Sustainability of Residential Investment in Klang Valley, Malaysia

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Since the late 1980s, Malaysia's rapid urbanisation and economic growth have resulted in a major increase in housing demand in urban areas. Due to a developing market and active supply-demand dynamics, the Malaysian housing industry has prospered. As a result, many investors are attracted to invest in residential property as it is one of the stable options to consider as compared to other types of investment. To date, there is no proper guideline as to which area is best to invest the money in as most investors are solely driven by profit but do not consider other factors that can sustain the income in the long term. Since investments are made with the goal of maximising wealth, investors must make reasonable choices based on the facts available and make a judgement that is devoid of emotion. By applying the COPRAS method to property investment, this research focuses on residential properties in Klang Valley, Malaysia. The main objective of this research is to provide an idea to investors on which area in Klang Valley can ensure sustainable investment, particularly residential properties. The final findings show that Petaling best conforms to sustainable investment with the highest degree of utility as compared to other alternatives. It is followed by Klang and the Federal Territory of Kuala Lumpur. This research provides additional literature that may help investors during their investment decision on which area is the most sustainable to invest in Klang Valley.

Keywords: Sustainability, COPRAS, MCDM, Residential Property Investment, Real Estate, Urbanisation

1. INTRODUCTION

Due to Malaysia's fast urbanisation and economic development since the late 1980s, there has been a significant rise in the number of houses being constructed in urban areas (Said et.al., 2014). The Malaysian housing market has flourished as a result of a booming economy and active supply-demand dynamics, and investors have chosen property investment as one of their channels for making investments (Majid et. al., 2017). Apart from the physical aspects of property investment, Real Estate Investment Trusts have also been in demand as another alternative to residential investment (Azmi et al, 2018, Olanrele et al, 2018). Haughwout et al. (2011), define a residential investor as a property buyer who has a residential property portfolio consisting of many properties but does not live in all of them. Investors in property investment are motivated by a variety of reasons. According to Seelig et al. (2009), practically all investors report high levels of enjoyment and an experience of 'success' in terms of capital gain and decent rental returns. Investors may generate passive income from collecting rentals or gain capital appreciation over time by investing in real estate (Hutchison, 1994).

Some property owners see capital gains rather than rental income as the reason for investing in a property, regardless of whether they own just one home or several units at once (Case & Shiller, 1988). The majority of investment and financial theories are based on the premise that before making an investment decision, everyone evaluates all relevant facts available. The investor has a broad variety of options when it comes to making an investment decision. The investor's purpose is to choose one investment that will best meet the investor’s goals. In Malaysia, the application of COPRAS in determining the sustainability of investment has not been studied. Therefore, the objective of this research is to improve the decision-making process of investors, particularly investing in properties.

1.1. Defining Sustainability

The Brundtland Report (1987) was the first to articulate the theory of sustainability, stating that the purpose of sustainability is to meet the needs of the present generation without compromising the ability of future generations to meet their own needs. Since then, the term "sustainability" has acquired hundreds of interpretations, causing general confusion or lack of cohesion on what it means. The meanings are too complicated, the stakeholders are too diversified, and the applications are widely varied (White, 2013). According to Johnston et al. (2007), there are an estimated 300 definitions of sustainability and sustainable development in the fields of environmental management and associated fields. Scholars have argued that the theoretical foundations of sustainability are lacking in consistency (Purvis et al., 2019). However, the lack of clarity of its official definition enables it to encapsulate wide notions, giving it the flexibility to adapt to changing circumstances. As a result, the word "sustainability" may be used in any context to meet the needs of the local community (Said et al., 2017).

