



**PLANNING MALAYSIA:**  
*Journal of the Malaysian Institute of Planners*  
**VOLUME 23 ISSUE 1 (2025), Page 362 – 373**

## **INVESTIGATING THE CORRELATION BETWEEN PROPERTY OVERHANG AND HOUSING SATISFACTION AMONG HOME BUYERS IN MALAYSIA**

**Gunavathy Kanniyapan<sup>1</sup>, Isabelle Marie Ting Yar Fern<sup>2</sup>, Mazura Mahdzir<sup>3</sup>, Shantha Kumari Muniyandi<sup>4</sup>, Gunalaan Vasudevan<sup>5</sup>**

*<sup>1,2</sup>Centre for Real Estate Research,*  
TUNKU ABDUL RAHMAN UNIVERSITY OF  
MANAGEMENT AND TECHNOLOGY

*<sup>3</sup>Centre for Building, Construction & Tropical Architecture (BuCTA),*  
*Faculty of Built Environment,*  
UNIVERSITI MALAYA

*<sup>4,5</sup>Centre for Construction Research,*  
TUNKU ABDUL RAHMAN UNIVERSITY OF  
MANAGEMENT AND TECHNOLOGY

### **Abstract**

The Malaysian real estate sector has flourished due to the rapid advancement of the global economy in recent years. Nevertheless, property overhang continues to threaten the nation's economy. This study seeks to enhance developers' comprehension of purchasers' preferences by assessing the correlation between characteristics contributing to residential overhang along with variables affecting satisfaction levels with residential buildings. Questionnaire surveys were distributed to 157 developers and property agents, of which 110 were completed and returned. Similarly, 148 surveys were distributed to homebuyers, with 110 responses received. The data was evaluated using the Statistical Package for the Social Sciences (SPSS) version 24.0, where Bivariate Correlation Analysis was performed. The study's results indicated a positive correlation between the majority of the parameters, while a few exhibited a negative correlation with one another. Future research may examine the effects of property overhang on the nation and provide strategies to mitigate these effects, therefore raising awareness among developers, the real estate sector, and the construction sector.

**Keywords:** residential, property overhang, housing satisfaction, homebuyers, affordability

<sup>1</sup> Assistant Professor at Tunku Abdul Rahman University of Management and Technology  
Email: gunavathyk@taru.edu.my

## **INTRODUCTION**

Alongside the rapid expansion of the global economy in recent years, the real estate industry in Malaysia has also experienced significant growth. The real estate business is a crucial contributor to Malaysia's economic development and provides social security to its citizens. Nevertheless, the recent worldwide breakout of the catastrophic COVID-19 pandemic has significantly impacted the global community, leaving individuals to confront the unforeseeable situations it has engendered. The lethal COVID-19 pandemic not only impacts public health but also significantly affects the global economy. Segal and Gerstel (2020) reported that the Organisation for Economic Co-operation and Development (OECD) projected a reduction in global Gross Domestic Product (GDP) growth by half a percentage point, from 2.9% to 2.4% for 2020, while Bloomberg Economics suggested that in a worst-case pandemic scenario, full-year GDP growth could decline to zero. Inevitably, with all the economic uncertainty around the world, it is inevitable that various industries in Malaysia will suffer due to this global pandemic that has brought the world to its knees.

However, despite all this turmoil and uncertainties, the real estate industry still caters to various investment opportunities in the property market, for there is no unfavourable timing for acquiring property, whether for personal or investment purposes. When purchasing a residential property, there is always a heated debate when deciding whether to purchase a landed or high-rise property as both types of properties bring various benefits. As such, finding the type of property that suits the buyer's needs can be challenging as both landed and high-rise residential properties vary substantially in many ways. With that in mind, the type of residential properties in Malaysia creates an opportunity for homebuyers to choose from based on their preferences and needs. Therefore, it is important to understand what residential properties are available in Malaysia and which type of housing can satisfy the homebuyer's preference.

## **PROBLEM STATEMENT**

The evolution of Malaysia's real estate industry has undergone significant growth alongside the rapid expansion of the global economy in recent years. Nonetheless, property overhang continues to pose a challenge to the nation's economy. Property overhang can be defined as dwelling units that have received a certificate of fitness for occupancy yet have remained unsold for over nine months (Rahim et al., 2019).

