

URBAN CO-LIVING:
HOUSING OPTION FOR YOUNG
GENERATION

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Housing option for Young Generation

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I hereby declare that:

1. This Research Project is the end result of my own work and that due acknowledgement has been given in the references to all sources of information be they printed, electronic, or personal.
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LIST OF ABBREVIATION

AHP	Analytic Hierarchy Process
DOSM	Department of Statistic Malaysia
EM	Eigenvector method
IOT	Internet of Things
WGMM	Weighted geometric mean method
UTAR	University Tunku Abdul Rahman

ABSTRACT

Young generation in this century encounter many difficulties in homeownership. Despise government as a policy maker has put in many afford to ease the homeownership. In Malaysia, the planning system is impacted by housing providers as the housing market adapts to satisfy the demands of buyers. The basic housing needs are very much related to home preferences by young generation and these criteria are the focus of this study. The objective of this research paper is to understand current young generation accommodation option. By knowing respondents better thru their age group, gender and income level, the analysis of accommodation criteria, facilities and services element will be more certain. Criteria included location and housing attributes which will determine their way of choosing their housing option. Quantitative survey was employed for this research paper. AHP method has ease the study by using pairwise and comparison matrix are able to make the data analysis is fast manner. The information supplied gives a true picture of the views of the younger generation with respect to home preferences. The research revealed that these people's present living conditions have a big impact on the homes they choose in the future. For example, compared to those who rent, people who live with family members typically have less of an urgent need to enter into home ownership option. The younger generation emphasizes the importance of facilities and services, emphasizing their need for active participation. Numerous respondents expressed that security and safety are their top concerns. All the significance of these considerations are important in order for them to make the decision. Due to the high rate of car ownership in Malaysia and the common preference for shorter commutes over the availability of vehicles, accessibility, connectivity, and proximity to the place of employment are also given top priority.

CHAPTER 1

INTRODUCTION

1.1 Background of Study

This research aims to further study on urban co-living scheme as a housing option for single young adult in view of affordability and space limitation at city area. According to United Nation (2018), there are approximately 68% of the world's population will live in the cities by 2050. Many people from sub urban are migrating to city area due to job opportunities and they are tending to stay longer at urban area especially once their lifestyle fit into the urban pace and environments. This is commonly happened also once they started to set up their own family. Majority of people facing difficulty to stay at suitable environment which is safe, affordable and yet fit into their lifestyle. This has been turning into a global housing crisis for many countries. Most of the country are trying their best to resolve urbanization impact in city area, for housing matter, many are proposing reducing the size of the apartment to make it more affordable.

In Malaysia, property development contributes significantly to the national economy as it does not only bring economy stability, it also creates job opportunity to the people (Jagun et al., 2022). Property development in Malaysia has grown aggressively in Malaysia for pass two decades. Many housings scheme has been introduce either by private or government sector. All housing scheme by either party are with objective to fill up the demand in the market.

According to department of Statistic Malaysia, population of Selangor and Kuala Lumpur are at 9 mil out of 32.5 mil population and this is 27.5% of Malaysia population in 2022. (Department of Statistic Malaysia, 2022). To fill up the housing demand in urban area, government play an important role. For an Example, Rumah

SelangorKu, an affordable housing introduced by Selangor state government are with objective to provide affordable housing to Selangor residents to own their first residential. These schemes are in line with the state government's "house owning democracy" concept, with particular focus on lower to middle income group Selangorians buying their first homes. However, applicant will need to apply based on the criteria set. Rumah SelangorKu are open to Malaysia Citizen who stay at Selangor. He or she must be 18 years old and above and do not own any property before this application. Household income for applicant must not above RM 10,000 per household.

Private sectors -developer are always sensitive in market demand and leading the market trend to launch better design to feed into customer demand. In generally, many different options available in the market for public to select based on their location, affordability, facilities and amenities surrounded their area. Therefore, housing demand in Klang Valley are always at high side due to migration of young generation to urban area for better career opportunity.

According to Ademiluyi (2010), housing is more than just a shelter. Disparities in attitudes and beliefs between generations, has make the housing decisions and choice became more varied. The Baby Boomers, Generation X (Gen-X), Generation Y (Gen-Y), and Generation Z are the four age groups that make up the homesbuyers segments in Malaysia. Decisions made by generation Z in Malaysia for housing development will always base on location, housing scheme, affordability and ideal neighbourhood they prefer based on their characteristic and preference.(Ismail & Shaari, 2019).

A new housing type offering to the urban area are co-living concept. It is a new housing type where spaces are design into sharing basis. In recent years, many co-living options are available in Malaysia. The option available in the market are Wetopia, Komute Living, Utopia Co-Living and Coliv. All this co-living option are well received by young generation as there are many room options for them to choose from and indirectly making this housing option booming in Klang Valley.

1.2 Problem Statement

Generation Z or Zoomer was born in mid-to-late 1990s and the early of 2010s. They are the world 1st generation to grow up with internet and digital technology exposure

since they are young. They are tech-savvy, diverse, social conscious and having independent mind in many decisions in their life. Comparing to their parent who are Generation X or baby boomer, they are more open to social change. Generation Z has entered to adulthood and will become the largest part in work and social soon. This generation are attractive by holistic lifestyle experience. They value experiences in their environment and tend to prioritize social connection and community living experience. In this scenario and understand of young generation exposure, their requirement for accommodation will be very much different. One of the features maybe appreciate a lot by them is the readiness of smart home and Wi-Fi services. Other than this they will also look for facilities provided and distance to work area too.

With the above, we will need to study if the current housing option in the market fit to what young generation want. Younger generations frequently relocate to urban regions in search of employment opportunities, which indirectly raises the need for housing development in urban areas. According to Ronald et al. (2023), shared rental housing could be one of the options for young working adult at commercial co-living housing scheme. In order to accommodate the need for housing, developers have always planned for high-rise development as the population has increased and more people have moved to cities.

Other than the above issue, there is another aspect which we shall look into it which is the affordability of young generation in owning or renting a unit in urban area. Department of Statistics Malaysia released the Employees' Wages Statistics in 2023 has conclude that the median wage stand for Malaysian are at RM 2,600. 46% of the workers earning less than the median wage. According to the report, 10% of the Malaysians are earning less than RM 1,500 which are the minimum wage for Malaysian workers. This will definitely affect young generation who just started their career path.

Referring to figure 1, Department of Statistic Malaysia (DOSM) has released the report in 2023 on composition of how Malaysia household spending their wages. The top 4 spending are, number one, housing spending which included electricity, gas and water, which take up 23.2% of their earning. Second top spending is on food

& drinks. Third spending are on restaurant, services and accommodation at 16.1%. Transportation carries out 11.3% in the overall spending.

Figure 1.1: Composition of household spending, Source: DOSM



With the above, it is essential to acknowledge how housing preferences are changing, particularly among young generation in Klang Valley. We will need to study if the current housing option in the market fit in what generation Z want which they are much connected to social networking due to their exposure of high-speed internet in their living environment. Because of this group's unique social ideals and proficiency with technology, co-living spaces have become more popular as a result of changing market demands. Co-living as an idea fits the ideals and way of life of younger working adults by providing affordable housing options while also satisfying their need for community and connection. The absence of a thorough investigation into the prioritization and weighting of these housing attributes—which are highly valued by Generation Z—has been noted as a key gap in the research.

In order to create and provide living spaces that appeal to this group, developers must have a thorough understanding of the hierarchy of these preferences, especially given the limitations of budgeting and yet to remain price -competitive in market. The requirement for a nuanced approach to the housing preferences of this population emphasizes the need for research that identifies the features that are valued as well

as the important ranking of these preferences. Developers may more efficiently deploy resources by considering into this prioritizing and offering preference of young generation with a competitive price in the market

1.3 Research Questions

In the real estate market, making informed decisions is essential for both investors and end-users. Whether purchasing property for investment purposes or for personal use, understanding the key criteria to consider is crucial. This research paper aims to delve into the various factors that individuals should examine before making real estate investment decisions. By analysing several important variables, this study seeks to provide insights into the elements that influence real estate investment choices. These variables may include factors such as location, property condition, market trends, financial considerations, and potential returns on investment. Understanding these factors can help investors and end-users make informed decisions that align with their objectives and preferences.

The problem statement highlights the importance of conducting thorough research and analysis before entering the real estate market. With numerous variables to consider, individuals need to carefully evaluate each aspect to make sound investment decisions. This research paper aims to address this need by examining the key criteria that should be taken into account when making real estate investment decisions.

With the above problem statement, the following research questions arise: -

Question 1: Which accommodation criteria is important to be considered when individuals want to rent or own a unit?

Question 2: What facilities and services elements are important when they want to invest in properties?

Question 3: Which aspect of the location attributes is important when individuals want to invest in properties?

Question 4: Which aspect of housing attributes are important when they want to invest in properties?

Question 5: Which aspect of leasing arrangement is preferable and important to investors?

1.4 Research Objectives

This study addresses the contentious issue of whether housing option in Klang Valley meet generation Z expectation especially when they just started their work and how the housing option in the market relevant to them. The studies will explore Co-Living as an option for them as it is not a new term in oversea country. Co-Living normally happen at high-rise building where population and new generation are ready to accept this new concept of shared living. Co-Living in the modern world, combined with prohibitive rentals and the scarcity of micro units in desired places, is changing in tandem with the rising millennial demographic as well as with the growing millennial population as they hold the biggest share of the workforce globally.

The objective of this research is as below; -

To identify which housing attributes that are important for young adult in making decision for co-living housing option in Klang Valley.

To analyse the importance of the identified housing attributes via the computation of weightage for each housing attribute in co-living accommodation arrangement

1.5 Research Scope

This study delves into the accommodation criteria that influence the decision-making process of the young generation when considering co-living options. It specifically examines the facilities offered and location attributes as key factors in determining the accommodation arrangements. The scope of the research encompasses a diverse range of respondents across different age groups, all of whom are residents of the Klang Valley region. The surge of co-living spaces in Klang Valley can be attributed to its role as a central hub for employment and opportunities, attracting a youthful demographic in search of both. This influx of young professionals and graduates necessitates affordable, flexible housing solutions that align with their dynamic lifestyles and preferences for community and connectivity. Co-living accommodations offer not just a place to stay but a built-in social network, blending

private living spaces with shared amenities. This model suits the budgetary constraints and social inclinations of young migrants, making it a popular choice in an area synonymous with opportunity and growth. By focusing on these specific aspects, the study aims to gain comprehensive insights into the preferences and priorities of young adults regarding accommodations selection criteria within an urban context. Through the data collection and analysis, the research endeavors to provide valuable insights that can inform the development of co-living spaces tailored to the needs and preferences of the target demographic in the Klang Valley area.

1.6 Research Methodology

This research aims to identify housing options available for single young adult at urban- Klang Valley and what factor will make this group of young generation to choose this option compare to conventional housing scheme. Therefore, qualitative research methodology will be recommended and adopted. Data will be collected thru Analytic Hierarchy Process (AHP), Analytic Hierarchy Process (AHP) is a mathematical tool for management decision making which was introduced by Thomas L. Saaty in year 1977. Analytic Hierarchy Process (AHP) is a decision-making technique by employs pairwise comparisons to evaluate criteria. This method is able to comparing multiple criteria with the data collected.

1.7 Structure of the Research

Chapter 1

Generally, the write up touch about the research background of study, problem statement, research question, research objective and scope of the research. In Chapter 1, the research background provides a contextual overview of the study, outlining the key factors that motivated the research. Additionally, the problem statement succinctly articulates the specific issue or challenge that the research aims to address, highlighting its significance and relevance to the field. Following the problem statement, the research questions are formulated to guide the inquiry and focus the investigation on specific areas of interest. The research objectives is to provide

clarity on what the research seeks to achieve and the outcomes it aims to produce. By defining the scope, the research establishes the parameters within which data collection and analysis will be conducted, ensuring the study remains focused and manageable.

Chapter 2

The literature review delves into various aspects influencing the housing preferences of the young generation, particularly in the context of their exposure to fast-paced environments and the change of working environments. It explores how these factors shape their housing choices, emphasizing the growing interest in co-living options. By examining the Co-Living concept implemented in overseas countries, the review shows the historical development and successful integration into different societies over the years. The literature review lays the foundation for further exploration and understanding of the factors driving the adoption of co-living among young adults. Furthermore, the literature addresses the specific criteria that attract young adults to the co-living model, surpassing conventional housing options. This includes factors such as affordability, flexibility, social connectivity, and access to amenities.

