



## BUYERS' PERCEPTION ON FACTORS AFFECTING AFFORDABLE HOUSING OVERHANG IN JOHOR, MALAYSIA

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### ABSTRACT

Affordable housing provision has been at the forefront of the federal and various state governments' policies in Malaysia recently. The low-income group or Bottom 40 (B40) households are the main beneficiaries of such policies considering their very low house ownership compared with the Middle 40 (M40) households. Despite the introduction of various subsidized schemes by the federal and state governments, recent property statistics show that there is a supply glut in the affordable housing sector. Hence, this study provides an analysis of factors which contribute to oversupply affordable houses in the southern state of Peninsular Malaysia, Johor. The main objective of this study is to identify the perception of buyers on the factors affecting affordable housing overhang. A quantitative approach in the form of a questionnaire survey was utilised to address the objective of the study. The data collected were analysed using frequency, mean score analysis and Cronbach's Alpha for the reliability test. The result of this study generally indicates that house price, loan restriction, facilities, social environment and location as the top five factors contributing to affordable housing overhang in Malaysia.

## 1.0 INTRODUCTION

House is a basic necessity for every individual besides other needs such as food, clothing, education, and medication. A comfortable house is part of an assurance of quality of life which promotes healthy, happy and productive life. The adequacy or lack of housing allocation is a measure of national growth and development (Olanrewaju & Woon, 2017), hence, if the quality of housing is sufficient and accessible to all, the government and its people will spend less on healthcare and recreational facilities. Today, many people make housing ownerships an investment, as the fact remains that for those who buy or build their home, such houses remain the

most expensive investment they make and for those that rent the houses, the rental is the highest monthly or annual expenditure (Woo, Joh & Van Zandt, 2016).

Housing is categorized into different groups, for example, there are high-income housing, medium-income housing and low-income housing (Glaeser & Gyourko, 2003). However, affordable housing is the term used to describe the medium and low-income housing. In Malaysia, the affordability of housing is measured in terms of financial ability. However, housing in most parts of the developing nations are unaffordable (Olanrewaju *et al.*, 2016). There are housing shortages in affordable housing (Bank Negara Malaysia, 2016) but the number of

unsold or overhang affordable housing is still high (NAPIC, 2017).

According to the National Property Information Centre (NAPIC) of Property Valuation and Services Department of Malaysia, 'overhang' happens when a property completed and issued with a Certificate of Fitness for Occupation (CFO/CCC) or Temporary Fitness Certificate for Occupation but still unsold even though if it has been marketed for at least nine months.

A house is one of the basic needs of human beings and it acts as a shelter to support a house living (Samaratunga, 2013), however, Malaysia is facing housing shortage problems with a population of 32 million people (Department of Statistics, 2017) and the homeownership rate of 69.1% (Khazanah Research Institute, 2010). To increase housing stocks and home ownership rates, the government has introduced many measures that include schemes, programs, and policies. These subsidized schemes include MyHome, Perumahan Rakyat 1 Malaysia (PR1M), Rumah Mesra Rakyat (RMR1M), Program Rumah Mampu Milik (RMM), Program Penyelenggaraan 1 Malaysia (TP1M), MyDeposit Scheme, and My Beautiful New Home. In addition to subsidies and tax reliefs given to home buyers, developers and contractors, the federal government has relaxed restrictions on Employees Provident Fund (EPF) withdrawal so that contributors can now use some of their savings from EPF as a down payment for their first house (Olanrewaju *et al.*, 2018). Recently, the Ministry of Housing and Local Government recorded a total of RM22.5 billion in unsold residential units all over the country and 73% of the unsold house was under the category of affordable housing priced RM250,000 and below (Bernama, 2018). Furthermore, the maximum affordable house price in Malaysia is RM282,000 (Bank Negara Malaysia, 2017) with Malaysian median income RM5,288 (Department of Statistics, 2016). The percentage of affordable housing overhang is 49.94% which is 38,058 units for the last five years (NAPIC, 2017).

