Significant Parameters of Affordability House Buyers In Batu Pahat, Johor, Malaysia

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Abstract: Housing is interpreted as a human right involves basic standard of living, act as a shelter and protection provision to the occupants. Through increasing population and rapid growth of urbanization, there have been huge improvements of housing industry in Malaysia. However, issues of housing affordability still occurs due to imbalance between demand and supply of houses in providing the affordable houses especially for low and middle-income groups. Therefore, this research is conducted to determine significant parameters of housing affordability in Malaysia. Parameters of housing affordability were collected from literature reviews such as journals, articles, newspaper, and web pages. Then, the parameters were used in questionnaire survey among respondents in Batu Pahat. Through Principal Component Analysis (PCA), there are 4 significant parameters listed from mean statistical analysis from 16 parameters of housing affordability which including; (1) housing price, (2) housing quality, (3) income growth, and (4) economy development. Each of principal components distributed from 3 most significant parameters based on their component score of coefficient matrix. In principal component 1, the most significant parameters are including (1) Inflation rate, (2) Repayment, and (3) Goods and services. Principal component 2 consists of (1) Housing quality, (2) Housing location and (3) Design of house. Furthermore, principal component 3 contributed by (1) Income growth, (2) Design of house and (3) Housing location. Last but not least, principal component 4 listed (1) Economy development, (2) Income growth and (3) Household expenditure as most significant parameters. In conclusion, the determination of significant affordability housing parameters provide clear understanding on the factors contributes to ability of house buyers in purchasing a house in Malaysia.

Keywords: housing affordability, parameters, Principal Component Analysis

1. Introduction

Housing is a one of the main factors that contributes to economic growth acceleration and due to constantly growing of population and urbanization, housing industry has been identified as globally everlasting challenge. To be exact, affordable housing is defined as housing that has an adequate basic standard that provides high opportunities of work and community services which benefits occupants in terms of daily cost [3].

Housing industry in Malaysia having a huge improvement through rapid growth of urbanization and population. Demand of new houses rose up that leads to property prices especially in urban areas was opened to spectacular market. Housing problems that involves the affordability of house buyers to purchase a house started to occurs when the income of employers still not increased although the prices of houses in Malaysia continuously increasing [7].

According to Valuation and Property Services Department of Malaysia (JPPH), Ministry of Finance stated that housing prices in Malaysia undergoes dramatically increment for past ten years which the average house prices continue to increase in each year from 2004 until 2013. The continuously increasing of house prices leads to the issue of housing affordability among Malaysians especially the younger generation as a first time home buyers [1]. Issues of
affordability generally arise not only from developed countries in terms of urbanization and improvement, but also due to constantly increasing of population. In Malaysia, this phenomena effects the balance of demand and supply of houses as well as providing the affordable houses especially for low and middle-income groups [8]. In addition, the increasing of population in Johor increases the demand of residential property which makes the housing price become not affordable to be purchased. Constant increasing of house prices in Johor is significantly in line with the demand for home buyers in the country and broad [5].

2.0 Housing in Malaysia

Population in Malaysia are divided into several classification of group including low income group, middle income group and high income group based on their monthly income, which determines the affordability of house buyers. Based on Bank Negara Malaysia Report 2013, the classification of group based on their monthly income is as shown in Table 2.1 below;

Table 2.1: Housing price structure based on the classification of income group  
Source: (Bank Negara Malaysia Report, 2013)

<table>
<thead>
<tr>
<th>Category</th>
<th>Monthly income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low income group</td>
<td>Below RM 3,000</td>
</tr>
<tr>
<td>Middle income group</td>
<td>RM 3,000- RM 5,000</td>
</tr>
<tr>
<td>High income group</td>
<td>Above RM 5,000</td>
</tr>
</tbody>
</table>

By referring to Bank Negara Malaysia Report 2016, Malaysian has been categorized according to their monthly income salary which consists of low income group (below RM3,000 income per month), middle income group (between RM3,000 to RM5,000 income per month) and high income group (above RM5,000 income per month). In the context of house price per unit, it will continuously changing depends on the economy stability in Malaysia (Ministry of Housing and Local Government, 1998).