Chapter 3

This chapter focuses on the methodology of research. It covers the research methods used on the data collected. A questionnaire survey has been selected to collect data from various channels. The methodology chapter of this research serves as a blueprint for how the study was conducted, detailing the research methods employed and the process of data collection. Central to this methodology is the utilization of a questionnaire survey to gather data from diverse sources and channels.

The choice of a questionnaire survey as the primary method of data collection is grounded in its effectiveness in capturing a wide range of perspectives and insights. By utilizing structured questionnaires, the researchers can systematically collect data on key variables and parameters relevant to the study's objectives. This method allows for standardized data collection, ensuring consistency and comparability across responses from different participants.

Furthermore, the questionnaire survey enables the researchers to reach a broad and diverse sample of participants, drawing insights from various demographics,

geographical locations, and stakeholder groups. This inclusivity enhances the robustness and representativeness of the findings, providing a comprehensive understanding of the research topic. The process of conducting the questionnaire survey involves several stages, including questionnaire design, distribution, and data analysis. Careful attention is paid to crafting clear and concise survey questions that accurately capture the variables of interest while minimizing respondent bias and ambiguity. The questionnaire is then distributed through various channels, such as online platforms, email invitations, and in-person interactions, to reach a wide audience.

Once the data collection phase is complete, the researchers employ statistical techniques and analytical tools to analyse the survey responses. This involves processing and summarizing the data, identifying patterns and trends, and deriving meaningful insights that address the research questions and objectives. Overall, the methodology chapter provides a detailed overview of how the research was conducted, emphasizing the use of a questionnaire survey as the primary method of data collection. By employing this methodological approach, the researchers aim to gather comprehensive and reliable data that enriches the understanding of the research topic and contributes to the advancement of knowledge in the field.

Chapter 4

The data analysis is presented in Chapter 4, with a detailed examination of every element for discussion. It includes a thorough analysis of the results that addresses the research issues that were raised. By understanding the trends and patterns found in the data, it will enable the objective of the research paper clearer.

Chapter 5

Conclusion of whole research will be under this chapter. It provides a thorough summary of the study's findings and makes insightful inferences from the data that was examined. In addition, this chapter provides stakeholders and practitioners in the sector with useful advice based on the research findings. It also draws attention to the study's shortcomings, outlining areas that require more investigation and offering directions for future research. By taking a thorough approach, Chapter 5

hopes to add to the body of information already in existence and provide direction for further research in the area.

1.8 Conclusion

In summary, this chapter briefly discuss on the reason of choosing this research topic. Problem statement has raised the issue of young generation affordability and value experience in sociality has make the different in housing preference. Therefore, qualitative research methodology will be recommended and adopted. Data will be collected thru Analytic Hierarchy Process (AHP) in chapter 3 as this method allows for standardized data collection, ensuring consistency and comparability across responses from different participants.

This study seeks to provide insights into the elements that influence young adult in making decision for co-living housing option in Klang Valley. The research also intends to analyse the importance of the identified housing attributes via the computation of weightage for each housing attribute in co-living accommodation arrangement.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter will begin with the literature review on different behaviour and attitude of different generation resulting both having different opinion and preference in their lifestyle. Such differences profoundly shape each group's lifestyle preferences and opinions, offering a rich tapestry for understanding the multifaceted nature of housing choices. This exploration is crucial, as it reveals the complex fabric of decision-making that investors and homeowners navigate in the industry of real estate. The foundation of this analysis is a thorough review of existing literature, aimed at uncovering the distinctive values and priorities that guide different generations—each influenced by their unique socio-economic backdrop and cultural milieu. For older generations, the pursuit of property ownership might be intertwined with notions of success and financial stability. Younger generation, such as Millennials and Generation Z, often prioritize flexibility, eco-friendliness, and a sense of community, echoing broader societal shifts towards more fluid and sustainable living paradigms.

This study's core aim is to understand the decision-making process behind housing investments, recognizing the substantial emotional and financial investment such decisions entail. The deliberation over housing options brings to the forefront various considerations, including the location, physical attributes of the home, and the array of facilities and services available. The significance of a property's location

cannot be the sole reason on housing investment with factors such as accessibility to amenities, workplace, and community services playing a pivotal role.

Furthermore, the study delves into the physical and design characteristics of homes, acknowledging the growing demand for sustainability and advanced home technologies. Moreover, the amenities and services provided by housing developments are scrutinized for their impact on lifestyle and housing choices. Especially for younger buyers, the presence of comprehensive facilities and robust community programs can be a deciding factor, underscoring their desire for living spaces that cater to their well-being and foster a sense of belonging.

Through a detailed investigation and synthesis of literature, this chapter aims to connect the dots between generational housing preferences and the current offerings in the real estate market. By examining their lifestyle preferences and their influence on housing decisions, the study contributes to a more adaptable and innovative approach to housing development, poised to address the varied and shifting desires of future homeowners.

2.2 Young Generation

According to Ademiluyi (2010), A house is an asset that was found to be associated with lifestyle which includes economic, social and educational needs. Malaysia housing needs are subject to many factors, this including affordability of individual, preference, social trends, local or international economic environment.(Gajjar.N.B, 2013) Another important factor is demographic of the potential buyers. According to (Bujang et al., 2015) , there are significant relation in between affordability of buying property for young generation in and the issue facing by young generation included unable to secure loan, higher property price at city area and lack of affordable housing in urban area and the struggle to gather enough funds for house downpayments. These challenges are part of a larger socio-economic context that influences both urban housing demand and availability.

The demographic composition of a nation plays a crucial role in shaping its housing market trends. Developers rely on demographic insights to tailor their housing projects to the market's evolving needs. As the population's preferences change,

influenced by generational values, economic circumstances, and societal shifts, so do the types of housing that are in demand. Our society is characterized by diverse generational groups, each with its unique outlook and preferences. Due to different generation believe in value and behaviours, housing decisions and choices have become more varied. The Baby Boomers, Generation X (Gen-X), Generation Y (Gen-Y), and Generation Z are the four age groups that make up the generations (Gen-Z). Generation gap due to social experience, economics environment as changes the way of how young generation think and act now and its indirectly diversity urban housing demand and supply.

For instance, Baby Boomers often see owning a home as a significant achievement, reflecting the economic prosperity and stability they experienced. Generation X values security and permanence, aligning with their transitional position between traditional and digital eras. Millennials and Generation Z, facing different economic challenges and priorities, such as sustainability and community, have started to question the conventional homeownership model. These younger generations are exploring alternative living arrangements that emphasize flexibility, affordability, and a sense of community over the size and permanence of a property. They are increasingly interested in housing solutions like co-living spaces, compact apartments, and fractional ownership, which address affordability concerns and align with their values of mobility, connectivity, and environmental consciousness. Generation gap due to social experience, economics environment as changes the way of how young generation think and act now and its indirectly diversity urban housing demand and supply (Skaburskis, 2002). Young generation make up their housing decision based on many factors, the criteria cover location, housing scheme, affordability and ideal neighbourhood they prefer. This is interrelated to their characteristic and preference.(Ismail & Shaari, 2019). Generation Z or Zoomer was born in mid-to-late 1990s and the early of 2010s. They are the world 1st generation to grow up with internet and digital technology exposure since they are young. They are tech-savvy, diverse, social conscious and having independent mind in many decisions in their life. Therefore, they are open to new ideas and social change if were to compare with their parent who are Generation X or baby boomer.

The difficulties young people face in accessing affordable, desirable housing in urban areas reflect significant societal changes. These challenges call for creative

solutions in housing policy and development that not only tackle financial barriers to homeownership but also cater to the varied lifestyles and values of different generations.

By recognizing and accommodating these diverse housing preferences, the housing market can become more inclusive and adaptable, offering options that cater to everyone's needs. Such an approach not only enhances urban living but also builds communities that mirror the dynamic and varied nature of contemporary society, thus ensuring a more balanced and equitable housing landscape for future generations. Diversifications of housing choice among generations occur as different generations are equipped with different needs, taste and preferences. Therefore, it is crucial to have detail studies on housing especially by generations to narrowing the mismatch gap and better housing provisions. Time period of generation Y and Z are used to technology environment since they were born. High speed internet world has made their world boundaryless. In just 1 click, they can exchange or get all the information they want from online platform and it made this generation having large exposure on global issue, trend and challenges. According to (Reinikainen et al., 2020), many organisations has been benefitting in venture into social media platform as many young generations are the main user of most of the social media platform and this included Instagram and TikTok. The convenience reaching data has make their pace in working and lifestyle fast and value experience in their environment. This indirectly has made them tends to periodize social connection and community more than others. Fast speed internet networking and exposure to the word has form their characters to be more diversified and always linked to social networking. Fast speed internet networking and exposure to the word has form their characters to be more diversified and always linked to social networking.

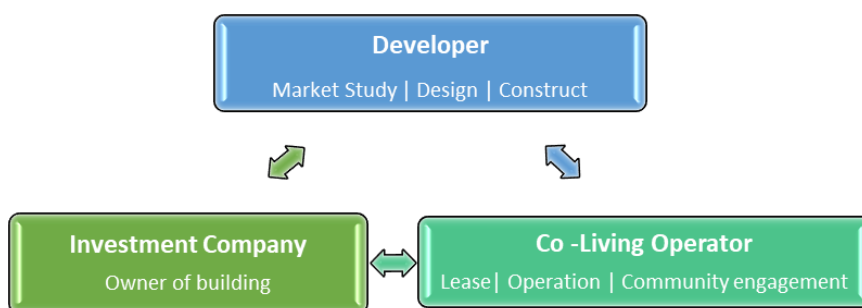
Generation Z tends to lean towards the concept of shared living spaces, widely known in the real estate sector as co-living. This modern approach to housing is distinctively designed to foster community living, where residents not only share common spaces but also engage in communal activities. The allure of co-living lies in its ability to provide individuals with the chance to form new friendships and establish valuable connections within a supportive community environment. By embracing this innovative living arrangement, members of Generation Z can enjoy

the benefits of a collaborative and interconnected lifestyle, which aligns with their values of social interaction and community engagement.

In many communities today, the sell and constructed method—in which developers build properties for individual buyers—is the most common trend in urban development. But this traditional approach frequently falls short of bridging the gap between developers eager to sell their apartments and potential tenants who might not be inclined toward property ownership to close the gap of user do not intent to own and seller which is developer intend to sell and built, there is an new alternative to make this model work by having another parties into this model, which is the fund investment company to own the building for long term return. New business model needs to study intensively to make co-living a sustainable module moving forward.

A fresh solution that presents a paradigm change in the real estate industry has surfaced in response to this disconnect, allowing third-party fund investment organizations to own buildings for long-term returns. This strategy provides a win-win outcome for all parties concerned. Developers are able to shift the responsibility of property ownership while still reaping the benefits of the sale and building process by using fund investment companies in the process. This approach also takes into account the needs of those who might favour the ease and flexibility of renting a place rather than the commitment of owning a piece of real estate.

Figure 2.2: Business model for Co-Living



2.3 Housing Attributes in Co-Living Arrangement

Co-Living is not a new term in oversea country. Co-living is a type of housing where individuals or small groups of people opt for shared living space, facilities & amenities, and sometimes on services or activities in an effort of community living.

One of its primary draws lies in its reduced financial commitment compared to traditional high-rise or landed property ownership. This affordability makes it an attractive option, particularly for urban dwellers seeking cost-effective yet socially enriching living arrangements. With rental prices skyrocketing in many cities, young professionals often find themselves priced out of desirable neighbourhoods. Co-living addresses this affordability challenge by providing shared living spaces at a fraction of the cost of comparable residences in the traditional rental market. By pooling resources and sharing expenses, residents can enjoy the benefits of prime urban locations without breaking the bank.

The concept resonates strongly with a new generation of urbanites who prioritize connectivity, sustainability, and community engagement in their living environments. Co-Living normally happen at high-rise building where population and new generation are ready to accept this new concept of shared living. As such, Co-Living emerges as a compelling solution for those seeking an affordable, inclusive, and socially dynamic housing experience amidst the urban landscape.