Despite the variety of meanings and implementations (Johnston et al., 2007), sustainability and sustainable development are often shown as having interconnected environmental, social, and economic elements (Mensah, 2019; Mohamad & Ahmad, 2016; Purvis et al., 2019). However, Kuhlman and Farrington (2010) argued that the concept of sustainability was re-interpreted separating social and economic aspects. In further context, some researchers proposed separating other components of sustainability, such as human (Hakovirta & Denuwara, 2020), cultural and spatial (Seiffert & Loch, 2005), as well as technological, legal, and political aspects of sustainable development (Pawłowski, 2008). Kates et al. (2005) further analyse Brundtland's definition by connecting three basic categories of what should be preserved (environment, life support systems, and community) with what should be developed (people, economy, society). Drilling down, this paper identifies four different families of definitions which includes ecological services (clean air, land productivity, fresh water, and so on), social features (dignity, peace, health, equality, and so on), and human values (freedom, tolerance, respect for nature, etc.).

A holistic systems approach that considers the product, the supply chain, and the market as well as the interdependencies within and between each of these process points is necessary to address the challenges of providing housing that sustains its residents socially, economically, and environmentally and is inherently sustainable for the planet as a whole. The outcomes show that the “product” of a sustainable house is difficult to define; that sustainability outcomes were strongly influenced by individual concerns and the contextual urban environment; and that economic comparisons with “standard” housing are challenging (Miller & Buys, 2013).

1.2. Defining Property Investment

In property investment, there are two common types of potential returns namely rental payment and capital gain from the value appreciation of the property when disposed of (Sean & Hong, 2014). Baum et al. (2021) agree as they define a successful property investment as "one that generates high returns" from two main sources which include capital and income. There are three key players in the property market, namely investors, speculators, and homeowners (Sean & Hong, 2014). Investors invest in real estate with the intention of making a profit, and they consider both capital growth and rental yields. Those who entered the market shortly with the expectation of making significant capital gains are known as speculators.

Investors are motivated to invest in real estate for a number of reasons. Uncertainty derives from an investment's estimated rate of return that reflects risk, and risky investments are less valuable (Pottinger & Tanton, 2014). In addition, demand for real estate for those with capital is increasing due to lower returns on bonds, bank deposits and pension annuities. With the scarcity of land, property values often rise thus giving a sense of comfort to investors (Green & Bentley, 2014). Seelig et al. (2009) and Tan (2009) remarked that practically all investors express high levels of happiness and feeling of "success" in terms of capital growth and decent rental income. For some property buyers, capital gains are rather seen as important than rental income as the motivation when investing, regardless of whether they solely own just one house or many units at once (Case & Shiller, 1988). Consequently, the wider economy also greatly benefits from property investment. Property is not only seen as a medium of investment but it is considered a corporate asset and a factor of production (Isaac & O'Leary, 2011). The property serves as the factor of production for an economic activity where the production takes place. As a corporate asset, the majority of a corporation's debt is secured against property, which contributes significantly to the asset values in the firms’ balance sheets.

1.3. Theoretical Definition of Sustainable Property Investment

The definition of sustainable investment can be described as the investment of capital to achieve an acceptable return while utilising predetermined criteria, methods, or techniques that can drive, support, or promote social, ethical, and environmental issues chosen either by the person placing the investment or a third-party investment manager (Roberts et al., 2007). However, Plimmer (2009), argued that sustainable investment may be seen as part of a corporate responsibility (CR) strategy. The primary motivator for corporate social responsibility (CSR) is long-term profitability, which is supported by firm leadership and efficiency, competitiveness, and the capability to forecast the future (Juholin, 2004). Although the "sustainable investment" concept has numerous interpretations, it often refers to the mainstream literature on "sustainability," which seeks a balance between environmental conservation, social well-being, and economic development. This interpretation is achieved, in particular, when the concern for sustainability is at an all-time high, especially in a developed economy. In analysing the sustainability performance, researchers have focused on three pillars of sustainability known as "the triple bottom line" (Feleki et al., 2018; Slaper & Hall, 2011; Tafazzoli et al., 2019; Verma & Raghubanshi, 2018).

