

MAIN FACTOR INFLUENCING HOUSING
AFFORDABILITY IN LIVEABLE CITY: CASE STUDY IN
PETALING JAYA

SIW JING YI

BACHELOR OF BUILDING AND PROPERTY
MANAGEMENT (HONS)

UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF ACCOUNTANCY AND MANAGEMENT
DEPARTMENT OF BUILDING AND PROPERTY
MANAGEMENT

JANUARY 2022

MAIN FACTOR INFLUENCING HOUSING
AFFORDABILITY IN LIVEABLE CITY: CASE STUDY IN
PETALING JAYA

BY

SIW JING YI

A research project submitted in partial fulfilment of the
requirement for the degree of

BACHELOR OF BUILDING AND PROPERTY
MANAGEMENT (HONS)

UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF ACCOUNTANCY AND MANAGEMENT
DEPARTMENT OF BUILDING AND PROPERTY
MANAGEMENT

JANUARY 2022

Copyright @ 2022

ALL RIGHTS RESERVED. No part of this paper may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, graphic, electronic, mechanical, photocopying, recording, scanning, or otherwise, without the prior consent of the authors.

DECLARATION

We hereby declare that:

- (1) This undergraduate research project is the end result of our own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.
- (2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.
- (3) The word count of this research report is 11980.

Name of Student:

Siw Jing Yi

Student ID:

19UKB03651

Signature:



27 April 2022

Date: _____

ACKNOWLEDGEMENTS

Study has been successfully conducted with the help by many parties. Firstly, I would like to thank Universiti Tunku Abdul Rahman (UTAR) for providing me this opportunity to carry out research that pertinent to building and property field that provide me in-depth knowledge that be is extremely useful in my future career.

Furthermore, I would like to thank my supervisor, Dr Elia Syarafina Abdul Shakur who has guided, encourage and support my research project from the initial to the final stage of the study. Dr Elia has given valuable advice and suggestions to assist me in this study, in order to help on improving and consummate my research. This research study will not be successful if without Dr Elia patience guidance. Next, I will also like to thank my second examiner, Ms Nurhayati Binti Md Khair. She has provided me useful suggestion on correcting the mistakes in my study so that I am able to amend and improve on my research.

Last but no least, I would like to thank to '*Persatuan Penduduk*', in Petaling Jaya. I really appreciate because they have sacrificed their valuable time and put in effort on help me to distribute the survey questionnaire to the resident. This accomplishment would not be possible to achieved if without them.

TABLE OF CONTENTS

Copyright Page	C
Declaration	D
Acknowledgement	E
Table of Contents	F-J
List of Tables	K
List of Figures	L
List of Abbreviations	M-N
List of Appendices	O
Preface	P
Abstract	Q
Chapter 1 Research Overview	1
1.0 Introduction	1
1.1 Research Background	1-2
1.2 Problem Statement	3-5
1.3 Research Question	6
1.4 Research Objective	6
1.5 Hypotheses of the Study	6-7
1.6 Significance of the Study	8
1.7 Chapter Layout	8
1.7.1 Chapter 1: Research Overview	8
1.7.2 Chapter 2: Literature Review	9

1.7.3	Chapter 3: Methodology	9
1.7.4	Chapter 4: Data Analysis	9
1.7.5	Chapter 5: Discussion, Conclusion and Implications	9
1.8	Conclusion	10
Chapter 2	Literature Review	11
2.0	Introduction.....	11
2.1	Review of the Literature	11
2.1.1	Housing Affordability in Liveable City.....	11-12
2.1.2	Independent Variable	13
2.1.2.1	Income Factor	13-14
2.1.2.2	Affordable Housing Scheme Factor	15-16
2.1.2.3	Government Subsidies Factor	17-18
2.1.2.4	Property Investment Factor	19-20
2.1.2.5	Infrastructure Factor	21
2.2	Review of Relevant Theoretical Models	22
2.2.1	Housing Price: Price-to-Income Ratio	22-23
2.2.2	Maslow’s Hierarchy of Needs	23
2.3	Proposed Theoretical / Conceptual Framework	24
2.4	Hypotheses Development	24
2.4.1	Income Factor	24
2.4.2	Affordable Housing Scheme Factor	25
2.4.3	Government Subsidies Factor	25
2.4.4	Property Investment Factor	26
2.4.5	Infrastructure Factor	26
2.5	Conclusion	27

Chapter 3	Methodology	28
3.0	Introduction	28
3.1	Research Design	28-29
3.2	Data Collection Methods	29
	3.2.1 Primary Data	29-30
	3.2.2 Secondary Data	30
3.3	Sampling Design	31
	3.3.1 Target Population	31
	3.3.2 Sampling Frame and Sampling Location	31
	3.3.3 Sampling Elements	31
	3.3.4 Sampling Technique	32
	3.3.5 Sampling Size	32
3.4	Research Instrument	33
	3.4.1 Design of the questionnaire	33
3.5	Construct Measurement	34
	3.5.1 Nominal Scale	34
	3.5.2 Ratio Scale	34
	3.5.3 Ordinal Scale	34
3.6	Data Processing	35
	3.6.1 Data Checking	35
	3.6.2 Data Editing	35
	3.6.3 Data Coding	35
	3.6.4 Data Transcribing	36
3.7	Data Analysis	36
	3.7.1 Descriptive Analysis	36

