

5S Aged-Friendly Spaces Guideline: A Way Forward to Foster Sustainable Cities and Communities

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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v10-i14/7365>

DOI:10.6007/IJARBSS/v10-i14/7365

Published Date: 29 June 2020

Abstract

This paper presents a guideline called 5S: Aged-Friendly Space for the Elderly that assists the provider and home owner in creating aged-friendly spaces for the older person. This is crucial to empower the older person to be independent and remain active role in community. In line with the sustainable development goal, the government has taken an initiative to offer accessible and supportive environment for the older person. Thus, 5S: Aged-Friendly Space for the Elderly guideline is proposed as an alternative to create an awareness among the developer, home owner and the government on the important criteria of aged-friendly spaces.

Keywords: Sustainable Cities and Communities, Aged-friendly Space, Sustainable Development Goal

Introduction

5S: Aged-Friendly Spaces is a guideline that provides the important criteria of aged-friendly features on five main spaces (space for rest, dining, activities, learning and ICT) to be considered by developers, home owner and government. In line with the sustainable development goal, providing the basic services and affordable housing are among the targets of the government by 2030 (Economic Planning Unit, 2017). Number of initiative have been taken by the government to ensure equitable distribution of basic services to all market segments especially those in the vulnerable groups such as older person. Among the basic necessities of the older person is in terms of space that need to be built in aged-friendly. For instance, wide doorways can ease the mobility of the wheelchair elderly to get into or out the house. This is among the aged-friendly features that can help to promote active ageing and make the life of elderly become easier. The government also highlighted such needs as a main

targets in the National Policy for the Older Person to provide necessary supportive environment to the Malaysian elderly. This is crucial for those elderly who desire to live in an independent lifestyle with the supportive and positive environment. As the outcome, 5S: Aged-Friendly Space guideline is proposed to the relevant parties such developer and home owner to support the government initiatives in achieving sustainable development goal by 2030.

Literature Review

Similar to other countries, Malaysia is expected to reach nearly 15 percent of ageing population by 2030 (Malaysia Statistic Department, 2016). Many countries have started to promote active ageing through number of initiatives such as improvise the city design to meet the current needs of older person to age friendly. The older person has started to actively engage in many activities such as volunteering, lifelong learning, and travel. Thus, it is important for the developer and the government to provide an adequate facilities and spaces for them to remain active in their lifestyle. For example in Japan, the Japanese government has reused the old kid playgrounds and installed with the exercise equipment for the elderly (Thompson Reuters, 2009). Through this initiative, there is an increasing number of Japanese elderly do the regular exercise at the playground. A supportive built environment is crucial for the wellbeing of the older person. In the study conducted by Hanson (2012), highlighted the elderlies' need of supportive built environment and social environment. Built environment refers to the physical appearance of city design and the availability of public transportation, pedestrian walkaway and others. While, the social environment embedded the cultures exist in community and the how people interact in one community. Similar in the study Elsawahli et al. (2017), found that one informant always walking at park and meet friends; 'I usually walk up early go to morning prayer then go to the park for a walk after that I meet my friends for breakfast and then I go back home if there is no voluntary work in the community centre. In line with the SDG, the government aimed to create a resilient, safe, and aged-friendly to be inclusive especially the older person (Economic Planning Unit, 2017). There are three important aspects that need to be considered by the developer, home owner and government including: (1) adjust to the changing needs of older person to maintain their active role in community (2) low socioeconomic of the older person (3) limited of budget and commitment from the developer and government.

The first aspect is to adjust the changing needs of older person as a way to maintain their active role in community. The need of older person is gradually change from time to time. This is inevitable issues that faced by the government to adjust with the changing need of older person (Kouba et al., 2017). The government has taken numerous initiatives in empowering the older person to age in a healthy and active. Most of the elderly are now preferred to live in an independent lifestyle and aged at their dream house. Based on the statistics, almost 80 percent of ageing population from Brazil, France, Israel, Argentina, and Czech Republic are preferred to live in the general housing (a house and apartment) as compare to Singaporean elderly preferred to live in public house (International Longevity Centre Global Alliance, 2013). Meanwhile, most of Hong Kong elderly preferred to stay at the special housing such as home care (Kin-sun & Chi-Kwong, 2009). All these three type of housings need to cater the different needs of older person. For example, in one study conducted by Demirbilek and Demirkan (2004) in special housing (home care), one informant claimed that "last year I stayed at a place where a guy across the hall had the television loud because he couldn't hear". It would be good if there have a partitions that separate the living

room with another halls. Similar to the study Wright et al. (2014), most of the Australian elderly (Brisbane) have recommended the sliding partitions has as a preferred future house design. Another study also has shown a high demand from elderly for bath and toilet modification. For example the study by Morales et al. (2017), revealed that most of older respondents preferred L-shape grab bar for toilet and horizontal grab bar for bathroom. All of these needs may differ according to the type of housing setting. For instance, some of the elderly who resided at home care preferred the hand rail at the corridor way (Othman & Fadzil, 2015) to support them while walking to the dining hall.

