Retirement Village Design Features: Generation X's Expectation

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ABSTRACT

The retirement village is increasingly accepted as a suitable living arrangement for older people post-retirement. Nevertheless, the specific design elements that should be included in the village to cater for the needs of elderly individuals in Malaysia remain unclear and open to interpretation. Thus, this research examines Generation X's expectations of the required features that a retirement village should have for more sustainable living. Generation X is selected as the case study as this generation will be the nearest generation that will be the occupant of the retirement village. In this quantitative study, the questionnaire survey method is utilised to investigate the correlation between two primary concepts: the design feature of retirement villages and their influence on the motivation to relocate to such communities. The factors are identified from the integrative literature review conducted. The structural equation model is used to verify if the retirement village design features can significantly influence Generation X's motivation to move into a retirement village in Malaysia. The retirement village posed three important design features: senior-oriented basic settings, age-friendly social environment, and environmentally friendly design features. The outcome could guide stakeholders to view the retirement village concept based on the local context and set the stage for future research on age-friendly housing facilities for older individuals. However, the results derived from this

paper are purely based on the quantitative approach and can be further validated through a qualitative approach to understand each outcome better.

Keywords: Ageing, generation X, retirement village

INTRODUCTION

Globally, the 2030 Agenda for Sustainable Development blueprint has been the universal guidance for better living. There are 17 Sustainable Development Goals (SDGs) efforts underlining for future generations. These Sustainable Development Goals (SDGs) aim to promote equal access to secure, inclusive and environmentally friendly public spaces, focusing on women, children, older adults and individuals with disabilities.

The retirement village concept has emerged in all regions depending on the locals' response and the residents' awareness of the importance of retirement villages. For example, Australia, New Zealand, the United Kingdom, and the United States have widely adopted this idea. Nevertheless, its implementation differs based on the location of the retirement village. Some say that Asian society's ethic of family loyalty discourages the provision of the retirement village concept since children are supposed to take care of their parents. In this case, children of East Asian customs are encouraged to return the favour, especially because of their parents' past efforts to care for them as they get old (Takagi & Silverstein, 2006). In East Asian households, the elderly prefer to live with their married son according to the deeply ingrained patrilineal society (Takagi & Silverstein, 2006). However, this has become more subjective since the population's economy has evolved into high-income earners apart from large middle-income earners. Therefore, the elderly may now have more choices, and their perspective on the current tradition could have also changed (Takagi & Silverstein, 2011).

The retirement village is still very new in the Malaysian context but has become a crucial development. By 2030, the population of individuals aged over 65 years old in Malaysia is expected to grow by over 15% (Department of Statistics Malaysia, 2019). Therefore, by 2030, Malaysia will be classified as an 'aged' nation where the older population exceeds 14 years old and younger. In Malaysia, older people refer to individuals aged 60 and above, as adopted during the United Nations World Assembly on Ageing in Vienna, which is also being adopted by ASEAN countries. The enactment of the National Older Person Policy in 1995 prepared the country to handle the increase in the ageing population. The enactment of such policy is to produce independent, dignified and respectful older people by creating a healthy, positive, active and productive ageing population that can still support the country's development (Ministry of Women, Family and Community Development, 2018). In terms of preparation, the country needs to adapt to the ageing lifestyle that would impact its demographic features and, more importantly, its future economy.

Therefore, it is now necessary for the country's policymakers to look into housing options for its future older people (Lim et al., 2020).

The recently released Twelfth Malaysian Plan (12MP) blueprint document has emphasised different themes that include strengthening security, well-being, and inclusivity of the population. The Priority Area F in Chapter 5 underscores the importance of prioritising the well-being of the elderly population to improve care, protection and support for older individuals as valued contributors to society. This strategy encompasses several elements, such as implementing legislation to safeguard the rights of older individuals, establishing a comprehensive framework for long-term care, improving the quality of caregivers and their services and revitalising the social care industry (Economic Planning Unit, 2021). Lim et al. (2019) state that the projected increase in the growing population in Malaysia shows the need for tailor-made senior homes in tandem with the change in sociodemographic and socioeconomic factors.

The demand for proper housing is a need. Thus, the housing options for greying citizens have expanded beyond the usual choice of remaining in their homes (Julaihi et al., 2022). The elderly may experience mobility or cognitive impairment during their retirement years; hence, comprehensive housing care support is needed. There are four accommodation options to fulfil the elderly's needs: family homes (ageing in place), elderly care, medical facilities and retirement villages (Aini et al., 2016). The concern related to 'older people's well-being was also highlighted under the revised National Policy for Older Persons (2010–2015) under the Ministry of Women, Family and Community Development Malaysia. The policy focuses on empowering individuals, families, and communities by providing older people-friendly services and enabling environments to improve the well-being of old age, encouraging the establishment and provision of specific facilities to ensure appropriate care and protection are available for older people.

Active ageing refers to optimised opportunities and involvement of elderlies, including their families and society, towards the elderlies' empowerment to improve their well-being. These aspects include the quantity, quality, and scope of social networks, reciprocal roles and intergenerational relationships over a lifetime. Maintaining a healthy lifestyle in old age is crucial to mitigate the rise in medical expenses and minimise the risk of potential disabilities, especially if individuals need to continue working later. In order to ensure the ageing population can live a healthy, active and productive lifestyle, empowerment of knowledge, skills and appropriate environment, as well as optimum health facilities and services, are necessary. The concern has been underlined in the National Health Policy for Older Persons 2008 (Ministry of Health Malaysia, 2018).