A critical examination of the factors causing affordable housing overhang is important considering the various government measures to stimulate the housing market (Olanrewaju *et al.*,

2018). Therefore, the aim of this study is to discover the factors affecting affordable housing overhang from the perspective of potential buyers. Consequently, to achieve the aim of study, two objectives were pursued involving an identification of the factors affecting affordable housing overhang and an analysis of the potential buyers' perception on factors affecting affordable housing in Malaysia. The study differs from previous empirical works as it analyzed the factors affecting affordable housing overhang from the buyers' perspective using a mean score analysis.

## **2.0 LITERATURE REVIEW**

### **2.1 Housing Overhang**

Housing overhang is often referred to as that portion of the housing stock which is available within a market but does not really attract the attention of the end users even with rigorous advertisement for its occupation. Thus (Rahim *et al.*, 2010), termed it as a stock that are unable to satisfy the housing need of a population. Thus, a completed dwelling which is certified to be habitable but unable to attract occupation within a certain period is termed an over hanged property. Although, the Malaysian government has put in a lot of efforts in curbing the menace of over-hanged housing stock, but the problem still persist, although (Gan & Hill, 2009) lauded the efforts of the Malaysian government in their approach towards solving the issue by introducing a public housing scheme referred to as PR1M alongside other similar schemes, but recommended the introduction of a tax policy that would provide tax incentive to low-cost housing development.

### **2.2 Overview of Affordable Housing in Malaysia**

Housing Affordability is a concept that interprets socio-economic and development environments (Sood *et al.*, 2010). It is considered as the decision of the selection of households between housing and non-residential expenses. Housing Affordability is expressed as a ratio of rent-to-income or house price-to-income ratio known as income ability. However, housing affordability

might be seen to be beyond mere purchase affordability but rather repayment affordability which is usually a lifetime commitment for low- and middle-income households (Abeysinghe & Gu, 2010). Affordable housing is provided for families that can be afforded by low- and medium-income earners. Housing is considered affordable if it is capable of occupation without its occupant spending more than 30% of his income (Osman *et al.*, 2017).

In Malaysia, houses are unaffordable to most of low- and middle-income population (Khazanah Research Institute, 2015) despite the increasing demand for housing in Malaysia. For instance, housing shortage in Johor rose from 305,904 units in 2016 to 327,829 units in 2017 (Olanrewaju & Idrus, 2019) which Ebekoziem, Abdul-Aziz, & Jaafar (2019) warned that Malaysia is bound to witness an exceptional growth rate in urbanisation in the next decade. This phenomenon if left uncontrolled will result in a striking poverty among the populace. In addition, the median multiple is a common metric proposed by the World Bank and the United Nations (UN) that rates housing affordability by dividing the median price of the house through an aggregation of annual median household income (Khazanah Research Institute, 2015). By using this metric, affordability is rated on a scale of 0 to 5, as shown in Table 1 (Demographia, 2016). The 3.0x median signs of the market deliver a distribution of housing that is subjected to minimal distortions, which the housing supply is responsive to and can be matched with an effective demand (Suraya, 2015).

Table 1: Housing Affordability Categories

Rating	Median Multiple
Severely Unaffordable	5.1 and Above
Seriously Unaffordable	4.1 to 5.0
Moderately Unaffordable	3.1 to 4.0
Affordable	3.0 and Below

The Malaysian government have explored different avenues towards providing affordable accommodation to its populace particularly the low- and medium-income earners. Some of these schemes includes those spearheaded by the government alongside those carried out by the private sector such as the Malaysian Peoples

Housing Programme (PRIMA) established in 2011 for low- and medium-income earners; MyHome a private-sector-driven initiative; Rumah Mesra Rakyat 1 Malaysia (RMR1M) launched for low income earners; Malaysian Civil Servants Housing Programme (PPAIM) launched specifically for civil servants in major cities; Peoples Housing Project (PPR), a government programme targeting the low income earners; Rumah Selangorku targeted low and medium income groups in the State of Selangor; Federal Territory Housing Policy (RUMAWIP) targeting towards middle income earners (Zainon *et al.*, 2017). Other programmes include Perumahan Rakyat 1 Malaysia (PR1MA); MyDeposit Scheme; Program Penyelenggaraan 1 Malaysia (TP1M); Housing Loan Scheme; Ruman Transit Program; the Hard-core Poor Housing Programme (PPRT).

