

Factors Affecting the Demand of Affordable Housing among the Middle-Income Groups in Klang Valley Malaysia

Nurshuhada Zainon*, Faizul Azli Mohd-Rahim, Syazwani Sulaiman, Saipol Bari Abd-Karim, Atikah Hamzah.

Centre of Building, Construction & Tropical Architecture (BuCTA), Faculty of Built Environment, University of Malaya, Kuala Lumpur, MALAYSIA.

* *zshuhada@um.edu.my*

Housing affordability has been a major concern issues in Malaysia especially those living in major cities like Kuala Lumpur and Selangor. Purchasing a “dream home” is one of those life accomplishments that top nearly everyone’s bucket list. Searching for a home comes with different considerations; housing market outcomes can be influenced by a range of different factors. In the long run, house prices will tend to converge to the cost of new housing construction. For that reason, this study aims to identify the determinants affecting the purchase decision among middle-income groups. The data was collected through questionnaire survey that was distributed in the Klang Valley area. The data was gathered then analysed using descriptive analysis and inferential statistical tests. Findings identified factors that have driven up the demand for housing, and in particular for home ownership, in recent years. It reveals that the affordable house price factor is the most important consideration in buying a house. This study would shed light for the developers in developing housing schemes based on the consumers’ preferences and could become a basis for the government to revise the current housing scheme policy’s design specifically in Malaysia.

Keywords: *Affordable housing, homeownership, house price, middle income households.*

1. INTRODUCTION

A house is one of the basic needs of human beings. It acts as a shelter to support a household living (Samaratunga, 2013). Housing affordability is not a new issue among the middle-income households over the last decades. With the continuous increase in property price due to rapid economic growth, it will give a high struggle for the middle-income households to own an affordable house (Liew and Haron, 2013).

Historically, the government’s effort towards low-cost housing was introduced during the First Malaysian Plan (1966-1970) while the private sectors’ active involvement started during the Second Malaysia Plan (1971-1975). Both public and private sector have involved in various housing programmes in Malaysia in promoting the welfare for lower income groups. The public sector holds responsibility in providing houses for lower-income groups and the public employees. Meanwhile, the private sector focuses more on overall market demand (Economic Planning Unit, 1965). Under the Seventh Malaysia Plan (1996-2000) and Eighth Malaysia Plan (2001-2005), the government aims to provide

adequate, affordable, quality housing and related facilities for all income groups (Economic Planning Unit, 2000). Subsequently, since the Ninth Malaysia Plan (2006-2010), the government has been emphasizing on delivering affordable and quality housing for the citizens. The government is doing its best by continuously promoting affordable housing schemes and improving it from time to time.

In assessing housing requirements, it is important to clarify the housing demand; a combination of what citizen want and what they are prepared to pay for, individually or collectively. To deliver affordable and quality housing, the government and private developers need to know what are the main factors that attracting people to buy house, to avoid projects from becoming abandon and also to guarantee the projects being carried out effectively, and in a long run, satisfy the homeowners’ expectations. This study focuses at this issue; identifying the factor affecting the demand for affordable housing according to consumer preferences among middle-income groups in Klang Valley. This study also determines the accessibility for affordable housing based on their awareness and opportunity about Malaysia’s affordable housing scheme. The

result is expected to provide a clearer picture on what the consumers or house buyers' perception on affordable housing in Malaysia and the public housing scheme.

1.1 Affordable Housing in Malaysia

Housing affordability is a concept that interprets socioeconomic and development environments. It is considered as a household selection decision function between housing and non-housing product expenditure (Suhaida and Tawil, 2010). Housing affordability is denoted as the rent-to-income ratio or house-price-to-income ratio known as income affordability; more sophisticated measures are purchase affordability, repayment affordability (Gan and Hill, 2009) and life time income affordability (Abeysinghe and Gu, 2011). Affordable housing is provided for families that can be afforded by a range of very low to middle income-earner groups. Housing is considered affordable if it can afford to occupy without spending more than 30% of their income (Osman *et al.*, 2017).

