of compliance are the stairs and elevators as they were lacking of more than 2 standard requirements. For example, there are no colour contrast between the landing and floor, absence of guiding blocks and lack of clear indication signages. Moving on to the elevators, it was observed that there is no guiding blocks before the elevator and no hearing induction loop system.

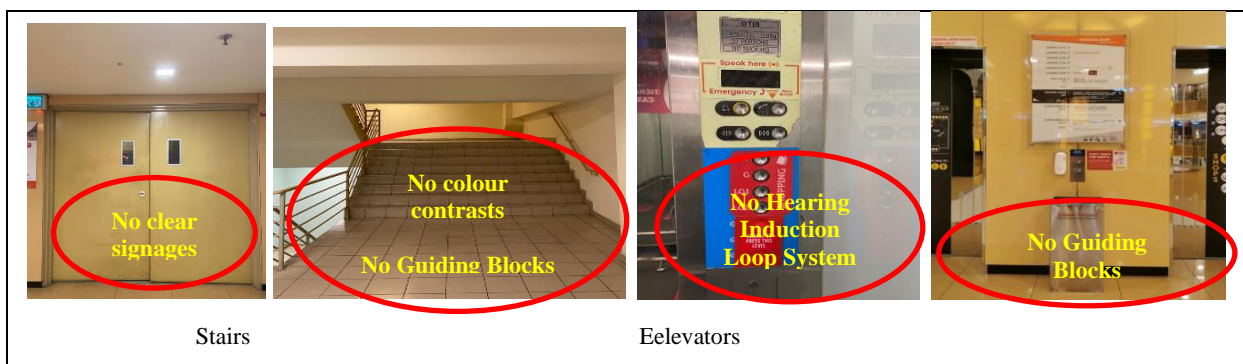


Figure 9: Facilities with 50% degree of compliance towards the MS standard requirements

Finally, the least compliant facilities is the external pedestrian pathway with only 25% compliance of the MS requirements. This is due to its poorly constructed pathway which is not properly or continuously connected where obstacles were discovered along the pathway as well as the absence of kerb cuts and tactile tracks.



Figure 10: Facilities with 25% degree of compliance towards the MS standard requirements

In summary, despite the identified shortfall, the overall provision of disabled facilities is generally good to satisfactory.

SATISFACTION LEVEL OF PWDS CUSTOMERS AND THE SHORTFALLS ON THE PROVISION OF DISABLED FACILITIES IN SUNWAY PYRAMID

Table 4: Summary of Findings on the satisfaction level with its rationale and the shortfalls of provision of disabled facilities by each respondent.

Category	Group	Respondents	Satisfaction Level (1-10)	Keywords/ Phrases	Facilities with insufficiencies
Objective 2	Satisfaction level on the disabled facilities with its rationale & Shortfalls of the provision of disabled facilities	The Low vision	6/10	“Did not require much additional assistance while assessing the mall”	Disabled Toilet, Ramps, Bus & Taxi stop,
		The Crutch User	7/10	“Fundamental facilities have been provided”	Elevators, Bus & Taxi Stop, Ramps, Directory Boards
		The Wheelchair User	8/10	“The available disabled facilities are sufficient”	Disabled Toilets, Disabled Parking spaces, Ramps, Elevators
		The complete visual impaired	4/10	“Many still lacking on the provision of facilities”	Elevators, Disabled Toilet, Reception & Information Counter, Tactile track, Bus & Taxi stop
		The Elderly	6/10	“Overall fine”	Disabled Toilet, Disabled Parking spaces, Elevators

As shown in table 4, the PwDs customers who are relatively satisfied with the overall provision of disabled facilities in Sunway Pyramid are the low visioned, the crutch user, the wheelchair user and the elderly. This is because these four categories of PwDs had given ratings of above 5 out of 10 when they were asked on the satisfaction level of their experience in engaging with the disabled facilities in the mall. On the flip side, the completely visual impaired had rated only a 4 out of 10 due to his dissatisfaction and some bad experience while assessing the disabled facilities. He also mentioned that the reason behind this rating is based on his experience of the insufficiencies on the current disabled facilities.