In a retirement village, residents benefit from a living environment that effectively meets their social, economic and environmental needs, ensuring their well-being and satisfaction (Xia et al., 2015). Major characteristics of a retirement village include independent living, institutionalisation, and an age-friendly environment (Hu et al., 2017). However, the current concept of a retirement village in Malaysia is ambiguous and still needs to be clarified, as there is a lack of technical and legal definitions. The progress of retirement villages in Malaysia still needs to catch up with the cultural norm in Malaysia, wherein older individuals are typically cared for by their children and extended family members (Sritharan et al., 2019). Furthermore, Malaysia's first-generation retirement village is plagued with pitfalls, such as poor housing design and its deterrent cost. In general, the negative perception of retirement villages has been the major challenge in introducing retirement villages to the community. Hopefully, this study could pave the way for a suitable village environment based on the local context preference, particularly Generation X residing in Malaysia. As a result, this paper aims to identify the determinants of retirement village design features within the Malaysian context based on Generation X's expectations.

LITERATURE REVIEW

The Concept of Retirement Villages (RV)

According to Xin et al. (2019), the phenomenon of an ageing population has become a global trend, leading to the emergence of retirement villages designed to cater to the lifestyle needs of older individuals in their retirement years. The definition of a retirement village is based on its configuration, encompassing whether it solely offers accommodation similar to other types of housing or provides services and support for its residents (Xia et al., 2015). The major characteristics of a retirement village include independent living, institutionalisation and an age-friendly environment (Hu et al., 2017).

Xia et al. (2015) suggested that retirement villages must also be designed to support sustainability. Environmental sustainability components encompass familiar concerns associated with resource efficiency, reduced impact on climate change and preservation of ecological systems. Economic sustainability means savings in construction, operation, living expenditure, future modifications and long-term maintenance, good resale value and cost efficiency to the community. Social sustainability entails incorporating design features that promote flexibility, comfort, safety, security, a sense of belonging and opportunities for social engagement (Xia et al., 2014).

There are several concerns related to the development of retirement villages. One of the main concerns involving retirement villages is the upfront cost and maintenance costs that need to be borne by the older people. Without early planning and available funds to support relocation, relocating older

people will encounter slight challenges. Thus, government intervention and finance institution involvement are crucial to support and materialise the best practices' implementation in the retirement village. Adopting public-private partnerships (PPP) in the global retirement village market has become a new approach to address some emerging challenges (Osei-Kyei et al., 2020). So far, little focus has been on identifying an effective market mechanism for a self-reliant retirement village industry to meet this rising and unforeseen demand.

Another consideration, as highlighted by Petersen et al. (2017), is that residents prioritise financial and legal requirements while deciding on moving in. Expert guidance and choices are limited during residency because needs and capacities vary. In Australia, issues and disputes related to retirement villages are increasing (Malta et al., 2018).

The elderly encounter unforeseen circumstances, such as an urgent care crisis. Elderlies are fragile as they may encounter declining mobility, and they would be frequent events with severe consequences for the individual. They will also contribute to the cost of healthcare, affecting one's quality of life. According to Haraldstad et al. (2019), this concept is crucial in health and medicine. According to the World Health Organization, the main goal of healthcare is to ensure "adding life to year" in recognition of the significance of high QoL for people (Schoene et al., 2019). Hence, providing them with the services and facilities that enable them to be independent is important.

However, relocation is perceived as stressful (Cheek et al., 2007). The transition from their own home to another unfamiliar living option is often difficult as it frequently makes older persons feel uncomfortable and unwelcomed, thus causing their caregivers or family members also to feel guilty or depressed. The inability to contact their family is one of the drawbacks that discourage the older population from migrating to a retirement home (Buys et al., 2006), as well as the fear of losing one's privacy and autonomy (Crisp, Windsor, Butterworth & Anstey, 2013).

The Theoretical Baseline of a Retirement Villages (RV) Concept

The effort to provide older people with better living abilities also means making changes to older people's environments, such as house arrangements that are more accessible and supportive of older people with varying needs and capacities (Ministry of Health Malaysia, 2018). However, the government also requires support from the private sector to provide a more suitable housing arrangement to support and maintain the functional ability that allows older people to do things and preserve both physical and mental capacity as they age. The research conducted by Oswald et al. (2006) has revealed that individuals residing in homes that were easier to manage had a greater perception of their residence as meaningful and valuable. Additionally, they experienced increased independence in their daily activities and a stronger sense of well-being.

The Ecological Theory of Ageing (ETA; Lawton & Nahemow, 1973) offers a conceptual framework for comprehending the ageing process in relation to the individual's surrounding environment. ETA suggests that the ageing process is impacted not just by internal biological components but also external environmental aspects such as living circumstances, social support, and access to resources. ETA can be utilised to evaluate the influence of the residential setting on the well-being of senior individuals in retirement communities (Chandler & Robinson, 2014). ETA offers a theoretical framework highlighting the dynamic interplay between individuals and their environment as they age. Within the ETA, the term "press" pertains to the requirements imposed by the environment on individuals. The elderly benefited from a basic setting specifically tailored to their needs, which entails adapting the environmental demands to align with their degree of ability. Within the framework of retirement village design, this entails developing living environments specifically customised to accommodate the requirements and capabilities of elderly individuals. Thus, this study investigates the relationship between senior-oriented basic settings and retirement village design features.