According to Druta et al. (2021a), In recent year, many major cities in United States expected one person households to account for half of all households. This is due to large share of these singletons are beginning to populate shared forms of accommodation as many young generations are going for solo life and this cause more one-person living became a common situation. This product is suitable for young generation as it is to cater the rise of this group of urban single and most of them are digital nomad community where work and leisure can meet each other. Majority of the co-living space are at high density area where young generation gather due to job opportunity. Druta et al. (2021b). In oversea country such as Taipei Taiwan, many house owner refurbish the unit and turn it to co-living for high density area such as nearer to university and LRT station. One of the Co-Living spaces, 9 floor, Taipei is a typical example of co- living space, 9 floor operate co-living space at various location of Taipei, most of their unit are standard apartment unit which majority are aged building. They turned the space into a popular co -living space by offering additional service such as match marking housemate based on interest of tenant. They have enhanced their services to suit to the demand and lifestyle of tenant. This included additional services such as regular room cleaning, flexible tenancy

tenure and community events with the objective to enhance the living experience of tenants. Example, those love music & arts stay together in one apartment.

The objective of doing this is to gather people who with same interest together and to make sure they are organising relevant activities to their tenant according to tenant's interest. Sames as per other co-living space, 9 floor tenants are having shared space in each of the apartment such as kitchen, living & washroom space. In 3 years, they have process 3 thousand application for their co- living space. In 2017, they have won an award from Taipei City Council and Asia Social Innovative Award from Hong Kong.

2.3.1 Facilities and Services

Co-living facilitates the evolution of a vertical city model within these housing estates. By consolidating resources, developers can transform traditional residential complexes into multifaceted environments akin to hotel-like establishments. Shared clubhouse facilities and communal spaces enriching residents' lifestyles and promoting social interaction within the community. This shift towards a more communal living arrangement aligns with contemporary urban trends. According to Ken Lee (2019), Lee, K. (2019), these common areas foster a lively and welcoming community spirit among co-residents by encouraging interaction and teamwork.

Co- living has been implemented in many housings' estate in the word, other than shared facilities, tenant share the responsibility and resource among the residents. According to Chen et al. (2023), there are benefits for aging building if co-living in housing estates is sharing management and maintenance costs of facilities. This develops a vertical city model, enabling hotel-like residential developments with shared clubhouse facilities and spaces. Cost sharing among homeowners in the estates allows them to enjoy more and better facilities and management and maintenance services.

Co-living's popularity is also due to the high demand on amenities nearby such as from shopping malls and public transport hubs to restaurants and recreational facilities. Co-living spaces, strategically located near such amenities, offer residents unparalleled convenience and accessibility, enhancing their overall quality of life. Co-Living serve as dynamic ecosystems where residents can thrive professionally

and socially, all while enjoying the perks of urban living. Whether it's grabbing a quick bite at a nearby cafe, unwinding with friends at a local park, or exploring the latest exhibitions at nearby museums, co-living residents are spoiled for choice when it comes to leisure and entertainment options. Co-living allows young professionals to reside in places near commercial, recreational and other amenities for a fraction of the cost of comparable residences in the traditional rental market.

2.3.2 Location Attributes

The demand for co-living is amplified by its proximity to employment opportunities. Young professionals are drawn to co-living arrangements that place them in close proximity to their workplaces. This strategic positioning not only reduces commuting times and transportation costs but also fosters a seamless work-life balance for residents. Many buildings in city centres or near employment hubs such as special economic zones, information technology and science parks. According to (Litman, 2016), transportation affordability refers to the financial burden households bear in purchasing transportation services, particularly those required to access basic goods and activities (healthcare, shopping, school, work and social activities). Affordable housing requires more than low rents and mortgages because housing is not really affordable if it is located in isolated areas with high transportation costs. Therefore, typically indicates that households spend less than 20% of their income on transportation, or less than 45% of their income for housing and transportation together. Affordability is influenced by a number of variables, such as people's needs for travel, the standard and cost of available transportation, accessibility of land usage, and the affordability of housing, Waddell, n.d., (2007). A more thorough examination can offer more direction on how to include affordability in the goal of transport planning. Economic transfers that move costs to other economic sectors are one method of achieving transportation affordability. Co-benefits are frequently seen from strategies that increase accessible modes (such as walking, cycling, and public transportation). Co-living addresses this affordability challenge by providing shared living spaces at a fraction of the cost of comparable residences in the traditional rental market. By pooling resources and sharing expenses, residents can enjoy the benefits of prime urban locations without breaking the bank.

2.3.3 Housing Attributes

A co-living space's layout design is crucial in determining how its residents feel about it and in building a feeling of community. In contrast to conventional housing arrangements, which give precedence to private living areas, co-living layouts aim to optimize communal areas and promote communication among occupants. The design of community spaces that act as the inhabitants' social centres is essential to the co-living concept. These common areas foster a lively and welcoming community spirit among co-residents by encouraging interaction and teamwork.

The floor plans of successful co-living spaces can vary widely depending on the specific community, location, and target demographic. Co-Living generally segmentize space in dynamic way.(Christy & Tan, 2022) . Bedroom can be created either shared room or individual room and preferable natural ventilated. According to (Ronald et al., 2023), Co-living space can be design with a mix of different usage by combining hotel & student hostel. This co-residence sharing important aspects of youth and early adult hood as it caters young adult and students' accommodation module. Co-living design frequently include variable living configurations in addition to common areas to meet the demands of a wide range of residents. Common meet up space shall design at the middle of the floor plan to encourage social engagement.(Chen et al., 2023) This could feature a combination of shared and private living areas, giving inhabitants the freedom to choose how much social interaction and seclusion they want. Adaptability is further enhanced with flexible furniture configurations and modular design components, which let occupants personalize their living areas to fit their own tastes and lifestyles. Co-living design also put an emphasis on efficiency and usefulness, making the best use of available space to create a cozy and welcoming living area. Many activities can happen here included festive celebration, leisure gathering for many reasons such as football match live feed, chess competition, health talk, networking and sharing session or even preview of new product launched. Common elements include open-plan layouts and multipurpose rooms that maximize usable space while reducing needless dividers and obstacles. This strategy fosters community engagement and collaboration among inhabitants in addition to giving the area a feeling of spaciousness.

Figure 2.3.: Co Living layout plan



Figure 2.4: Shared area -Co Living Common Area



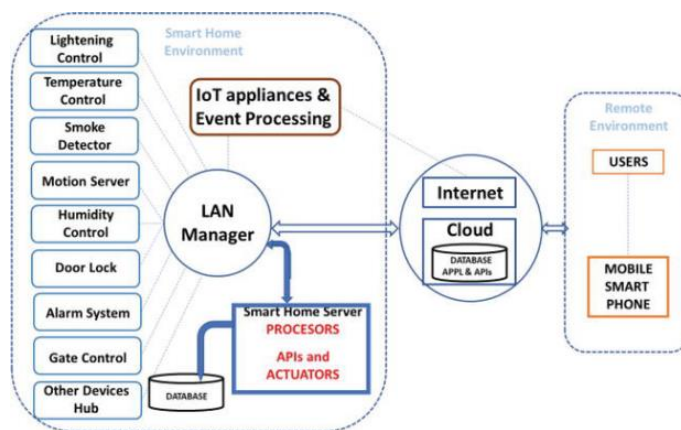
According to (Sood et al., 2016), Sustainable development is “*development which meets the needs of the present without compromising the ability of future generations to meet their own needs*”. In the context of co-living environments, this principle underscores the importance of integrating sustainable and eco-friendly design features to minimize environmental impact and promote long-term sustainability. Therefore, in order to conserve the environment, sustainable and eco-friendly design features can be incorporate into the Co- Living environment. One way to achieve this is by implementing waste management systems that facilitate the collection and recycling of landscape waste. Through composting systems, organic waste generated within the co-living community can be repurposed to produce compost, a nutrient-rich soil amendment. This process not only reduces the amount of waste sent to landfills but also creates a valuable resource that can be used to enrich soil in community gardens or landscaping projects. By embracing composting as a sustainable waste management solution, co-living spaces can contribute to the conservation of natural resources and the reduction of greenhouse gas emissions associated with organic waste decomposition. Furthermore, sustainable design principles can be applied to the construction and operation of co-living buildings to minimize energy consumption and promote energy efficiency. This may include incorporating energy-efficient lighting systems, installing renewable energy sources

such as solar panels, and optimizing building orientation and insulation to reduce heating and cooling demands. Additionally, water-saving fixtures and systems can be implemented to reduce water consumption and minimize wastewater generation. Moreover, sustainable materials and construction practices can be utilized to minimize the environmental footprint of co-living developments. This may involve selecting environmentally friendly building materials, such as recycled or reclaimed materials, and adopting construction techniques that prioritize resource efficiency and minimize waste generation. By prioritizing sustainability in the design and construction of co-living spaces, developers can create buildings that are not only environmentally responsible but also healthier and more comfortable for residents. In summary, integrating sustainable and eco-friendly design features into co-living environments is essential for promoting environmental conservation and long-term sustainability. By implementing waste management systems, embracing energy-efficient design principles, and utilizing sustainable materials and construction practices, co-living spaces can minimize their environmental impact and contribute to the well-being of both current and future generations. Generally, generation Y having positive attitude towards buying green product as their exposure to global issue are wider comparing to generation x (Anvar & Venter, 2014). Therefore, co-living shall design towards more sustainable design such as generating composite by using composting systems, green provision for garden and smart building to conserved energy.

High speed internet access is the key for the success of co Living as it has become a basic need for generation Z. Rune Winther (2019), outlining three key characteristics: minimal human intervention, optimization of energy and space utilization, and tangible benefits for users. This generation rely internet a lot in their daily life which included work from home, searching information, social networking and to instal smart home into their individual unit. In the context of co-living, high-speed internet access facilitates seamless connectivity and enables the integration of smart home technologies into individual units. The reliance on internet connectivity extends beyond mere leisure activities to encompass essential tasks such as remote work, information retrieval, and social networking. Technology and automation will happen at co-living space when they use smart home technology to control lighting, temperature, security system and electrical items at home. According to (Sood et al.,

2016), Sustainable development is “development which meets the needs of the present without compromising the ability of future generations to meet their own needs”. Therefore, this technology and automation enhances the overall living experience within co-living spaces, catering to the preferences of tech-savvy individuals. Property developers are increasingly compelled to adopt sustainable practices in response to environmental concerns. The integration of sustainable development practices ensures that co-living spaces not only meet the demands of the present but also safeguard the environment for future generations. According to Domb (2019), Structure design of smart home need to be in place in a building to ensure residents are benefit from this feature as young generation are IT savvy and appreciate Iot (Internet of Things) in their daily routine. By embracing technological advancements and sustainability initiatives, co-living properties can offer residents a harmonious blend of convenience, connectivity, and environmental responsibility.

Figure 2.6: Structure design of the Smart Home (Architecture design)



2.4 Conclusion

In conclusion, a variety of elements, including home features, geographical considerations, and lease arrangements, play a significant role in shaping the accommodation decisions of the younger generation. Their top concerns are still affordability and a strong desire for flexibility in their living arrangements. In order to create housing designs that fit these criteria and satisfy the needs and preferences of this population, developers must carry out in-depth analyses. This means developers may ensure long-term sustainability and relevance of their housing solutions by identifying and resolving these dynamics and designing housing solutions that appeal to the market

CHAPTER 3

REASEARCH METHODOLOGY

3.1 Introduction

In this chapter, it will explain more on the method has been chosen for this research. This study employs Pair-Wise and Analytic Hierarchy Process (AHP) and questionnaire survey has been selected as the methodology under this study. Details explanation on processes and criteria will be describe in this chapter.

3.2 Research Methodology

The methodology of this research involves many stages before obtain the result. The stages included research design, data collection, data analysist & conclusion of the data. The data collected are from primary data which by way of questionnaire and Analytic Hierarchy Process (AHP).

There are two objectives in this research. Firstly, is to identified current single young adult housing arrangement at urban area. Secondly is to analysis whether the accommodation criteria and facilities and services elements are influencing young adult in making decision in co-Living module. The third objective is to identified the important of location attribution to co- living and lastly to recommend solution on urban co-living at Klang Valley. All the above objective will be achieved by using Analytic Hierarchy Process (AHP) method by collecting primary data thru pairwise questionnaire.