When dealing with the real estate industry, investors find it hard to define and analyse sustainability without considering other economic sectors together with the criteria that constitute sustainable property development (Vanags & Butane, 2013). This may result in the failure of ensuring the return as well as the long-term sustainability of any particular investment. To make the income sustainable, the importance of a long-term investment with substantial outlays which comes together with high investment risk must also be emphasised (Grzeszczyk & Waszkiewicz, 2020).

Locally, Aini (2009) documented that sustainable property investment is not a mainstream concept and hence of less urgent priority. The property market is plagued with a lack of a developed local commercial lending sector and institutional sector. In addition, the nation has a high owner-occupation rate owing to the low degree of participation by key investors. Furthermore, the nation's property market is still lacking evidence of the benefits of sustainable property investment owing to the dearth of research in every aspect of the property market (Kamarudin et al., 2008).

1.4. Sustainable Property Investment Factors

Identification of decisions, gathering pertinent data and making educated decisions comprise the process of investment decision-making (Ahmed & Noreen, 2021). To reach the desired outcome, decision-making is the study of locating and selecting options based on values and preferences (Fülöp, 2005). The decision-making process is a complicated mental activity that is affected by the psychological behaviour of the decision-makers. The act of choosing one choice from a range of alternatives after gathering data and weighing the options is known as the decision-making process (Sattar et al., 2020).

The selection of criteria for sustainable property investment is closely related to consumers' buying preferences which touch the balance between environment, social and economic factors. Over the last few decades, numerous researchers have discussed the criteria of preferences chosen before buying a property. Housing preferences can be defined as the individual's judgement of which attributes are important to consider when searching for a house to purchase (Mang et al., 2018). According to Thaker and Sakaran (2016), one of the most influential factors weighing buyers' preferences is price. When it comes to purchasing a residential home, the public is often concerned about the pricing factor. People tend to focus more on housing prices rather than other holistic measures. This is shown in research done by Muhammad Zamri et al. (2022) where they reveal that financial capability is the factor that most strongly influences the housing preferences among young civil servants, followed by neighbourhood and location as monthly repayment becomes the key factor of buying a house. Regardless of the income levels, house buyers' most crucial factors in house purchasing are still the location of the property and the actual price of the property (Eves & Kippes, 2010).

Instead of focusing merely on housing prices, Teck-Hong (2011) suggested that location preferences with a functional residential development in the neighbourhood play an important role as well. House buyers find it more cost-effective to move to a well-connected neighbourhood which has integrated amenities in a single location.

Thaker and Sakaran (2016) show the opposite findings, where location has been placed in the third rank when compared to price and community amenities as the factor that influences buying decisions. Furthermore, safety is one of the criteria considered during the decision-making process. Teck-Hong (2011) highlighted that a safe and secure neighbourhood with gates and guards is essential as house buyers are generally willing to spend more to live in this kind of neighbourhood due to the security provided in the area. Better security measures could give residents a feeling of security and peace of mind. Burglary, vandalism, and non-aggravated assaults are examples of crimes that imply a positive correlation since house price rises as the further away the offence occurs (de La Paz et al., 2022).

A lack of knowledge regarding design criteria will result in poor satisfaction among homebuyers which will lead to property overhang and the abandonment of houses (Olanrewaju & Tan, 2018). According to Mulliner and Algrnas (2018), the features related to building quality and external finishing, thermal comfort, and factors linked to the surrounding environment were given the highest priority among house buyers. They are less concerned with external space and location attributes that are related to accessibility to services, family and public transport. Less consideration is given to issues like parking availability, ease of access to public transportation, and environmental and thermal comfort-related qualities.

For dwelling houses, high quality comprises a balanced distribution of garden, grass, and hard surface area; adequate shade, room for big trees, water-wise gardens with irrigation water from alternative sources, and permeable outdoor space for infiltration. It is a balcony with a water-efficient potted garden and green wall for an apartment. As cities are facing increased pressure for land, townhouses and apartments are likely to be more feasible options in the future. Unless adequate planning and infill design are performed, the change may result in the loss of people's well-being. Besides, environmental criterion also contributes to house buyers' preferences as the diverse aspects of environmental stresses. House buyers evaluate environmental factors when purchasing a house, and these factors are reflected in property values (Teck-Hong, 2011).