3.7.2	Scale Measurement	36
3.7.2.1	Pilot Test	37
3.7.3	Inferential Analysis	38-39
3.8	Conclusion	39
Chapter 4	Data Analysis	40
4.0	Introduction	40
4.1	Descriptive Analysis	40
4.1.1	Respondent Demographic Background	40
4.1.1.1	Gender	41
4.1.1.2	Age	42-43
4.1.1.3	Marital Status	43
4.1.1.4	Homeownership	44
4.1.1.5	Educational Background	45-46
4.1.1.6	Monthly Income	46-47
4.1.1.7	Household Size	48
4.2	Scale Measurement	49
4.2.1	Cronbach Alpha test	49
4.3	Relative Important Index (RII)	50
4.3.1	Income factor	50-51
4.3.2	Affordable housing scheme factor	52-53
4.3.3	Government subsidies factor	54-55
4.3.4	Property investment factor	56-57
4.3.5	Infrastructure factor	58-59
4.3.6	RII for each factor	60
4.4	Conclusion	61
Chapter 5	Discussion, Conclusion and Implications	62

5.0	Introduction	62
5.1	Summary of Statistical Analyses	62
5.1.1	Descriptive Analysis	62-63
5.1.2	Scale Measurement	63
5.1.3	Inferential Analysis Summary: RII	64-65
5.2	Discussion on Major Finding	66
5.2.1	Income factor	66
5.2.2	Affordable housing scheme factor	67
5.2.3	Government subsidies factor	67
5.2.4	Property investment factor	68
5.2.5	Infrastructure factor	68
5.3	Implications of the Study	69
5.3.1	Managerial Implications	69
5.4	Limitations of the Study	69-70
5.5	Recommendations for Future Research	70
5.6	Conclusion	70
Reference	71-73
Appendices	74-97

LIST OF TABLES

	Page
Table 3.1: Rules of Thumb about Cronbach’s Alpha Coefficient Size	37
Table 4.1: Gender of Respondents.....	41
Table 4.2: Age of Respondents.....	42
Table 4.3: Marital Status of Respondents.....	43
Table 4.4: Homeownership status of Respondents.....	44
Table 4.5: Educational Background of Respondents.....	45
Table 4.6: Monthly Income of Respondents.....	46
Table 4.7: Household size of Respondents.....	48
Table 4.8: Reliability Analysis (Cronbach Alpha)	49
Table 4.9: RII Analysis for income factor	50-51
Table 4.10: RII Analysis for affordable housing scheme factor.....	52-53
Table 4.11: RII Analysis for government subsidies factor	54-55
Table 4.12: RII Analysis for property investment factor.....	56-57
Table 4.13: RII Analysis for infrastructure factor	58-59
Table 4.14: RII Ranking	60
Table 5.1: Reliability Analysis (Cronbach Alpha)	63
Table 5.2: Highest RII value of subfactor.....	64
Table 5.3: RII Ranking	66

LIST OF FIGURES

	Page
Figure 1.1: Median House Price for Malaysia & State 2020.....	3
Figure 1.2: Residential Property: Trend of Overhang 2015-2019	4
Figure 2.1: Mean and Medium of Monthly Household Gross Income By State, Malaysia, 2019 and 2020	14
Figure 2.2: Demographia housing affordability categories	22
Figure 2.3: Median multiple by state in Malaysia, 2019	23
Figure 2.4: Maslow Hierarchy of Needs.....	23
Figure 2.5: Framework for the factor that influencing housing affordability.....	24
Figure 4.1: Gender of Respondents	41
Figure 4.2: Age of Respondents.....	42
Figure 4.3: Marital Status of Respondents.....	43
Figure 4.4: Homeownership status of Respondents.....	44
Figure 4.5: Educational Background of Respondents	45
Figure 4.6: Monthly Income of Respondents	47
Figure 4.7: Household size of Respondents.....	48

LIST OF ABBREVIATIONS

B40	Low-income household
DOSM	Department of Statistics Malaysia
GDP	Gross Domestic Product
HIES	Household Income and Expenditure Survey
HOC	Home Ownership Campaign
KPKT	Ministry of Housing and Local Government
LDP	Lebuhraya Damansara-Puchong
LPHS	Lembaga Perumahan dan Hartanah Selangor
LRT	Light Rail Transit System
M40	Middle-income household
MBPJ	Petaling Jaya City Council
MFHS	My First House Scheme
MM2H	Malaysia My Second Home
MPMMN	National Affordable Housing Council
MyHome	My Home Housing Scheme
NAPIC	National Property Information Centre
NKVE	New Klang Valley Express
NPE	New Pantai Expressway
PENJANA	Short-Term Economic Recovery Plan
PPR	People's Housing Programme
PR1MA	1 Malaysia People Housing Scheme
RII	Relative Important Index
RPGT	Real Property Gains Tax
RTO	Rent-To-Own Scheme
RUMAWIP	Federal Territory Affordable Housing Policy

MAIN FACTOR INFLUENCING HOUSING AFFORDABILITY IN LIVEABLE CITY: CASE STUDY IN PJ

SPSS	Statistical Package For Social Science
T40	High-income household
YWH	Younger working household -

LIST OF APPENDICES

	Page
Appendix 3.1: Survey Questionnaire	74-79
Appendix 4.1: SPSS Data Output (Pilot Test)	80-82
Appendix 4.2: SPSS Data Output (Central Tendency of Skewness)	83-86
Appendix 4.3: SPSS Data Output (Frequencies)	87-94
Appendix 4.4: Relative Important Index Output (Main Factor)	95-96
Appendix 4.5: Relative Important Index Output (Most Main Factor)	97

PREFACE

Malaysia residential housing market represents one of the most important industries that bring significant effect on the economics of Malaysia, so it is important to pay an attention on it. Starting from year 2008, Malaysia housing price has experienced a rapid increase, especially in city area. Title for this research is “Main factor influencing housing affordability for liveable city: Case study in Petaling Jaya”. This study was conducted to determine and evaluate the factors that influencing housing affordability in liveable city, by using Petaling Jaya as study area.