3.3 Analytic Hierarchy Process (AHP)

Analytic Hierarchy Process (AHP) is a quantitative method with structured technique to organizing and analysing data in more comprehensive way to make complex decisions for a survey. It can assist decision maker to analysist the data based on prioritize by hierarchy of criteria and comparing them pairwise. Therefore, It has been widely used in many sector as it is able to handle large number decision factor and produce many ranking decision variables. According to (Cheng & Li, 2002), AHP allows respondents focus on a specific issue where large sample is not a mandatory requirement but the knowledge, expertise and experience of the respondents is more important for the research.

AHP allow researcher to design the research structure into a hierarchical structure. It can consist multilevel of criteria and allow decision maker to evaluate data by using pairwise comparison. (Saaty, 1987). The pairing develops by Saaty allow researcher to give discrete number to the choice available based on importance of choices. Once the discrete number has been chosen, weightage can be calculated for analysis.

Pairwise Comparisons: Decision-makers are asked to compare each criterion by using a scale that range from 1 to 9. 9 is the indication of extreme importance and 1 as equal important indicator. The highest the weightage of the data the important it is. The pairwise comparison results are used to derive relative weights for each criterion and sub criterion. These weights represent the relative importance of each criterion in achieving the overall objective. Therefore, respodence are required to compare two cost categories at one time and they have to choose their preference from the in each of the pairwise comparison.

Table 3.1. Example of a set of pairwise comparison matrix

	V	W	X	Y	
A	1				
B		1			
C			1		
D				1	
E					1

After this stage, pairwise comparison result will be converted the result into matrix. Once the pairwise comparison is ready, the consistency of the judgement can be obtained by looking at eigenvalue. λ_{max} . Consistency of ratio is very important to make sure the preference rating was consistent. The consistency index (CI) calculation as below; -

$$CI = \frac{\lambda_{max} - n}{n - 1}$$

According to (Saaty, 1987), perfect consistent decision maker should always obtain $CI=0$, and small value of inconsistency can be tolerated. The calculation of CR are as below; -

$$CR = \frac{CI}{RI(\text{random index})}$$

Under AHP, inconsistency is easily detected during pairwise comparison, it may need adjustment to maintain the reliability of the data. Therefore, most of the data are having consistent judgement. When CR calculated is less or equal to 0.10 ($CR \leq 0.1$), the judgement will be deemed as consistent and acceptable. If the CR is larger or equal to 0.1 ($CR \geq 0.1$), then the judgement is inconsistent and unreliable. In this case, it needs to be re-examined. According to (Ho et al., 2005), $CR < 0.2$ is still consider suitable and acceptable as AHP allows both scoring and weighting factors.

Once the weights of the criteria is ready, the overall scores for each alternative will be ready for decision maker to rank it by looking into the performance score against the criteria. In AHP, there are 2 different method, eigenvector method (EM) and weighted geometric mean method (WGMM) are used to calculate the pairwise comparison matrices. (Escobar et al., 2004), in this research, a group judgement matrix will be constructed using WGMM as it is used to calculate group judgement matrices. By using WGMM, it is the best to explain the priorities and weightages for the cost categories.

In summary, AHP has been chosen as the method for this research on accommodation selection for the young generation due to its ability to provide a structured, comprehensive, and quantitative approach to decision-making that incorporates stakeholder preferences and allows for flexibility in the evaluation process.

3.4 Data Collection

In this research, data collection is collected based on qualitative approach. Hence a questionnaire form has been created to conduct this research. The survey ran over 20 days. Data were collected by answering questionnaires in the survey form which were sent out through email, WhatsApp and hardcopy.

The survey questions have taken into consideration of respondent's demographic information such as age group, gender, highest level of education and range of monthly income. Monthly income range are categories at less than RM 2,000, RM 2,001-RM 5,000, RM 5,001-RM10,000, RM 10,001-RM20,000 and lastly more than RM 20,000. The above demography is important to ensure the research are covering different group of population to make the research is more accurate.

The survey started with section A with 4 questions. First question is to find out whether they own the house that they are currently staying. There are 5 categories of answer for them to choose.

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Yes. I am the sole owner for the house I am currently staying |
| <input type="checkbox"/> | Yes. I am co-owner for the house I am currently staying |
| <input type="checkbox"/> | No. It's owned by my family members (wife/husband, parents, brothers, etc) |
| <input type="checkbox"/> | No. I rent the house |
| <input type="checkbox"/> | No. I rent a room |

On Second question cover, data of they monthly spending on accommodation has been collected. options as per below.

<input type="checkbox"/>	No Cost
<input type="checkbox"/>	≤ RM300
<input type="checkbox"/>	RM301 – RM500
<input type="checkbox"/>	RM501 – RM1,000
<input type="checkbox"/>	> RM1,000

Question 3 is to find out if the respondents have the intension to buy a house and if yes, what is the estimated time frame. Therefore, the option of this question is design in 3 categories.

<input type="checkbox"/>	Yes, I plan to purchase a house within 1-2 year's time.
<input type="checkbox"/>	Yes, I plan to purchase a house within 3-5 year's time.
<input type="checkbox"/>	No, I don't have the intention to purchase.

Lastly, the questionnaire is design to end this section with the question of whether they will consider to stay in urban co-living housing. This question has separated the responses into 2 main categories with the answer of “Yes” or “No”.

Section B till section F in this survey form are the criteria of the survey form. Respondents are required to compare the criteria 1 and criteria 2 for each row. They are required to circle only one number per row using the proposed scale. Instruction has been clearly state in questionnaire form on the scale they need to choose based on extremely important to less important scale by section number 2-9 for “more important than” or “less important than” section. Number 1 are equally important for both criteria.

Table 3.2: Scale table for both criteria

Extremely Important	9
Very Strongly Important	7
Strongly Important	5
Moderately Important	3
Equally Important	1

Under section B to section F, main theme has been identified and each of the main theme are pair with 4 sub- themes.

Table 3.3: Co- living AHP criteria

Main Theme	Sub-themes
Facilities & Services	Co-working station
	Sport and gym facilities
	Communal spaces
	Securities & Safety
Locational Attributes	Accessibility & connectivity
	Neighbourhood amenities & services
	Access to public infrastructure
	Distance to workplace
Housing Attributes	Functional layout
	Smart home technology
	Quality of furnishers
	Unit Size
Leasing Arrangement	In-house regulation
	Cleaning & Maintenance Services Included in Rental
	Utilities Included in Rental
	Flexibility of tenure of stay

Under Section B, the questionnaire is design to gauge respondents' opinion on which accommodation criteria is important to be considered by respondents. Therefore, 4 criteria are in comparing in between facilities & services, location attributes, housing attributes and leasing arrangement. Respondents will need to think deeply which criteria is important to them and how extreme the criteria will impact their decision.

Table 3.4: Accommodation Criteria

CRITERIA I	More important than				Equal	Less important than				CRITERIA II								
	Extreme	Very	Strongly	Moderat		Moderat	Strongly	Very	Extreme									
1 Facilities& services	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Housing attributes
2 Locational attributes	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Leasing arrangement
3 Facilities& services	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Locational attributes
4 Housing attributes	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Leasing arrangement
5 Facilities& services	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Leasing arrangement
6 Housing attributes	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Locational attributes

Section C, is to aimed to understand more on which aspect of facilities & services elements is important to consider as an investor before making the decision. Criteria to be comparing are Co-Working station, Sport and gym facilities, communal spaces and security & safety. This section is very important as most of the co-living are offering various of options to tenants. By understanding the priority of respondents, co-living scheme can have a better offering to their tenants.

Table 3.5: Facilities & services Criteria

CRITERIA I	More important than								Equal Important	Less important than								CRITERIA II
	Extremel	Very	Strongly	Moderate		Moderate	Strongly	Very		Extremel								
1 Co-working station	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Communal spaces
2 Sport and gym facilities	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Security & safety
3 Co-working station	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sport and gym facilities
4 Communal spaces	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Security & safety
5 Co-working station	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Security & safety
6 Communal spaces	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sport and gym facilities

Section D, is to find out which aspect of the location attributes is important to be considerate by investor. The criteria comparison includes accessibility & connectivity, neighbourhood amenities & services, access to public infrastructure and distance to work. This section is important as co-living served young generation in urban area and location and mobility in the city is a key for young generation to consider co-living housing option.

Table 3.6: Location Attributes Criteria

CRITERIA I	More important than								E	Less important than								CRITERIA II
	Extrem	Very	Strongl	Moder		Moder	Strongl	Very		Extrem								
1 Accessibility & connectivity	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Access to public infrastructure
2 Neighbourhood amenities & services	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Distance to workplace
3 Accessibility & connectivity	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Neighbourhood amenities & services
4 Access to public infrastructure	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Distance to workplace
5 Accessibility & connectivity	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Distance to workplace
6 Access to public infrastructure	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Neighbourhood amenities & services

Section E is to understand better on respondents housing attributes. The criteria for comparison included functionality of layout, smart home technology at their unit/ community, quality of furnishing and unit size. This section to is aim to get know how response rate the important of criteria. By understanding the criteria, developer of co-living can design the house attributes in more rounded way.

Table 3.7: Housing Attributes Criteria

CRITERIA I	More important than								Equal Important	Less important than								CRITERIA II
	Extrem	Very		Strongl		Modera		Extrem		Very		Strongl		Modera				
1 Functional layout	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Quality of furnishers Unit Size
2 Smart home technology	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Smart home technology
3 Functional layout	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Unit Size
4 Quality of furnishers	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Unit Size
5 Functional layout	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Smart home technology
6 Quality of furnishers	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	

Lastly, section F is comparing leasing arrangement criteria. Young generation always want to have a flexibility to pick their preference based on their lifestyle and the purpose on why they are in urban area. Therefore, the comparison for this section are in between in-house regulation, cleaning & maintenance services included in rental, utilities included in rental and flexibility of tenure of stay.

Table 3.8: Leasing Arrangement Criteria

CRITERIA I	More important than								Equal	Less important than								CRITERIA II
	Extremelv	Very		Strongly		Moderate		Extremelv		Very		Strongly		Moderate				
1 In-house regulation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Utilities included in rental
2 Cleaning & Maintenance Services included in rental	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Flexibility of tenure of stay
3 In-house regulation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Cleaning & maintenance services included in rental
4 Utilities included in rental	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Flexibility of tenure of stay
5 In-house regulation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Flexibility of tenure of stay
6 Utilities included in rental	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Cleaning & maintenance services included in rental

In this research, non-probability sampling method has been used as sampling strategy. Snowball sampling has been adopted. The questionnaire has been sent over to respondents and it has been passed over to another person who stays in Klang Valley. It is like a snowball rolling down a hill and getting bigger as it collects more data in a fast manner. This method is handy and by using snowball sampling, it gradually expands the sample size. It is often used in exploratory and qualitative research. 50 questionnaires have been sent out to the target audience through email, WhatsApp and hardcopy. After 20 days, 30 respondents have been received. The 30 respondents became the current sample size for this research.

Other than primary data, this research also took into consideration of secondary data from the Department of Statistics Malaysia (DOSM). This included Malaysia population data especially on Selangor and Kuala Lumpur which is the focus location for this research. Other than this, employees' wages statistic 2023 and composition of how Malaysia households spend their wages data are from the Department of Statistics Malaysia too.

3.5 Data Analysis

As discussed in the 3.3 section, the Analytic Hierarchy Process (AHP) has been selected for this research data. It is a structured quantitative method for organizing and analysing data to aid decision-making in surveys. According to Cheng & Li (2002), AHP does not mandate large sample sizes but emphasizes the expertise and experience of respondents for focused issue analysis. Therefore, the sample size of 30 fits in these requirements. By using pairwise comparisons scale range from 1 to 9 in the questionnaire, the results have been tabulated for each of the sections of the questionnaire into a matrix. The research has been focusing on ensuring the consistency of the judgement can be obtained by looking at the eigenvalue, λ_{max} as it is very important to make sure the preference rating was consistent.

The consistency index (CI) calculation is as follows; -

$$CI = \frac{\lambda_{max} - n}{n - 1}$$

The calculation of CR are as below; -

$$CR = \frac{CI}{RI(\text{random index})}$$

When CR calculated is less or equal to 0.10($CR \leq 0.1$), the judgement will be deemed as consistent and acceptable. If the CR is larger or equal to 0.1 ($CR \geq 0.1$), then the judgement is inconsistent and unreliable. Once the inconsistency happen, respondents will need to be interviewed to ensure the questionnaire is understandable for respondents and re-examined. Therefore, most of the data are having consistent judgement.