1.5. Measuring Sustainability

Assessing the effectiveness of sustainability applications can be a challenging task. Given the complexities of the topic at hand, the Multiple Criteria Decision-making Method (MCDM) looks to be an ideal foundation for an evaluation of the sustainability of the investment. MCDM, also known as the Multi-Criteria Decision Aid (MCDA) and Multi-Criteria Analysis (MCA), is a set of methods for aggregating and considering numerous (often conflicting) criteria in order to choose, ranking, sorting, or describing a set of alternatives to aid a decision process (Zopounidis, 1999, Said et al, $2016_{a\&b}$, 2017, 2020). According to Sorooshian and Dodangeh (2013), MCDM models are appropriate for assessing and deciding on the finest alternatives by choosing the optimal criteria. With such a challenge of determining data explicitly in housing selection, MCDM methods are useful to address the said problem. Because of its effectiveness and simplicity, MCDM has acquired widespread acceptance across a variety of industries. By adding weight or priority, the method is very beneficial in formulating a highly complicated conclusion (Aruldoss et al., 2013) implying a thorough resource selection to verify the validity of criteria, alternatives, or variables.

COPRAS (Complex Proportional Assessment) technique is a branch of the MCDM method which has been utilised in particular for diversity when dealing with decision-making difficulties encountered in the built environment. COPRAS is used as a tool to assess sustainability based on factors or criteria systems. The approach is appropriate for data represented in interval form (Popovic et al., 2012) and used to determine the priority and the utility degree of alternatives (Zavadskas et al., 2009). This method is used to evaluate the values of the maximising and minimising indexes, and the impact of the maximising and minimising indexes of criteria on the outcomes assessment is regarded separately (Alinezhad & Khalili, 2019). The application of COPRAS has been implemented by various researchers. Popovic et al. (2012) used the COPRAS method in the determination of the best investment project selection based on financial analysis criteria. In another research, Kusakci et al. (2022) utilised the method to assess the sustainability of metropolitan cities in Turkey. Nuuter et al. (2015) presented a model of a system for housing sustainability assessment, which sought to determine the sustainability of the housing market based on multiple criteria, using the COPRAS method. Said et. al. (2016_a) evaluated the sustainability housing affordability of residential areas in Malaysia using the COPRAS technique. They studied different areas consisting namely Klang Valley (Said et al 2016_b), Sarawak (Said et al, 2017) and Sabah (Said et al, 2016_a). Using the same method, they continued to assess the sustainability of heritage properties in Malaysia (Said et al., 2020). Their research emphasises that in order to choose the greatest alternative or possibilities in any given location when it comes to sustainable housing affordability, several aspects or criteria must be analysed by weighed-in each criterion to determine the best alternative options available in any particular area.

2. METHODOLOGY

This study was carried out to identify the most sustainable property investment in residential areas. Since Klang Valley is densely populated, it is chosen as the geographical area for the study as it reflects the most active area for housing development in Malaysia. In order to analyse the sustainability of property investment, a set of criteria encompassing economic, social and environmental factors were identified and evaluated to determine the best alternative or option available for the investment areas. Two main criteria in choosing respondents are established; (i) investors must live in the Klang Valley, and (ii) investors must own two or more residential units. The area of study comprises seven Klang Valley districts namely Petaling, Kuala Lumpur, Klang, Gombak, Hulu Langat, Sepang, and Kuala Langat. Each of the respondents was given questionnaires. The key justification for concentrating on this particular group of respondents is to demonstrate the reliability of the questionnaires. They are regarded as contributors to the sustainable investments made in the research subject. Those who do not fit one of the two categories would be excluded from further consideration. To analyse the sustainability of property investment, a set of criteria encompassing economic, social and environmental factors were identified and evaluated to determine the best alternative or option available for the investment area.