Housing prices in Malaysia is based on three types of housing categories which are low cost housing, low medium cost housing, medium cost housing, and high cost housing. According to Ministry of Housing and Local Government (1998), the relationship of housing categories with house price per unit and target groups/income per month is shown as Table 2.2 below;

Table 2.2: Housing price structure (after June 1998)  
Source: (Ministry of Housing and Local Government, 1998)

<table>
<thead>
<tr>
<th>Category</th>
<th>Monthly income</th>
<th>Target group/ Income per month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low cost</td>
<td>Below RM 42,000</td>
<td>Below RM1,500</td>
</tr>
<tr>
<td>Low medium cost</td>
<td>RM 42,000- RM60,000</td>
<td>RM1,501- RM2,500</td>
</tr>
<tr>
<td>Medium cost</td>
<td>RM 60,001- RM100,000</td>
<td>Not stated</td>
</tr>
<tr>
<td>High cost</td>
<td>Above RM 100,001</td>
<td>Not stated</td>
</tr>
</tbody>
</table>

Based on the housing price structure as in Table 2.2 above, Ministry of Housing and Local Government (1998) stated that house price per unit for low cost housing is below RM42,000 and the target group is person with monthly income below RM1,500. For low medium cost housing (RM42,001-RM60,000), the target group is people with income per month ranging between RM1,501 to RM2,500. Meanwhile, the target group/income per month for medium cost housing (RM60,001-RM100,000 of house price per unit) and high cost housing (above RM100,001 of house price per unit) are not stated in the housing price structure. Furthermore, Table 2.3 below shows the housing average price in 2017 based on type of property;

Table 2.3: Housing average price in 2017 based on type of property.  
Source: (Global Property Guide, 2017)

<table>
<thead>
<tr>
<th>Type of property</th>
<th>Housing average price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terraced house</td>
<td>RM 299,012</td>
</tr>
<tr>
<td>High-rise residential properties</td>
<td>RM 320,782</td>
</tr>
<tr>
<td>Semi-detached house</td>
<td>RM 500,943</td>
</tr>
<tr>
<td>Detached house</td>
<td>RM 560,987</td>
</tr>
</tbody>
</table>

Malaysia Real Estate Prices (Global Property Guide, 2017) has classify the housing average price based on the type of property which are including terraced house, high-rise residential properties, semi-detached house and detached house. Based on the table above, the highest average price of house is detached house with RM 560,987 per unit, followed by semi detached house and high rise residential properties with RM 500,943 and RM 320,782 per unit respectively. The lowest average price goes to terraced house with RM 299,012 per unit.

2.1 Housing industry in Johor

Affordable house price determined by the multiplication of affordability index of 3.0 with annual median income of population in each district [6]. Therefore, the affordable houses in the state of Johor based on maximum median house price to the population of the districts are shown in the Table 2.4 below;

Table 2.4: Affordable House Prices by District in Johor based on Data for 2014  
Source: (Department of Housing, Johor State Government, 2014)

<table>
<thead>
<tr>
<th>District</th>
<th>Annual Median Income (RM)</th>
<th>Median All House Price (RM)</th>
<th>Affordable Maximum Median House Price based on Housing Affordability Index Ratio of 3.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mersing</td>
<td>39,036</td>
<td>271,000</td>
<td>117,108</td>
</tr>
<tr>
<td>Segamat</td>
<td>56,988</td>
<td>381,000</td>
<td>154,364</td>
</tr>
<tr>
<td>Johor Jaya</td>
<td>52,976</td>
<td>342,000</td>
<td>114,000</td>
</tr>
<tr>
<td>Kangar</td>
<td>57,768</td>
<td>374,000</td>
<td>124,000</td>
</tr>
<tr>
<td>Batu Pahat</td>
<td>61,704</td>
<td>405,000</td>
<td>135,112</td>
</tr>
<tr>
<td>Ajiat jaya</td>
<td>68,702</td>
<td>447,000</td>
<td>148,112</td>
</tr>
<tr>
<td>Johor Bahru</td>
<td>73,422</td>
<td>489,000</td>
<td>159,364</td>
</tr>
<tr>
<td>Muar</td>
<td>57,418</td>
<td>324,000</td>
<td>108,000</td>
</tr>
</tbody>
</table>