### 2.3 Affordable Housing Preference

There are several previous studies that are related to this research such as the study of (Olanrewaju *et al.*, 2018) who investigated the Malaysian affordable housing overhang using a sample participants of 150 respondents and concluded that restrictions in issuance of bank loans is the most significant factor resulting into housing overhang which is closely followed by a lack of confidence in future housing values on the part of the households; (Bank Negara Malaysia, 2017) explored the extent and causes of imbalance in terms of housing supply and demand in Malaysia, thereby concluded that 83% of unsold housing units were expensive as they cost over RM250,000 per unit, thus recording 130,690 unsold homes in 2017; (Olanrewaju & Woon, 2017) in a study that explored the determinants of affordable housing in Malaysia concluded that affordable housing in Malaysia is hindered by housing shortage and distribution; (Zainon *et al.*, 2017) in a study that analysed the factors affecting housing affordability among Klang Valley's middle income groups found that housing price emerged as the most influential determinant; (Baqtaya, Ariffin & Raji, 2016) in a study of the Malaysian housing sector concluded that house price serves as the most influential factor closely followed by accessibility to housing loans, likewise

(Olanrewaju *et al.*, 2018) in their study found out that housing price is the main factor affecting

accommodation in Malaysia. These previous studies are highlighted in Table 2.

Table 2: Summary of Previous Study on Affordable Housing.

Factor affecting affordable housing thus resulting into housing-overhang	Studies							
Loan restriction and Difficulty in securing housing loan/finance due to issues such as strict rules	(Olanrewaju <i>et al.</i> , 2018)	(Baqtaya, Ariffin, & Raji, 2016)	(Rahim <i>et al.</i> , 2019)	(REHDA, 2019)	(Kamal, Hassan, and Osmadi, 2016)	(Pillaiyan, 2015)	(Liew & Haron, 2013)	
Low confidence in the future value of houses	(Olanrewaju <i>et al.</i> , 2018)							
Rise in living cost.	(Olanrewaju <i>et al.</i> , 2018)							
Housing neighbourhood facilities and Social environment	(Olanrewaju <i>et al.</i> , 2018)					(Bank Negara Malaysia, 2017)		
Housing price relative to household income	(Olanrewaju <i>et al.</i> , 2018)		(Zainon <i>et al.</i> , 2017)		(Baqtaya, Ariffin, & Raji, 2016)			(Olanrewaju & Idrus, 2019)
Unsuitable location: The location of some of these affordable housing projects is unattractive due to the distance from public facilities and infrastructures, remote workplace and low Accessibility and transport links and road networks	(Olanrewaju & Woon, 2017)	(Zainon <i>et al.</i> , 2017)	(Bank Negara Malaysia, 2017)	(Mohit, Ibrahim & Rashid, 2010)	(Rahim <i>et al.</i> , 2019)	(REHDA, 2019)	(Kamal, Hassan, and Osmadi, 2016)	(Olanrewaju & Tan, 2018)
Household tendencies on landed properties rather than strata properties				(Bank Negara Malaysia, 2017)				
The majority of applicants lack creditworthiness				(Bank Negara Malaysia, 2017)				
Financial factor		(Olanrewaju & Woon, 2017)						
Building factor and features of dwelling unit not meeting homebuyers' specifications (unit size, the number of bedrooms and presence in parking area) including Design and Quality.		(Olanrewaju & Woon, 2017)	(Zainon <i>et al.</i> , 2017)	(Mohit, Ibrahim & Rashid, 2010)	(Olanrewaju & Tan, 2018)	(Hilber, 2015)	(Teck-Hong, 2012)	
Income factor			(Olanrewaju & Woon, 2017)					
Market factor			(Olanrewaju & Woon, 2017)					
Housing developers			(Zainon <i>et al.</i> , 2017)					
Social environment.			(Zainon <i>et al.</i> , 2017)					
Fragmented Housing Policies such as over-supply of high-end housing policy					(Baqtaya, Ariffin, & Raji, 2016)			
Support services of dwelling unit						(Mohit, Ibrahim & Rashid, 2010)		
Shift in demand to more qualitative housing units								(Rahim <i>et al.</i> , 2019)
Lack of effective housing policy implementation								

### 3.0 RESEARCH METHODOLOGY

Considering the objectives of the study, a questionnaire survey was identified as the most appropriate data collection method. A questionnaire survey provides the most effective and faster way to get a snapshot of the current state of affairs in a target population.