The selection of factors is built upon the existing literature review which has been discussed before and used to visualise the relationship between the factors considered during investors' decision-making process and the sustainability of the investment area. Respondents distinguish each factor based on its relative importance towards investment decision-making. The Likert Scale has a five-point scale is used for rating responses. The scale helps to describe respondents' levels of agreement, which ranks each criterion according to how important it is to sustainable investment. The survey data was analysed using the COPRAS method, which employs a series of calculations to rank appropriate solutions.

3. FINDINGS AND DISCUSSION

3.1. Demographics Analysis

Figure 1 demonstrates the distribution of respondents in the research area which consists of 147 valid respondents. According to the analysis, the majority of valid respondents come from the area of Petaling (42%), followed by Gombak (12%) and the Federal Territory of Kuala Lumpur (12%) where both have the same number of respondents, Hulu Langat (10%), Sepang (9%) and Klang (8%). The smallest number of valid respondents was represented by Kuala Langat (7%).

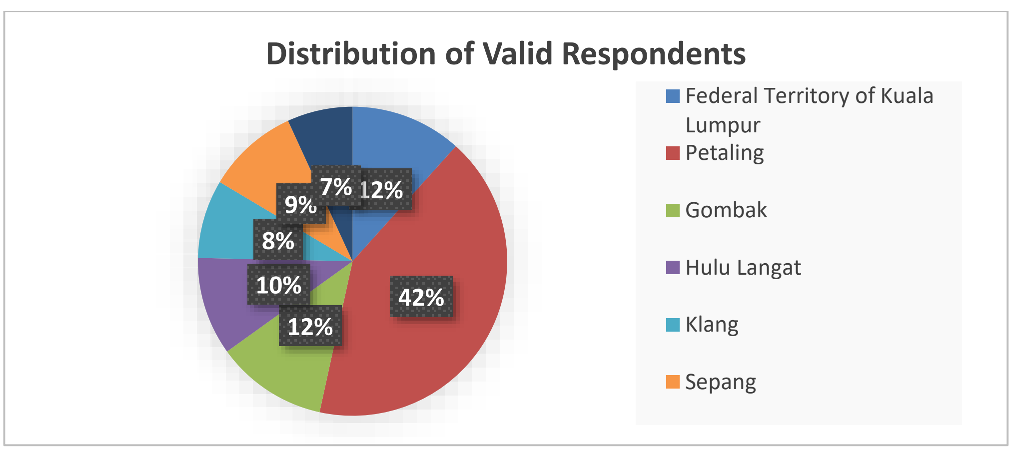

Figure 1: Distribution of Valid Respondents

3.1 Cronbach's Alpha Test

Cronbach's Alpha method was used to carry out the reliability test. Under the rule, Cronbach's Alpha values must be above 0.75. The obtained value for Cronbach Alpha must be greater than the given number in order to guarantee the validity of the chosen factors. The obtained values show that the criteria used to evaluate an investment's sustainability are accurate, with Cronbach's Alpha values for each element over 0.75. The overall value was 0.961, a significant number that proves the factors' validity.

3.2 Sustainability of Residential Investment Using COPRAS Method

Since sustainability and the said criteria are often related, a thorough analysis of their connectivity is crucial to assess the objective of this study. Using the COPRAS method, the analysis involves five main steps.

In order to generate the initial weighted normalised decision-making matrix, various criteria are chosen and listed from the existing literature review and used to visualise the relationship between the factors considered during investors' decision-making process and the sustainability of the investment area. It is done primarily to rate the choices after evaluating a sustainable investment in the targeted area. COPRAS can deal with issues involving both positive and negative elements that could affect the decision-making process. In order to enable direct comparison between all aspects, the formula below is employed in this phase, which involves determining the overall mean score.

$$m_{pq} = \frac{\tilde{\tilde{w}}_{pq}}{\sum_{q}^{n} x_{pq}} x_{pq}$$

where, x_{pq} is the value of p-th criterion of the q-th options, and $\tilde{\tilde{w}}_{p}$ is the weight of the p-th criterion. The overall mean score and the proportionate weight of each element are determined by the formula. Table 1 contains the list of the values.