The second aspect is low socioeconomic among the elderly that require more attention from the developer and the government. In the study conducted by Zainal et al. (2012), revealed poor housing conditions (socio economic indicator) is closely associated with the urban poverty. These poor housing conditions including limited space, leaking roof, and broken door and window were mostly affected the urban residents who resided at flats, terrace, detached and semi-detached house. Similar to a study by Xie (2018), discovered there is a different perceptions of a community's age-friendliness (housing conditions, local amenities and social inclusion) between lower and higher socioeconomic among the older person. Those elderly who is living in disadvantaged conditions has lower satisfaction on their housing conditions, less accessible of local amenities and others. Thus, it requires the developers and the government to give a careful consideration especially to those disadvantaged elderly.

Last but not least is lack of awareness of the developer on the concept of aged-friendly cities and communities. Number of studies have been done related to the important role of developers in creating accessible and supportive environment to the older person (Tobi et al., 2017; William et al., 2010; and Wright et al., 2014). Besides, there are number of challenges that commonly faced by the developers in implementing aged-friendly such as limited of resources and financial constraints. As highlighted by the legal expert in town planning, Datuk Dr Abdullah Malim Baginda argued that "many of the homes run with inadequate facilities. It would be costly to fulfil the requirement set by the authorities in such limited space. This results in ad hoc renovations" (The Star Online, 2016).

Sustainable Development Goal 11: Make Cities and Communities Settlements Inclusive, Safe, Resilient and Sustainable

As presented in Figure 1, there are three targets under Goal 11 have been highlighted as the main focus of discussion in this section. The discussion of each target begin with the main topics such as access of basic services (target 11.1), special attention to the needs of those in vulnerable situations, older person (target 11.2) and lastly inclusive and sustainable urbanization and capacity for participatory (target 11.3).

| Target | Items | Main topics |
|--------|---|---|
| 11.1 | By 2030, ensure access for all to adequate, safe and affordable housing and <i>basic services</i> and upgrade slums | Access of basic services |
| 11.2 | By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with <i>special attention to the needs of those in vulnerable situations</i> , women, children, persons with disabilities and <i>older persons</i> | Special attention to the needs of vulnerable groups such as older persons |
| 11.3 | By 2030, enhance <i>inclusive and sustainable urbanization and capacity for participatory</i> , integrated and sustainable human settlement planning and management in all countries | Inclusive and sustainable urbanization and capacity for participatory |

Figure 1: Three Sustainable Development Goals in Creating Sustainable Cities and Communities (Economic Planning Unit, 2017)

Access of basic services (target 11.1) — accessibility basic services and positive built environment are crucial to the wellbeing of the older person. The finding of the study conducted by Elsayahli et al. (2017), found that aged-friendly neighborhood designs such as good walkways, connected streets and close to the public spaces (parks and shops) have promoted active ageing. One informant in this study claimed as follows; “I think if I have walkways in good conditions I will be encouraged to walk; poor lighting and lack of shading path could be barriers” (Elsawahli et al., 2017). Most of the older person love walking as it is good for health and stay connected with the society.

Special attention to the needs of vulnerable groups such as older person (target 11.2)—older person requires full attentions by the government since they are easily exposed to the disadvantaged conditions such as financial constraints, physical deterioration, poverty and social exclusion. In Malaysia, the government has started to recognize the needs of older persons through the introduction of first National Policy of Older Person in 1995. According to Zawawi (2013), this policy is specifically tailor the needs of Malaysian older person based on three aspects including healthcare, development and supportive environment. Supportive environment is among the key aspects that being focused by the government in terms of basic services, transportation, housing and others. Supportive environment does not only lie on the physical needs but also depends on the social support system (Hanson et al., 2012). This is in parallel with the target 11.2 by ensuring the special attention to the needs of older person.