In 2022, 389,107 transactions valued at RM179.07 billion occurred, reflecting a 29.5% increase in volume and a 23.6% rise in value compared to 2021. The residential sub-sector dominated the entire property market, accounting for 62.5% of the volume, with 243,190 transactions valued at

RM94.28 billion. According to the 2022 data, the total volume of overhang residential and serviced apartments amounted to 51,724 units, valued at RM38.6 billion. The three states with the highest overhang of residential and serviced apartment properties are Johor (19,390 units), Federal Territory Kuala Lumpur (9,441 units), and Selangor (6,624 units). Condominiums, apartments, and serviced flats are the predominant categories of overhang properties, priced between RM500,001 and RM1,000,000. This phenomenon will adversely affect overall economic activities and related real estate development, as the unproductive capital immobilised in unsold units fails to generate any economic momentum, thereby impacting approximately 150 industries associated with the real estate sector (Ng, 2020).

**Table 1:** Previous studies related to homebuyer’s preference and satisfaction

No	Authors	Scope of study
1	Jaafar et al. (2005)	To study the factors that influence housing satisfaction amongst homebuyers.
2	Tan (2009)	To identify whether homeownership improves the home environment and how it affects the child’s cognitive ability, improves local amenities of their communities, improves homeowners’ connection to their neighbours, promotes neighbourhood stability through longer stay and better maintenance and improvement in the neighbourhood and whether it is an effective instrument to accumulate wealth.
3	Tan (2012a)	To determine homeowner preferences amongst first-time homebuyers in Malaysia.
4	Tan (2012b)	To identify factors affecting housing satisfaction of medium and high-cost housing
5	Lim and Chang (2018)	To study the residential building typology and characteristics and identify the factors influencing preferences for the types of housing available in Malaysia.
6	Thanaraju et al. (2019)	To evaluate the relationship between the three main factors identified, which are financial, location, and neighbourhood, towards the housing preferences of homebuyers in Kuala Lumpur.

*Source: Author (2024)*

Table 1 tabulates the findings of previous studies on homebuyers’ preferences and satisfaction with housing when purchasing a residential property. The previous studies mainly focused on preferences, demands, and satisfaction and identified what motivates home-buying among homebuyers. Nevertheless, they did not focus on examining the correlation between the elements affecting homebuyer satisfaction, which directly impacts the property overhang in Malaysia. Although sufficient knowledge and understanding can be gained from previous studies on homebuyers’ preferences, further studies should be conducted

to evaluate further the relationship between factors causing property overhang and factors that influence the satisfaction level of homebuyers. Nevertheless, they did not focus on examining the correlation between the elements affecting homebuyer satisfaction, which directly impacts the property overhang in Malaysia.

### **FACTORS CAUSING RESIDENTIAL OVERHANG IN MALAYSIA**

The property overhang refers to properties that have received a Certificate of Fitness for Occupation from local authorities and have remained unsold for over nine months following their market debut. Rahim et al. (2019) characterised it as the existing housing inventory in the market that fails to meet buyer desires. Extensive construction by house developers has exacerbated the current property overhang crisis since they have failed to satisfy purchasers' demands. To address this issue, the government has implemented many public housing initiatives, like Perumahan Rakyat 1Malaysia (PRIMA), to promote homeownership and mitigate the surplus of unsold properties. Nevertheless, despite all measures, the problem endures in the present real estate market. Consequently, it is essential to ascertain the variables contributing to residential overhang in the country to mitigate and decrease the current housing inventory in the market. Table 2 illustrates the numerous elements contributing to residential overhang.

**Table 2: Factors Causing Residential Overhang**

No	Factors Causing Residential Overhang	Authors
1	Affordability Issue (Pricing)	Plecher, 2020; Soon and Tan, 2019; Rahim <i>et al.</i> , 2019
2	Weakening Purchasing Power	Lee, 2019; Bardan, 2019;
3	Interest Rates	Faure, 2014; David-Pur <i>et al.</i> , 2020
4	Country's Economic Performance	Zelazowski, 2017; Department of Statistic Malaysia, 2024
5	Loan Financing Challenges	Soon and Tan, 2019; Bank Negara Malaysia, 2024
6	Mismatch between House Prices and Household Income	Ramlan and Zahari, 2016
7	Mismatch between Demand and Supply	Soon and Tan, 2019; Cheah and Almeida, 2016
8	Lack of Feasibility Studies	Bause <i>et al.</i> , 2014; Karim <i>et al.</i> , 2017
9	No Coordination Planning among Local Authorities	Maidin and Ali, 2009; Rahim <i>et al.</i> , 2019; Karim <i>et al.</i> , 2017
10	Mismatch in Location and Product Type	Karim <i>et al.</i> , 2017; Poh, 2019