The average attained for each criterion while choosing to invest in each alternative location can be represented as the initial decision matrix. In order to complete this analysis, the alternate area is broken down into a1 (Kuala Lumpur), a2 (Petaling), a3 (Gombak), a4 (Hulu Langat), a5 (Hulu Langat), a6 (Sepang) and a7 (Kuala Langat). Table 2 shows the initial decision matrix obtained. The average attained for each factor while choosing to invest in each alternative location can be represented as the initial decision matrix.

Table 1: Overall Mean Score and Weight of Each Factor

Sustainable Property Investment Factor	Mean Score (Overall)	Weightage, w	Ranking
Housing Price	4.301	7.247	1
Housing Type	3.890	6.554	5
Housing Finishes	3.555	5.989	11
Housing Design	3.603	6.070	9
Distance to workplace	3.774	6.358	6
Distance to education	3.527	5.943	12
Distance to hospital	3.418	5.758	14
Distance to public transportation	3.589	6.047	10
Distance to shopping centres	3.212	5.412	16
Distance to a recreational park	3.329	5.608	15
Security	3.959	6.670	4
Safety Level of the area	4.110	6.924	2
Environmental Quality	3.767	6.347	7
Quality of Water	3.740	6.300	8
Size of green spaces	3.500	5.897	13
Traffic Congestion	4.082	6.877	3

Table 2: Initial Decision Matrix

Criteria, C	Weightage, w	a1	a2	a3	a4	a5	a6	a7
		Alternative, a						
Housing Price	7.25	4.481	4.396	4.583	4.500	4.381	4.286	4.273
Housing Type	6.55	3.987	3.948	3.979	3.875	3.857	3.629	3.545
Housing Finishes	5.99	3.649	3.563	3.771	3.500	3.524	3.429	3.182
Housing Design	6.07	3.636	3.635	3.833	3.708	3.619	3.543	3.364
Distance to workplace	6.36	3.870	3.854	4.146	3.750	3.762	3.800	3.636
Distance to educational Centre	5.94	3.545	3.448	3.688	3.667	3.286	3.686	3.455
Distance to Hospital	5.76	3.481	3.354	3.729	3.458	3.286	3.486	3.000
Distance to Public Transportation	6.05	3.610	3.583	3.688	3.667	3.714	3.571	3.182
Distance to Shopping Centres	5.41	3.312	3.125	3.417	3.458	3.000	3.229	3.182
Distance to Recreational Areas	5.61	3.390	3.292	3.583	3.250	3.190	3.257	3.182
Security	6.67	4.013	3.979	4.208	3.875	3.714	3.914	3.636
Safety Level of the Area	6.92	4.195	4.146	4.292	4.125	4.048	4.086	4.182
Environmental Qualities	6.35	3.740	3.719	3.917	3.708	3.571	3.629	3.545
Quality of Water	6.30	3.766	3.688	3.854	3.542	3.619	3.629	3.273
Size of Green Spaces	5.90	3.481	3.469	3.625	3.250	3.286	3.514	3.182
Traffic Congestion	6.88	4.117	4.135	4.292	4.083	4.000	4.057	4.091