The primary data for this research was collected through the distribution of questionnaire to the target respondents by simple random sampling method using the printed and online questionnaire survey. The printed forms were distributed by hand to the B40 and M40 applicants at State Secretary Office (SUK) Housing Unit as well as through the online questionnaire form created using the Google Form. The respondents of the study consisted of Malaysian citizens who are staying in Johor for more than 5 years, and aged from 18 years old and above. These characteristics are set from the requirement of the Johor Affordable Home Ownership (RMMJ) application. Johor was chosen as the study area because it has the largest number of unsold residential units which is 5,988 units (Bank Negara Malaysia, 2017) and 1,737 units are affordable houses (NAPIC, 2018).

For data sampling, the determination of sample size was calculated by using the Taro Yamane method for sample size calculation in order to determine the number of respondents needed to distribute the questionnaire to, which

formed the sample size. Hence, the targeted sample size for this study was 400. The analysis of data was based on frequency and mean score. In addition, Cronbach's Alpha reliability test was conducted to measure the internal consistency of the measurement tool.

### 4.0 FINDINGS

#### 4.1 Reliability Test

According to Cronbach (1951), Cronbach's alpha reliability is one of the most broadly used to measure the reliability in the social and organizational sciences and it also referred to as a measure of "internal consistency". The result of the reliability test as shown in Table 3.

Table 3: Reliability Test for Factors Affecting Affordable Housing Overhang

Factor	Reliability
Location	0.869
Loan restriction	0.884
Neighborhood	0.452
Facilities	0.887
House price	0.498
Social environment	0.890
Design of House	0.905
Pollution	0.906
Overall	0.910

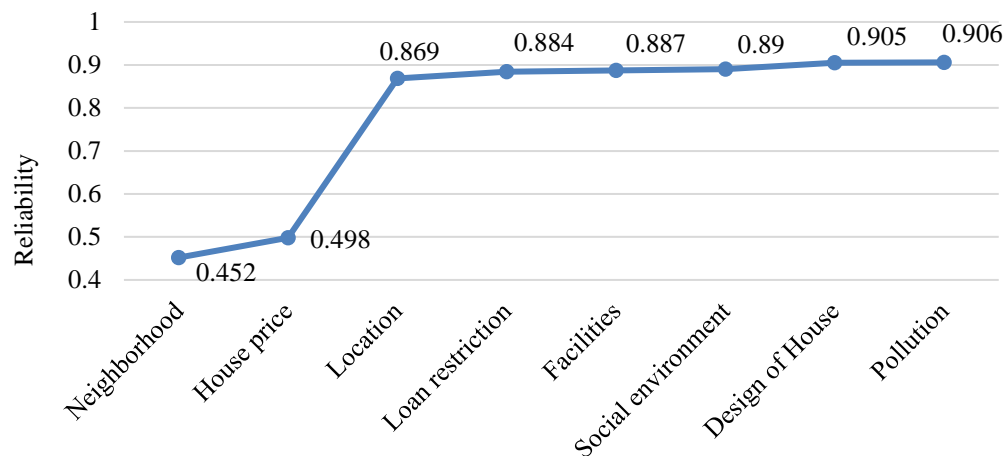


Table 3 shows that the reliability test for factors affecting affordable housing overhang. The common rule of thumb is that a Cronbach's alpha of 0.70 and above is good, 0.80 and above is better, and 0.90 and above is best. For this study, the reliability test has been conducted on each main factor. Firstly, for the location factor is 0.869 which is better, secondly loan restriction is 0.884, followed by neighbourhood factor 0.452, facilities factor 0.887, house price factor 0.498, social environment factor 0.890, design of house 0.905 and pollution factor 0.906. Meanwhile, the overall reliability test for these 8 main factors is