In this research, a group judgement matrix has been constructed using WGMM as it is used to calculate group judgement matrices. By using weighted geometric mean method WGMM, the priority of each session projected and the priority of the criterion will be explained in chapter 4.

3.6 Finding Presentation

All the finding presentation will be presented in chapter 4. Chapter 4 will be presented on respondent profile which included their gender, age, education level & monthly income. The result of the data analysis for AHP is presented in tables, pie charts and weighted geometric mean method charts to ensure all the information can be conveyed clearly and concisely. Each of the presentation providing explanation and interpretation of the data based on the data collected. The presentation will end with finding of this research and discussion on the analysis.

3.7 Conclusion

In conclusion, research methodology is important for this research. AHP has been chosen as the method to make the data to be analysed in a structured way. The target population's characteristics, the nature of the research questions and the study objective will need to be carefully taken into account during this procedure. By analysing the data and ensuring consistency of data, it will be ensuring the research results are valid and reliable for other academics as reference.

CHAPTER 4

DATA ANALYSIS AND FINDINGS

4.1 Introduction

Chapter 4 hold significance as the analysis of the result is ready and it concludes the analysis of this research paper. By using Analytic Hierarchy Process (AHP), all the criteria have been category accordingly in each section for comparison. All the analysis will be discussed and conclude in this chapter. The result will determine whether the objective of research has been answered. The first objective of this research is to identify which housing attributes that are important for young adult in making decision for co-living housing option in Klang Valley. This included functional layout, smart home technology, quality of furnishing and unit size. The importance level can be identified via the computation of weightage for each housing attribute in co-living accommodation arrangement

The second objective is to analysis of the various accommodating criteria such as facilities, and services, location attributes and leading arnagement that significantly influence the decision-making process of single young adults in opting for a Co-Living module. By examining these factors, the research aims to gain insights into the key determinants driving the adoption of Co-Living arrangements among young adults.

4.2 Background of Respondents

The research has been engaging with different respondents from different aspects. The objective is to make sure the research questionnaire has wider reach. Therefore, the data has reach to respondents at different age, income level, education background and gender. All the questionnaire are distributed thru hard copy or digital copy and it has been sent to respondents by hand, WhatsApp's and emails. All the respondent's data are conducted anonymously as per Personal Data Protection Statement -University Tunku Abdul Rahman (UTAR). The respondents were asking to answer the pairwise comparison questionnaire construct based on AHP method. 50 sets of questionnaires have been distributing and 30 respondents has been received. Under section A of the questionnaire, 4 questions have been posted to respondents. The objective of this section A is to understand the respondents better in terms of their current accommodation arrangement, cost spend for accommodation and if they intend to own a property in a time frame mentioned. Lastly is the question of if they will to consider to stay in urban co-living housing.

Out of 30 respondents, 53%, which equal to 16 respondents do not own the house they stay and the unit are owned by their family members. Family members in this research are classified as wife, husband, children, parents, brothers or sisters. 23% of the respondents are owning and staying in their own house. 13% of the respondents are renting a house and no respondents are renting a room. Renting a room is always a preference to young generation but it also subject to the housing scheme available surrounded them. Generally, most of the apartment are in 3-bedroom option and many house owner prefer to rent the whole house to family tenants or individual tenant to ease their leasing management. However, normally tenants are allowing sub rent among themselves.

Cost spend over accommodation are important for young generation who just start their work life. According to the survey, 66.66% of the respondents spending will need to spend on accommodation. 50% which equivalent to 15 respondents are spending more than RM 1,000 per month on accommodation. 33.33% of respondents do not spend any amount for accommodation and 13.33% are spending in between RM 301 to RM 500 per month for accommodation. Respondents who do not spend

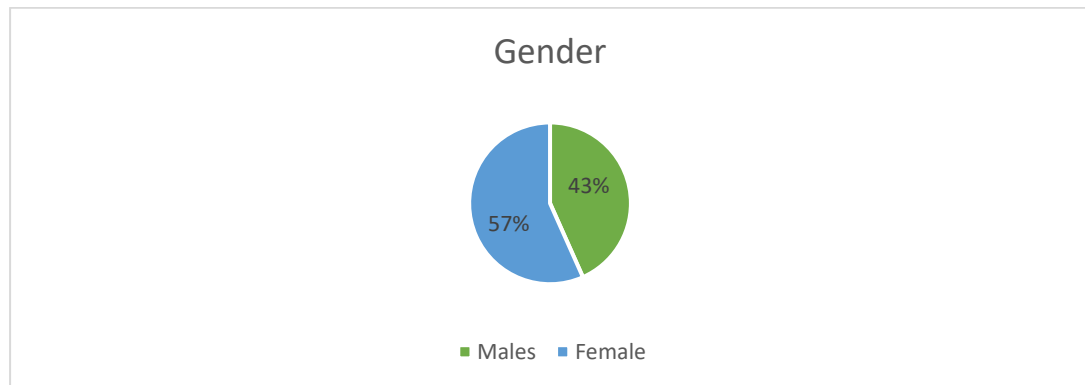
in accommodation are high chance are those staying with family members who do not need their contribution on accommodation expenses.

In Malaysia, most of the people wish to own a house when they are affording to make the ownership come into the picture. However, according to this research paper data, 43.33% of the respondents do not intent to purchaser a property even after 5 years. 30% of the respondents will consider to purchase a house within one to two years' time and 26.66% of the respondent plan to purchaser a house within three to five years' time. Section A end with last question to understand if the respondents will consider to stay in urban co-living housing. 66.66% of the resident are open to this option and 33.34% of the respondents will not consider on this accommodation options.

4.2.1 Gender

The research has been distributed randomly to male and female. Among the 30 respondents, 13 of them are males and 17 of them are female.

Figure 4.1: Gender Of the Respondents



4.2.2 Age

There are 5 age group range in this research paper. Referring to the figure 6, there are 4 age range which are, below 25, 25 to 39, 30 to 35, 34 to 35 to 39 and 40 and above. Majority of the respondents are at the range of 35 to 39 years old which it consists of 37%. Age 29 t0 34 are the second highest range which consist of 7 respondents at 23%. Overall, 67% of the respondents are below 34 years old.

Table 4.1: Age range of the respondents

Age Group	Respondents	%
<25	2	7%
25-29	11	37%
30-34	6	20%
35-39	7	23%
>39	4	13%
Total	30	

4.2.3 Education Level

Bachelor Degree reaches highest percentage of education level of respondents. 83% of the respondents are have their bachelor degree. 10% of the respondents graduate from their secondary education and lastly, 2 person which is 7% of the respondents was a postgraduate study. There is no primary education or no formal education respondents in this research paper.

Table 4.2: Education Level of the respondents

Highest Level of Education	Respondents	%
Bachelor Degree	25	83%
Secondary Education	3	10%
Postgraduate Studies	2	7%
No formal education	0	0%
Primary Education	0	0%
Total	30	

4.2.1 Monthly Income

There are 4 range of monthly income level. Less than RM2,000, RM2,001-RM 5,000, RM5,001-RM10,000, RM 10,001 – RM 20,000 and more than 20,000. 50% of the respondents are at income range of RM 2001- RM 5,000. 40% of the respondents at

the salary range of RM 5,001 – RM 10,000. In conclusion, 90% of the respondents are having their earning of RM2,000- RM 10,000 monthly.

Table 4.3: Monthly income of the respondents

Monthly Income Range	Respondents	%
Less than RM2,000	0	0%
RM2,001-RM5,000	15	50%
RM5,001-RM10,000	12	40%
RM10,001 – RM20,000	3	10%
More than RM20,000	0	0%
Total	30	

4.3 Result of the Data Analysis for AHP

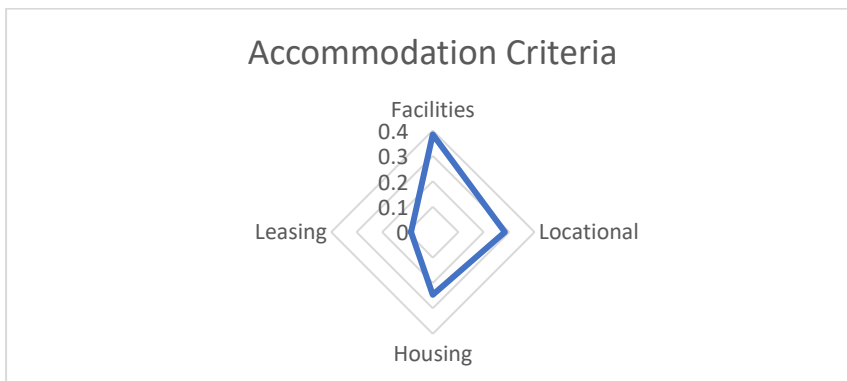
As describe under chapter 3, AHP method has been chosen for this research paper. The result of the data analysis will answer the research objective of the accommodation criteria, facilities and service elements which influencing single young adult in making decision in co-living housing option will be discussed. Other than the above, the analysis will also be able to identified the important location attribution in co-living. The result is analysis from the data which according to the level of importance. The scales in this questionnaire are extremely important- 9, very strongly important -7, strongly important -5, moderately important -3 and equally important -1.

Section B of the research questionnaire are to gauge on respondents' accommodation criteria is important to be consider. There are four criteria to be consider which are Facilities & services, Location attributes, housing attributes and leasing attributes. Each row & column represents a criterion of facilities, Locational, Housing, Leasing. The values in the cells represent the relative importance comparing row and column criterion.

Table 4.4: Analysis result for accommodation Criteria

Criteria	Facilities	Locational	Housing	Leasing	Priority Vector	Weighted Sum Matrix	Consistency Measure	RANK
Facilities	1	0.41296661	0.529381	2.61576	0.38437591	0.856582087	2.22850095	1
Locational	2.421503293	1	0	0	0.28327334	1.214040875	4.285757685	2
Housing	1.888997672	0	1	0	0.24642038	0.972505581	3.946530702	3
Leasing	0.382297773	0	0	1	0.08593037	0.232876431	2.710059518	4
λ_{max}							3.292712214	
Consistency Index							-0.235762595	
Consistency Ratio							-0.261958439	

Figure 4.2: Analysis result for Accomodation Criteria



According to the result obtain, it show that most of the respondents ranked facilities as their top priority comparing location, leasing and housing attributes. Facilities are the highest consideration factor for accommodation selection follow by location consideration. It can be shown as the priority value of 0.38 which is equivalent to 38%. Wherelse location and housing attributes are having 0.28 and 0.24 priority vector . The least consideration is leasing arrangement at priority value of 0.08. Hence, it means that most of the respondents value facilities and services provided comparing other criteria. Both the consistency index (CI) and consistency Ration(CR) are above acceptance limits, standing at 0.23 and 0.26 respectively. However, According to (Ho et al., 2005), $CR > 0.2$ is still consider suitable and acceptable as AHP allows both scoring and weighting factors.

Section C, aimed to gauge respondents opinion on facilities and services element which important to theommunal m when they consider to invest in property industry. Therefore, there are 4 criteria to be compare. The four criteria are co-working station, sport and facilities, communal space and security & safety feature. The analysist result as below:-

Table 4.5: Analysis result for facilities & Services

Criteria	CoWorking	Sport&Gym	Communal	Securities	Priority Vector	Weighted Sum Matrix	Consistency Measure	RANK
CoWorking	1	0.387590579	0.931378497	0.189923084	0.099887348	0.398605203	3.99054747	4
Sport&Gym	2.474521241	1	1.715268482	0.273358151	0.201513101	0.810658071	4.022855424	2
Communal	1.073677353	0.582999111	1	0.230596944	0.118595256	0.477071215	4.022683814	3
Securities	5.265289388	3.658204434	4.336570919	1	0.580004296	2.357412944	4.064474972	1
					λ max		4.02514042	
					Consistency Index		0.00838014	
					Consistency Ratio		0.009311267	

Figure 4.3: Analysis result for facilities & Services Criteria



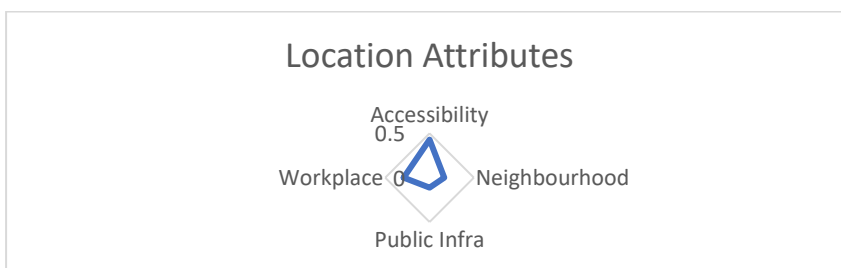
Based on the above data, security & safety criteria are the key and the most important criteria among the rest of the criteria in facilities & services. The priority vector for security & safety are relatively high at 0.5800, which is 58%. The second highest priority vector are sport & Gym criteria where the value set at 0.2. Co-working are the most non important criteria comparing another 3 criteria as the priority value are at 0.09. which is equal to 9%. Both the Consistency Index (CI) and Consistency Ratio (CR) are within acceptable limits, standing at 0.008 and 0.009, respectively.