Therefore, a list of shortcomings on the provision of disabled facilities have been derived as listed in the table above. For instance, the disabled toilet which was mentioned by the low visioned, the wheelchair user, the totally visual impaired and the elderly are found to be underprovided in terms of the unit numbers as compared to those for the able bodied. Next, the absence of ramps to connect different levels which have steps or stairs was also raised by the low visioned, the crutch user and the wheelchair user. In addition, the low visioned, crutch user and the totally visual impaired have also highlighted on the absence of a continuous pedestrian link between the bus and taxi stop to the entrance of the mall. The crutch user has also requested for additional directory boards to be included in more areas of such a large shopping mall.

The wheelchair user and the elderly also found that the provision of the existing disabled parking spaces to be insufficient especially during the peak times like weekends of holiday seasons where the mall is relatively packed. The insufficiency of elevators was raised by all the respondents except for the low visioned based on the extremely long waiting time as well as being hard to locate especially for the totally visual impaired. According to the totally visual impaired, there is an absence of voice-operated announcer system in the elevators to notify on the movement of the elevators. He had also added on the lack of proper training in guiding the blind amongst the personnel on duty at the reception counter and the absence of tactile track which act as guide for him in traveling between places as shortfalls in the accessibility provision as these are essential facilities in accommodating the visual impaired to be independent.

As a summary, the provision of disabled facilities in Sunway Pyramid is relatively sufficient for the low vision, crutch user, wheelchair user, and elderly. However, the totally visual impaired found that the provisions are still insufficient as their type of disability needs more attention and assistance.

SUGGESTIONS FOR POTENTIAL IMPROVEMENTS ON THE PROVISION OF DISABLED FACILITIES IN SUNWAY PYRAMID

Table 5: Summary of Findings on the Suggestions for Potential Improvements on the Provision of Disabled Facilities by each respondent.

Category	Group	Respondents	Main Suggestions <i>*According to ranking</i>	Other Recommendation
Objective 3	To suggest enhancements towards improving the disabled facilities provision in Sunway Pyramid.	The Low vision	1.Customer Satisfaction Survey 2.External Access Audit 3.Internal Access Audit	Always do thorough planning and take legitimate actions
		The Crutch User	1.Customer Satisfaction Survey 2.External Access Audit 3.Internal Access Audit	Conduct more customer survey especially for the special needs group
		The Wheelchair User	1.Customer Satisfaction Survey 2.External Access Audit 3.Internal Access Audit	Conduct more research on the same issue, plan and take actions
		The complete visual impaired	1.Customer Satisfaction Survey 2.External Access Audit 3.Internal Access Audit	Conduct more research on the same issue, Brainstorming session between the management team and representatives from PwDs Association
		The Elderly	1.Customer Satisfaction Survey 2.External Access Audit 3.Internal Access Audit	Brainstorming session between the management team and representatives from PwDs Association,

Table 5 demonstrates that all 5 respondents from different categories of PwDs agreed that external and internal access audits, as well as customer satisfaction surveys can help in providing constructive feedback on the sufficiency and/or deficiency in the provision of disabled facilities to the management of Sunway Pyramid. They had also agreed that conducting customer satisfaction survey on a regular basis can help the management in recognising fundamental needs of PwDs customers and subsequently act accordingly to address the deficiencies. It is also an important tool for improving the facility services in Sunway Pyramid as it can enhance customers’ loyalty towards the mall.

Other than the above, the respondents had also made other recommendations to achieve the same objective; e.g., carry out proper planning and take appropriate actions, conducting more customer surveys and research on related issues and organizing brainstorming sessions with representatives from PwDs association to get valuable insights for improvements on the matter.

Overall, the respondents strongly feel that inputs from PwDs customers who have engaged with the disabled facilities in Sunway Pyramid can offer the most realistic, practical and impactful solution towards the enhancement of the facilities.