By referring the table above, Johor Bahru is stated as the most affordable maximum median house price based on housing affordability index ratio with the value of RM220,356 and Mersing is identified as the least affordable maximum median house price with the value of RM117,108. Therefore, it can be concluded that people who resides in Johor Bahru are more afford to own a house compared to other state of Johor.
2.2 Issues of affordable housing in Malaysia

Through literature reviews, the issues of affordable housing in Malaysia are including mismatch between demand and supply, the affordability of house purchaser, and the demand for affordable housing exceeds the amount of supply [2,7,3]. Changes in housing demand will effect the houses supply, which directly related to changes of houses price in Malaysia. Due to over demanding, the supply of houses provided become inadequate which lead to the rising up of houses price in Malaysia [7]. In this situation, housing prices becomes not affordable since the increasing of housing price not parallel with the increasing of monthly income salary. Therefore, the people are facing savings shortage and rising of living costs.

2.3 Mismatch between demand and supply

Migration of rural population to urban areas become one of the main reasons which leads to housing demand in Malaysia keep arising. This is because, the constant economy stabilization gives higher chances for people to have a better work opportunities with higher monthly income salary [2]. Meanwhile, the changes of demanded houses quantity will effect the supply of housing, where as it contributes to lack of supply due to over demand [7].

2.3.1 The demand for affordable housing exceeds the amount of supply

By referring to Minister of Housing and Local Government (2013), there has been 40% differences between the demand and supply of houses with the affordable housing provided. Furthermore, Prime Minister Datuk Sri Najib Tun Razak has mentioned before that the amount of affordable homes available in Malaysia is seven times lower compared to number of people applying for 1Malaysia Housing Programme (PRIMA). This issue shows that the supply of affordable houses especially for low and middle-income groups is inadequate (Bernama, 2015).

2.4 Government programmes

Affordable housing become a greater issue as it may lead to social problem with various social, cultural and economical implication, which contributes to the factor of affordability of house buyers especially for middle-income groups and low income groups. Therefore, Malaysia Economic Planning Unit (EPU), 2016 listed out several strategies in providing the safety, health and well-being of people, with ensuring the affordability of houses buyers in Malaysia. The strategies are including; 1) Public Low-Cost Housing, 2) Integrated Public Low-Cost Housing, 3) Site and Services Scheme, 4) Housing Loan Scheme, 5) Housing facilities for Land Settlers, 6) Institutional Quarters and Accommodation for Government Staff, 7) Housing facilities for Estate and Industrial Workers, 8) Housing Assistance Program, and 9) 1Malaysia Housing Programme (PRIMA).

2.5 Eleventh Malaysia Plan in housing industry

According to Eleventh Malaysia Plan, (2015), the economy of people will be given priority which enriching their lives and uplifting the potential of partake in prosperity of country in the next five years of development in Malaysia. In line with this, GDP growth, per capita income, household income and Malaysian Well-being Index created to assess the impact of economic growth on well-being of people. With advanced economy status by 2020, Government aspires Malaysia to rise up the national per capita income into more than US$15,000. Moreover, every households predicted to be able to own efficient infrastructures and public amenities, quality health care and education, quality and affordable housing, and comprehensive support services. Therefore, few strategies created in Eleventh Malaysia Plan which are including; (1) Uplifting B40 household towards a middle-class society and (2) Providing adequate and quality affordable housing to poor, low and middle-class income households.

2.5.1 Uplifting B40 households towards a middle-class society

Strategic thrust in order to enhance the inclusiveness toward an equitable society which become outcome-based support and productivity-linked assistance including uplifting B40 households towards a middle-class society conducted in order to gives a focus in programmes related to skills training, entrepreneurship, ownership of assets, and investment of basic amenities. According to Department of Statistic Malaysia, 2010 B40 refers to the bottom 40% of household with monthly income of RM3,900 and below. Generally, the focus of this plan is improving the income levels and wealth creation, which also increases the educational levels and skill levels for Malaysians. In the process of achieving the targets, the relation of each scope are; (i) fostering community and social-based enterprises in B40 community, (ii) building capacity to

Table 2.5: The composition of affordable housing based on DPRJ in the state of Johor