Section D indicate the criteria of location attributes. Location criteria attributes. The pairwise comparison are included accessibility and connectivity, neighbour amenities & services, accessibility to public infrastructure and distance to work place.

Table 4.6: Analysis result for location attributes

Criteria	Accessibility	Neighbourhood	Public Infra	Workplace	Priority Vector	Weighted Sum Matrix	Consistency Measure	RANK
Accessibility	1	3.101391318	3.639052035	1.293245466	0.429445504	1.7308492	4.030428152	1
Neighbourhood	0.322435932	1	1.555624457	0.641181691	0.166230267	0.6664545	4.00922487	3
Public Infra	0.27479684	0.64282867	1	0.387221414	0.112101384	0.4501242	4.01533113	4
Workplace	0.77324841	1.559620329	2.582501803	1	0.292222845	1.173049	4.014227658	2
					λ max		4.017302953	
					Consistency Index		0.005767651	
					Consistency Ratio		0.006408501	

Figure 4.4: Analysis result for location attributes Criteria



Among the for criteria for location attributes, accessibilities & connectivity are having the highest priority vector which mark at 0.429. The second important criteria are distance to workplace, 0.29, which equivalent to 29%. Accessibility to public infrastructure is the lowest important criteria for among the four criteria. Both the Consistency Index (CI) and Consistency Ratio (CR) are within acceptable limits, standing at 0.005 and 0.006, respectively.

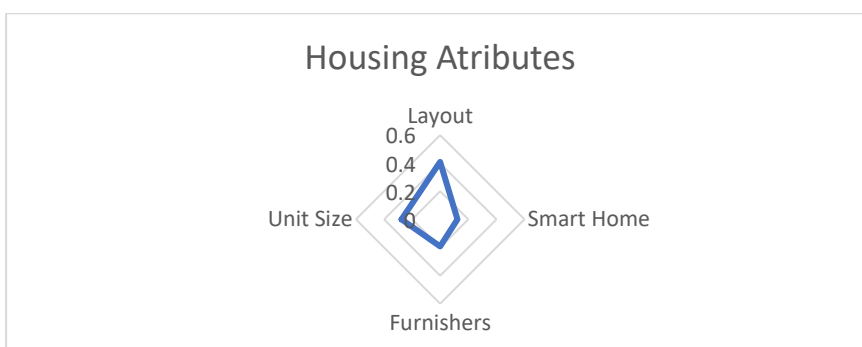
Section E is the housing attributes criteria where it consists 4 criteria. The four criteria are functional layout, smart home technology, quality of furnishing and unit size.

Table 4.7: Analysis result for housing attributes

Criteria	Layout	Smart Home	Furnishers	Unit Size	Priority Vector	Weighted Sum Matrix	Consistency Measure	RANK
Layout	1	2.703134798	2.1702409	1.8120088	0.4094917	1.657627082	4.0480119	1
Smart Home	0.3699409	1	0.5445459	0.4124508	0.1226091	0.492477061	4.0166425	4
Furnishers	0.4563809	1.836392582	1	0.6120597	0.1922467	0.773005145	4.02090283	3
Unit Size	0.5518737	2.424531754	1.6338275	1	0.2756526	1.113007856	4.03772013	2

λ_{max} 4.03081934
Consistency Index 0.01027311
Consistency Ratio 0.01141457

Figure 4.5: Analysis result for housing attributes Criteria



Under housing attributes, functional layout are the most important criteria which having 0.409 priority vector which is 40.9% and follow by unit size where priority vector reaches 0.275, 27.5%. Quality of furnishing rank number 3 important at priority value at 0.19 and the least important criteria at smart home technology with priority value of 0.12. Both the Consistency Index (CI) and Consistency Ratio (CR) are within acceptable limits, standing at 0.01 and 0.011, respectively.

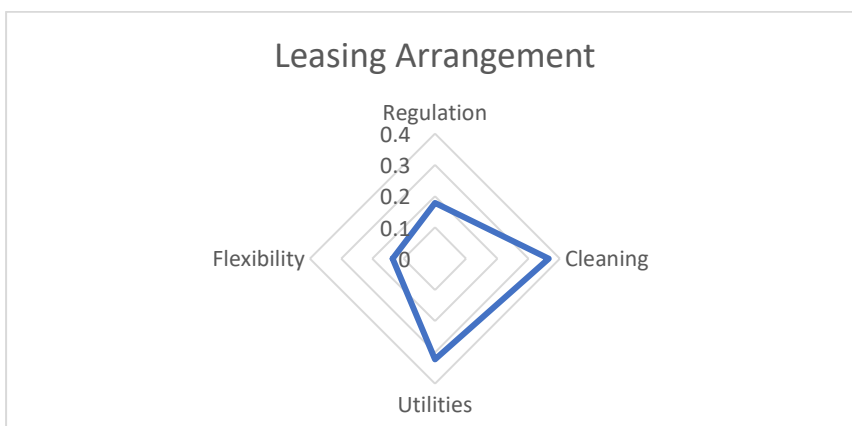
Section F is the last section for this questionnaire. This section is to gauge the important criteria under leasing arrangement. Therefore, there are 4 comparisons among in-house regulation, cleaning & maintenance services included rental, utilities included in rental and lastly is the flexibilities of tenure of stay.

Table 4.8: Analysis result for leasing arrangement

Criteria	Regulation	Cleaning	Utilities	Flexibility	Priority Vector	Weighted Sum Matrix	Consistency Measure	RANK
Regulation	1	0.467306493	0.519527877	1.464047822	0.178245094	0.713816552	4.004691148	3
Cleaning	2.139923189	1	1.116123174	2.623976757	0.364367291	1.46012178	4.00728006	1
Utilities	1.924824525	0.89595846	1	2.217358724	0.322213507	1.291491479	4.008185414	2
Flexibility	0.683037798	0.381100937	0.450987019	1	0.135174107	0.541097069	4.00296388	4

λ max 4.0057801
Consistency Index 0.0019267
Consistency Ratio 0.0021408

Figure 4.6: Analysis result for leasing arrangement Criteria



The analysis result shown that cleaning & maintenance services included in rental are having high priority value at 0.364. Utilities included in rental also on high demand when the priority value at 0.322. Respondents do not concern much on flexibility of tenure of stay in as it reflexes 0.13 priority value. Both the Consistency Index (CI) and Consistency Ratio (CR) are within acceptable limits, standing at 0.001 and 0.002, respectively.

4.4 Finding and discussion

Generally, this research paper provides an understanding of young generation on their accommodation selection preference. Criterion has been set for comparison by using Analytic Process (AHP) method. The priority vector represents the importance of each criterion being compared. By using pairwise comparison matrix, it gives us a better understanding of the decision making when different criterion are in comparison.

The research paper has reach 30 respondents. 67% of the respondents are at the age range of below 25- to 39-year-old. 53% of the respondents do not own a house and they are staying with family member and no responded are renting a room. 50% of the responded are spending more than RM1,000 on monthly accommodation.

Parental assistance is seen to be becoming a more significant component in the homeownership transitions of young generation due to financial restrictions. This happen are due to more prominent in pricey housing markets where homeownership is frequently more restricted. When house prices rise, there is a tendency for the differences in young people' chances of becoming homeowners between those whose parents are more and less affluent. It is common to assumed that housing market-related changes have resulted in increased dependence on parental resources, parent who are able to assist young generation to own their 1st house will assist in helping them to pay the 1st 10% downpayment especially when their children want to start a new family.

According to (Mulder et al., 2015), impact of parental homeownership on the likelihood and timing of an adult child's entry into homeownership is less strong in context when they are face difficulty in terms of affordability and access to mortgage credit, where renting is a feasible alternative to owning, when the family having less

provision of welfare and housing support. There is another scenario where young generation stay with parent related to intergenerational transmission of homeownership. The children who stay with parent could be the only children in the family and the homeownership will be heritage from parent at certain time frame. This will encourage young adult to stay with parent without needed to consider the accommodation matter in long run. According to (Prattley et al., 2023), data from the Longitudinal Surveys of Australian Youth and the Longitudinal Study of Australian Children were used and showed half of the emerging adults who moved back to parent house are due to COVID-19 restrictions. The key reason of moving back to parents house are due to loss of work and increased need for emotional and financial support and minority are due to the obligation of health care matter of their elderly parent especially on medical assistant when lock down happen at various country.

The result of the analysis is significant show the importance of facilities & services comparing another three criteria which are location attributes, housing attributes and leasing arrangement. Facilities & services in the research are cover facilities in the accommodation and this are referring to any facilities or services offering in the housing scheme. In this research, facilities have been categories into 4 grouping. Sport & gym facilities, Co-working station, communal space and security & safety feature. Sport and gym are referring to any indoor or outdoor sport related facilities such as swimming pool, gym, yoga deck, jogging track, bicycle lane, multipurpose court and table tennis. Communal space is a space to encourage social interaction and foster a sense of community among its members. Hence, this space encourages social engagement, collaboration & communication and it is accessible by community. Example of space are included entertainment hall, music room & share kitchen. Co- working is another key criterion for facilities. It is to cater young generation who wish to have a flexible space without travelling to the permanent office.

Lastly is the security & safety feature. 58% of the respondents' rate this is their top priority. Security & safety feature are the most top priority of respondents in this research. Security & safety feature are important to reduce hazards to people as other than to ensure they are in comfort, it also impact the house value.(Christy & Tan, 2022) This included how the policies, procedure and design element are in place to

ensure the security & safety of environment is achieved. Hence, measures for physical security are a compulsory criterion. This included access control system which be able to control and limit the entry of the building and community. Normally it is implemented by using security codes and biometric technology as it is common to perform via Apps. Conventionally, some housing schemes are using access card as a control. Closed circuit television (CCTV) is a basic feature to be provided at common area, parking space and any location to prevent break in and respond to emergency. Security guard shall work together with residents' hand in hand in crime prevention program, such as reporting suspicious activities.

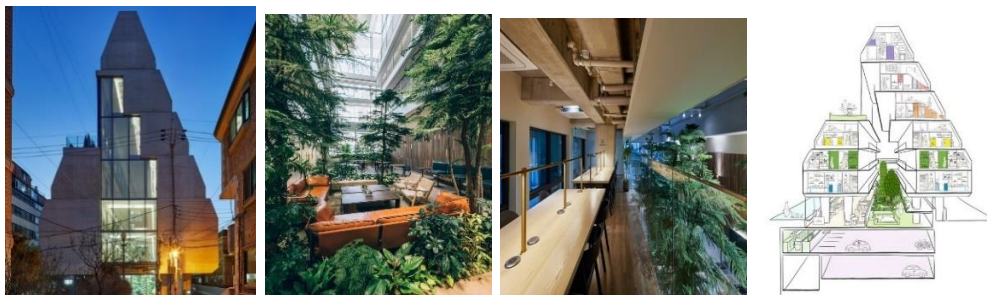
In certain parameter, the environment design will determine the security & safety feature of the housing. Safety feature is also referring to fire safety features such as smoke detector and fire extinguishers are provided. Other than this, housing & landscape design which take safety feature as consideration are also important. Example, height of the balcony grilling & anti slip tiles has been used to prevent falling and slippery incidents. Selection of plant species at garden also contributes to safety criteria. Landscaper shall consider the species that do not grown big and lush which will blocking CCTV performance, avoid fogging activities at herbs garden and use environmentally friendly fogging treatment liquid.