0.910. It indicates that the tool of measurement is reliable and can be accepted.

#### 4.2 Frequency Analysis

The respondents randomly selected by the researcher are the potential buyers' of affordable housing making up a total of 374 respondents based on the B40 population in Johor and the Taro Yamane table. Section A of the questionnaire provided a total of eight questions on details of the respondent's demographic profile. The result is shown in Table 4.

Table 4: Frequency analysis of Respondent's Demographic

		Frequency	Percentage (%)
Age	Below 20	3	8.0
	21 - 25	120	32.1
	26 - 30	80	21.4
	31 - 35	80	21.4
	36 - 40	44	11.8
	More than 41	47	12.6
Period of staying in Johor	1 – 5 years	0	0.0
	6 – 10 years	57	15.2
	More than 10 years	317	84.8
House Ownership	Yes	0	0.0
	No	374	100.0
Marital Status	Single	130	34.8
	Married	244	65.2
Occupation	Government Sector	57	15.2
	Private Sector	217	58.0
	Self-employed	75	20.1
	Unemployed	25	6.7
Personal Income	Less than RM3,000	268	71.7
	RM3,000 – RM4,000	66	17.6
	RM4,001 – RM5,000	27	7.2
	RM5,001 – RM6,000	8	2.1
	More than RM6,001	5	1.3
Household Income	Less than RM3,000	173	46.3
	RM3,000 – RM4,000	96	25.7
	RM4,001 – RM 5,000	58	15.5
	RM5,001 – RM6,000	27	7.2
	More than RM6,001	20	5.3
Household Size	2	77	20.6
	3 – 5	224	59.9
	More than 5	73	19.5

Age is seen as an important aspect when dealing with property criteria (Findsen, 2005), in other words, age could identify the number of demand in the housing market (Swan, 1995). Thus, from Table 3, the finding shows that the majority of the respondents were 21 to 25 years old, which recorded a 32.1% while the minority were aged below 20 which is only 8.0%. In determining the period the respondents have stayed in Johor, the recorded statistics indicates that 84.8% of the respondents have stayed in Johor for more than 10 years, while the remaining 15.2% of the respondents have stayed for a period between 6 to 10 years. Thus, since none of the respondents have stayed for less than 6 years, they therefore form part of the population who needs to be housed within Johor.

In terms of marital status, majority of the respondents are married people with a record of 65.2% thus, indicating that only 24.8% are single, therefore it is expected that since over 65% are married, they are in need of own house in order provide a shelter for themselves and their children as confirmed by (Lutfi, 2011) who opined that marital status may affect the buyer's decision making process.

Occupation is seen as an important factor that may influence the buyer in terms of property purchasing (Majid, Said, & Daud, 2017), thus has an impact on property cycle (Edelstein, & Tsang, 2007) as it may affect the level of demand for the property market within the short and long term period (Erekson, & Witte, 1979) coupled with the fact that housing programs are often designed in such a way that it assimilate diversity in terms of socio-economic composition (Waziri *et al.*, 2014). Therefore, in terms of the occupation of the respondents, the majority which is 58.0% are

working in the private sector while others are either with government departments or are self-employed, thus leaving out only the minority making up 6.7% as unemployed.

In addition, the personal income of respondents shows that the majority making up 71.7% of the respondents earn less than RM3,000 while 1.3% making up the minority earn above RM6,000, this information is important because income would influence people in buying a house (Bujang, Zarin & Jumadi, 2010). Then for the household income, it exhibits a majority of respondents earned less than RM3,000 which is 46.3% from the total while the minority earn more than RM6,000 making up 5.3%. This information is important to know because married couples in a households intend to have high income as compared to single people (Fontenla & Gonzalez, 2009). So that, high-income group also prefer to purchase high price houses (Ariffin, Zahari & Nadarajah, 2010). Lastly, household size, there were 59.9% respondents have 3 to 5 peoples live in their house while 20.6% consist of 2 peoples and 19.5% for more than 5 peoples. Household size may give an impact on the buyer's decision to purchase a housing unit because the bigger size of household tends to choose a bigger house.