Today, housing price in Malaysia is unaffordable for most middle to lower income groups. Khazanah Research Institute (2015) found that Malaysia has a "serious unaffordable" housing market. The median multiple is a common metric, suggested by the World Bank and the United Nations which rates affordability of housing by dividing the median house price by aggregate annual median household income (Shlomo, 2014). Affordability is rated on a scale of 0 to 5, as shown in Table 1. The 3.0x median multiple signs that the market delivers a distribution of housing that are subjected to minimal distortions – housing supply is responsive and able to match effective demand (Suraya, 2015). In Malaysia, houses were unaffordable (5.4) in Kuala Lumpur while Selangor were moderately unaffordable (refer Table 2). One of the reasons behind this unaffordability issue is the imbalance between huge demand and supply of housing supply (Khazanah Research Institute, 2015).

Table 1: Housing affordability categories.

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

Source: Demographia (2016).

Table 2: Housing affordability in Kuala Lumpur and Selangor.

Location	Median Multiple Affordability	
	2012	2014
Kuala Lumpur	4.9	5.4
Selangor	3.6	4.0
Malaysia	4.0	4.4

Source: Khazanah Research Institute (2015)

1.2 Affordable Housing Schemes in Malaysia

Generally, the target for affordable housing in Malaysia is the middle-income group (Baqutaya *et al.*, 2016). The current research suggests that middle-income earners are most likely trapped in the affordable housing issues (Baqutaya *et al.*, 2016). Middle income households are neither qualified for social housing nor are able to afford private sector-supplied houses. This group is not covered by the housing assistance programme since they are not eligible for low-cost and social housing and yet, cannot afford the private sector's medium cost housing or even any of the medium cost residential projects. Statistic shows that 40% of Malaysian middle-income population are unaffordable to buy their own house (Chiali and Choon, 2014).

There are several affordable housing launches by government and private developers, to solve housing affordability issue. For examples, 1Malaysia People's Housing Programme (PR1MA), 1Malaysia Civil Servant Housing Programme (PPA1M), *Rumah Mesra Rakyat 1Malaysia* (RMR1M), People's Housing Project (PPR), MyHome, Federal Territory Affordable Housing Policy (RUMAWIP) and *Rumah Selangorku*. PR1MA is a programme that has been launched in 2011 to provide middle-income earners in cities nationwide the opportunity to own their first home. This scheme assists low and medium income and the youth to buy their first homes. The PPA1M was established to help civil servants own a house, particularly in major cities. On the other hand, RMR1M is a development project under *Syarikat Perumahan Negara Berhad* (SPNB) that was created to help low income groups who have no home or live in dilapidated houses (weak), but has its own home ground to have a perfect and comfortable. Whilst PPR and MyHome is a low-cost housing project targeted to low-income households. PPR projects are developed by the government but MyHome is one of the government's

measures to encourage the private sector to build more affordable homes. RUMAWIP aims to provide affordable housing for middle-income earners who stay and work in Wilayah Persekutuan. Meanwhile, *Rumah Selangorku* is a programme to provide affordable house for low and middle-income groups in the Selangor region.

On top of that, Malaysian government has introduced several financial programs to overcome affordability issue. Such as, Employment Provident Fund (EPF), My First Home Scheme, First House Deposit Financing Scheme (MyDeposit), Rent-to-Own Scheme, Special PR1MA End Financing Scheme (SPEF), Youth Housing Scheme (YHS) and *SPNB Dana*. The government has allowed employees to make EPF withdrawals to reduce the burden purchasing a house. My First Home Scheme and the Young Housing Scheme help those who do not capable of having their first house. Furthermore, MyDeposit Scheme aims to aid the middle-income group to secure home and provide incentives for developers of affordable home. Moreover, Rent-to-Own Scheme assists those interested in owning their first home especially for young income households. The SPEF is only exclusive for PR1MA homebuyers. Besides, SPNB Dana has established to provide financing to homebuyers of RMR1M Scheme as well as those face difficulties in securing a bank loan (Syarikat Perumahan Negara Berhad).