The result analysis also shows that respondents priorities accessibility and connectivity and distance to workplace at the top 2 priority in location attributes comparison. Accessibility to public infrastructure is the lowest important criteria for among the four criteria. According to New Straits Time (2023), Malaysia having highest number of registered vehicles at 17,244,978, followed by motorcycles at 16,773,122. The Transport Ministry is carrying out several initiatives to encourage the use of public transportation such as the My50 unlimited monthly pass through Prasarana and free travel pass for people with disabilities and school students for KTM. This priority can be explained in Malaysia contexts as Malaysian are highly rely on private vehicle rather than public transport in mobility within urban area. Therefore, distance to workplaces is interrelated and became another important criterion to be consider. According to The Straits Times (2023), many people in Kuala Lumpur move house closer to workplace to get more sleep. Long commute times has become worsen and cause many inconveniences. Respondents been question to choose the importance criteria of housing attributes. There are four

criteria which is functional layout, smart home technology, quality of furnishing, and unit size. Under housing attributes, functional layout are the most important criteria which having 0.409 priority vector follow by unit size where priority vector reaches 0.275. Quality of furnishing rank number 3 important and the least important criteria at smart home technology. Out of the for criteria, 3 criteria are highly relied on developer when they are building the property. Functional layout, quality of finish and unit size are factoring that can't be change when a person purchase a unit. The only criteria which can be modified in easy matter at smart home technology. Therefore, respondents have rate smart home technology at least important criteria as they know that this criterion can be upgraded and purchaser any new technology as long as they are having the internet connection.

According to (Christy & Tan, 2022), layout and size of the unit became more important after Covid -19 as tenants of co-living value co-living the practical layout with good design such as natural ventilation and functional of layout. Layout of the room and unit size are interrelated and most of the co-living user noted on the common share space such as kitchen. They do not require big unit size but the functionality of the room must be able to fit to their lifestyle. This research also concluded that co-living tenant do not wish to share bathroom. This also has been highlighted by a co-living at Korea named the Treehouse Co-living Apartment where they have conducted 395 surveys on millennial before the project kick start. This apartment is design specially to cater Korea environment, affordability, demand and lifestyle of millennial. The design is not limited to the unit size itself but in a holistic way of the building and common share space planning. Pets' consideration is also in place for this co-living. The good point here is that they have internal IT programmer managing Apps on all the matter related to this co-living included community activities. Treehouse co-living, (2018).

Figure 4.7: TreeHouse Co-Living Seol, Korea



Leasing arrangement element are important for co-living. The analysis result shown that cleaning & maintenance services & utilities included in rental received good respond from respondents. According to Treehouse Co-Living Seol (2018), Korean millennial willing to spend in between 30-30% of their monthly income for co-living provided the money paid included services other than the rental of the room. Respondents do not concern a lot on flexibility of tenure stay. Cleaning, maintenance services and utilities included in rental for co-living is the key for young generation to consider co-living as it is hassle free arrangement and once the monthly rental amount is fix they do not need to concern on monthly extra expenses. Utilities are included electricity, water and internet usage which covered by the monthly rental and they payment can e transfer online thru Apps.

4.5 Conclusion

Conclusion, the analysis provides an overall explanation of each criterion in questionnaire. The data provided reflect the real environment on how young generation think on the criteria selected. Their current accommodation arrangement will make respondents having different mindset on their future housing option. Respondents stay with family member will not have the urgency to own a unit comparing those renting a house. Facilities & services is importations element for young generation due to they are actively engage with people. Security & safety became the top priority for many respondents. Accessibility & connectivity and distance to work became top priority among respondents due to high ownership of vehicle in Malaysia and people are more concerning the distance to workplace rather than accessibility of public infrastructure such as LRT. One of the key reasons is due to public transport in Malaysia may not e able to reach all the places in Klang Valley. By understanding how the respondents react to the criteria, it gives a very good statistic for co-living module in urban area like Klang Valley. Developer who intends to build co-living shall consider to design a co-living option which suit to market need. It is important to understand that the success of the co-living is not purely by providing physical building, but is to highly engaging all the residents for communal activities.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Summary

Chapter 5 is the conclusion of this research paper. Recommendation will be discussed based on the result obtain in chapter 4. This research paper explores the possibility of co-living as a forward-moving option to address Malaysia's housing affordability challenges, particularly focusing on the preferences and perceptions of the young generation. Malaysian government & developer has been working hand in hand to provide many affordable housings to urban area especially in due to migration of people to urban area. Price for affordable house is control from application of the house, section of eligible household buyer up to the control of the standard minimum unit size that developer must construct. However, there are ready affordable housing in the market recent year. In this scenario, the question has been raising in the market that is the housing scheme which original intend to resolve homeownership are fully address for Malaysian. With the analysis in chapter 4, it is to conclude that co-living scheme shall be consider as one of the solutions to fulfil a group of young generation who want to rent or own an accommodation which will not only considerate the physical unit but the environment and facilities provided. Co-Living is a concept that offers shared space and most of the time it happens at living and kitchen spaces with amenities and services tailored to modern lifestyles. There are many reasons why affordable housing is in the market; this included the inability to afford downpayment due high living standard in urban are and cost in purchasing traditional housing scheme are high. Properties price is sky-high price for many fresh graduates. Young generation having high lifestyle expenditure has

indirectly increase the difficulty level to save their money to own a property. The situation became worst when the lending policies of financial institute are stringent. This has caused many people are still renting house at city area. One of the reasons is the housing scheme of 3 bedroom and facilities provided are not fit into the demand and expectation of young generation.

This research paper study young people's attitudes and preferences about co-living situations as options of accommodation. The analysis discovered that a large number of people are amenable to leasing agreements that include utilities, cleaning, and maintenance costs in the monthly rent. This strategy reduces financial hardship and makes budgeting simpler. Furthermore, the participants conveyed their preference for well-designed floor layouts and comfortably equipped living areas in shared living environments. These choices highlight how crucial it is to accommodate young Malaysians' lifestyle demands in order to shape the country's housing destiny.

5.2 Limitation & recommendation for future study

Research paper data and analysis shown positive acceptance of respondents in co-living. However, co-living has some limitations that fall under the purview of our study. These limitations include the concept's applicability and lack of a comprehensive understanding of housing preferences across various demographics and locations. This section explores these constraints in greater detail and suggests future research avenues that may lead to a more comprehensive understanding of co-living as a sustainable housing option.

Our primary location for this research paper is Klang Valley as Klang Valley draws a sizable share of Malaysia's youthful working population due to its economic prospects and urban expansion. However, this region does not fully capture the variety of physical, economic, and cultural environments found across Malaysia, even though it offers an invaluable case study for the dynamics of urban life and the possibilities for co-living. Future research shall consider to broaden their geographical reach to encompass other urban, semi-urban, and rural regions in order to evaluate the feasibility and appeal of co-living among a more diverse range of Malaysian citizens. This extension of study is essential for comprehending local

differences in housing requirements and preferences. By then, customizing of co-living arrangements can be design as co-living are sensitive to the distinctive features of various communities.

The study has chosen few criteria as the comparison for this research paper such as location, house attributes, facilities elements and leasing arrangement which were thought to be significant to young Malaysian when they were evaluate housing alternative. All the above are important but it is not the only criteria to be consider in their accommodation options. Future study shall consider to study more comprehensive criteria such as privacy & personal space, community and social engagement, sustainable & environment impact, cultural & lifestyle match and regulation to implement co-living in Malaysia. With this comprehensive study, developer and policymaker will be able to create co-living models to better suit the preference of young generation in Malaysia.

One interesting feature that is worth investigating further is the inclusion of senior citizens in co-living possibilities. The number of elderly people living alone is rising as the population gets older; these people are frequently divided from their family for a variety of reasons. This group has the same issues as the younger generation when it comes to the requirement for reasonably priced, secure, and lively residential communities. Examining how co-living would be able to fulfil these demands might lead to new approaches in resolving senior housing problems and create intergenerational communities that benefit all members via shared experiences and assistance.

Future study shall look into acceptance of elderly on co-living model and relation of co-living with health care support. In Taiwan, Taipei local council has work with 1 of the successful co-living company named 9floor to study co-living model with elderly where they mix both generations. The purpose of this study is to resolved aged community staying alone and owning 3-bedroom apartment. These ideas indirectly resolve the room rental demand in Taipei city and also to close the generation gap of young and elderly. In the implementation of this, elderly give good comment where it addresses the looniness of staying alone and they also giving support to young tenant who stay with them such as assist in cooking and experience advice to the young.

Lastly, this research paper got limitation on study the affordability of young generation in co-living. Future study shall consider to have in-depth study on the pricing models especially on monthly expenses they willing to pay to get extra facilities, social engagement and services. Example, Treehouse co-living in Seoul quoted that millennial in Korea are willing to pay 30-35% of their salary to go for co-living environment. Future study shall include how co-living will be an alternative for country housing option with the condition it is able to achieve economic sustainability of co-living.

5.3 Implication

On the other hand, real estate investors and developers need to be open to this move toward community living areas. This involves not only building co-living spaces physically but also rethinking the real estate development process to put sustainability, community, and flexibility first. The capacity of co-living projects to satisfy the varied requirements and preferences of prospective tenants is what determines their success. In new model of co-living young generation are mostly renting due to many factors we discuss in this paper. Therefore, they are unlikely to own a co-living unit.

Co-living operators play a crucial role in managing co-living spaces and ensuring the well-being and satisfaction of tenants. Beyond providing basic amenities like sports and gym facilities, communal spaces, swimming pools, utilities, and laundry services, co-living operators can offer a range of additional services to enhance the living experience and foster a sense of community among residents.

One such service is health and wellness programs. Co-living operators can organize fitness classes, yoga sessions, meditation workshops, and wellness seminars to promote physical and mental well-being among tenants. These activities not only encourage a healthy lifestyle but also provide opportunities for social interaction and connection among residents. By prioritizing health and wellness, co-living operators can create a supportive and nurturing environment that attracts and retains tenants in the long term.

Furthermore, co-living operators can offer concierge services to assist residents with various tasks and errands, such as grocery shopping, meal delivery, dry cleaning, and

package handling. These services help simplify residents' daily lives and alleviate stress, allowing them to focus on their personal and professional endeavors. Additionally, co-living operators can provide housekeeping services to maintain cleanliness and hygiene within the co-living spaces, ensuring a comfortable and pleasant living environment for residents.

Incorporating technology-driven solutions is another way co-living operators can enhance the tenant experience. For example, implementing smart home features like keyless entry systems, automated temperature control, and remote monitoring of utilities can improve convenience and security for residents. Moreover, offering high-speed internet and coworking spaces equipped with state-of-the-art technology can cater to the needs of remote workers and digital nomads, making the co-living space more attractive to this demographic.

Several successful co-living operators around the world have demonstrated the effectiveness of these strategies in creating thriving and sustainable communities. For instance, The Collective (2011), a co-living operator based in London, offers a wide range of amenities and services, including wellness programs, community events, and tech-enabled living spaces. Their holistic approach to co-living has garnered widespread acclaim and contributed to their success in attracting and retaining tenants. Similarly, The Common (2015), a co-living company in the United States, focuses on creating shared living spaces that prioritize community, convenience, and affordability. They offer a variety of services such as housekeeping, maintenance, and social events to cater to the diverse needs of their residents. By prioritizing tenant satisfaction and engagement, Common has established itself as a leader in the co-living industry and continues to expand its presence across major cities in the U.S.

In conclusion, co-living operators play a vital role in shaping the co-living experience and ensuring its sustainability. By offering a range of additional services such as health and wellness programs, concierge services, housekeeping, and technology-driven solutions, co-living operators can create vibrant and thriving communities that attract and retain tenants in the long term. Drawing inspiration from successful co-living operators around the world, co-living operators can leverage these strategies to enhance the living experience and foster a sense of belonging among residents.

Co-living is a shining example of innovation in Malaysia's urban scene. With its shared spaces, flexible leasing terms, and plethora of appealing amenities, this contemporary take on communal living not only suits the changing tastes of Malaysians but also has the potential to drastically transform the country's housing market. A coordinated effort from the government, real estate developers, community organizations, and financial institutions is necessary to fully exploit its potential. Together, we can make co-living a sustainable and successful housing concept, which will make the property more accessible and inclusive. Nevertheless, a careful and in-depth analysis is necessary for the successful adoption of this new business model. Analysing a range of factors is crucial, including long-term sustainability, market dynamics, legal ramifications, and financial viability. Through the implementation of thorough study and analysis, stakeholders can acquire significant understanding regarding the feasibility and possible obstacles linked to this alternative strategy for co-living development.