Retirement village housing units may have age-friendly amenities. The survey conducted by Plouffe and Kalache (2010) is highly pertinent to the Ecological Theory of Ageing (ETA) concept and the requirements of an aging-friendly environment. Their research explores the urban characteristics that encourage active ageing, which is in line with the idea of establishing age-friendly environments that cater to the requirements of the senior individual. A greener living environment aligns with the ETA's emphasis on the significance of the physical context, encompassing natural factors, in impacting individual well-being. Additionally, the study conducted by Xia et al. (2014) examines the level of sustainability literacy among elderly residents in retirement villages. The research emphasises the importance of environmental consciousness and conduct among the elderly (Xia et al., 2014). Lawton and Nahemow's Ecological Theory of Ageing provides a framework for understanding how independent variables, such as senior-oriented basic settings, age-friendly social environments, and greener living environments, interact with the dependent variable of retirement village design features. This theory highlights the dynamic relationship between individuals and their environment. The aim is to synchronise the requirements of the environments with elderly individuals, establishing an atmosphere that fosters their well-being and self-sufficiency as they grow older inside retirement communities.

Lawton and Nahemow's Ecological Theory of Aging (ETA; 1973) states that the types and levels of personal skills and environmental characteristics, such as housing standards, neighbourhood conditions and public transportation, influence the ageing pattern of elderlies (Wahl et al., 2012). The ETA emphasises

the issue of person-environment interaction in old age (Hu et al., 2015), indicating that older adults' behaviours are the function of their competence and the environment. Two implications of the ETA theory on the development of retirement villages are to show the importance of the residents' competence and that the village's environment should be balanced to maintain the healthy ageing pattern of older people. Older people's competence is seen from the perspective of older people's fundamental features, such as the ambience of living style and social needs. The retirement village concept should emphasise senior-oriented basic settings, including the residents' day-to-day management, to demonstrate a greater sense of a healthy lifestyle (Oswald et al., 2006).

Satariano (2006) also emphasises the importance of the residential conditions as well as the lives of older people. The residential conditions must suit the condition of each older person so that they can live comfortably. The Satariano research also suggests that demographic factors such as age, gender, and race directly influence the ageing pattern, as well as the dynamic between biological and behavioural interaction. The motivation for older people to live and enjoy their life after retirement could help them live comfortably.

Determinants for Retirement Village (RV) Design Features

The central question asked in this research was, what factors influence the retirement village's design features? The determinants for the retirement village design features are derived from the compilation of worldwide integrative literature reviews. The three main design determinants identified are as follows:

Senior-oriented Basic Settings. The risk of suffering from physical, psychological, and mental impairments grows with age, and residents perceive that a retirement village's supportive living environment provides effective support (Jones et al., 2010). Senior-oriented basic settings can be defined as a physical environment design following the code of design for older people (Wahl et al., 2012) and meet the minimal requirements of older people to create their residential environment. It is an assisted living facility with a range of in-home support services to cater to the individual needs of those who require help with daily living activities. With senior-oriented basic settings, the elderly residing in retirement villages can fully utilise an array of services and facilities available to cater for their daily activities. It is a crucial component in providing care for older people with deteriorating health and declining physical and mental capabilities.

Table 1 summarises the oriented basic settings criteria for retirement villages. From the table, six senior-oriented basic settings criteria that have been identified are panic buttons for emergency assistance, grab bars to assist movement and safety reasons, lower height switches to allow independent movement, slip resistance flooring for safety reasons, barrier-free design for movement accessibility and reasonable distance to the surrounding family members' location.

Table 1
The senior-oriented basic settings criteria

Senior-oriented basic settings	Sources
Panic buttons for emergency assistance	
Grab bars to assist movement and safety reason	
Lower height switches to allow independent movement	Broadbent et al. (2012)
Slip resistance flooring for safety reasons	Osei-Kyei et al. (2020)
Barrier-free design for movement accessibility	Hu et al. (2020)
Reasonable distance to the surrounding family members' location	Xia, Chen, Buys, et al. (2021)

Source: Authors' work

Age-friendly Social Environment. An age-friendly social environment is also important for the elderly to enjoy an independent lifestyle enhanced with social connection and participation, serving as a medium to communicate and share information. In addition, an age-friendly social environment highly benefits the physical and mental capacity of the elderly. Retirement villages are a practical living concept that can improve the societal well-being of older people by enabling them to maintain their independence, strengthen their social connections, and live in their residences while surrounded by care services, if necessary (Mansor et al., 2016). The age-friendly social environment criteria are listed in Table 2. From the table below, ten age-friendly social environment criteria have been identified in which the criteria are independent living, security, private lifestyles, daily activities support, healthcare support, enhanced accessibility for daily activities support, social connection with SRV community, social activities participation, continuous learning activities in SRV and spiritual gathering.

Table 2
The age-friendly social environment criteria

Age-friendly social environment	Sources
Independent living	Cheek et al. (2007)
	Crisp, Windsor, Butterworth and Anstey (2013)
	Hu et al. (2015)
	Petersen et al. (2017)
	Xia, Chen, Buys, et al. (2021)

Table 2 *(Continue)*

Age-friendly social environmental	Sources
Security	Goldhaber and Donaldson (2012) Hu et al. (2015) Xia, Chen, Buys, et al. (2021)
Private lifestyles	Broadbent et al. (2012) Crisp, Windsor, Anstey and Butterworth (2013) Hu et al. (2015) Petersen et al. (2017) Hu et al. (2020)
Daily activities support	Buys and Miller (2007) Crisp, Windsor, Butterworth and Anstey (2013) Hu et al. (2017) Irvine et al. (2020) Xia, Chen, Walliah, et al. (2021)
Healthcare support	Broadbent et al. (2012) Zuo et al. (2014) Mansor et al. (2016)
Enhanced accessibility for daily activities supports	Holland et al. (2017) Xia, Olanipekun, et al. (2021)
Social connection with the SRV community	Xia et al. (2015)
Social activities participation	Xia et al. (2015) Irvine et al. (2020) Xia, Olanipekun, et al. (2021)
Continuous learning activities in the SRV	Irvine et al. (2020)
Spiritual gathering	Xia, Chen, Buys, et al. (2021)

Source: Authors' work

Green Features. Green is regarded as incorporating anything that pertains to environmental benefit. The retirement village industry should take environmental sustainability seriously as it has given older people more energy (Kronenberg, 2009). Environmental sustainability refers to energy and resource efficiency, materials efficiency, and enhancement of the quality of the indoor environment for sustainable retirement villages. It aims to reduce the negative impacts of the village development

and the village-built environment on the natural environment and residents.