*Source: Author (2024)*

## FACTORS INFLUENCING THE LEVEL OF SATISFACTION OF RESIDENTIAL PROPERTIES.

According to Jaafar et al. (2005), housing satisfaction is the perceived disparity between a respondent's requirements and goals and the actual context of the current residential scenario (Jaafar et al., 2005). It is important that the housing satisfaction of the occupants is met during the development of housing as the determinants of a successful housing project depend on the ability of housing developers to satisfy buyers' satisfaction and expectations towards housing (Aigbavboa, 2016). A study by Ha (cited in Aigbavboa, 2016) also explained that a housing development's lack of success is possibly due to insufficient knowledge and understanding of the determining factor of occupant housing satisfaction towards housing. Therefore, understanding the buyer's point of view on housing satisfaction will assist housing developers in developing houses that not only meet the needs of buyers but also satisfy their expectations towards housing. Hence, an in-depth understanding and study of factors influencing the housing satisfaction of homebuyers is essential to meet homebuyers' demands and motivate them to purchase housing to curb the issue of property overhang. Factors that influence the level of satisfaction with residential properties are shown in Table 3.

**Table 3:** Determinants Affecting the Degree of Satisfaction in Residential Properties

No	Factors Influencing the Level of Satisfaction of Residential Properties	Authors
1.	Common Facilities	Sia et al., 2018; Abdul Ghani and Lee, 2015
2.	Built-up Area	Chin, 2016; Olanrewaju and Tan, 2017
3.	Security	Al Shawabkeh et al., 2020; Tan and Cheah, 2012; Tan, 2011
4.	Parking Convenience	Guo, 2013
5.	Maintenance	Au-Yong et al., 2018; Sia et al., 2018
6.	Household Income	Rameli et al., 2016; Jaafar et al., 2005
7.	Location and Accessibility	Olanrewaju and Tan, 2017; Leh et al., 2016
8.	Lifestyle Living	Abdul Ghani and Lee, 2015; Reid, 2015
9.	Demography	Majid et al., 2012; Choong and Cham, 2015; Chin, 2016
10.	Sense of Community	Reid, 2015; Al Shawabkeh et al., 2020

*Source: Author (2024)*

## METHODOLOGY

A quantitative data approach was selected for this study, and the source of quantitative data originated from Likert scale questionnaire surveys. Based on the number of developers registered as members of the Real Estate and Housing Developers' Association (REHDA), a number of 544 developers from both Kuala

Lumpur and Selangor were chosen as the population sample for this research study. Based on the list of members from the Malaysian Institute of Estate Agents (MIEA), a total number of 1,244 property agents from Kuala Lumpur and Selangor served as the population sample for this study. Therefore, both developers and property agents combined amounted to a cumulative population size of 1,788. The sample size obtained is 95 based on the Yamane sample size calculation (Israel, 2003). The employed population of Wilayah Persekutuan Kuala Lumpur and Selangor, with a total number of 4,313,900 employed personnel, was taken as the population sample. The sample size obtained is 100 based on the Yamane sample size calculation (Israel, 2003). Bivariate Correlation Analysis was adopted when there was a need to identify the relationship between two variables of a research study (Perinetti, 2019). Additionally, it was used to relate the effect of two or more phenomena that occurred simultaneously and whether they were linked. The correlation represented the strength of the association between the variables, quantified as a single number ranging from -1 to +1. A positive relationship between the variables is generally signified by a positive value, a negative relationship is denoted by a negative value, while a Correlation Coefficient value of zero signifies the absence of a relationship between the variables (Statistics Solutions, 2020).