<table>
<thead>
<tr>
<th>House type</th>
<th>%</th>
<th>Floor Area (Sq. Ft)</th>
<th>Plot Size</th>
<th>Type</th>
<th>Maximum Selling Price (RM)</th>
<th>Target Households Income (RM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PKJ A</td>
<td>5%</td>
<td>750 sqft</td>
<td>30</td>
<td>N/A</td>
<td>60,000</td>
<td>80,000</td>
</tr>
<tr>
<td>PKJ B</td>
<td>10%</td>
<td>850 sqft</td>
<td>30</td>
<td>N/A</td>
<td>80,000</td>
<td>100,000</td>
</tr>
<tr>
<td>RMMJ</td>
<td>10%</td>
<td>1,000</td>
<td>30</td>
<td>N/A</td>
<td>120,000</td>
<td>150,000</td>
</tr>
<tr>
<td>Medium Cost Shop</td>
<td>5%</td>
<td>1,200</td>
<td>N/A</td>
<td>N/A</td>
<td>200,000</td>
<td>RM7,000</td>
</tr>
<tr>
<td>Total</td>
<td>40%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>200,000</td>
</tr>
</tbody>
</table>

Affordable housing consists of at least 40% in a development of housing project based on the policy created by Dasar Perumahan Rakyat Johor (DPRJ). The categorization of house according to house selling price and target household income per month are tabulated as Table 2.6 above which explain that; 1) 5% house type PKJ A consists of low cost units such as flats or apartments will be priced at RM42,000, targeted to buyers with household income not exceed RM3,000 per month, 2) 10% house type PKJ B will be RM60,000 as the maximum selling price with the target of household income per month is below than RM4,500, 3) 20% house type RMMJ will be priced at RM150,000 and targeted to those buyers which monthly income is below the amount of RM6,000.
participate in high-productivity, innovative and creative economic activities. The visions of this game changer are not only for the ability for B40 households to build wealth through non-financial asset ownership, but also in order to ensure B40 independent from continuously rely on government assistance programme.

2.5.2 Providing adequate and quality affordable housing to poor, low and middle-income households

In achieving the improvement of society well-being, the other thrust conducted as development approach that bring out one of the best solution in improving the economic growth and well-being of society which consist of socio-economic, physical and psychological needs. In the means of it, every Malaysian which regardless of socio-economic background or geographic location will have equal access to quality of healthcare and affordable housing. Over 606,000 houses will be constructed for low and middle-income households and affordable housing financing schemes will be provided for these group such as MyFirst Home, Youth Housing, and MyHome. Furthermore, transit housing programmes will be introduced to youth and young married couples [9].

2.6 Parameters of housing affordability

Parameters in determining affordability of house buyers collected from previous researchers are listed in Table 2.6.

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Author(s)</th>
<th>Parameters</th>
</tr>
</thead>
</table>
| 1   | Housing Affordability: A Conceptual Overview for House Price Index    | Suhaida et al., (2011)   | - house price  
- income growth  
- income of buyers  
- number of household  
- monthly house instalment |
| 2   | Housing Affordability among Generation Y in Malaysia                 | Aishah A. & Subramaniam G., (2016) | - house price  
- low cost house supply  
- difficulty to pay deposit  
- difficulty to secure credit |
| 3   | Exploring the Elements of Housing Price in Malaysia                 | Osmadi, A. et al., (2015) | - price of housing  
- location of housing  
- design of housing  
- income growth  
- household expenditure |
- loans & accommodation  
- facilities & services  
- safety & comfort  
- quality management |
| 5   | Awareness on Sustainable Affordable Housing Among Homebuyers in Malaysia | Ang, S. et al., (2016) | - price of houses  
- location  
- quality of houses  
- financial facilities  
- mortgage rates |
- household income  
- loan payments |
| 7   | Transaction Cost and Housing Affordability in Asia                  | Cruz, P.C.R., (2008)    | - house price  
- income ratios  
- owner occupancy rates  
- constructions cost |
| 8   | The Types of Affordable Housing Based in The Klang Valley: Case Study | Sahib, N.H., (2015)     | - construction cost  
- design of housing  
- selling price of houses  
- provision of basic amenities |
- debt servicing capacities  
- monthly installment  
- policies of housing |
- household incomes  
- structure of financing cost  
- housing interest rates |
- urbanization & industrialization  
- development of houses type |
| 12  | The Affordability Housing Stress Among Middle-Income Group          | Baquayan, S. (2014)      | - house price  
- income of household |