Inclusive and sustainable urbanization and capacity for participatory (target 11.3)—rapid urbanization has posed number of challenges for a country to achieve the sustainable development goals (Brelsford et al., 2017). Urbanization is always associated with the movement of people and effect of the globalization in general. Besides, urbanization also has taken effect on the history of human development in Malaysia country. It has led to the increasing of ageing population in the country and growing number of nuclear families since 19 centuries. More families preferred a small size family (nuclear family) to reduce the cost of livings especially those resided at the urban cities (National Population and Family Development Board, 2003). The rapid growth of population in the urban cities has called the inclusive and sustainable cities and communities. As shown in target 11.3, the government aimed to enhance the inclusive and sustainable urbanization for participatory. It not only concern on the physical development but also focused on urban social sustainability. Social sustainability can be categorized into five dimensions as discussed in the study Dempsey et al. (2011) including; (1) social interaction; (2) participation in collective group (3) community stability; (4) pride and; (5) safety and security.

The first dimension is social interaction that benefited the communities who are living in the same neighbourhood. It acts as a supporting systems to the older person especially those who intended to live independent lifestyle. Meanwhile, the second dimension of participation in collective groups and network tapping the integration among the communities through activities participated. Next, the third dimension, the community stability not necessarily depends on the reason of people stay or leave the neighbourhood or how many people live in that particular neighbourhood. For example, the elderly preferred to age in their own house as it keeps lot of memories and sense of attachment. Follow by fourth dimension which is pride or sense of place. This is closely related to the sense of attachment of communities toward the neighbourhood due to several circumstances such as positive environment. Last but not least is safety and security as the fifth dimension. This is fundamental needs of communities in a particular neighbourhoods in the sense that, the real home symbolized safe from the risks.

Emerging New Market Segments of Older Person

Ageing population has been recognized as the new market segments which becomes a global issue (Koubaa et al., 2017). They will become the main consumer of most products and services. Older person is no longer being disregards as weak or old due to the harsh withdrawal from the societal obligation as claimed by Henry and Cumming in the theory of Disengagement (Cumming & Henry, 1961). They will become the important market segment that have power to control the markets in the future (Gunter, 2012). Many studies have debated over the characteristics of older person by treating them as a heterogeneous trait rather than treated as a homogenous (Gunter, 2012; Koubaa et al., 2017). They are different set of individual with varies of needs and capacities. Gunter (2012) in his book titled "Understanding the older consumer: the grey market" has proposed that the market opportunities evolved the new market segment of older consumer. For instance, in the United Kingdom has recognised the older person who has a purchasing power over most products and services including travel tour (Jang & Wu, 2006), health care provision (mobile health technology) (Kuerbis et al., 2017), home care assistance and housing. They are seemed to spend more than they used to be beforehand. Gunter (2012) also argued that older consumer is not always associated with the poverty. Besides, older consumer also does have an expectation on what market could offer them which should not be ignored by the marketer. Technology has become a new platform for the older consumer as the main sources of information related to the products and services rather than entertainment (Gunter, 2012). Technology is no longer brand new for the elderly to embrace as compare to past years (Teng & Joo, 2017). Thus, the older consumer should be treated a new opportunity for the marketer to generate more various products and services that suit with their real needs.

5S: Aged-Friendly Space for the Older Person

Next section discussed on the guideline 5S: Aged-Friendly Space for the Elderly as the alternative way in creating an awareness to the developer and home owner to consider the important criteria in designing aged-friendly space. The main idea of this guideline is focused on the basic necessities of the older person in terms of space. In addition, this guideline is not representing the perspective of architectures but aimed to voice out the sociologist perspectives based on preliminary findings. Rather than focusing the physical appearances of building as the main concern, the paper highlighted the positive and supportive environment for elderly to aged friendly. The uniqueness of this 5S: Aged-Friendly Space Guideline is

providing the important facts and figures that highlighted the criteria of aged-friendly on five main spaces.