1.3 Housing Preferences

In a housing market, the preferences of house buyers are important as it acts as the basis for forecasting housing demand, hence indirectly it leads to helping the government to regulate the housing policies and further promoting home ownership (Abdullah *et al.*, 2012). Understanding housing preference is important for house buyers make decision, especially for the first timers (Khan *et al.*, 2017). Reid (2013) found that many factors influence housing preferences. They were the relative cost of owning over renting, income, wealth, credit constraints, household characteristics, location, accessibility, house type, open space, personal income and house prices, and proximity to retail and service facilities. These include easily access to the public transport, distance to school and distance to commercial area (Fierro *et al.*, 2009). In addition, Khan *et al.* (2017) further identified some other factors such as design characteristics, construction quality, and security and safety. This finding is accord with

research by Anderson (2011) and Wang & Li (2016). Recently, Hwa (2017) discovered that developer's reputation is another consideration when buying a property in Malaysia. Zyed *et al.* (2016) found house price, household income, and housing choice were other factors influenced the housing affordability. Therefore, from the literature, all the factors that contribute to the housing choice among the potential homebuyers have been identified. These characteristics are divided to five which are: (a) House Price; (b) Design and Quality of House; (c) Location and Public Facilities; (d) Housing Developers; and (e) Social Environment.

2. RESEARCH METHODOLOGY

During the literature review, plenty of research has been done in different area of this topic; study has emplaced major concentration on determinants of housing demand. No specific key words required as inclusion criteria; the Rich Site Summary (RSS) feeds were referred to get up-to-date information and Google Trends were used to track comprehensive search results over lengthy periods of time continued, hence arranging the topics of discussion related to the topic. Articles were retrieved from diverse platform mainly from University of Malaya's online database and Google Scholar within a range of year 2006 to year 2017. Keywords used were "housing", "affordability", "Malaysia", "middle income", "determinants", and "house buyers", using a combined search of 'and' and 'or'. The articles include book chapters, journals, technical reports, institution's database, news written in English or Malay language and etc. (N=70). The reference lists of each article were reviewed in detail to find additional articles.

Quantitative research deals with numbers and statistical techniques. An experimental design is established in which dependent variables are measured while controlling for the effects of selected independent variables (Newman, 1998). In this research, data collection was based on a questionnaire survey. A convenience sampling was used because this technique is cheaper and convenient. A self-administered survey was conducted to collect the required data from the middle-income group in Klang Valley. A structured questionnaire designed by four main sections, which are Section A (Respondent profile), Section B (Current residence), Section C (Housing preference) and Section D (Housing scheme).

One hundred set of questionnaires were distributed to the targeted population from different areas in the Klang Valley consisting of current house owners and tenants. However, only 60 sets of completed questionnaires were received. As a result, this makes the response rate of 60%.

2.1 Data Analysis

The survey data collected was analysed using descriptive analysis and statistical tests using Statistical Package for Social Science (SPSS) to get the final result. The first section of the questionnaire presents the characteristics of the respondents. For instance, gender, age group, ethnicity, income category and household size. The descriptive analysis was applied to analyse the respondents' socio-demographic characteristics. Tables, including percentage counts, were used to interpret the respondents' profile. In a later section, the respondents were asked about their housing preferences to buy a house, type and location of the house if they were given an opportunity to buy a house. The data was analysed by using Cross Tabulation to get percentage distribution.

For the third section, the survey required respondents to rate the level of importance for the factors that influence household in decision making to buy a house. The reliability test was conducted on the result to examine the reliability of the questionnaire. Besides, the average index of each factor was calculated with respect to the level of influence based on opinion from the respondents. Then, every factor was ranked accordingly to its average index. This factor also was analysed using Pearson correlation coefficient to determine if any of the factors were significantly related to each other. The Pearson correlation coefficient value range from -1 to 1. The higher the coefficient indicated the stronger the relationship between the variables.

Finally, in the final section, respondents were asked about the opportunity and knowledge on the current public affordable housing schemes. The data was analysed by using Cross Tabulation to get the distribution of the overall views of the Malaysia's affordable housing scheme by income categories of respondents.