Table 2.6: Parameters in affordability of house buyers
<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Author(s)</th>
<th>Parameters</th>
</tr>
</thead>
</table>
| 13  | Affordable Housing Policy: Issues and Challenges Among Middle-Income Groups | Baquatian et al., (2016)                                                   | - housing prices  
- housing loan  
- household income  
- economy development                                                    |
| 14  | The House Preference of Young People in Malaysian Urban Areas: A Case Study Subang Jaya, Selangor | Leho et al., (2016)                                                        | - price range of housing  
- financial services  
- quality of houses  
- monthly income                                                      |
| 15  | Price to Income Ration Approach in Housing Affordability             | Norasmawati M.S., (2015)                                                  | - prices of housing  
- housing expenditure  
- quality of housing  
- housing market  
- residual income                                                          |
| 16  | Detecting Malaysian Housing Bubbles                                  | Yip C.Y et al., (2015)                                                    | - housing price index  
- availability of financial  
- monthly income                                                           |
| 17  | Developing an Assessment Framework for affordable and Sustainable Housing | Pullens. et al., (2010)                                                  | - land of housing  
- housing features  
- mortgage repayment  
- household incomes                                                          |
| 18  | Developing an Assessment Framework for affordable and Sustainable Housing | Pullens. et al., (2010)                                                  | - land of housing  
- housing features  
- mortgage repayment  
- household incomes                                                          |
- houses prices  
- household income                                                          |
| 20  | Developing an Assessment Framework for affordable and Sustainable Housing | Pullens. et al., (2010)                                                  | - land of housing  
- housing features  
- mortgage repayment  
- household incomes                                                          |
| 21  | A Model of Housing Quality Determinants (HQD) for Affordable Housing   | Chohans. et al., (2015)                                                  | - design of housing  
- housing quality  
- location of housing                                                          |
| 22  | The Definition of Affordable Housing: Concerns and Related Evidence   | Pivo, G. (2013)                                                          | - mortgage repayment  
- housing expenditure  
- income of household  
- housing conditions                                                          |
| 23  | The Affordable Housing Shortage: Considering the Problem, Causes and Solutions | Feldman, R. (2003).                                                      | - income of households  
- housing expenditures  
- housing cost  
- houses subsidies                                                          |
| 24  | Factors Affecting House Price in Subang Jaya, Malaysia                | Shiuu, N.Y., (2015)                                                      | - GDP per capita  
- total population  
- lending rate                                                                 |
| 25  | Affordable Housing Within the Middle Income Households in Malaysia: Challenge to Enter Homeownersh ipin | Azriyati, W.N., Hanif, N.R. & Singaravello, K. (2011) | - accessibility of housing  
- income of household  
- mortgage rates  
- housing markets                                                          |
| 26  | Making the Case for Affordable Housing: Connecting Housing with Health and Education Outcomes | Mueller E.J & Tighe J.R., (2007)                                         | - housing features  
- locations of housing                                                          |
| 27  | Making the Case for Affordable Housing: Connecting Housing with Health and Education Outcomes | Mueller E.J & Tighe J.R., (2007)                                         | - housing features  
- locations of housing                                                          |
| 28  | Trends, Problems and Needs of Urban Housing in Malaysia (2011)         | Salfarin a et al., (2011)                                                | - house income  
- location  
- quality of house                                                          |
Based on Table 2.6, it shows that 16 parameters of affordability are all listed which contributed by (1) housing price, (2) mortgage rates, (3) income of household, (4) household expenditure, (5) goods and services cost, (6) inflation rate, (7) repayment, (8) financial services, (9) houses quality, (10) design of houses, (11) housing location, (12) accessibility, (13) income growth, (14) economy development, (15) housing stock and (16) housing market. The highly ranked as the factors contribute to house buyers affordability are price of houses, household income, housing market, repayment and household expenditure.

3.0 Materials and Methods

The criteria used in sample scope of this research are including the size of sample and age of respondents by using qualitative method to gain precise data information. The financial status of respondents used in this scope study to determine the affordability of a house buyers in Malaysia.