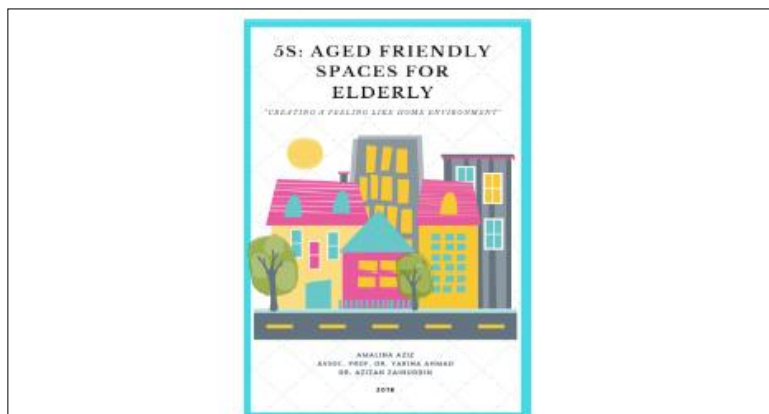


Figure 3: 5S: Aged-Friendly Space Guidelines

As presented in Figure 4, there are five main spaces that being highlighted such as (1) space for rest—comfortable armed chairs (forearm resting with 30-60 inward angle) (Holden et al., 1998) to reduce the muscle pains especially those with disabilities and chronic diseases such as arthritis and stroke; (2) space for dining—pull out kitchen cabinet drawer which easy to be reached by the older person as compare to lower cabinet; (3) space for learning—sufficient spaces and facilities for learning (a classroom, projector, and sufficient lighting); (4) space for activities—therapeutic park and sufficient place to do an exercise and (5) space for ICT—a computer and instructions to pull off the plug.

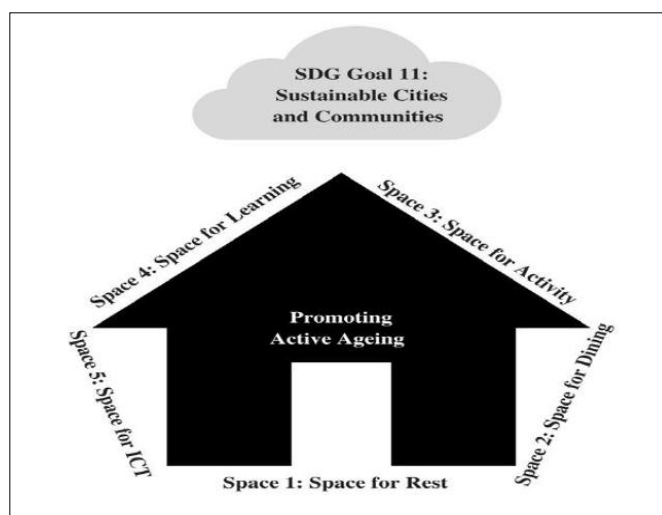


Figure 4: 5S: Aged-Friendly Space for Achieving the Sustainable Cities and Communities in Promoting Active Ageing

The uniqueness of this guideline is to provide an important criteria of aged-friendly features to be considered by the developers and home owner. It also provides an important facts and figures and additional knowledge to the home owner about the aged-friendly features on these five main spaces (refer Figure 4).The potential of commercialization is to propose this guideline to the developers, government and home owner as an initiatives to promote active ageing.

A Way Forward to Implement Three Phases of 5S: Aged-Friendly Spaces

This section discussed a potential collaboration with the government as a way forward implementation of 5S: Aged-Friendly Space for the elderly. As presented in Figure 5, there are three phases that can be considered by the government, developer and home owner to consider aged-friendly features into the housing design. This includes (1) phase 1—reach the developer and home owner; (2) phase 2—advocacy by government and (3) phase 3—full implementation of aged-friendly. In line with the sustainable development goal, by providing aged-friendly space can offer a positive built environment and good quality of life to the elderly. It offers a minimal assistance to the elderly in their daily life yet the impact is significant.

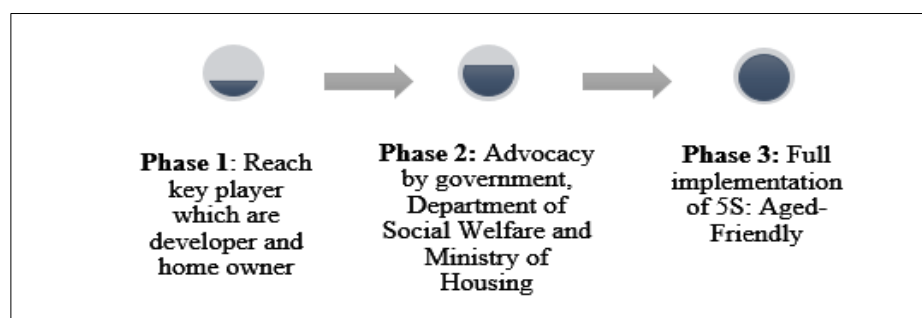


Figure 5: Three Phases of Embedding 5S: Aged-Friendly Spaces as a Way Forward to Promote the Sustainable Cities and Communities