Table 3: Normalized Decision Matrix by Alternative Area

Criteria	Z	Alternative, a						
		a1	a2	a3	a4	a5	a6	a7
Housing Price	-	1.051	1.031	1.075	1.055	1.027	1.005	1.002
Housing Type	+	0.974	0.965	0.972	0.947	0.943	0.887	0.866
Housing Finishes	+	0.888	0.867	0.917	0.851	0.857	0.834	0.774
Housing Design	+	0.871	0.871	0.918	0.888	0.867	0.849	0.806
Distance to workplace	-	0.918	0.914	0.983	0.889	0.892	0.901	0.862
Distance to educational Centre	-	0.850	0.827	0.885	0.880	0.788	0.884	0.829
Distance to Hospital	-	0.842	0.812	0.902	0.837	0.795	0.844	0.726
Distance to Public Transportation	-	0.873	0.866	0.891	0.886	0.898	0.863	0.769
Distance to Shopping Centres	-	0.789	0.744	0.814	0.824	0.715	0.769	0.758
Distance to Recreational Areas	-	0.821	0.798	0.868	0.788	0.773	0.789	0.771
Security	+	0.979	0.971	1.027	0.945	0.906	0.955	0.887
Safety Level of the Area	+	0.999	0.987	1.022	0.982	0.964	0.973	0.996
Environmental Qualities	+	0.919	0.914	0.962	0.911	0.878	0.892	0.871
Quality of Water	+	0.935	0.916	0.957	0.880	0.899	0.901	0.813
Size of Green Spaces	+	0.862	0.859	0.898	0.805	0.814	0.870	0.788
Traffic Congestion	-	0.984	0.988	1.026	0.976	0.956	0.970	0.978

To make the decision-making matrix more uniform, the weight is summed. It is created by combining both positive as well as negative options. The calculation of sums is based on the formula below:

$$S_q^+ = \sum_{e_p=+} m_{pq}$$

$$S_q^- = \sum_{e_p=-} m_{pq}$$

Table 3 represents the normalised decision matrix for the seven urban areas. The larger the values of S_q^+ conclude that the attributes are preferable (optimization direction is maximising) compared to other attributes. Conversely, the larger the values of S_q^- concludes that the values of the attributes are preferable (optimization direction is minimising) as compared to other attributes.

The relative significance of each choice is determined by using positive (+) and negative (-) values as in the formula below:

$$H_q = S_q^+ + \frac{S_{min}^- \sum_{q=1}^{n} S_q^-}{S_q^- \sum_{q=1}^{n} \frac{S_{min}^-}{S_q^-}} = S_q^+ + \frac{\sum_{q=1}^{n} S_q^-}{S_q^- \sum_{q=1}^{n} \frac{1}{S_q^-}}$$

In this formula, S_q^- which constitutes minimum values are nullified, generating a higher value that corresponds to a more sustainable investment area. The conclusion is drawn from a bigger S_q^+ values that certain attributes are preferred to others (the optimization direction is maximisation). On the other hand, the higher values of S_q^- indicate that the values of the characteristics are preferable to those of other attributes (the optimization direction is minimising). The Z values for all criteria must be added together in order to get S_q^+. Investors' opinion of the aforementioned factors is used to determine if the Z value is positive or negative. In the case of the "housing design" factor, the positive Z value indicated that investors have a favorable opinion of the design. The likelihood that a specific house will be purchased increases with a better house design. Every metric used to determine sustainability in the alternative area is subject to this principle.

The largest H_q is chosen as the priority in this stage. Since H_{max} is the optimal value, it is the best option among the alternatives. From greatest to lowest ranks, the alternatives were ranked in order of their relative significance H_q.

Table 4: Sustainable Property Investment Area

	Kuala Lumpur	**Petaling**	**Gombak**	**Hulu Langat**	**Klang**	**Sepang**	**Kuala Langat**
S+	7.4277	7.3491	7.6742	7.2102	7.1270	7.1606	6.8013
S-	8.0455	7.8937	8.4269	8.0235	7.7360	7.9258	7.5567
1/S-	0.1243	0.1267	0.1187	0.1246	0.1293	0.1262	0.1323
H	15.2637	15.3357	15.1555	15.0677	15.2765	15.1149	15.1441
Priority	3	1	4	7	2	6	5
û (%)	99.53%	100.00%	98.82%	98.25%	99.61%	98.56%	98.75%