3. RESULT AND DISCUSSION

3.1 Socio-demographic Profile

According to Table 3, majority of the respondents (55%) were female and 45% were male. By age, majority of them (38.3%) fall between 21 to 30 age group followed by 21.7% who were in age group of 31 to 40. About 68% of the respondents were dominated by Malay as they represented the highest proportion among the other ethnic group and followed by 15% Chinese, 10% other races and 7% of Indian. Furthermore, most of the respondents work in private sector (40.5%), government servants (26.7%) and self-employed (18.3%). In terms of monthly household income, mostly between RM2,000-RM4,000 (45%), followed by 30% earned between RM4,001-RM6,000 and 11.7% of the households earned less than RM2,000 per month. As for household size, majority of the household had between 1 to 3 persons totalling 51% of the respondents.

Table 3: Socio-demographic profile of respondents.

Respondents' Profile	Percent
Gender	
Male	45.0
Female	55.0
Age	
< 21	3.3
21-30	38.3
31-40	21.7
41-50	10.0
51-60	16.7
>60	10.0
Race	
Malay	68.3
Chinese	15.0
Indian	6.7
Others	10.0
Employment sector	
Private	40.0
Government	26.7
Self-employed	18.3
Others	15.0
Monthly family income	
< RM 2,000	11.7
RM 2,000-RM 4,000	45.0
RM 4,001-RM 6,000	30.0
RM 6,001-RM 8,000	10.0
RM 8,001-RM 10,000	3.3
Households size	
1-3 people	51.7
4-6 people	41.7
7-10 people	6.7

3.2 Reliability Test

A reliability analysis was conducted on the result to test the reliability of response received. Cronbach's Alpha was performed in this question to specify how closely related the set factors as a group of nine variables. Alpha value greater 0.7 indicates the data is reliable for further analysis and reporting (George and

Maller, 2003). In this analysis, the Cronbach's alpha value obtained is 0.701, shows that the index can be a good summary measure and achieved reliability of the data from respondents.

3.3 Housing preferences

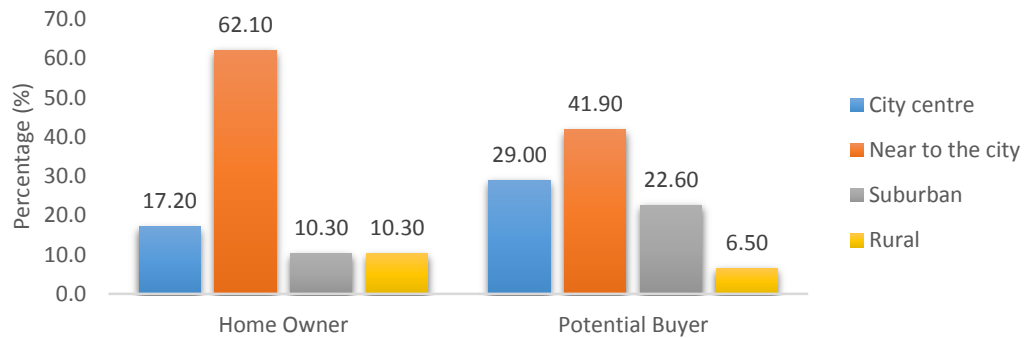


Figure 1. Distribution of preferred house location by homeownership.

The findings are divided into two sections; the current homeowners and potential homebuyers. Figure 1 indicated that the majority of the respondents preferred to stay near to the city more, as compared to the city centre, because most of them can only afford to buy or rent a house there. This reflects that the price of house in the city centre is more expensive. Factor such as distance to workplace, school, college and

public transportation stations also affect the demand for affordable housing. The option of buying a house in the rural area was not favoured by the potential buyers. Only small percentage of respondents were willing to live in rural areas as their future house because of the low living cost and more peaceful environment as they can avoid from the busy and bustling city life.