This research will be focusing on five factors that influence housing affordability rate. Those five factors are income, affordable housing scheme, government subsidies, property investment and infrastructure. This research can provide a clearly picture and result for the policy makers, property investors, government, homebuyers to know about the relationship between each factor and housing affordability rate in Malaysia property market.

ABSTRACT

Concept of liveable city has become common for Malaysia today due to rapid urbanization process in Malaysia. Liveable city can be used to represent the principles of sustainable city development. Fast urban growth in city cause increasing of housing price, so that medium and low income household are difficult to own a house in private housing market. This research aims to determine the factors influencing housing affordability price in liveable city that focusing on middle-income household in Petaling Jaya. 100 set of online questionnaires are collected from Petaling Jaya resident to analysis and examine each factor by using Microsoft Excel and Software Package for Social Science (SPSS).

This research delivers the outcomes that income factor, affordable housing scheme factor, government subsidies factor, property investment factor and infrastructure factor bring influence on the housing affordability. However, government subsidies factor is the most main factor among other factors. In conclusion, government and policy controllers should take effort on controlling the issue of raising housing price in city area to increase homeownership rate in Malaysia's city area.

Chapter 1 RESEARCH OVERVIEW

1.0 Introduction

In this study will be discussed about Petaling Jaya's housing affordability situation. It is important to study about the background for the relationship between housing affordability in liveable city. For majority of people, housing was the largest single investment during their lifetime, so that housing price has become the main consideration when purchasing a property. Nonetheless, housing price is increasing annually in a rapid pace, especially in urban area. A study on the main factor that influencing housing affordability in liveable city is important and useful for the investor and government to have deeper understanding. Chapter 1 was be flowed with research background and problem statement to provide more in-detail knowledge for this study, followed by research questions and objectives of this study. The hypothesis and significance of study followed with the chapter layout and lastly conclusion for research overview.

1.1 Research Background

In this research, study area is located at Petaling Jaya. On 20 June 2006, Petaling Jaya was granted its city status and upgraded as Petaling Jaya City Council. Petaling Jaya had become one of the leading growth city in Selangor state, Malaysia. Petaling Jaya has developed as a satellite township for Kuala Lumpur and located as part of Greater Kuala Lumpur area. Petaling Jaya was comprised total area of approximately 97.2 square kilometres.

Based on the data from Department of Statistics Malaysia (DOSM), it mentioned that in Year 2020, 76.6% of Malaysia's total population lived in urban areas and cities. Selangor are the most populous state in Malaysia. According to Petaling Jaya City Council, it stated that

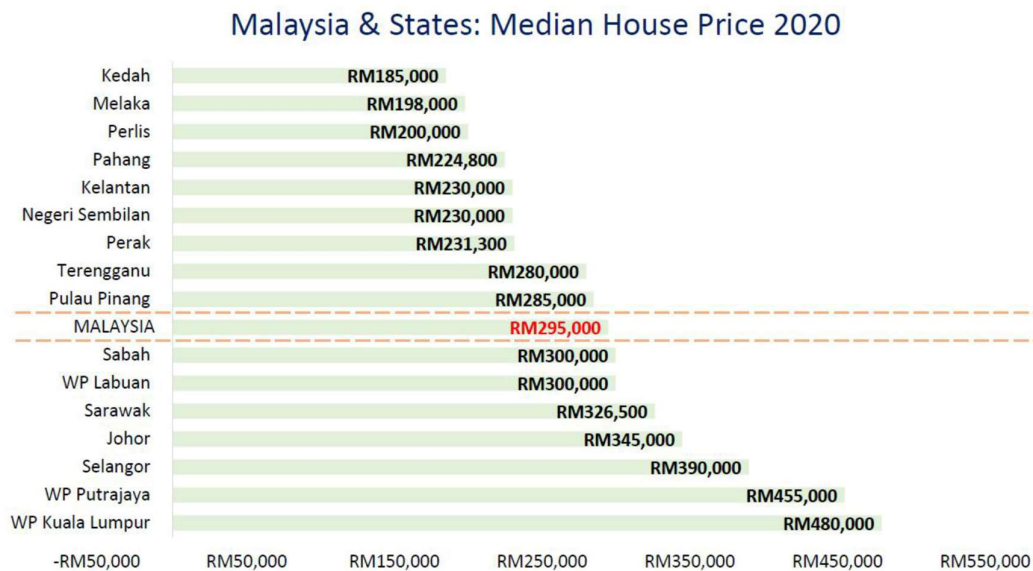
Petaling Jaya has a total estimation of population for over 619,925 people. Hence, Petaling Jaya was built under Decentralised Programme for managing the population overcrowding problem that caused by migration of rural population to urban area as Petaling Jaya was located about 12km southwest of Kuala Lumpur. (Brookfield, 1994; Lim,1987). Petaling Jaya New Town was proposed to provide an alternative place for the city residents that worked in Kuala Lumpur to have a better and satisfactory living condition, but not only limited to stay at Kuala Lumpur area. (Hassan, 2005; Hall, 1988). Petaling Jaya becomes a famous choice for city residents and visitors, mainly due to its location and accessibility.

Furthermore, Malaysia property market was opened for foreigner to invest, as Malaysia government offers special program for foreign by enjoying the subsidies provided, it attracts foreign investor to invest in Malaysia property in those urban area, like Kuala Lumpur and Petaling Jaya. This phenomenon make the property developer preferring to construct luxurious property in urban area to meet with the market demand and ensure revenue maximization. Consequently, it causes continuously rise of property price, so that most of the people are unaffordable to purchase property that located in urban area. Housing affordability issue had become national issue and influenced the home ownership among Malaysian, mainly focusing in the area that having high potential to risk. This study scope is focusing on the housing affordability for middle household income group in Petaling Jaya.