A building's green features (Table 3) minimise and eliminate negative consequences by reducing energy usage, water, or natural resources. From Table 3, ten green features criteria that have been identified based on various sources are energy efficiency, water efficiency, building material efficiency, enhanced indoor environment quality, green compounds and garden, ease of access, ease of maintenance, waste management, smart building sensor for lighting system and internet connectivity. Economically, green features incorporation into a building facilitates long-run cost savings, including utility bill savings through less electricity and water usage.

Positive impacts of the said buildings can be observed through the well-being of the people who reside or work in green homes or offices. Performance boosters can spike up to 8% when the tenants experience improved indoor quality, for example, low carbon dioxide and pollutant concentrations and high ventilation rates (Park & Yoon, 2011). People who live or work in green buildings record a 101% increase in cognitive scores (Allen et al., 2015).

The summary of the design features of a retirement village can be seen in Figure 1. As elaborated in this paper, three identified factors for a retirement village design features are an age-friendly social environment, senior-oriented basic settings, and green features.

Table 3
The green features criteria

Green features	Sources
Energy efficiency	Fan & Xia (2018) Hu et al. (2020)
Water efficiency	Waidyasekara et al. (2013) Ismail et al. (2021)
Building materials efficiency	Vatalis et al. (2013) Salem et al. (2019)
Enhanced indoor environment quality	Wei et al. (2020) Xia, Olanipekun, et al. (2021)
Green compounds and garden	Xia, Olanipekun, et al. (2021)
Ease of access	Darko and Chan (2017)
Ease of maintenance	Hwang and Tan (2012)
Waste management	Illankoon and Lu (2020)
Smart building sensor for the lighting system	Pan et al. (2008) Azis (2021) B. C. Tan et al. (2021)
Internet connectivity	B. C. Tan et al. (2021)

Source: Authors' work

The motivation to move to retirement villages can be seen in many ways. However, three factors are identified: reducing maintenance cost of living after retirement, better support facilities and engagement in social activities. The retirement village is
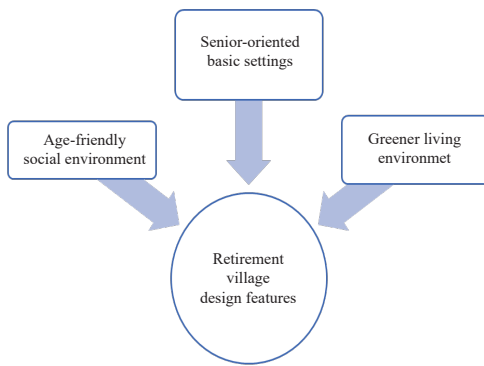
Figure 1. The design features a retirement village determinant
Source: Authors' work

preferred because living in the retirement village will help reduce maintenance costs after retirement.

Most retirement villages use the lease model compared to the outright sale model, and the units might later be rented, on-sold, or transferred to people not of retirement age (Samsudin et al., 2023). The purpose of the lease model is so that entrepreneurs can control the operation of the retirement village and the project's character. It includes maintenance and is charged to the retirement village residents periodically and in bulk. Retirement village residents can skip maintenance costs such as changing lights, tidying the lawn, and surrendering to the retirement village operator.

Adults prefer a life that gives them more control over their home environment (E. P. Tan et al., 2022) and, at the same time, to have better support facilities (Samsudin et al., 2023). A good housing environment can help support the health level of adults with a better life (Adlakha et al., 2021)—

for example, a good housing environment, security, and pedestrian streets. Walkability conditions with appropriate space can motivate adults to maintain momentum for good physical condition.

Social interaction is an important factor in ensuring that adults are able to maintain a good mental and memory capacity (Chan & Mansor, 2022). Adults need to remain independent in daily life. Bozo et al. (2010) suggest that the ability to manage daily life well can reduce stress for adults. Therefore, moving to a retirement village can help adults always increase the development of potential elderly. Tobi et al. (2017) prove that good social activity management can increase the potential of adults to understand self-value better. Kylén et al. (2019) mentioned that interaction at home with family members and friends could significantly maintain a sense of purpose after retirement.

METHODOLOGY

Research Approach

This research used questionnaires on a sizeable number of respondents, which were developed to meet the study's objectives. The targeted respondents are Generation X individuals residing in major towns in Sarawak. Generation X is defined as those born between 1965–1979 and aged between 41–55 years old when the study was conducted. Self-administered online survey questionnaires were used for their advantages in obtaining responses from a geographically dispersed sample. The

survey was carried out online due to the COVID-19 pandemic through Google Forms. The online survey was distributed between 1st May–30th May 2021. This survey is categorised as cross-sectional as it occurs in one session.