## RESULTS

Bivariate Correlation Analysis was performed to ascertain the link between elements contributing to residential overhang and those affecting residential property satisfaction levels. The Correlation Coefficient will be interpreted in accordance with Schober et al., 2018, whereby the range between 0.00-0.10 is interpreted as a “Negligible correlation”, the value between 0.10-0.39 is considered to be having a “Weak correlation” while the range between 0.40-0.69 is treated as having a “Moderate correlation”. Furthermore, variables with a Correlation Coefficient value ranging from 0.70 to 0.89 are regarded as exhibiting a “Strong correlation,” while a Correlation Coefficient value between 0.90 and 1.00 indicates a “Very strong correlation” between the variables. Consequently, variables exhibiting a “Moderate Correlation” are delineated in Table 4.

**Table 4:** Summary of the Moderate Correlation between the factors

Factors causing residential overhang in Malaysia		Factors influencing the level of satisfaction of residential properties	Value
Affordability (Pricing)	Issue	Built-up Area	0.521
		Household Income	0.557
		Location and Accessibility	0.517
Weakening Power	Purchasing	Household Income	0.477

Factors causing residential overhang in Malaysia	Factors influencing the level of satisfaction of residential properties	Value
Loan Financing Challenges	Household Income	0.421
Mismatch between House Prices and Household Income	Built-up Area	0.424
	Household Income	0.404
Mismatch between Demand and Supply	Common Facilities	0.408
	Location and Accessibility	0.418
Mismatch in Location and Product Type	Location and Accessibility	0.460

Source: Author (2024)

As shown in Table 4 above, the Affordability Issue (Pricing) has a Moderate Correlation with Built-up Area, Household Income, as well as Location and Accessibility. Affordability Issue (Pricing) impacts buyers' ability to purchase a property. Rahim et al. (2019) stressed that housing is considered affordable when households are not paying more than 30% of their income for loan financing, including utility bills. Housing affordability also affects the built-up area of the residence, as larger homes incur more costs. Furthermore, location and accessibility are other factors influencing affordability, as the accessibility and availability of public transportation services play an important role in determining housing prices (Olanrewaju & Tan, 2017).

Weakening Purchasing Power has a Moderate Correlation with Household Income. Bardan (2019) reported that the nominal starting salaries of fresh graduates prevail at a moderate level. As such, it is justifiable that a moderate correlation exists between these factors. When the Weakening Purchasing Power of homebuyers amongst fresh graduates occurs, it affects their ability to purchase a property, especially when the housing price is unaffordable.

The Loan Financing Challenges factor has a Moderate Correlation with the factor in relation to Household Income. Bank Negara Malaysia (2024) reported that banks will conduct affordability assessments to fully understand the financial conditions of their loan applicants before approving their housing loans. The loan applicant's Household Income will be evaluated to determine their capacity to meet financial commitments. Hence, when the Household Income of the loan applicant is insufficient to cover the monthly instalments, financial institutions will not approve their loan applications, leading to Loan Financing Challenges for loan applicants. As such, a moderate correlation exists between these two factors. Therefore, housing loan applicants must ensure they are not paying more than 30% of their income to furnish the loan financing.

Table 4 tabulates the Moderate Correlation of the Mismatch between House Prices and Household Incomes with Built-up Area as well as Household

Income. A study by Syafiee Shuid (cited in Ramlan and Zahari, 2016) indicated that a disparity between House Prices and Household Income arises when buyers are unable to afford the available housing categories—be it low-cost, medium-cost, or high-cost—due to the variance in Built-up Areas, which consequently affects pricing. Therefore, the relationship between House Price, Household Income and Built-Up area should be considered to ensure that various types of housing based on pricing can be made available to all household income groups.

The disparity between Demand and Supply has a Moderate Correlation with factors pertaining to Common Facilities, Location, and Accessibility. Soon and Tan (2019) commented that home buyers will not consider purchasing a property that does not meet their demands and expectations. Therefore, it is essential to comprehend the variables and features that influence the purchase decisions of homebuyers to satisfy their needs. As such, the Common Facilities provided in a housing development enhances the living experience of the homebuyers. However, it is important to take note that not all homebuyers are in favour of having Common Facilities provided in their housing. Thus, a proper understanding of the demands of homebuyers is essential, and the availability of Common Facilities plays a role in the demands of homebuyers, forming a moderate correlation between these two factors. A study by Leh et al. (2016) concluded that housing in urban areas is preferable amongst young people compared to suburban areas. This is because the distance to their working area and other facilities and amenities are easily available and accessible within the vicinity. Hence, it is undeniable that the location factor of a residential property plays a role in ensuring the satisfaction of homebuyers towards their home and influences the Demand and Supply factor.