1.2 Problem Statement

Study done by Khazanah Research Institute, Malaysia (2015), Malaysia property market are seriously unreachable, especially in Selangor and Kuala Lumpur because of the imbalance of demand and supply of housing market. According to Residential Price Update 2020 that published by National Property Information Centre (NAPIC), as shown in chart 1.1, it showed that average price in Selangor State was Rm390,000 in Year 2020, which having higher average price compared to Malaysia average housing price. Rapid development in Selangor has resulted dramatically increase of housing prices and it had become a serious issue that faced by the citizen that lived in Selangor. While current situation of affordable housing in city area are not inadequate to meet the supply and demand for city communities. Study that done by Olanrewaju (2016), it stated that most of the Malaysian spent more than 30 percent of their total household income to purchase or rent the property. It showed that property is categorize as the single most expensive investment in the life, same as rental are the single highest expenditure for the tenant.

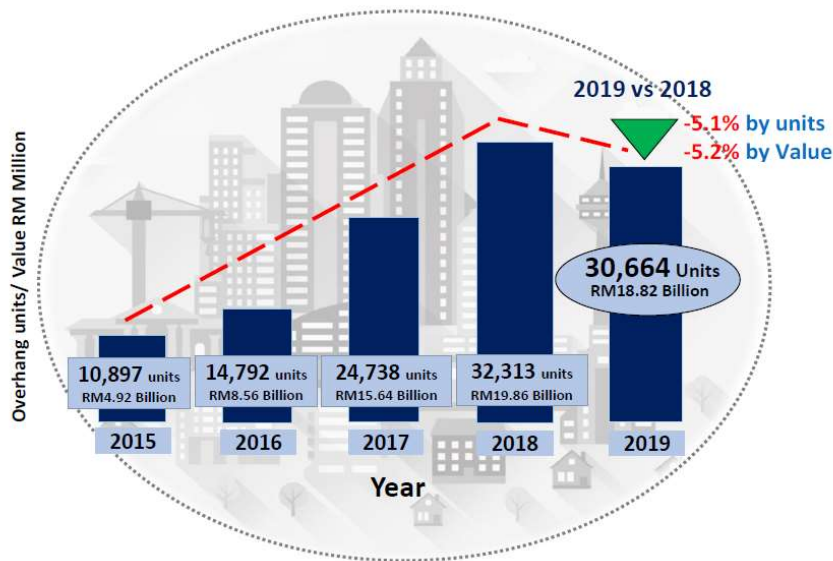
Figure 1.1: Median House Price for Malaysia & States 2020 (Source: NAPIC)



As quoted by Osman, Mohamad Yusopm Shud, & Abdullah (2017), when homeownership rate is decreasing at 1% annually in Malaysia, then property overhangs issue will become more serious. To illustrate, by referring to report of trend of overhang 2015-2019, property overhang was increase rapidly from 10,897 units in Year 2015 to 30,664 units in Year 2019 as showed in chart 1.2. Within of total 30,664 unit of overhang property in Malaysia, Selangor state are consisted of 15.3 percent for 4,687 units of overhang properties. This index has showed that Selangor has a fairly huge amount of completed build property that are still remain unsold, which reflect out that Selangor property price are still unaffordable for people to purchase. Besides that, MIER’s Residential Property Survey Report that done by Year 2015, it mentioned that most than half of the property developers has faced poor sales situation.

Figure 1.2: Residential Property: Trend of Overhang 2015 – 2019 (Source: NAPIC)

Residential Property: Trend of Overhang 2015 - 2019



As current of affordable housing unable to meet the supply and demand for city communities. Most of the younger working households that fall under middle income group have set their target on purchasing affordable housing, which can bring less financial burden to them, however the affordable housing market was yet to be fulfil. (Abdul Rahman, 2013). So that, it is important to have provision of affordable housing that dedicate to the people that unaffordable to buy a house, but at the same time they are not eligible for low-cost housing due

the surpass the household income level that authority has been set. (Mak, 2017). This group of people can be categorized as “sandwich class”, as within their affordability level, those people only have few options to purchase their own house while less of government subsidies and mechanism that available to provide financial help for them. (Shakur, 2021).

1.3 Research Question

- i. What are the main factors influencing affordable housing for liveable city in Petaling Jaya.
- ii. Which is the most main factors that influencing affordable housing for liveable city in Petaling Jaya.

1.4 Research Objective

- i. To determine the main factor that influencing affordable housing for liveable city in Petaling Jaya.
- ii. To evaluate the most main factors that influencing affordable housing for liveable city in Petaling Jaya.

1.5 Hypotheses of the Study

1.5.1 Income

H1₀: Income is the main factor that influencing housing affordability in Petaling Jaya.

H1₁: Income is not the main factor that influencing housing affordability in Petaling Jaya.

1.5.2 Affordable Housing Scheme

H2₀: Affordable housing scheme is the main factor that influencing housing affordability in Petaling Jaya.

H2₁: Affordable housing scheme is not the main factor that influencing housing affordability in Petaling Jaya.

1.5.3 Government Subsidies

H3₀: Government subsidies is the main factor that influencing housing affordability in Petaling Jaya.

H3₁: Government subsidies is not the main factor that influencing housing affordability in Petaling Jaya.

1.5.4 Property Investment

H4₀: Property investment is the main factor that influencing housing affordability in Petaling Jaya.

H4₁: Government subsidies is not the main factor that influencing housing affordability in Petaling Jaya.

1.5.5 Infrastructure

H5₀: Infrastructure is the main factor that influencing housing affordability in Petaling Jaya.

H5₁: Infrastructure is not the main factor that influencing housing affordability in Petaling Jaya.