Questionnaires were tested and reviewed before being distributed to respondents through pilot surveys. It ensures that the questions are clearly understood and that no ambiguities arise. The initial survey encompassed 36 participants, with the sample size selected based on the estimation method proposed by Viechtbauer et al. (2015). This study's participants consisted of residents of Sarawak who belonged to the Generation X demographic. Generation X refers to those who are between the age range of 42 to 56 years old. Samples taken were based on a random sampling method, where respondents were selected based on the purpose of the survey. This research used close-ended questions with multiple choice answers and Likert scale questions to assess the respondents' agreement or opinion towards the given statements.

The questionnaire is divided into a few sections, such as Section A for demographic questions that use close-ended questions to obtain the respondents' information. The questionnaire will ask objective questions comprising a Likert scale and close-ended questions. Likert Scale questions allow the respondents to choose the answer level, standardising the answers using the scale option. Each level is labelled "Strongly Disagree" as the minimum level, moving up to "Disagree," "Neutral," and "Agree,"

and ends with "Strongly Agree" being the maximum level. The four variables, (1) senior-oriented basic settings, (2) age-friendly social environment, (3) green features, and (4) motivation, were measured using the Likert scale. Each level is labelled "Strongly Disagree" as the minimum level, moving up to "Disagree," "Neutral," and "Agree," and ends with "Strongly Agree" being the maximum level. The survey was disseminated in English and Malay to facilitate respondents' participation, given that English is not the predominant language in Malaysia. The questionnaire is structured into five distinct sections. The initial section pertains to demographics, while sections two through five are dedicated to the primary categories outlined in the study framework. These categories include senior-oriented basic settings, green features, age-friendly social environment, and motivation to relocate to a retirement village.

Sample Size and Selection of Target Population

This study focuses on the X generation as the target age band. Generation X consists of those between 42 and 56 years old who were involved in the data collection of this study. Studies have found that there has yet to be a study on the level of readiness or seeking the opinion of the X generation to support the concept of this retirement village when they retire. The retirement village concept in Malaysia is new and expected to grow as the ageing population in Malaysia increases (Lim et al., 2019), thus indicating the relevance of choosing Generation X as the targeted respondents.

The sample size is calculated based on the study population, followed by confidence level and interval. Alternatively, the sample size could be calculated based on statistical power ($p = 1 - \beta$). The study would use statistical power based on the multi-regression technique according to the number of independent variables included in the analysis due to resources and time-saving factors. Prajapati et al. (2010) further argued that it would not be ethically acceptable to conduct a study that would not be stringent enough to detect a real effect due to a lack of statistical power. Statistical power conventionally was set at 0.80 or 80%, and the effect size based on Pearson's correlation coefficient, as suggested by Cohen (1988), is 0.10 and alpha or probability error value is 0.05. The calculation of statistical power or multi-regression sample size was run using a Priori Sample Size Calculator for multiple regression in accordance with Soper (2013).

The total population of Generation X in Sarawak is estimated at 430,000 (unpublished Department of Statistics Malaysia Report, 2019). The minimum sample required for this study is 124. The sample size was drawn using statistical power ($p = 1 - \beta$; set at 0.80 and the effect size based on Pearson correlation coefficient at 0.10 and alpha value is 0.05).

The ETA has indicated that older adults' environments influence their ageing patterns (Satariano, 2006). Daily activities are influenced by demographic backgrounds such as ethnicity, religion, and place (Ng et al., 2020). Because of this, the nation and society need to get ready for the shift and adaptation in the lives of older people, which might impact the nation's demographics and economics. According to Tey (2017), 14% of Malaysia's population will be 60 or older by 2030. The largest state in Malaysia, Sarawak, showed that the population has gotten older throughout the last three decades (Chung et al., 2020). Lim et al. (2020) noted that planning this generation's lifestyle is essential. There is just one RV in Sarawak, Eden-on-the-Park (Samsudin et al., 2023). The absence of a retirement village in Sarawak suggests a potential lack of emphasis on proactive planning and accommodation for the evolving needs of the elderly population. This observation may warrant further investigation through additional research endeavours.

Ethical Consideration

The study was conducted in accordance with the UiTM Research Ethics approval – number REC/04/2021 (MR/237). The returned questionnaire is deemed consent given by the respondents to participate in this study. The confidentiality of data was ensured, and participants were made aware that they, without any justification, could withdraw themselves from the study as and whenever they wished.

FINDINGS

A total of 148 responses were received at the end of the data collection. There were nine invalid questionnaires due to the location factor and six incompletely answered questionnaires by the respondents. Therefore, the total number of valid questionnaires stood at 133.

Demographic Background

Three demographic dimensions were asked of the survey (refer to Table 4): gender, religion, and race. Table 4 shows the descriptive analysis of respondents' demographic background. Most respondents were female (62.87%) compared to male (37.12%). In terms of ethnicity, 81.2% of them are Malay, 15.79% Iban, and 1.50% Chinese and Indian, respectively. In terms of religion, 92.48% of the respondents are Muslims and 7.52% Christians.

Table 4
Demographic background

		Frequency	Percentage
Gender	Female	83	62.24%
	Male	50	37.59%
Race	Malay	108	81.2%
	Chinese	2	1.50%
	Indian	2	1.50%
	Iban	21	15.79%
Religion	Islam	123	92.48%
	Christian	10	7.52%

Source: Authors' work

The Determinants for The Retirement Village Design Features

Based on the survey findings, this study uses SEM-AMOS to find out and verify the features of the retirement village that can significantly influence Generation X's motivation to move into a retirement village in Malaysia. Based on previous studies, this study hypothesises that three design features influence the motivation to move to the retirement village. Model fit tests are performed to give an overview of relationships between measured and latent variables and assess the relationships among the latent variables in the model.