There is a Moderate Correlation between the Mismatch in Location and Product Type and the factor with regard to Location and Accessibility. A mismatch in Location and Product Type occurs when homebuyers lose interest in housing that is in an unattractive location and does not meet the homebuyers' preference (Karim et al., 2017). This mismatch is moderately correlated with the Location and Accessibility factor because the Location and Accessibility factor is also considered in the Mismatch in Location and Product type.

## **CONCLUSION**

This paper is valuable for developers, property agents, and employed homebuyers, as it enables developers to identify the determinants of homebuyer satisfaction with residential properties and to tailor their construction projects accordingly, thereby mitigating the risk of property overhang in the country. On the other hand, property agents will gain a certain degree of understanding of the factors that satisfy homebuyers and can recommend housing that suits the homebuyer's preference. Through this study, homebuyers can also identify the



factors that increase satisfaction towards residential property and refer to it as a benchmark when purchasing a property. Future research may examine the effects of property overhang on the nation and provide strategies to mitigate these effects, therefore raising awareness among developers, the real estate sector, and the building industry.

## ACKNOWLEDGEMENT

The authors would like to sincerely thank the Centre of Real Estate Research and Centre of Construction Research, Faculty of Built Environment, Tunku Abdul Rahman University of Management and Technology (TARUMT). We also thank all parties for granting permission and access to data. Their support made this research and publication possible.

## REFERENCES

- Abdul Ghani, S. and Lee, Y.F. (2015) *Exploring the perception of lifestyle housing development in Malaysia* [Paper presentation]. The Asia Pacific Network for Housing Research (APNHR) 2015., 09 - 12 April 2015, Asia Cultural Complex, Gwangju, South Korea.
- Al Shawabkeh, R. K., Alzoubay, A. M., Rjoub, A., Alsmadi, M., AlKhamaiseh, M., Shboul, D., Smadi, A., Al-Bzour, A., Al-Omari, R., & Alobaidat, E. (2020). Evaluating the satisfaction rate for affordable housing in non-gated residential area (NGR): the case of Al-Sharq housing project in Zarqa-Jordan. *International Journal of Housing Markets and Analysis*, 14(1), 192–217. <https://doi.org/10.1108/ijhma-10-2019-0105>
- Aigbavboa, C. (2016). Assessing beneficiaries' needs and expectations as a determinant of residential satisfaction in South Africa. *Housing Care and Support*, 19(1), 10–22. <https://doi.org/10.1108/hcs-01-2016-0001>
- Au-Yong, C. P., Ali, A. S., & Chua, S. J. L. (2018). A literature review of routine maintenance in high-rise residential buildings. *Journal of Facilities Management*, 17(1), 2–17. <https://doi.org/10.1108/jfm-10-2017-0051>
- Bank Negara Malaysia. (2024). *Monetary and Financial Developments*. Retrieved February 2, 2024, from <https://www.bnm.gov.my/>
- Bardan, H. S. (2019). *Starting pay of graduates reflective of current labour market*. In *Malaysian Employers Federation*. Retrieved August 8, 2023, from <http://www.mef.org.my/Attachments/PR190329.pdf>
- Bause, K., Radimersky, A., Iwanicki, M., & Albers, A. (2014). Feasibility studies in the product development process. *Procedia CIRP*, 21, 473–478. <https://doi.org/10.1016/j.procir.2014.03.128>
- Cheah, S. L., & Almeida, S. J. (2016). *Demystifying the Affordable Housing Issue in Malaysia*. In *Bank Negara Malaysia*. Retrieved August 4, 2020, from [https://www.bnm.gov.my/files/publication/ar/en/2016/cp04\\_002\\_box.pdf](https://www.bnm.gov.my/files/publication/ar/en/2016/cp04_002_box.pdf)
- Chin, K. S. (2016). *Attributes influencing home buyers' purchase decision: A study of residential property in Setia Alam*. [Master's thesis, UTAR, Malaysia]. UTAR