1.6 Significance of the Study

Significance of this study is to scrutinize for the housing affordability issue to public and related parties as it analyses the factors that influence the continuously raising of housing price in city area. Furthermore, it also analyses that why having affordable housing in urban area is necessary and important for communities. It able to bring awareness of housing affordability issue to the housing developer, property investor and government. It helps the parties to have better planning to oriental their future activities.

Property developer should plan and construct the building that able to meet local people needs and wants. Housing affordability issue in liveable city should be focus and pay attention by government to have deeper understanding of housing affordability issue then capable to improve Malaysia housing policy. (Suhaida, Tawil, Hamzah, Che-Ani, Basri and Yuzainee, 2011). In conclusion, this study can help the involved parties to do future town planning in city area to improve on affordable housing development, meanwhile lead the parties to keep track on the factors that influence rising of housing price in city area.

1.7 Chapter Layout

1.7.1 Chapter 1: Research Overview

In the first chapter, there will be having discussion on introduction and research background of the study, followed by problem statement, then research question, research objectives, hypotheses of the study, significant of the study, chapter layout and lastly conclusion of the first chapter.

1.7.2 Chapter 2: Literature Review

In Chapter 2, it have introduction and review the past literature about factor that influence housing affordability in liveable city, followed by review of relevant theoretical models, proposed theoretical, hypotheses development and conclusion of literature review.

1.7.3 Chapter 3: Methodology

In Chapter 3, there will be discussing about how the research is carried out. It will be stated research design, data collection method, sampling design, research instrument, constructs measurement, data processing, data analysis and conclusion of methodology.

1.7.4 Chapter 4: Data Analysis

In this chapter will be focusing on using methodology stated in previous chapter to analysis the . Subtopic in this chapter have introduction, descriptive analysis, scale measurement, inferential analyses and conclusion of data analyses.

1.7.5 Chapter 5: Discussion, Conclusion and Implications

Last chapter of this study will be discussed of the summary of the statistical analyses result and do discussion for the major findings, limitations of the study, recommendations for future research and conclusion.

1.8 Conclusion

In Chapter 1, it has introduced about research background, problem statement, research objective, research questions, hypotheses of this study, significance of this study and chapter layout that used to analyse the relationship between housing affordability and liveable city in different perspective. It has determined five variables to analyses the relationship of housing affordability in liveable city, which have household income, affordable housing scheme, government subsidies, property investment and infrastructure. For Chapter 2, it will be further discussion about the literature review of this study.

Chapter 2 LITERATURE REVIEW

2.0 Introduction

In Chapter 2, several of authors' studies that related to relationship between housing affordability and liveable city have been reviewed. It will be aimed to focus on discussion factors that affecting housing affordability in liveable city. In this chapter will be review of literature, review of the relevant theoretical models, proposed theoretical, hypotheses development and conclusion of literature review.

2.1 Review of the Literature

2.1.1 Housing Affordability in Liveable City

In most of the developed and developing countries, housing affordability issue is a contentious problem for them. (Nguyen, 2005). It considers as affordable when after purchase property, people still can save portion of their income and have enough income for buying basic necessities and pay other expenditures for life. By referring to Bujang (2006), it mentioned that families who has paid more than 30 percent of total income for purchase housing will cause difficulty to buy basic necessities and it is considered as cost-burdened and unfordable to purchase the property. Three different point of view can be used to define housing affordability, which is purchase affordability, repayment affordability and income affordability. (Quan and Hill, 2008). Purchase affordability is considering of household ability to borrow fund in order to purchase the property. Repayment affordability is the household has the capability to repay back housing mortgage in a long term without distressed with the debt burden. Lastly was

income affordability, it was measured by ratio of housing price and household income to calculate the level of capability of the person to own a house.

“Victorian Competition and Efficiency Commission” (2018) has defined liveable city concept as liveable city was made up by attributes that make the place where people wish to live at there. Md. Nazri (2013) has stated that by achieve and match with liveable city concept, it shall design a safe city for all citizen, which consist of convenient of accessibility and offering variety of facilities. A liveable city is a city where people can have a healthy lifestyle and having high mobility so people can easily travel around within the city. Based on the Global Livability Index, liveable cities can be measure based on 5 different categories of elements, which included stability, healthcare, culture and environment, education and infrastructure. In Year 2022 February, National Affordable Housing Council (MPMMN) has proposed People’s Housing Programme (PPR) which aim to achieve “Liveable Malaysia” concept. PPR will be focusing on connectivity and internet accessibility.

Petaling Jaya consider as one of the most growing regions in Malaysia, as it has agglomerated into mega urban region. Petaling Jaya has comprehensive road system that provide accessibility to part of Malaysia. Furthermore, Petaling Jaya has provided better job opportunity and sophistication of facilities that can benefits to communities, such as specialist hospital, hypermarket, university, park and major highways and others. Based on the data released by Department of Statistics Malaysia (DOSM), it mentioned that home ownership in Petaling District was only consist of 67.5%. Due to high housing price and high living cost in that area, it is difficult for the people to afford on purchase property in Petaling Jaya.