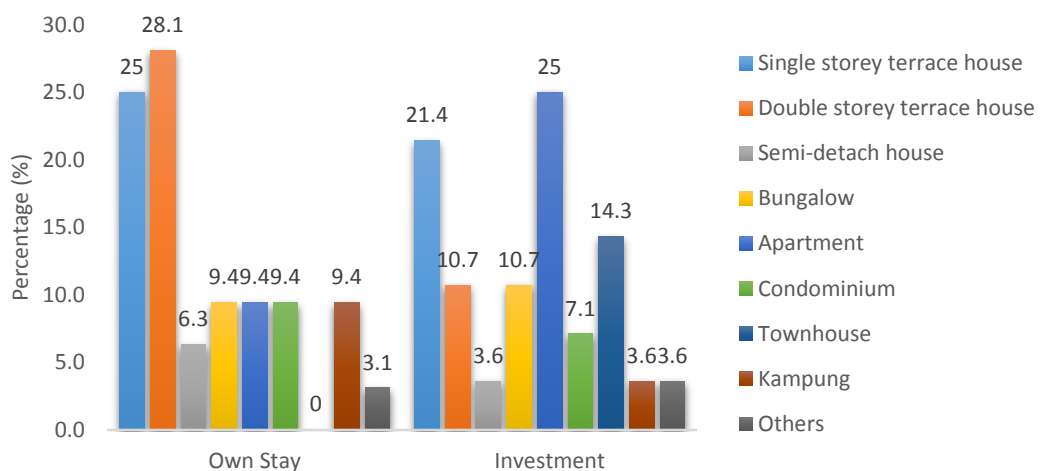


Figure 2. Distribution of type of house based on the purpose of house ownership

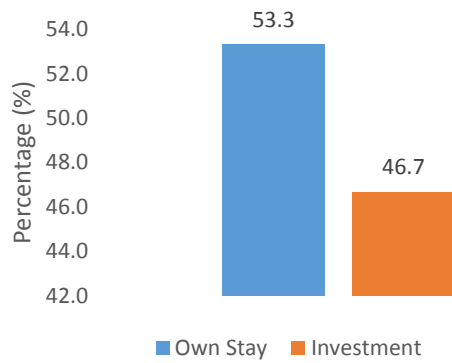


Figure 3. Distribution of purpose of buying house

Figure 2 presents the percentage distribution of type of house based on the purpose of house ownership. About 46.7% of the respondents preferred to purchase another house as an investment in future, either to rent the house or sell it for their income generation. While 53,3% of them wanted to buy the house for own stay. (refer Figure 3) The finding illustrates that the townhouse was not listed in the own stay preference. Single and double storey terrace house appeared to be the most preferred amongst the respondents for their own stay. For the investment purposes, Figure 2 revealed that majority of the respondents were more likely to buy high-rise apartment. This is probably because most of the high-rise apartment offers good location, which is in the city or near to the city centre, with affordable

price for them to buy and high demand for renting due to high employment opportunities in city area.

In the next section, the survey required respondents to rate the level of importance of the factors that influence their decision making using five-point Likert scale ranging from 1: Not important, 2: Slightly important, 3: Moderately important, 4: Important and 5: Very important. Based on given scale, the average index of each factor was tabulated with the method as stated below:

$$\text{Average index} = \frac{\text{Sum of all the scales given by repondents}}{\text{Total respondents}}$$

Table 4: Importance of Factors Influencing the Decision Making.

No.	Factor	Rate					Average Index	Rank
		1	2	3	4	5		
1	Price	0	1	1	22	36	4.55	1
2	Design	1	0	14	31	14	3.95	6
3	Location	0	1	12	28	19	4.08	4
4	Quality	0	1	14	30	15	3.98	5
5	Developer's success on previous project	0	1	26	27	6	3.63	7
6	Number of project done by developer	0	3	38	14	5	3.35	9
7	Developers' popularity	0	4	34	15	7	3.42	8
8	Public facilities	0	0	2	31	27	4.42	3
9	Safety and security	0	0	3	26	31	4.47	2

From the analysis (see Table 4), the highest rank is house price with an average index of 4.55. It indicates that the house price is the most important factor influencing the decision making to buy and own a house. Due to the

Meanwhile, the safety and security is ranked at the second-highest index of 4.47 and it shows that safety and security is the second important factor influencing home buyers' purchase decision. House buyers desire to live in safe neighbourhood, such as in gated and guarded area residences with security guards patrolling the area all time. Respondents were concerned for their safety due to increasing crime situation in Malaysia such as snatch theft and burglary within the housing area. The third rank factor is the availability of public facilities within the neighbourhood with an index 4.42. Public facilities such as children's play area, clinic, places of worship are expected to be situated nearby to the residences. Furthermore, supermarkets and convenience stores near to the housing area will ease them to buy daily products such as groceries and household needs.