- Institutional Repository.  
[http://eprints.utar.edu.my/2078/1/FYP\\_2nd\\_submission.pdf](http://eprints.utar.edu.my/2078/1/FYP_2nd_submission.pdf)
- Choong, W. W., & Cham, Q. W. (2015). *Preferred Housing Attributes among Elderly in Malaysia*. Retrieved July 22, 2023, from [http://www.prres.net/papers/Wai\\_Prefered\\_Housing\\_Attributes.pdf](http://www.prres.net/papers/Wai_Prefered_Housing_Attributes.pdf)
- David-Pur, L., Galil, K., & Rosenboim, M. (2020). To decrease or not to decrease: The impact of zero and negative interest rates on investment decisions. *Journal of Behavioral and Experimental Economics*, 87, 101571. <https://doi.org/10.1016/j.socec.2020.101571>
- Department of Statistics Malaysia. (2024). *Malaysia Economic Performance First Quarter 2024*. Retrieved March 2, 2024, from <https://belanjawan.mof.gov.my/pdf/belanjawan2024/economy/economy-2024.pdf>
- Faure, A. P. (2014). Interest Rates 1: What are Interest Rates? *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2542083>
- Guo, Z. (2013). Home parking convenience, household car usage, and implications to residential parking policies. *Transport Policy*, 29, 97–106. <https://doi.org/10.1016/j.tranpol.2013.04.005>
- Israel, G. D. (2003). *Determining Sample Size*. Retrieved August 25, 2023, from <https://www.tarleton.edu/academicassessment/documents/Samplesize.pdf>
- Jaafar, M., Hasan, N. L., Mohamad, O., & Ramayah, T. (2005). The determinants of housing satisfaction level: A study on residential development project by Penang Development Corporation (PDC). *Jurnal Kemanusiaan*, 3(2). Retrieved from <https://jurnalkemanusiaan.utm.my/index.php/kemanusiaan/article/view/144>
- Karim, N. S. A., Maimun, N. H. A., Noor, N. A. M., Yusoff, N. S. M., & Abdul Rahman, M. S. (2017). Oversupply Causes of Double Storey Terrace Houses in Johor Bahru. *International Journal of Real Estate Studies*, 11(3), 31–36.
- Lee, R. (2019). *Housing affordability and property overhang Two sides of the same coin?* Retrieved August 2, 2023, from <https://www.theedgemarkets.com/article/cover-story-housing-affordability-and-property-overhang-two-sides-same-coin>
- Leh, O. L. H., Mansor, N. A., & Mohamed Musthafa, S. N. A. (2016). The housing preference of young people in Malaysian urban areas: a case study Subang Jaya, Selangor. *Geografia: Malaysian Journal of Society & Space*, 12(7), 60–74.
- Lim, P. I., & Chang, Y. F. (2018). Preference of residential typologies of urban Malaysians. *Planning Malaysia*, 16(7), 171–181. <https://doi.org/10.21837/pmjournal.v16.i7.509>
- Maidin, A. J., & Ali, B. B. M. (2009). Powers of the Local Authority in Regulating Land Planning and Development Control: Whither Control. *Planning Malaysia*, 7(1), 133–147. <https://doi.org/10.21837/pmjournal.v7.i1.75>
- Majid, R., Said, R., & Daud, M. N. (2012). The Impact Of Buyers' Demography On Property Purchasing. *Journal of Surveying, Construction & Property*, 3(2), 1–18.
- Ng,S. (2020). *What shall we do with the property overhang?* EdgeProp. Retrieved August 2, 2023, from [https://rehdaselangor.com/wp-content/uploads/20200131\\_What\\_shall\\_we\\_do\\_with\\_property\\_overhang-min.pdf](https://rehdaselangor.com/wp-content/uploads/20200131_What_shall_we_do_with_property_overhang-min.pdf)