2.1.2 Independent Variable

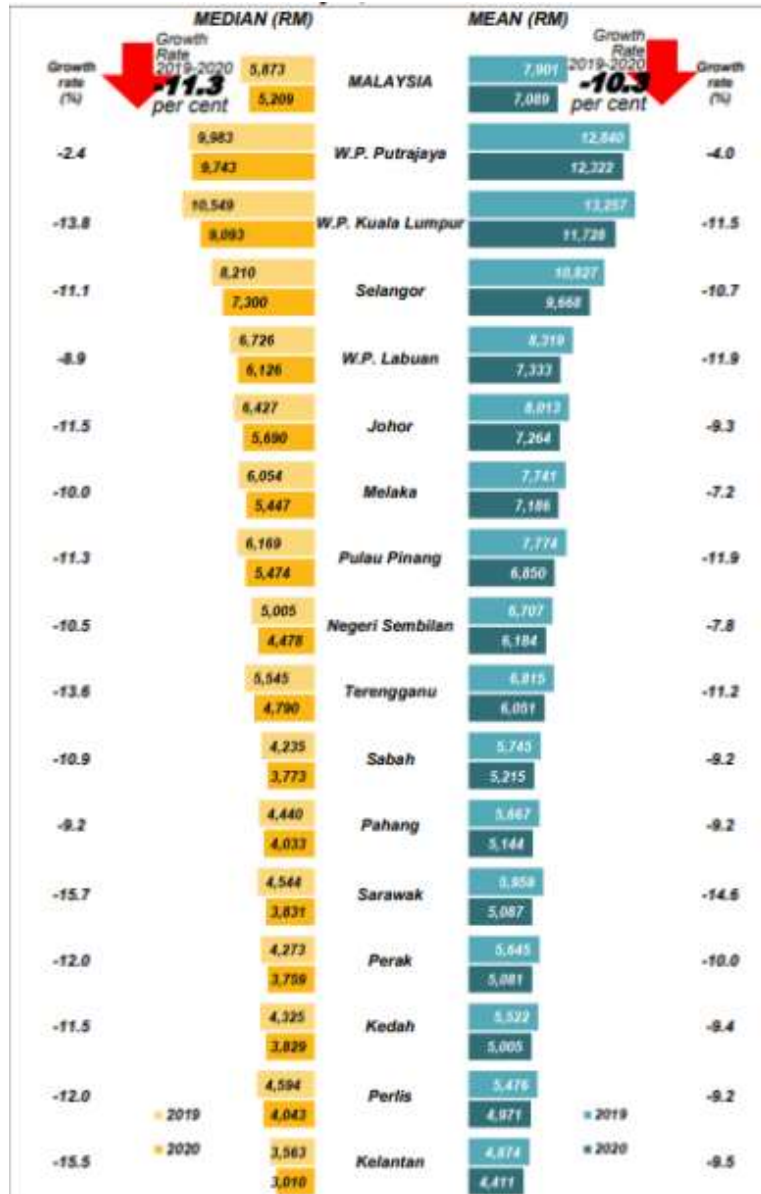
2.1.2.1 Income Factor

Cox and Pavletich (2016) have mentioned that one of the most expensive household expenditures is housing cost, however housing price are raising much faster than earning. Household income, expenditure, housing price and housing finance are the factors that influencing communities housing affordability level. (Sani, 2015). Hence, it is necessary to consider housing price and household income when evaluate housing affordability level. Unidentical income level will lead people to have different interest of housing type. (Hempel & Punj, 1999; Chiu & Ho, 2006). By referring data released by DOSM in Year 2019, median monthly household income in Selangor was Rm8,210, however in Year 2020, it has been decreased to Rm7,300. In Year 2020, monthly household gross income has been declined 11.1% compared to previous year. Serious pandemic of coronavirus outbreak and lockdown since March 2020 in Malaysia, household income was severely affected. Most of the household experience decline of income, so that many households have shifted from higher income group to lower income group. (DOSM, 2021).

Household income group has been classified into three main categories. According to Household Income and Expenditure Survey (HIES) 2019, those three income group are classified as:

1. Low-income household (B40) are referring to family that average household income below Rm4850.
2. Middle-income household (M40) are referring to family that average household income are between Rm4851 to Rm10970.
3. High-income household (T20) are referring to family that average household income more than Rm10971.

Figure 2.1: Mean and Medium of Monthly Household Gross Income by State, Malaysia, 2019 and 2020 (Source: DOSM)



2.1.2.2 Affordable Housing Scheme Factor

Malaysia government has launched several housing schemes to build more affordable house and attract people to own a house in order to mitigate housing overprice issue in Malaysia. Since mid of year 1980s, Malaysia government has imposed policy in order to devote low cost housing scheme in city development on public and private sectors housing developer. Malaysia Government has combined the support of private developer for the purpose of construct standard quality of property for all citizen in Malaysia. Here are the housing schemes available in Malaysia that offer for middle-income group.

1 Malaysia People Housing Scheme (PR1MA)

1 Malaysia People Housing Scheme was known as PR1MA. PR1MA was first introduced at Year 2011 and aimed to develop quality and affordable house in key urban area to help and build a better tomorrow for Malaysian. Key of foundation of PR1MA is to bring assurance to provide affordable house for Malaysia's middle-income group. Individual or combined household gross income (husband & wife) range between Rm2,500 to Rm15,000 monthly are eligible to register PR1MA housing scheme. PR1MA is open application for first and second property for Malaysian that above 21 years old. In generally, housing price for PR1MA housing project will be 20% lower than market price, hence it has become an agency that offer affordable housing.

My Home Housing Scheme (MyHome) / Skim Perumahan Mampu Milik Swasta

Ministry of Housing and Local Government (KPKT) was introduced My Home Housing scheme in Year 2014. In Year 2014, Malaysia government has invested Rm300 million to construct around 10,000 units of affordable housing, My Home is one of the government's initiate to stimulate private sector housing developer to construct and build more affordable house in different area of Malaysia. My Home scheme provide a first-time home buyer incentive that up to Rm30,000 per home unit. Incentive will be pay to the bank to cover the down payment. My Home scheme are targeted for low-income households and middle-income

households, as it was eligible for Malaysia citizen that having household income of Rm3,000 to Rm6,000 per month.