This is followed by a location and quality of the house with the average index of 4.08 and 3.98 respectively. The suitable and ideal home

rising of house price, it is challenging for the middle-income group to buy a house as purchasing a house is considered as the biggest financial decision in one's life which affects the household's long run financial commitment.

location is mainly related to the easy access to the public transport, close to their workplace or schools and colleges. As pointed by Wan *et al.* (2010), housing should be near to the workplace and city centre so that concept of work and live can be applied. Moreover, quality of the house is related to the minimal building defects. Subsequently, house design is ranked as the sixth important factor with an average index of 3.95. Developer's success on the previous project, experience and popularity contributed to the lowest index. These explained that most respondents do not consider too much on housing developer's reputation.

3.4 Pearson Correlation Test

Pearson correlation coefficient is a statistical technique used to determine the relationship and measure its strength between two variables. The symbol of Pearson correlation coefficient is ' r '. According to the rule, if r is a positive value, it means that as one variable increases, the other variables also increase.

Table 5: Pearson correlation coefficient matrix between the factors.

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9
Factor 1	1	-0.184	0.311*	0.202	0.123	0.017	0.009	-0.133	0.073
Factor 2	-0.184	1	0.287*	-0.059	0.153	0.213	0.089	0.124	0.194
Factor 3	0.311*	0.287*	1	0.151	0.252	0.258*	0.279*	0.470**	0.211
Factor 4	0.202	-0.059	0.151	1	0.647**	0.267*	0.357**	0.098	0.246
Factor 5	0.123	0.153	0.252	0.647**	1	0.441**	0.506**	0.139	0.301
Factor 6	0.017	0.213	0.258*	0.267*	0.441**	1	0.736**	0.138	0.128
Factor 7	0.009	0.089	0.279*	0.357**	0.506**	0.736**	1	0.214	0.193
Factor 8	-0.133	0.124	0.470**	0.098	0.139	0.138	0.214	1	0.524**
Factor 9	0.073	0.194	0.211	0.246	0.301	0.128	0.193	0.524**	1

** and * denote significance at the 1% and 5% levels, respectively

Table 5 shows that most of the factors have a positive linear relationship among all the variables. The correlation coefficient value of house price and the location was $r=0.311$ and

was significant at 0.01 levels. This indicates that the location of the property influences the house price. A house in the urban area much more expensive compared to the rural area. One

of the reasons that contribute to the increased house price in the major city centre is due to the strategic location for working citizen.

In addition, there was a significant relationship between housing developers and quality of the house. The coefficient values show that developer's success ($r=0.647$), their house. House buyers nowadays are normally concern with the internal environment and physical quality of the house.

House location ($r=0.287$) exhibit a positive relationship with the design of the house at 5% significance level. As the scarcity of land is increasing in Klang Valley, most of the housing projects aims to build high-rise building such as apartments and condominiums, on the other hand suburban area accommodates more landed property projects. Overall, the Pearson

developers' past project experience ($r=0.267$) and developers' popularity ($r=0.357$) have a positive relationship with the house quality. The property developers tend to construct various house design based on consumers' demand. House buyers are willing to pay more and go for a good developer to acquire high-quality of

correlation test shows significance occurred within some factors, however, there is also no significance relationship with other factors.

3.5 Housing scheme

Government housing scheme is the essential part when discussing the issue regarding affordable housing. The awareness of these housing schemes is important to assist the house buyers to purchase a house within their income and affordability.

Table 6: Distribution of respondents by income group about Malaysia's housing scheme.

Income group	Awareness to housing scheme (%)		Total (%)	Opportunity to housing scheme (%)		Total (%)
	Yes	No		Yes	No	
<RM 2,000	85.7	14.3	100.0	14.3	85.7	100.0
RM 2,000 – RM 4,000	88.9	11.1	100.0	51.9	48.1	100.0
RM 4,000 – RM 6,000	94.4	5.6	100.0	44.4	55.6	100.0
RM 6,000 – RM8,000	83.3	16.7	100.0	16.7	83.3	100.0
RM 8,000 – RM10,000	100.0	0.0	100.0	0.0	100.0	100.0

Affordable housing schemes' policy has evolved to satisfy the current demand and to offer the most affordable price range for house buyers to own a house. Along with the range of household monthly income, house buyers can determine whether they are eligible to buy the house through these schemes. A cross-tabulation analysis of the respondents with respect to the income group demonstrates that a large number of respondents more likely to aware to the housing schemes available in Malaysia. Citizens are already familiarised with these types of housing and some of them did buy their house using these schemes.