- Olanrewaju, A., & Woon, T. C. (2017). An exploration of determinants of affordable housing choice. *International Journal of Housing Markets and Analysis*, 10(5), 703–723. <https://doi.org/10.1108/ijhma-11-2016-0074>
- Perinetti, G. (2019). StaTips Part VI: Bivariate correlation. *South European Journal of Orthodontics and Dentofacial Research*, 6(1). <https://doi.org/10.5937/sejodr6-21664>
- Plecher, H. (2020). *Urbanisation in Malaysia 2019*. Retrieved August 1, 2020, from <https://www.statista.com/statistics/455880/urbanization-in-malaysia/>
- Poh, C. (2019). *Ample supply of affordable homes but not in the right location, says Zerine*. Retrieved August 3, 2023, from <https://www.theedgemarkets.com/article/ample-supply-affordable-homes-not-right-location-says-zerine>
- Rahim, N. A., Adzhar, S. M., Basrah, N., Majid, R. A., & Mustafar, S. (2019). Factors lead to overhang in affordable housing: A content analysis in qualitative approach. *IOP Conference Series Earth and Environmental Science*, 385(1), 012073. <https://doi.org/10.1088/1755-1315/385/1/012073>
- Ramlan, H., & Zahari, E. E. (2016). Review the Issue of Housing among Urban Dwellers in Malaysia with Special Reference towards Affordability to Home Ownership. *Procedia Economics and Finance*, 35, 216–223. [https://doi.org/10.1016/s2212-5671\(16\)00027-7](https://doi.org/10.1016/s2212-5671(16)00027-7)
- Rameli, N., Salleh, D., & Ismail, M. (2016). Homeownership Affordability: An Analysis of Socioeconomic Factors. *Malaysian Journal of Social Sciences and Humanities*, 6(6), 56–59.
- Reid, S. (2015). Exploring social interactions and sense of community in multi-owned properties. *International Journal of Housing Markets and Analysis*, 8(4), 436–450. <https://doi.org/10.1108/ijhma-02-2015-0006>
- Schober, P., Boer, C., & Schwarte, L. A. (2018). Correlation Coefficients: appropriate use and interpretation. *Anesthesia & Analgesia*, 126(5), 1763–1768. <https://doi.org/10.1213/ane.0000000000002864>
- Segal, S. & Gerstel, D. (2020). *The Global Economic Impacts of Covid-19*. Retrieved July 2, 2023 from <https://www.csis.org/analysis/global-economic-impacts-covid-19>
- Sia, M. K., Yew, V. W. C., Lim, Z. Y., & Dongqing, Y. (2018). Facilities and maintenance services for sustainable high-rise living. *Facilities*, 36(7/8), 330–348. <https://doi.org/10.1108/f-03-2017-0037>
- Statistics Solutions. (2020). *Conduct and Interpret a Bivariate (Pearson) Correlation*. *StatisticsSolution*. Retrieved March 2, 2021, from <https://www.statisticssolutions.com/bivariate-correlation/>
- Soon, A., & Tan, C. (2019). An analysis on housing affordability in Malaysian housing markets and the home buyers' preference. *International Journal of Housing Markets and Analysis*, 13(3), 375–392. <https://doi.org/10.1108/ijhma-01-2019-0009>
- Tan, T. H. (2009). Home owning motivation in Malaysia. *Journal of Accounting, Business and Management*, 1(1), 1–27.
- Tan, T. H. (2011). Neighborhood preferences of house buyers: The case of Klang Valley, Malaysia. *International Journal of Housing Markets and Analysis*, 4(1), 58–69. <https://doi.org/10.1108/17538271111111839>

- Tan, T. H. (2012a). Meeting first-time buyers' housing needs and preferences in greater Kuala Lumpur. *Cities*, 29(6), 389–396. <https://doi.org/10.1016/j.cities.2011.11.016>
- Tan, T. H. (2012b). Housing satisfaction in medium- and high-cost housing: The case of Greater Kuala Lumpur, Malaysia. *Habitat International*, 36(1), 108–116. <https://doi.org/10.1016/j.habitatint.2011.06.003>
- Tan, T. H., & Cheah, Y. Y. (2012). Locational, Neighborhood, Structural and Socio-Cultural Attributes of Housing in Homeownership Decisions. Retrieved August 7, 2023, from <http://eprints.sunway.edu.my/144/>
- Thanaraju, P., Khan, P. A. M., Juhari, N. H., Sivanathan, S., & Khair, N. M. (2019). Factors affecting the housing preferences of homebuyers in Kuala Lumpur. *Planning Malaysia*, 17(1), 138-148.
- Zelazowski, K. (2017). Housing Market Cycles in the Context of Business Cycles. *Real Estate Management and Valuation*, 25(3), 5–14. <https://doi.org/10.1515/remav-2017-0017>

Received: 12<sup>th</sup> April 2024. Accepted: 29<sup>th</sup> November 2024