Federal Territory Affordable Housing Policy (RUMAWIP) / Residensi Wilayah Keluarga Malaysia

RUMAWIP has been initiated by Malaysia Government in Year 2013 for Malaysian citizen that focusing on first-time home buyer who born or work or stay in Federal Territories. Household gross income for individual applicant that eligible for this RUMAWIP must not be exceed Rm10,000 per month. In additional, married couple must have total gross income of no more than Rm15,000 per month. RUMAWIP offers few different categories of housing type for home buyer to purchase. It included studio, two bedrooms type, three rooms with strata title ownership. One of the RUMAWIP project that available in Petaling Jaya was Residensi Armani @ Bukit Lanjan. Residensi, which market price at around Rm300,000.

Rumah Selangorku

Rumah Selangorku was first introduced by Lembaga Perumahan dan Hartanah Selangor (LPHS) in Year 2014. Rumah Selangorku housing scheme was aimed to stimulate the housing ownership in Selangor State with consistent with State government 'housing owning democracy' concept. Since Year 2018, Rumah Selangorku 2.0 initiative has brought up a new framework for this housing scheme. Rumah Selangorku was eligible for resident of Selangor that having less than Rm10,000 of monthly household income. Rumah Selangorku provided several property types, which including apartment, townhouse and terrace house. One of the projects of Rumah Selangorku was Embayu @ Damansara West that located in Shah Alam, Selangor.

2.1.2.3 Government Subsidies Factor

Malaysia government has introduced several subsidies for Malaysia citizen with aim to encourage and support homeownership, at the same time to overcome affordability issue in Malaysia. Financial assistance provided by government able to help the medium income group and low income group to own their first house. Here are some of the Government Subsidies that available for medium income group.

My First House Scheme (MFHS) / Skim Rumah Pertamaku

My First House Scheme was launched in Year 2011. It allows up to 110 percent loan from financial institutions to purchase their first house, which provide a channel that home buyer can own their first house without the need for down payment. Generally, down payment is a obstruct for younger working household (YWH) to purchase a property, hence MFHS is a great opportunity for the YWH to afford a house. MFHS are eligible for individual applicant that having gross monthly income that does not exceed Rm5,000, however for joint applicant that having gross monthly income up to Rm10,000. MFHS are entitled for the residential unit that up to Rm500,000.

Home Ownership Campaign (HOC)

Home Ownership Campaign is a Malaysia Government initiative to support potential homebuyer to purchase property by providing financial relief, however at the same time stimulate the housing market in Malaysia. HOC was first introduced by Housing and Local Government (KPKT) that started to run from 1 January 2019 to 31 December 2019, but Malaysia government has reintroduced HOC 2020-2021 to Malaysia citizen in June Year 2020 as one of the action for Short-Term Economic Recovery Plan (PENJANA). HOC was applicable for properties that sold between 1 June 2020 to 31 December 2021. First key financial incentives that provided by HOC was a full stamp duty exemption for instruments of transfer on purchasing property that priced within Rm300,000 to Rm1,000,000. Second key financial incentive in HOC was applicable to enjoy a minimum 10 percent discount on the housing price. Third key financial incentive of HOC was it provided fully exemption on the

stamp duty of housing loan agreement that applicable for property that priced from Rm300,000 to Rm2,500,000. However, HOC was only applies to new housing project that participated in this campaign.

MyDeposit Scheme / Skim Deposit Rumah Pertama

MyDeposit scheme was announced in Budget 2016 and officially begins for application on 6 April 2016. MyDeposit scheme also knows as First Home Deposit Scheme. This scheme is targeted to boost Malaysian citizen's ability to buy their own property, as it focuses on people that having monthly gross income that not exceeding Rm10,000. This scheme required potential home buyer to purchase house that priced at Rm500,000 and below. Property purchase can be new housing project or under secondary market. It helps the first-time homebuyer to cover of 10% down payment or maximum value of Rm30,000 whichever was lower.

Rent-To-Own Scheme (RTO)

Rent-To-Own Scheme (RTO) was introduced in Budget 2020 that provide the opportunity for Malaysia citizen to own their own property by way of renting then giving the homebuyer option of purchase the property at a specific future date. RTO bring benefit of help to secure property price based on the current value, as it able to get a fixed property price even after few years. There are various of RTO that available in Malaysia, which includes Maybank HouzKEY and Skim Smart Sewa. Each of the scheme will have different requirement that need to be comply.

2.1.2.4 Property Investment Factor

According to Fung (2010), it has stated that domestic and foreign investment in property market will bring major push of economic growth as it helps to stimulate the trend of other industries. As continuously raising steadily of house price in Malaysia, investor will utilize this advantage to purchase property so can earn passive income from renting out their house and enjoy high potential of capital gain from sale of a house. (Hutchison, 1994). Invest in property will be a good choice of investment to be consider as it helps to hedge against compared to other types of assets. (Tan, 2008).

International property investor also has brought influence on Malaysia local property market. Malaysia provides lenient property ownership regulation, so it formed an investor-friendly environment for foreign to invest in Malaysia property market. (Mira, 2013). Investment for second homes is popular for the Nordic countries like Demark, Norway, Sweden. Most of the community in Nordic countries have invested in second home, as it was more towards as a traditional culture and lifestyle for them. (Lipkina, 2013). Most of the countries have popularized investors' visa in order to attract investors to enter local real estate sector at the same time allow the foreign investor to invest funds into local business by provide them benefit of long-stay visa in that country.

Since Year 1996, Malaysia has introduced a "Silver Hair" programme to promote the country for foreigners and pensioners to purchase their house in a second country. (Ho & Teik, 2008). "Silver Hair" programme has been developed into a new programme which knows as "Malaysia My Second Home" (MM2H) in 2002. The major amendment has made was government has removed the requirement of minimum age, hence MM2H was not only limited for senior foreigners but also eligible for younger generation since that early retirement are popular among younger elderly cohort. Successful applicant is allow to stay in Malaysia via long-stay visa that permit duration up to 10 years and it is renewable. (MM2H, 2011). MM2H Centre has officially announced that total amount of 42,271 approved appliances in Year 2002 to Year 2018. Approved appliances from more than 130 different countries. (Ministry of Tourism and Culture Malaysia, 2018). In 2019, MM2H was suspended, however after

suspended for a year, MM2H was reactivated and received new applicant starting from October 2020.