Parameters of affordability which is gathered by literature review from past researchers, journal, or articles listed in a table form in order to simplify the component involves in affordability of house buyers in Malaysia. The tabulated parameters is used in questionnaires for the process of data collection and analysis of significance parameters of affordability that involves people in Batu Pahat, Johor. The selection of respondent is based on age range from 23 to 60 years old, due to ability of purchasing a house.

Data will be collected using likert scale using questionnaires. The respondents is targeted on house buyers which age 23 to 60 years old who lives in Batu Pahat, Johor, Malaysia. Number of respondent will be calculated based on total population in Batu Pahat. The questionnaires is consist of three parts including; 1) Demography of respondents, 2) General perspective of respondent towards housing affordability and 3) Rate of respondents according to Likert Scale which involves the affordability parameters gained by literature reviews. Gender, age, marital status and salary range are the information included in information of respondent. The Likert scale is arranged in a scale of 1 to 5 which defines scale 1- Strongly insignificant, 2- Insignificant, 3- Moderate, 4- Significant and 5- Strongly significant.

Statistic Package for Social Science (SPSS Statistic) will be used from collected data. Moreover, the software often being selected to be used as it helps the process of data input in order to obtain accurate findings. SPSS software consist of descriptive statistics, inferential and multivariate statistic which including factor analysis Principal Component Analysis (PCA), mean, percentiles and standard deviation which produced by raw data obtained from questionnaires. This study will used PCA to determine significant parameter for affordability of housing buyers.

4.0 Results and Discussions

According to data of 2010 Population and Housing Census in Population Statistic by Department of Statistic Malaysia, the population size (N) identified to be 2% of total Malaysia population which 1822 for the year of 2013 to 2017. Generally, the population size is determined based on two criteria which are: (i) the respondents must be residents of Batu Pahat, Johor; (ii) the respondents must be the head of household. The sample size is identified to be 91.2 by using Krejcie and Morgan’s formula. Therefore, the number of sample size needed for data collection is rounded up to 100 respondents. The formula used in determination of sample size is shown as below;

Where,

\[ X^2 = \text{the table value of chi-square for 1 degree of freedom at desired confidence level} \times (0.05 = 3.84) \]

\[ N = \text{the population size} \]

\[ P = \text{the population proportion (assumed to be 0.50, this would provide maximum sample size)} \]

\[ d = \text{the degree of accuracy expressed as a proportion} \]

Therefore,

In order to obtain the consistency of parameters, the reliability analysis is conducted by using SPSS. Moreover, the Cronbach’s Alpha value is obtained for 16 affordability of house buyers parameters. The value of standardized Cronbach’s Alpha for 16 housing demand indicators is 0.883. The value obtained is exceed 0.7, which defines the affordability of house buyers parameters are acceptable and they are highly consistent (Nunnally, 1978).

The correlation matrix method could be done by using this two steps for the purpose of performing PCA. Step 1 involves determinant of correlation matrix, \( | R | \) which obtained by SPSS is 4.210 x 10^{-5}. The value is near to zero. Therefore, it comply with the requirement of PCA. Verification of hypothesis is in step 2 which it is being rejected as the value for test statistic is larger than the value acquired from the chi-square table where \( 0.05 = 3.84 \). As the result of Step 1 and Step 2 has fulfill the requirement of performing PCA, the data analysis of PCA outputs could be done. The output of PCA involves total variance of initial eigenvalues.
of variance of initial eigenvalues and also cumulative percentage of initial eigenvalues.

There are 4 component score of coefficient matrix extracted from SPSS. Each parameters has specific component score and the maximum value which close to 1 indicates the most significant parameters. Principle component 1 includes (1) Inflation rate; (2) Repayment; and (3) Goods and Services cost as three most significant parameters. Principle component 2 contributed by (1) Housing quality; (2) Housing location; (3) Design of house. Furthermore, (1) Income growth; (2) Design of house and (3) Housing location are the most significant parameters for principle component 3. Lastly, the most significant parameters in principle component 4 are generally involves (1) Economy development; (2) Income growth; and (3) Household expenditure.

5.0 Conclusions

In a conclusion, there are basically 16 parameters of affordability gained from out of 33 literature reviews. Throughout the results gained from questionnaires and Principal Component Analysis (PCA) method used for this research, the significant affordability parameters of house buyers in Batu Pahat, Johor, Malaysia could be identified which are housing price, housing quality, income growth and economy development.

References