By contrasting each choice with the one option with H_{max} , the degree of utility is determined. The investment sector that best satisfies sustainable investment is the one with the highest degree of utility ($\breve{u}_q = 100\%$). Other alternatives will provide utility values between 0% and 100%, which serves as a gauge for going from the worst to the best-case scenario. The following formula is used to determine the utility degree $\breve{u}_q$ of the options O_q :

$$\breve{u}_u = \frac{H_q}{H_{max}} 100\%$$

Table 4 analysed the area that performs best in relation to the established criteria considered in assessing sustainability. Therefore, the location that best describes the criteria for a sustainable investment area is Petaling as it reflects the highest utility degree of 100%. The second-best sustainable investment area is Klang with a utility degree of 99.61% and followed by Kuala Lumpur with a utility degree of 99.53%. For other areas, the ranking starts with Gombak with a utility degree of 98.82%, followed by Kuala Langat at 98.75% and Sepang at 98.56%. Hulu Langat has shown the lowest ranking as reflected in a utility degree of 98.25%.

For the final findings, the level of efficiency of the best area is determined by comparing the analysed area with the degree of utility. This includes Petaling, Klang, Kuala Lumpur, Kuala Langat, Hulu Langat, Sepang as well as Gombak. The degree of utility between 0% to 100% will indicate between the worst and the best alternative which means the higher the utility degree, the better when conforms to the sustainability of the investment. Therefore, the area that best describes the criteria in the sustainable investment area is Petaling as it reflects the highest utility degree of 100%. The second-best sustainable investment area is Klang with a utility degree of 99.61% and followed by Kuala Lumpur with a utility degree of 99.53%. In other words, most investors have a good perspective when investing in Petaling. This may be due to "success" in terms of capital gains from house value appreciation or profits from monthly rental obtained by the investors is better as compared to the other area.

Although house prices in Petaling have skyrocketed, investors still choose Petaling as the investment area. This is also applied to Kuala Lumpur which was ranked third. Additionally, apart from house price, investors' major concern during the investment decision in Petaling is the safety level of the area as well as traffic congestion as the area scored very high. However, the scores were relatively low in distance to recreational areas and shopping centres. Interestingly, Hulu Langat shows the lowest utility degree in terms of sustainability. The utility degree is even lower in Gombak, Sepang, and Kuala Langat. Since the research aims to explore sustainability, the findings show that Hulu Langat turned out as the least sustainable investment area.

However, each of the seven areas analysed has produced an almost equal degree of utility of more than 98% in which the differences between the best alternative area (Petaling) to the worst alternative area (Hulu Langat) is minuscule at 1.75%. This evidence shows that both areas' potential strengths including their advantages and disadvantages are almost equal and often interchangeable among the alternative areas. To conclude, the final finding proved that Petaling is the most sustainable in terms of investment area and considered the best area to invest in for investors as compared to the rest of the alternatives.

4. CONCLUSION

To access the sustainability of the investment area in Klang Valley, the step-by-step COPRAS method is implemented as the process for obtaining the results. The decision of the best alternative area to invest in is defined through multiple different criteria by weighing the criterion individually to create the decision matrix. A thorough study of existing literature was done for the determination of criteria that constituted the sustainability of the investment.

As has been discussed, the initial decision matrix is normalised and further calculation based on the formula and steps was done to calculate the degree of utility of each alternative area. The area that produces the highest (%) becomes the most sustainable investment area. Since Petaling recorded the highest (%) as compared to other alternatives, it is considered the best area investors would invest in. At this point, the main objective was achieved.

The analysis showed that similar studies can be conducted to determine sustainable investment for other areas as this study only focused on residential property investments in Klang Valley. Future research is recommended to apply the same study and discover the sustainability of investment in Malaysia as a whole. This would give the investors a generalised understanding of which state would be the most sustainable to invest in. Additionally, future researchers could also manipulate the variable to obtain different results by implementing the same method. For instance, by changing the type of property instead of the area, researchers could come out with different results in accessing sustainability. Furthermore, including more respondents from diverse backgrounds may increase the variety of the data analysed and improve the quality of the results.

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