Phase 1: Reach Developer and Home Owner

The first phase is to reach the developer and home owner to comprehend the urgency needs of elderly. This guideline is proposed the criteria of aged-friendly features to the developers and home owner for the consideration. This guideline is useful for the home owner who move to a new house. This is because, most of the home owner plan to stay longer in the house that they bought. Thus, it is advisable to consider the aged-friendly criteria into their house design for minimal modification or renovation. An earlier consideration can help to reduce the modification cost in the future such as wider doorways, no steps or stairs and pull-out cabinet. As for the developer, this is the opportunities for them to tackle the heart of this new market segments of older consumer. Most of the older consumer preferred the products and services that tailor their needs (Gunter, 2012) which is aged-friendly, supportive and accessible. For example in Ireland, the government has taken the initiative to collaborate with the developers and local authorities in creating aged-friendly cities. About 31 local authorities have agreed and participated into the Age Friendly Cities and Counties Programme to create a sustainable and aged-friendly housing for elderly (Aged Friendly Ireland, 2018). Through this initiative, the government can transfer this responsibility to the hand of the local levels (developer) to provide a safe, age-friendly and resilient city. This is because, the local level is the right person to execute the government plans since they dealt directly with the communities. On the other hand, the government plays a supporting role to the local authorities by providing the technical assistance (Aged Friendly Ireland, 2018).

Phase 2: Advocacy by government, Department of Social Welfare and Ministry of Housing

Next in phase 2, this guideline is proposed to provide the additional information to the government and other government agencies such as Department of Social Welfare in addressing the needs of older person to age friendly. In line with the Goal 11, the government

acts a supporting role in sustaining the sustainable cities and communities. Many countries have started to steer towards the same purpose which is to create a safe, resilient, accessible and affordable housing. However, in harnessing the sustainable cities and communities is a complex issue which is difficult to be implemented in most developing countries. In the study conducted by Williams (2010), highlighted two main challenges that should be addressed by the government level including the depth understanding of “visions of sustainable cities” and “multi-faceted processes of change” to provide sustainable cities and communities. It requires a different set of action and role players (top and bottom level) in ensuring the successful implementation of the sustainable cities and communities.

Phase 3: Full implementation of 5S: Aged-Friendly as a potential alternative

The last phase is taking this guideline into full consideration as an alternative ways in designing aged-friendly environment for the older person. This guideline perhaps can benefited the older person as well as to developer, home owner and the government.

Conclusion

As a conclusion, 5S: Aged-Friendly Space for the Elderly is proposed as the guideline to the developer, home owner and related government agencies as a way forward towards in achieving the sustainable cities and communities. The rapid growth of ageing population is an inevitable issues faced by many countries including Malaysia. The older person has been recognized as a new market segments that have a unique heterogeneous needs. The older needs tend to change from time to time that requires a careful consideration by the marketer. Thus, the marketer such as the housing developer need to fulfil their needs and preference to tackle this growing market segments. This paper also focused on three main aspects that need to be considered by developer, home owner and government including adjusting the changing needs of older person as a way to maintain their active role in community, low socioeconomic attainment among elderly and limited of resources and awareness among the developers and government. In line with the SDG, there are three targets under Goal 11 including accessible basic services, special attention to the older person and inclusive and sustainable urbanization for participatory. These three targets play a significant impact on the wellbeing of the older person through the accessible basic services and positive built environment. Next, this paper also highlighted the older consumer as new market segment that can generate revenue to the country. Last but not least, this paper also suggested a three phases as a way forward to collaborate with the developers, government and home owner in designing aged-friendly space for the elderly. This can help the government to achieve the sustainable development goal as well to prepare our into aged-nation country by 2030.

Acknowledgement

This paper would like to send a special gratitude to my supervisor Assoc. Prof. Dr. Yarina Ahmad and Dr. Azizan Zainuddin for their endless support, care and guidance. Not to be forgotten, a special gratitude also given to all members of Graduate Researchers in Print (GRiP-FSPPP) who have contributed the ideas and opinions to complete this paper. A special gratitude also to Muhammad Nasiruddin Aziz, Siti Zulaikha Mustapha, Siti Nur Fathanah Abd Hamid and Aslinda Ramely for their care and support. Last but not least, I would like to thank the Academic Staffs from Faculty of Administrative Science & Policy Studies, Universiti Teknologi MARA, Shah Alam for their financial supports.