From Table 6, about 85.7% of the lower-middle income categories with the household income below than RM2,000 aware about the housing scheme but they do not have the opportunity to be exposed to this housing schemes. People with low-income groups might have difficulties to get housing loan due to unaffordable housing price and high-interest

rate. They have no choice to the strict lending guidelines because they cannot afford to own it.

Table 6 also revealed that for the middle-income group category from RM2,000 to RM10,000, the opportunity to the housing scheme increases as the income group increases. A higher income category with the middle income between RM8,000 to RM10,000 aware of the existing schemes but they did not have an chance to utilize the advantages of the schemes mainly due to two reasons, firstly is because their households income are overqualified them, and secondly due to insufficient number of affordable housing projects been provided.

4. CONCLUSION

Over the recent years, housing affordability issues are still a major concern among middle-income group in Malaysia. The affordable housing situation in Kuala Lumpur is a serious problem with the median multiple at 5.4, which were considered as severely unaffordable in

2014. Housing price is continued to rise and it will affect the ability of the potential home buyers to buy the house. The study was conducted to identify significant variables affecting the demand for affordable housing among the house buyers. Based on the survey findings, the results revealed that house price is the most important consideration for homeownership preferences followed by safety and security and public facilities. Studies have shown that house price has been the major concern among households especially to those living in major cities. A study of these factors is particularly important to understand their consideration criteria when buying a house.

With the continuous increase in living cost and property prices, home buyers, especially the first-timer, will face a huge challenge to buy a house in today's market, mainly due to urgency of supply oriented initiative in short and medium run in Malaysia (Samad *et al.*, 2017). Therefore, this must be supported by long term demand side schemes in parallel. Convergences of these two factors are essential for a balanced equilibrium and obtaining affordability. On the other hand, more housing projects are still in need, not only for low-income population but also make the house accessible for the middle-income households. This approach would help to reduce the homeownership problems and eventually will fulfil the need for affordable homes of the targeted group. Although this study has reached its objectives, but there are a few limitations of this study, First, the sample of the study was 60 respondents and this is considered relatively small sample to represent the whole population of Malaysia. This finding also may not comprehensive enough to cover all range of middle-income groups in Malaysia. Finally, future research is needed to consider a large number of respondents to achieve a greater accuracy in the research project.

ACKNOWLEDGEMENT

This research was supported by the University of Malaya Research Grant (UMRG) [grant number RP015C-15SUS] and *Bantuan Khas Penyelidikan* [grant number BKS015-2017].

REFERENCES

Abdullah, L., Nor, S. I. B. M., Jumadi, S. N., & Arshad, S. H. (2012). First-time home buyers: Factors influencing decision making. In *International Conference on Innovation and Technology for Sustainable Built Environment* (pp. 249-254).