Confirmatory Factor Analysis (CFA).
Confirmatory Factor Analysis (CFA) was conducted as part of the validity test for the convergent and discriminant (refer to Figure 2). Four main constructs are the senior-oriented basic settings (Design), age-friendly social environment (Age), green features (Green) and motivation (Mot). The CFA revealed that all factor loadings are above the threshold of 0.60, as suggested by Hair et al. (2010). Furthermore, Hair et al. (2010) indicated that all the measured items under four main constructs are within the acceptable standardised loading. All factor loadings are also positive numbers, showing that this measurement model has achieved unidimensionality.
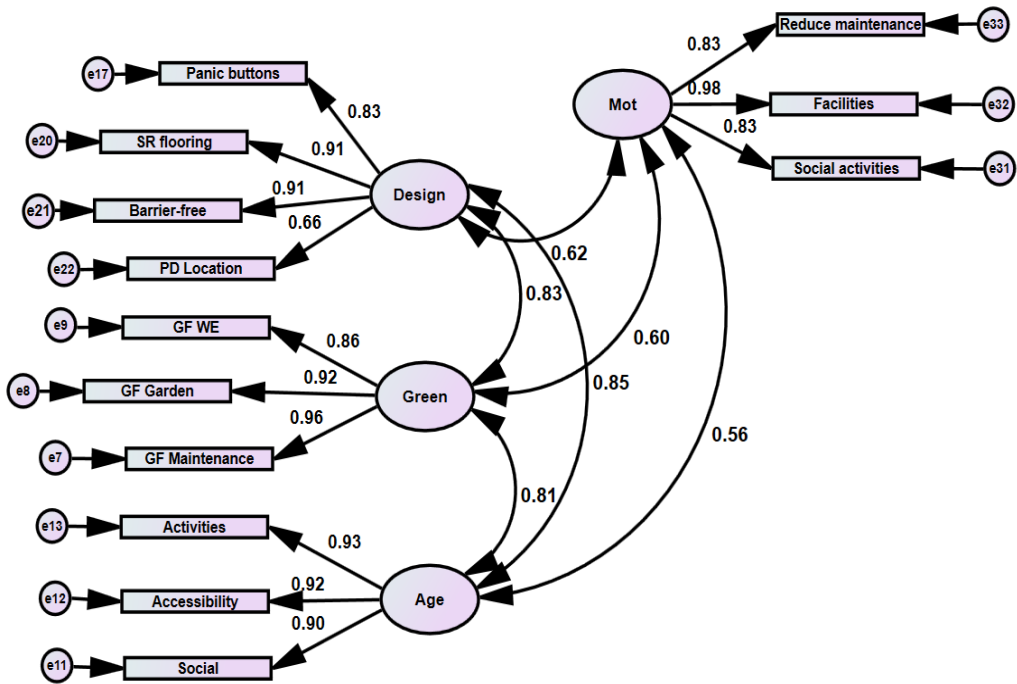
Figure 2. The PCFA results from SEM-AMOS
Source: Authors' work

For construct validity, this measurement model has achieved the required fitness. The final PCFA revealed that the model with RMSEA below the 0.08 threshold value and the CFI with 0.984 was identified as an excellent fit. The GFI is within the proposed threshold of 0.908 (Table 5).

Table 5
Model fit

		Threshold (Hair et al., 2010)	Result	
CMIN/DF	Chi-square/degree of freedom (Evaluates overall model fit)	>1.0 and <3.0	1.471	Model fit
GFI	Goodness of Fit Index (Evaluates the proportion of variance)	>0.90 and <0.95	0.908	
CFI	Comparative Fit Indices (Estimates how well the model fits)	>0.90 and <0.95	0.984	
RMSEA	Root Mean Square Residual (Estimates how well the model fits)	<0.08	0.060	

Source: Authors' work

Table 6 indicates that the bold figure is the square root of the Average Variance Extracted (AVE). The AVE is mainly used to indicate convergent validity. The square root AVE should be higher than the values in its row and column. The value within the threshold indicates that the measurement model is reliable and will not have a serious multicollinearity problem (Fornell & Larcker, 1981). The AVE value in Table 7 indicates that all values are above the recommended threshold of 0.50 (Xiong et al., 2015). These results also show the reliability of the measurement model in measuring the latent construct.

Table 6
Discriminant validity

	GF	Design	Mot	Age
GF	**0.913**			
Design	0.831	**0.832**		
Mot	0.604	0.625	**0.882**	
Age	0.809	0.850	0.562	**0.920**

Source: Authors' work

The composite reliability (CR) of this research (Table 7) shows the reliability of this model. The CR value must be above 0.70, and as for the Cronbach Alpha coefficient, the consistent measure of the measured items in the questionnaire indicates good consistency.

Table 7
Composite reliability, average variance extracted (AVE) and Cronbach Alpha

	Composite Reliability (CR) Threshold >0.70	Average Variance Extracted (AVE) Threshold >0.50	Cronbach Alpha (Threshold >0.70)
GF	0.938	0.834	0.934
Design	0.899	0.693	0.890
Mot	0.913	0.778	0.907
Age	0.943	0.847	0.923