References

- Aged Friendly Ireland. (2018). Report Dublin City Age Friendly Strategies.
- Brelsford, C., Lobo, J., Hand, J., & Bettencourt, L. M. (2017). Heterogeneity and scale of sustainable development in cities. *Proceedings of the National Academy of Sciences*, 114(34), 8963-8968.
- Cumming, E., & Henry, W. E. (1961). Growing old, the process of disengagement. *Basic books*.
- Demirbilek, O., & Demirkan, H. (2004). Universal product design involving elderly users: a participatory design model. *Applied ergonomics*, 35(4), 361-370.
- Dempsey, N., Bramley, G., Power, S., Brown, C. (2011). The Social Dimension of Sustainable Development: Defining Urban Social Sustainability. *Sustainable Development*, 19(5), 289-358.
- Department of Statistic Malaysia official portal. (2016). Population Projection (Revised), Malaysia.
- Economic Planning Unit. (2017). Malaysia Sustainable Development Goals Voluntary National Review 2017.
- Elsawahli, H., Shah Ali, A., Ahmad, F., & Al-Obaidi, K. M. (2017). Evaluating Potential Environmental Variables and Active Aging in Older Adults for Age-Friendly Neighborhoods in Malaysia. *Journal of Housing for the Elderly*, 31(1), 74-92.
- Gunter, B. (2012). Understanding the older consumer: The grey market. Routledge.
- Hanson, H. M., Ashe, M., McKay, H. A., & Winters, M. (2012). Intersection between the built and social environments and older adults' mobility: an evidence review. National Collaborating Centre for Environmental Health.
- Holden, J. M., Fernie, G., & Lunau, K. (1988). Chairs for the elderly—design considerations. *Applied ergonomics*, 19(4), 281-288.
- International Longevity Centre Global Alliance. (2013). Housing for older people globally: What are the best practices? An ILC Global Alliance Discussion Paper.
- Jang, S. S., & Wu, C. M. E. (2006). Seniors' travel motivation and the influential factors: An examination of Taiwanese seniors. *Tourism management*, 27(2), 306-316.
- Kin-sun, C., & Chi-kwong, L. (2009). Elderly Commission's Study on Residential Care Services for the Elderly.
- Koubaa, Y., Tabbane, R. S., & Hamouda, M. (2017). Segmentation of the senior market: how do different variable sets discriminate between senior segments? *Journal of Marketing Analytics*, 5(3-4), 99-110.
- Kuerbis, A., Mulliken, A., Muench, F., Moore, A. A., & Gardner, D. (2017). Older adults and mobile technology: Factors that enhance and inhibit utilization in the context of behavioral health. *Mental Health and Addiction Research*. 2(2).
- Morales, E., Pilon, M. A., Doyle, O., Gauthier, V., Gamache, S., Routhier, F., & Rousseau, J. (2017). Which grab bar do you prefer in the bathroom?. *Journal of Enabling Technologies*, 11(4), 123-137
- National Population and Family Development Board. (2003). Population Policy in Malaysia: The Facts.
- Othman, A. R., & Fadzil, F. (2015). Influence of outdoor space to the elderly wellbeing in a typical care centre. *Procedia-Social and Behavioral Sciences*, 170, 320-329
- Teng, C. E., & Joo, T. M. (2017). Analyzing the Usage of Social Media: A Study on Elderly in Malaysia. World Academy of Science, Engineering and Technology, *International*

Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering, 11(3), 732-738.

Thompson Reuters (2009). Japan's elderly playgrounds show fun is for everyone.

Tobi, S. M., Fathi, M. S., & Amaratunga, D. (2017). Ageing in place, an overview for the elderly in Malaysia. In AIP Conference Proceedings. 1891(1), 020101. *AIP Publishing*.

Williams, K. (2010). Sustainable cities: research and practice challenges. *International Journal of Urban Sustainable Development*, 1(1-2), 128-132.

Wright, D. L., Buys, L., Vine, D., Xia, B., Skitmore, M., Drogemuller, Rosemary, K., & Lei, M. (2014). EUTOPIA 75+: exploratory futures scenarios for baby boomers' preferred living spaces. *Journal of Futures Studies*, 19(2), 41-60.

Xie, L. (2018). Age-Friendly Communities and Life Satisfaction among the Elderly in Urban China. *Research on Aging*.

Zainal, N. R., Kaur, G., Ahmad, N. A., & Khalili, J. M. (2012). Housing conditions and quality of life of the urban poor in Malaysia. *Procedia-Social and Behavioral Sciences*, 50, 827-838.

Zawawi, R. (2013). Active ageing in Malaysia." The second meeting of the committee on international cooperation on active ageing. Malaysia.