- Andersen, H. S. (2011), *Explaining Preferences for Home Surrounding and Locations*. *Urbani Izziv*, 22(1):100-114
- Baqutaya, S., Ariffin, A.S., & Raji, F. (2016), *Affordable Housing Policy: Issues and Challenges among Middle-Income Groups*. *International Journal of Social Science and Humanity*, 6(6):433-436.
- Cheng, F. F. & Cheok, J. (2008), *Importance of branding for property developers in Malaysia*. *Sunway Academic Journal*, 5(1):65-81.
- Chiali, K. C., & Choon, A. (2014), *People's perception of affordable housing*. Retrieved from, <http://www.starproperty.my/index.php/articles/property-news/peoples-perception-of-affordable-housing/>
- Demographia. (2016), *Demographia World Urban Areas: 12th Annual Edition*. Retrieved from, <http://demographia.com/dhi2016.pdf>
- Economic Planning Unit. (1965), *First Malaysian Plan (1966-1970)*. Malaysia: Prime Minister's Department.
- Economic Planning Unit. (2000), *Eighth Malaysia Plan (2001-2005)*. Malaysia: Prime Minister's Department.
- Economic Planning Unit. (2005), *Ninth Malaysia Plan (2006-2010)*. Malaysia: Prime Minister's Department.
- Economic Planning Unit. (2015), *Eleventh Malaysia Plan (2016-2020)*. Malaysia: Prime Minister's Department.
- George, D., & Mallery, P. (2003), *SPSS for Windows Step by Step: A Simple Guide and Reference, 11.0 Update*. Boston: Allyn & Bacon.
- Fierro, K. P., Fullerton Jr., T. M. & DonjuanCallejo, K. E. (2009), *Housing Attribute Preference in a Northern Mexico Metropolitan*. *Atlantic Economic Journal*, 37(2):159-172.
- Hwa, G.O. (2017, April 12), Developer's reputation of topmost concern, *The Star Online*, retrieved from <http://www.thestar.com.my/metro/community/2017/04/12/developers-reputation-of-topmost-concern-visitors-to-starpropertymy-awards-2017-showcase-say-locatio/>, accessed on 26 August 2017.
- Kauko, T. (2007), *An analysis of housing location attributes in the inner city of Budapest, Hungary, using expert judgment*. *International Journal of Strategic Property Management*, 11(4): 209-225.
- Khan, P. A. M., Azmi, A., Juhari, N. H., Khair, N., & Daud, S. Z. (2017), *Housing Preference for First Time Home Buyer in*

- Malaysia. *International Journal of Real Estate Studies*, 11(2):1-6.
- Khazanah Research Institute. (2015), *Making Housing Affordable*. Kuala Lumpur: Khazanah Research Institute.
- Liew, C., & Haron, N. A. (2013), *Factors Influencing the Rise of House Price in Klang Valley*. *International Journal of Research in Engineering and Technology*, 2(10):261-272.
- Newman, I., & Benz, C. R. (1998). *Qualitative-quantitative research methodology: Exploring the interactive continuum*. SIU Press. Chicago.
- Osman, M. M., Ramlee, M. A., Samsudin, N., Rabe, N. S., Abdullah, M. F., & Khalid, N. (2017). Housing Affordability In The State of Johor. *Planning Malaysia Journal*, 15(1).
- Reid, C. (2013). To Buy or Not to Buy? Understanding Tenure Preferences and the Decision-Making Processes of Lower-Income Households. *Cambridge, MA: Joint Center for Housing Studies of Harvard University*.
- Rohe, W. M., Van Zandt, S., & McCarthy, G. (2001), *The Social Benefits and Cost of Homeownership: A Critical Assessment of the Research*. (working paper), Joint Center for Housing Studies, Harvard University.
- Samad, D., Zainon, N, Mohd Rahim, F.A., Lou, E (2017) Malaysian Affordability Housing Policies Revisited, *Open House International*, 42(1).
- Samaratunga, T. (2013). *High-Density High-Rise Low-Income Housing: An Appropriate City Planning Solution for Colombo, Sri Lanka* (Thesis), Bond University.
- Shlomo, A. (2014), 11th Annual Demographia International Housing Affordability Survey, available at: <http://www.demographia.com/dhi11-media.pdf>
- Star Property. (2016). Malaysia Affordable Housing Guide 2016/2017 - Part 1. Retrieved from, <http://www.starproperty.my/index.php/articles/investment/malaysia-affordable-housing-guide-20162017-part-1/>
- Suraya, I. (2015), Making Housing Affordable, Khazanah Research Institute, Kuala Lumpur.
- Wan, N. A., Hanif, N. R., & Singaravelloo, K. (2010), *Affordable Housing for Middle Income Households in Malaysia*. Paper presented at the IRERS Conference, Kuala Lumpur.
- Wang, D., & Li, S. M. (2006), *Socio-economic differentials and stated housing preferences in Guangzhou, China*. *Habitat International*, 30:305-326.
- Zyed, Z. A. S., Aziz, W. N. A. W. A., & Hanif, N. R. (2016), *Housing Affordability Problems among Young Households*, *Journal of Surveying, Construction and Property*, 7(1):1-18. *Architectural Design and Space Management Concepts*, Butterworth-Heinemann, Boston