Source: Authors' work

Structure Model. This paper used a two-stage method to develop the structural model. The sub-constructs are the senior-oriented basic settings (Design), age-friendly social environment (Age), and green features (Green), which are placed under the criteria of retirement village (Criteria) and motivation (Mot), which were measured using three variables. CFA result demonstrates a satisfactory fit of the model in Figure 3. All the factor loadings for sub-constructs that are the senior-oriented basic settings (Design), age-friendly social environment (Age), and green features (Green) are above 0.60, as suggested by Hair et al. (2010), showing that the sub-construct items fit in measuring their main construct.
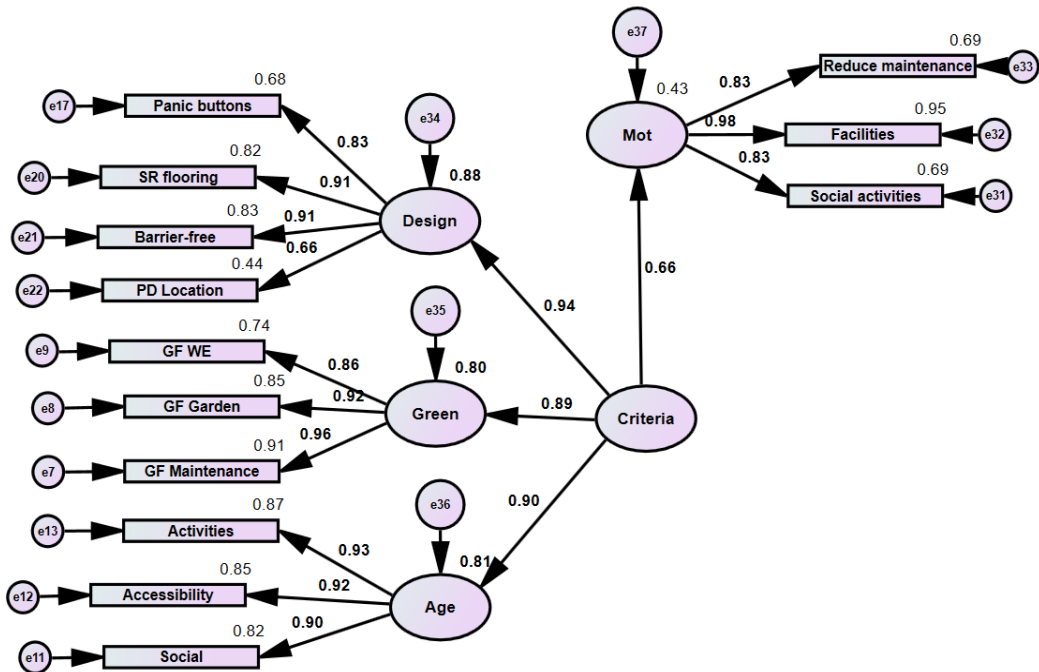
Figure 3. The standardised path coefficients between construction in the model

Source: Authors' work

The next stage is to determine the causal relationship between the variables. The conclusion in Table 8 shows that the structure model achieves the suggested goodness of fit. The R^2 for the model is 0.43, which indicates that the model could capture more than 43 per cent of the estimate on the endogenous construct. That means 43 per cent of the motivation to move to a retirement village can be anticipated by using the criteria of the retirement village. The criteria of the retirement village are strongly measured using sub-constructs such as design, green and age.

Table 8
Final structure model fit

		Threshold (Hair et al., 2010)	Result
CMIN/DF	Chi-square/ degree of freedom	>1.0 and <3.0	1.444
			Model fit well
GFI	Goodness of Fit Index	>0.90 and <0.95	0.908

Table 8 *(Continue)*

		Threshold (Hair et al., 2010)	Result	
CFI	Comparative Fit Indices	>0.90 and <0.95	0.984	
RMSE	Root Mean Square Residual	<0.08	0.058	Model fit well
R^2 Value for the model			The whole model R2 value is 0.43. The model captures at least 43 per cent of the estimate on the construct	
			The RV Criteria are strongly measured using sub-constructs such as design, green and age-friendly features	

Source: Authors' work

DISCUSSION

The concept of a retirement village that foresees the suitability of the local context is necessary to ensure the comfort of the older residents later. As the study on the sustainability of retirement village's needs in Malaysia is still considered new and has not been fully explored, this study was considered a preliminary step. This study refers to the theories that have already been established, as well as the results of studies from other countries such as Australia, New Zealand, and several other countries. The ETA model also suggests demographic factors and characteristics of the environment, such as housing and neighbourhood (Satariano, 2006), to justify the need to establish the criteria for a retirement village. This research proposed the framework of sustainable retirement villages based on three features: senior-oriented basic settings, age-friendly social environment, and green features.

Senior-oriented Basic Settings

A senior-oriented basic setting is normally an arrangement for physical environment design following the code of design for older people. Based on the final model, the availability of safety features is very important. Humpel et al. (2010) state that the elderly may suffer from various health issues due to unhealthy lifestyles, hence the need for safety features for emergency purposes. Four final criteria are crucial: panic button, non-step flooring, barrier-free design and the location of the retirement village. The need to set these criteria is important to emphasise to the owner and designer the design needed to suit the requirements of the elderly.

Age-friendly Social Environment

The age-friendly social environment provides an independent lifestyle with social connection, participation, and a medium for communication and information sharing among the elderly. Older people need emotional support from the surrounding community. Maintaining a healthy and cheerful lifestyle will help these elderly to have a peaceful life. Given the fact that the physical abilities of these older people will decline, providing emotional support is critical. Taylor et al. (2014) mentioned that most future elderlies prefer to participate in activities and continue to be active as they value social participation. Based on the final model, three main criteria are being considered: the activities carried out in the retirement village, accessibility and social support from the relevant parties. Group activities such as daily exercise, religious activities and leisure activities such as watching movies will make the elderly feel more engaged among the residents in the retirement village.