#### 4.3 Mean Score analysis on factors affecting affordable housing overhang

As to fulfil the objective of this study, a mean score analysis was used to measure potential buyer perception toward factors affecting affordable housing overhang. Every factor was ranked based on their mean score. The result is shown in Table 5.

Table 5: Average Mean for Factors Affecting Affordable Housing Overhang



Factor	Q1	Q2	Q3	Q4	Q5	Q6	Total Mean	Average Mean	Rank
House Price	4.18						4.18	4.18	1
Loan Restriction	3.65	3.83	3.91				11.39	3.80	2
Facilities	3.48	3.66	3.72				10.86	3.62	3
Social Environment	3.45	3.58					7.03	3.52	4
Location	3.59	3.43	3.47				10.49	3.50	5
Neighbourhood	3.24	3.75					6.99	3.50	5
Pollution	3.28	3.31					6.59	3.30	6
Design of House	3.06	3.35	3.22	3.11	3.25	3.46	19.45	3.24	7

Table 5 shows that the average means for factors affecting affordable housing overhang from potential buyers' perspective. The rank is set based on the average mean for each 8 main factors. The average mean was calculated from the total mean of every aspect for each main factor. The first rank is house price with average mean of 4.18. Second, loan restriction with an average mean of 3.80 and the result for this factor is in agreement with past studies (Olanrewaju *et al.*, 2018). (Ebekozien, Abdul-Aziz & Jaafar, 2019) in their study on inaccessibility to housing loan in Malaysia found out that in 2015, 80.51% of total housing loan application were rejected while in 2014, 76.78% loan applications were rejected. Thirdly, facilities factor with average mean 3.62 whilst fourth highest factor is a social environment with average mean of 3.52. The fifth contributing factors are location and neighbourhood with each scoring an average mean of 3.50 followed by pollution with an average mean of 3.30 and lastly the design of the house with an average mean of 3.24. This result clearly shows that the main factor affecting affordable housing overhang lies mainly in the financial aspect of the potential buyer which directly affects the loan approval rate.

## 5.0 DISCUSSION

Most of the respondents agreed that house price is the main factor of affordable housing overhang. This finding was expected because previous

research has shown that inadequate housing prices limit the affordability of housing in most parts of the world (Demographia 13th Annual Demographia International Housing Affordability Survey, 2017). Previous research conducted have also indicated that homebuyers in Malaysia are facing a cost overburden (Olanrewaju *et al.*, 2016)(Osman *et al.*, 2017)(Demographia 13th Annual Demographia International Housing Affordability Survey, 2017). As a result, they encounter higher housing loan rejection rate by bank negara [37/51]. Related stakeholders such as the real estate & housing developers' association (REHDA) Malaysia, has started providing bridging loans of up to 50% to home buyers because of the reduction in loan approval rate (REHDA, 2017). Facilities, on the other hand, also plays an important role in overall housing quality and satisfaction. Another related factor to quality of life is environmental factors such as pollution which influences homebuyer's housing choice (de Dios Ortúzar & Rodriguez, 2002). Air quality, for example, affects the general health and outdoor activities which could be carried out by residents. Lastly, the questionnaire survey also shows that the locations of some of the affordable housing projects are unattractive due to the factors such as distance from workplace and low transport connectivity (Bank Negara Malaysia, 2017).

In conclusion, this study has provided some preliminary findings on why the take-up rate for some affordable housing schemes is lower than expected which contributes to the overall property overhang in Malaysia. The main factor affecting affordable housing overhang is the financial ability of applicants amid more prudent bank lending policies. It is clear that federal and state governments in Malaysia have been trying



to mediate between loan borrowers and financial institutions through more innovative financial packages and subsidies. However, the ultimate responsibility and commitment must also come from potential buyers in order to make their dream of owning a house becomes a reality.

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