The financial component of the co-living model is one important factor that needs to be carefully considered. Co-living property investment potential must be evaluated by fund investment companies, which must consider elements including rental income, operating costs, vacancy rates, and prospective appreciation. In addition, to guarantee compliance and reduce legal risks, one must carefully traverse the legal frameworks and regulatory regulations governing property ownership and rental agreements.

The demand for co-living spaces and the viability of long-term investment are heavily influenced by market dynamics. Determining target demographics and putting co-living properties in the best possible position in the market requires an understanding of lifestyle choices, demographic trends, and housing market dynamics. Furthermore, the co-living model's ability to adjust to shifting customer tastes and market trends is critical to its long-term viability. Therefore, continuous innovation and research are required to enhance and optimize the co-living concept, guaranteeing its long-term relevance and feasibility.

Furthermore, the co-living model's ability to adjust to shifting customer tastes and market trends is critical to its long-term viability. Therefore, continuous innovation and research are required to enhance and optimize the co-living concept, guaranteeing its long-term relevance and feasibility. Co-living will flourish and

spread throughout Malaysia if government agency adopts creative tactic and supportive policies for co-living models. The co-living industry can receive a much-needed boost from legislation that promotes the creation of co-living spaces, either through tax incentives or streamlined zoning restrictions. Regulatory frameworks that protect residents' rights, privacy, and safety are also necessary to foster acceptance of co-living as a viable alternative for mainstream housing. Governmental organizations can also be crucial in supporting research and development initiatives aimed at determining the finest standards of design, management strategies, and best practices for co-living places.

Co-living has emerged as a popular housing trend, offering individuals the opportunity to live in shared spaces with like-minded individuals. One of the key factors contributing to the success of co-living is the concept of grouping residents with similar interests and personalities together. By arranging co-living spaces in such a way that residents share common hobbies, interests, and characteristics, co-living operators can create a more harmonious and enjoyable living environment for all tenants. This encourages long term tenant to stay long at co-living environment. As people are drawn to people who share their hobbies and outlook on life, inhabitants with similar interests are grouped together for this reason. The co-living community is more likely to develop a sense of camaraderie and genuine connections when people with similar interests and personalities meet together. Residents may become more socially engaged, cooperative, and supportive as a result, which will ultimately improve the co-living space's general quality of life. Co-living operators have different tactics at their disposal to group people with comparable interests in an efficient manner. During the application process, one method is to evaluate the hobbies, interests, and character attributes of potential tenants. Co-living operators can learn more about potential residents' interests and personalities. Co-living operators can then strategically assign residents to particular buildings or living arrangements based on this information. People who want to go hiking or cycling, for instance, might be put together in a building that has good access to parks or other recreational places. In a similar vein, those who live in a building with shared studios or creative spaces can be neighbours who are also passionate about music or art. Based on this information, co-living operators can then strategically assign tenants to specific buildings or living arrangements. For example, individuals who enjoy

outdoor activities such as hiking or cycling may be grouped together in a building with easy access to parks or recreational areas. Similarly, residents who share a passion for art or music may be placed in a building with communal creative spaces or studios. By curating co-living communities based on shared interests, co-living operators can create a more cohesive and supportive living environment. Residents who share common interests are more likely to engage in activities together, collaborate on projects, and provide mutual support and encouragement. This sense of camaraderie and connection can help alleviate feelings of loneliness and isolation, particularly for individuals who are new to the area or living alone for the first time. Moreover, grouping residents with similar interests can also lead to greater satisfaction and happiness among tenants. When individuals feel a sense of belonging and connection within their living environment, they are more likely to experience higher levels of overall well-being and fulfilment. This, in turn, can contribute to increased tenant retention rates and positive word-of-mouth referrals, benefiting both the co-living operator and the residents themselves.

In conclusion, arranging co-living spaces to accommodate residents with similar interests and personalities can have a profound impact on the overall co-living experience. By fostering connections and camaraderie among tenants, co-living operators can create vibrant and supportive communities where individuals can thrive. Moving forward, prioritizing the grouping of residents with shared interests can help to further enhance the appeal and sustainability of the co-living model.

Co-living has the potential to significantly alter how people live in Malaysia if we all band together and support wise policies. It might make housing more accessible, adaptable, and easy to obtain for everyone. In order to get there, we'll need to be adaptable, imaginative, and dedicated to adopting new perspectives on urban living.

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APPENDICES

Appendices A – AHP Co-Living


Universiti Tunku Abdul Rahman

Introduction
This survey is aimed to investigate accommodation selection criteria. To help us to have a better understanding about your view and opinion in relation to criteria considered by you when selecting an accommodation, please take few minutes (10-15 minutes) to complete and return this questionnaire. For any suggestion and inquiries for this survey, please contact Tong Siow Yui at saweyui@utar.my

Thank you for your time and your input in this research

I hereby consent on my voluntary participation in this survey which will be conducted anonymously. (As proposed accordingly by Personal Data Protection Statement - UTAR)

Yes - proceed to the questionnaire.
 No - thank you for your time.

Section A: Please tell us about your home purchase decision by answering the following questions

1. Do you own the house that you are currently staying?
 Yes, I am the sole owner for the house I am currently staying
 Yes, I am co-owner for the house I am currently staying
 No, it's owned by my family members (wife/husband, parents, brothers, etc)
 No, I rent the house
 No, I rent a room

2. How much do you spend monthly on accommodation?
 No Cost
 ≤ RM500
 RM501 – RM1000
 RM1001 – RM1,000
 > RM1,000

3. Will you consider to purchase a house?
 Yes, I plan to purchase a house within 1-2 years time
 Yes, I plan to purchase a house within 3-5 years time
 No, I don't have the intention to purchase.

4. Will you consider to stay in urban co-living housing?
 No
 Yes

Section B: This section is aimed to gauge your opinion as to which Accommodation Criteria is important to be considered by you. There are four criteria to be considered in general.

- You are required to compare the Criteria I and Criteria II for each row.
- Circle one of the numbers per row below using the scale:

Extremely Important	9
Very Strongly Important	8
Strongly Important	7
Moderately Important	6
Equally Important	5

*2, 4, 6 = Intermediate values between two adjacent judgments.

For instance, if you think CRITERIA I is extremely important compared to CRITERIA II, you may need to circle the number "9" that is closed to the CRITERIA I. In addition, if you think CRITERIA I is very less important than CRITERIA II, you may need to circle the number "7" that is closed to CRITERIA II.

CRITERIA I	More important than					Equal Importance	Less important than					CRITERIA II						
	Extremely	Very Strong	Strongly	Moderate	Equally		Moderate	Strongly	Very Strong	Extremely								
1. Facilities & services	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Housing attributes
2. Locational attributes	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Locational attributes
3. Facilities & services	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Locational attributes
4. Housing attributes	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Leasing arrangement
5. Facilities & services	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Leasing arrangement
6. Housing attributes	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Locational attributes

Section C: This section is aimed to gauge your opinion as to which aspect of the Facilities & Services elements is important to be considered by investors in industrial site selection. There are four aspects related to the Facilities & Services elements.

- You are required to compare the Criteria I and Criteria II for each row.
- Circle one of the numbers per row below using the scale:

Extremely Important	9
Very Strongly Important	8
Strongly Important	7
Moderately Important	6
Equally Important	5

*2, 4, 6 = Intermediate values between two adjacent judgments.

For instance, if you think CRITERIA I is extremely important compared to CRITERIA II, you may need to circle the number "9" that is closed to the CRITERIA I. In addition, if you think CRITERIA I is very less important than CRITERIA II, you may need to circle the number "7" that is closed to CRITERIA II.

CRITERIA I	More important than					Equal Importance	Less important than					CRITERIA II						
	Extremely	Very Strong	Strongly	Moderate	Equally		Moderate	Strongly	Very Strong	Extremely								
1. Co-working spaces	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Communal spaces
2. Sport and gym facilities	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Security & safety
3. Co-working spaces	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sport and gym facilities
4. Communal spaces	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Security & safety
5. Co-working spaces	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Security & safety
6. Communal spaces	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sport and gym facilities

Section D: This section is aimed to gauge your opinion as to which aspect of the Locational attributes is important to be considered by investors in industrial site selection. There are four aspects related to the Locational attributes.

- You are required to compare the Criteria I and Criteria II for each row.
- Circle one of the numbers per row below using the scale:

Extremely Important	9
Very Strongly Important	8
Strongly Important	7
Moderately Important	6
Equally Important	5

*2, 4, 6 = Intermediate values between two adjacent judgments.

For instance, if you think CRITERIA I is extremely important compared to CRITERIA II, you may need to circle the number "9" that is closed to the CRITERIA I. In addition, if you think CRITERIA I is very less important than CRITERIA II, you may need to circle the number "7" that is closed to CRITERIA II.

CRITERIA I	More important than					Equal Importance	Less important than					CRITERIA II						
	Extremely	Very Strong	Strongly	Moderate	Equally		Moderate	Strongly	Very Strong	Extremely								
1. Accessibility & connectivity	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Access to public infrastructure
2. Neighbourhood amenities & services	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Distance to workplace
3. Accessibility & connectivity	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Neighbourhood amenities & services
4. Access to public infrastructure	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Distance to workplace
5. Accessibility & connectivity	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Distance to workplace
6. Access to public infrastructure	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Neighbourhood amenities & services

Section E: This section is aimed to gauge your opinion as to which aspect of the Working Attributes is important to be considered by investors in industrial site selection. There are four aspects related to the Working Attributes.

- You are required to compare the Criteria I and Criteria II for each row.
- Circle one of the numbers per row below using the scale:

Extremely Important	9
Very Strongly Important	8
Strongly Important	7
Moderately Important	6
Equally Important	5

*2, 4, 6 = Intermediate values between two adjacent judgments.

For instance, if you think CRITERIA I is extremely important compared to CRITERIA II, you may need to circle the number "9" that is closed to the CRITERIA I. In addition, if you think CRITERIA I is very less important than CRITERIA II, you may need to circle the number "7" that is closed to CRITERIA II.

CRITERIA I	More important than					Equal Importance	Less important than					CRITERIA II						
	Extremely	Very Strong	Strongly	Moderate	Equally		Moderate	Strongly	Very Strong	Extremely								
1. Functional layout	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Quality of finishes
2. Smart home technology	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Unit Size
3. Functional layout	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Smart home technology
4. Quality of finishes	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Unit Size
5. Functional layout	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Unit Size
6. Quality of finishes	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Smart home technology

Section F: This section is aimed to gauge your opinion as to which aspect of the Leasing Arrangement elements is important to be considered by investors in industrial site selection. There are four aspects related to the Leasing Arrangement elements.

- You are required to compare the Criteria I and Criteria II for each row.
- Circle one of the numbers per row below using the scale:

Extremely Important	9
Very Strongly Important	8
Strongly Important	7
Moderately Important	6
Equally Important	5

*2, 4, 6 = Intermediate values between two adjacent judgments.

For instance, if you think CRITERIA I is extremely important compared to CRITERIA II, you may need to circle the number "9" that is closed to the CRITERIA I. In addition, if you think CRITERIA I is very less important than CRITERIA II, you may need to circle the number "7" that is closed to CRITERIA II.

CRITERIA I	More important than					Equal Importance	Less important than					CRITERIA II						
	Extremely	Very Strong	Strongly	Moderate	Equally		Moderate	Strongly	Very Strong	Extremely								
1. In-house regulations	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Utilities included in rental
2. Cleaning & Maintenance Services	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Flexibility of hours of stay
3. In-house regulations	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Cleaning & maintenance services included in rental
4. Utilities included in rental	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Flexibility of hours of stay
5. In-house regulations	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Flexibility of hours of stay
6. Utilities included in rental	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Cleaning & maintenance services included in rental

Section G: Details tell us about your background. Your information will be kept confidential and not be shared with anybody else.

1. Gender Male Female

2. Age 18-25 26-35 36-45 46-55 56-65 66+

3. Highest Level of Education Below High School High School Diploma Bachelor's Degree Master's Degree PhD

4. Monthly Income Below RM1,000 RM1,001 - RM2,000 RM2,001 - RM3,000 RM3,001 - RM4,000 RM4,001 - RM5,000 More than RM5,000

Thank you for sharing your viewpoint and perspective.