Green Concept

The green concept is related to the environment and is necessary for development. Integrating green features while redesigning retirement villages will enable the economy to move towards a more circular model, which may reduce environmental pressure. It is said that the future elderly are concerned about energy consumption due to their lifestyle (Quine & Carter, 2006). Referring to the final model, the three criteria formulated as important are

efficient use of water, green compounds and garden provision, and ease of maintenance. Efficient water use is closely related to the provision of water-saving plumbing equipment and water usage practised by retirement village residents. Morseletto et al. (2022) asserted that water is a resource, product, and service with no counterpart in the economic system. Because of this, it is an essential component of the circular economy that should be considered and valued. Water conservation measures that residents of retirement villages put into practice will greatly help bolster the circular economy. Green compounds and gardens will stimulate comfort for older people and make them feel restful, thus encouraging them to be more involved in recreational activities. Due to the declining physical ability of more senior people, the ease of maintenance factor is also considered important. It will ease their daily lives.

The ETA establishes a connection between the competencies of older individuals and their surrounding environment. The results of this study reflected the anticipated preferences of Generation X individuals residing in East Malaysia regarding the characteristics of retirement villages and their surrounding environment. The skills of people and the village environment are subject to dynamic changes influenced by several factors such as circumstances, time, and generational demands. Senior-oriented basic settings and Age-friendly social environments are essential to meet the balanced life needs of older people. At the same time, the need

for the green concept is an approach that is the choice of Generation X because of the urgent need to restore the state of nature and awareness of individual functions for environmental balance.

The main objective of the retirement village is to offer a carefully kept and contemporary environment that meets the needs of older people. By combining sustainable practices and embracing green ideas, retirement villages may greatly influence Generation X, which is the target generation that will need these retirement villages in a few years. The Green ideas are related to reducing negative impacts on the ecosystem close to the retirement community, thus facilitating a sustainable and prosperous lifestyle for residents (Xia, Chen, Walliah, et al., 2021). Generation X is a demographic cohort that is now acquainted with achieving a well-rounded lifestyle, with the ability to make informed choices about the development of retirement communities based on considerations such as cost, safety, and sustainability preferences.

CONCLUSION

Relating to the objectives, this paper highlights the criteria of a retirement village from the perspective of Generation X residing in East Malaysia. The lifestyle pattern of the ageing population has changed due to the current living situation and demands; hence, the retirement village is seen as a comfortable and healthier option for the elderly to enjoy their life. This study does not intend to negate the responsibility of family members and society in caring for retired elders but rather to provide options for them to live more comfortably. The retirement village concept is a residential concept that emphasises the needs of older people by providing access to friendly elder facilities, moral support, and social activities among the residents. This study takes the opinion of Generation X, who will soon be entering retirement and hopes to give them ideas on how to plan their lives post-retirement.

In conclusion, this study highlighted the current push factors of the future elder generation's wishes and needs to move into retirement villages. Based on the literature review, it is evident that retirement villages have gained acceptance and recognition within the community as they are considered viable choices for living arrangements. The findings of this research align with the objectives of the Sustainable Development Goals (SDGs) mentioned in Chapter 11 of the Economy and Nation, specifically emphasising the importance of ensuring universal access to safe and environmentally friendly spaces, including for older individuals. Theoretically, the outcomes from this paper provide initial findings on the push factors for more senior people to relocate to retirement villages when they retire from the East Malaysian context. The outcomes offer new insights based on the local perspective. Nevertheless, it is essential to conduct further investigation with a larger sample size of respondents to enhance the results' reliability.

This paper also offers two contributions to the industry practices: (1) identifying

push factors for older people to move to a retirement village, and (2) raising awareness among the industry practitioners regarding the potential of green procurement to pave the way for sustainability. In the Sarawak context, a small demographic with homogenous characteristics can help guide a successful, sustainable retirement living path. Hence, these findings will help local authorities and developers understand, plan and establish future retirement villages based on knowledge of the local context.

Limitations of The Study

This study does have limitations, such as the need to conduct qualitative research to obtain the opinions of stakeholders such as existing retirement village entrepreneurs, the government, non-profit organisations and investors. A series of focus group discussions involving all generations should be formed to identify differences and similarities in opinions and support towards establishing this retirement village. This study can also be improved by expanding the number and location of respondents to obtain more accurate and reliable results.

Nevertheless, the results of this study will open more platforms to highlight the needs of retirement villages that will benefit the residents. Careful research and good planning should be done by stakeholders so that the establishment of retirement villages in East Malaysia is in line with current needs in the context of Malaysian culture. Malaysia hopes the policy will produce an independent, dignified, and respectable elderly through a healthy, positive, active,

and productive ageing population and support the country's development (Ministry of Women, Family and Community Development, 2018). Moreover, the outcome of this paper has important implications for creating awareness among policymakers, the community, and researchers regarding the needs of retirement villages for the elderly in Malaysia.

Recommendation for Future Research

The present study employs purposive sampling to target and acquire the necessary characteristics. The primary objective of this research is to examine the perspectives of individuals belonging to Generation X residing in Sarawak, a state located in East Malaysia. Hence, to establish the necessity of expanding the scope of retirement village characteristics, employing a broader sample methodology encompassing many generational cohorts is imperative, thereby enabling a more accurate assessment and ultimate determination. This research can be duplicated in several states within Malaysia and other regions to get a more comprehensive scope. By considering the influence of demographics, such as local culture and income, comparisons of outcomes can be made. The result of the comparable requirement is of utmost importance for both local authorities and private developers to facilitate informed decision-making during the planning and construction phases of the retirement village. Designing the retirement villages concept might be challenging as one size only fits some. This study should be broadened to

include viewpoints from residents who have lived in retirement communities, as their perspectives are essential. The opinions of retirement village operators and developers should also be considered because each feature option will impact the needs of providing a retirement village's facilities, management, and operating costs.

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