LIMITATION OF THE STUDY

The main limitation which severely impacted this research study was the outbreak of Covid-19 pandemic. The process of data gathering faced significant challenges in reaching out to targeted respondents who are keen to participate in the interview which would have been more productive if the interviews could be conducted in person. However, this could only be done via virtual video calling. In addition to that, the site observation process could not be carried out as detailed as possible due to a confirmed Covid-19 case of an employee in Sunway Pyramid. There was also the difficulty in getting more respondents from the various types of disability groups to represent their experience and viewpoints due to the researcher’s lack of contacts from PwDs community.

Due to the nature of this study, there are specific requirements mainly in obtaining perspectives from different categories of PwDs, which would have given a more comprehensive result of the findings. However, due to the time constraints and lack of contacts in PwD community, the researcher is unable to secure respondent with only hearing impairment in the process of primary data collection. Hence, analysis of findings on objective 2 for the hearing impaired can only be carried out through secondary resources.

RECOMMENDATION FOR FUTURE STUDIES

As set out in the findings, it highlights the fact that the blind community appears to have lesser opportunity in performing independent living when it comes to engaging with the facilities in shopping malls. As suggested by one of the respondents, shopping malls should seriously consider to install a vision impaired guide software such as “Beacons Software” and incorporate it in the management of the malls since use of tactile paving in the mall may cause inconvenience to the other shoppers plus it can also affect the interior floor design and appearance. Beacons software is able to serve as a real-time navigation for the visually impaired as they are able to get instantaneous information to direct them towards their destination effortlessly. Therefore, further studies on the implication of such vision impaired guide software in the public area could be conducted to determine its advantages and its impact towards the vision impaired community as well as its cost implications. By doing so, it can serve as a possible option for authorities to invest in such practical software that could benefit the PwDs community.

Moreover, studies on the provision of disabled facilities in Sunway Pyramid could be carried out in future by incorporating participants with merely hearing impairment as well as other forms of disabilities so that extensive findings can be made. This will give a better and more comprehensive data that will enable the parties involved to do appropriate planning in improving facilities for PwDs in shopping malls.

CONCLUSION

In conclusion, despite the limitations, all three objectives were met and the aim of the research study which was to assess the current provision of disabled facilities in Sunway Pyramid has been achieved. It was found that the facilities are above the average in terms of sufficiency, especially for the crutch users, wheelchair users, the elderly, and the low visioned based on their satisfaction level on the same. However, it appears that the facilities are relatively not as disabled-friendly towards the completely visual impaired. Based on the findings, the interviewees had proposed that the management of Sunway Pyramid should conduct more customer satisfaction surveys as they opined this method to be the most effective way in collecting feedback as well as detailed insights from PwDs customers. As far as facilitating independent living for the PwDs community is concerned, it was discovered in this study, that there is still room for improvement for Sunway Pyramid to provide fully disabled-friendly and accessible disabled facilities. The inclusiveness of the PwDs community as a minority and often marginalized group, in all of life events should always be taken into serious consideration by all service providers. Hence, the management of Sunway Pyramid could take this finding into their consideration in their attempt to enhance their service and continuously improve all of their customers’ experience and this includes the PwDs.

More importantly, whilst this study only covered one specific location which is a major shopping mall in Klang Valley, the findings of this study is a good indication of what is lacking in many facilities both private and public. The information gathered may be useful in highlighting the need for better awareness of the needs for improvements and future enhancements work in developing a better disabled-friendly facility not only in shopping malls but also all other public as well as private buildings to ensure the PwDs society are not marginalized. Thus, will ultimately ensure the welfare and development of the PwDs are taken into account in any physical development planning. This can be done by increasing the reachability and accessibility of PwDs who wish to participate in all forms of activities facilitated by having obstacle-free public buildings, spaces, amenities and at the same time they get to enjoy these facilities at the same level as the non-disabled. It is also hoped that this research study will provide a decent standard for a barrier-free built environment by taking into account the needs of every type of disability especially for shopping malls and other buildings and areas which are meant for public use. Thus, an integrated and coordinated effort between the government, local authorities, voluntary organisations, private developers as well as the whole of society shall be initiated and established in realizing the vision of creating a caring and sharing community.

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