2.1.2.5 Infrastructure Factor

Accessibility to highway, availability of various amenities, accessibility to public transportation and other infrastructure are helping to enhance the quality of life for the resident so that it will increase the demand for housing then significantly will be affect housing price in that particular area. For example, building that having those necessary utilities and accessibility to infrastructure is undoubtedly will be more expensive than a building that without those utilizes and infrastructure. However, Urban infrastructure are not only included of physical infrastructure such as highway, public transportation, it also inclusive of social infrastructure for social benefit, such as educational, health, cultural, reaction that contributes to urban city livability and sustainability. (Liu, Min, Zhao, Hu, 2020).

At Year 2019, Petaling Jaya City Council (MBPJ) has declared government will allocated Rm110 million that focusing on upgrading infrastructure in Petaling Jaya city as for public welfare purpose. Presently, infrastructure in Petaling Jaya was well developed and comprehensive. Firstly, several of public transportation available in the Petaling Jaya, which have public bus service, Light Rail Transit System (LRT)- Kelana Jaya Line and Mass Rapid Transit (MRT). PJ City Bus is one of the free public bus service that initiated by MBPJ with covered around 89 stops. There are few main stations in Petaling Jaya for LRT, which have Taman Jaya, Asia Jaya, Taman Paramount and Kelana Jaya. However, MRT Line in Klang Valley also having 10 stations that located within Petaling Jaya area.

Next infrastructure that needed in a liveable city was highway. Main highway that accessible to Petaling Jaya have Lebuhraya Damansara-Puchong (LDP), New Klang Valley Express (NKVE) and New Pantai Expressway (NPE) hence it easy reachable to Kuala Lumpur, Klang, Subang Jaya and Shah Alam. Furthermore, there are many recreational centre that available around Petaling Jaya area, like 1 Utama Shopping Mall, Tropicana Gardens Mall, IPC Shopping Centre. Besides that, Petaling Jaya also having diversify type of restaurant, cafeteria, bar.

2.2 Review of Relevant Theoretical Models

2.2.1 Housing Price: Price-to-Income Ratio (Median Multiple)

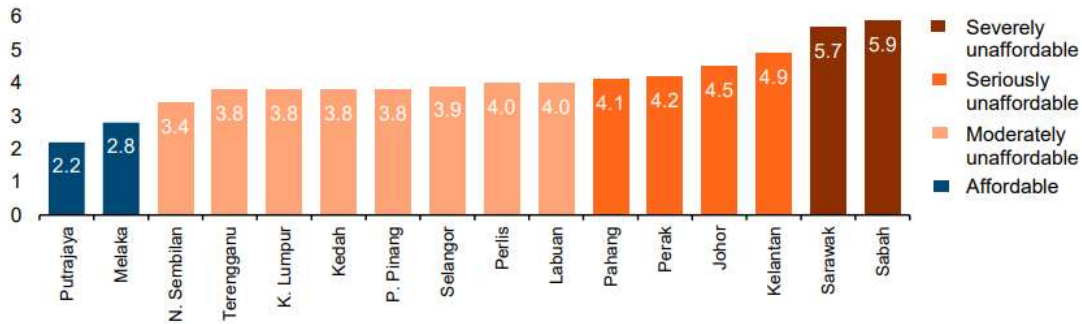
Normally largest household expenditure in a family is housing cost, therefore it is necessary to consider housing price and income when evaluate market housing affordability level. Price-to-income ratio are useful to examine housing affordability level which can specifies the level of median free-market price of the house in relation to the median yearly household income. (Ndubueze, 2009). Median Multiple are categorized into four affordability level group as shown as Figure 2.2. Median multiple of 3.1 and above shows that housing price in that area was moderately unaffordable for people, meanwhile it is considered as affordable when the house are less than three times of the household median income. Formula to calculate for median multiple ratios was median house price divided by annual median household income.

Based on the report announced by the Khazanah Research Institute, the median multiple in Selangor state was 3.9 times median annual household income in the Year 2019, hence according to the median multiple ratios, housing price in Selangor was categorized as “moderately unaffordable” to the communities and nearly to reach the level of “seriously unaffordable”.

Figure 2.2: Demographia housing affordability categories (Source: Khazanah Research Institute)

Rating	Median Multiple
Severely unaffordable	5.1 and over
Seriously unaffordable	4.1 - 5.0
Moderately unaffordable	3.1 - 4.0
Affordable	3.0 and under

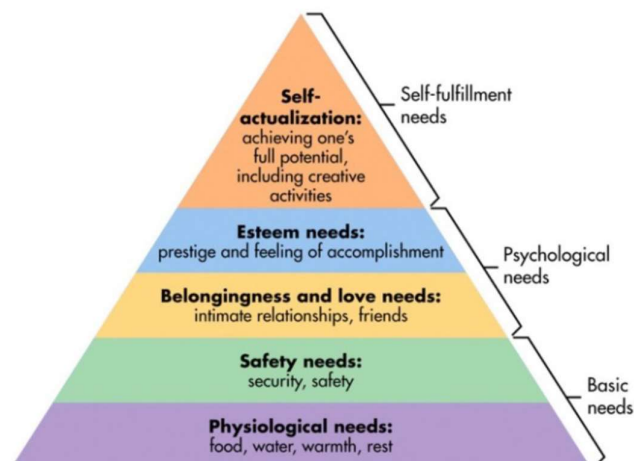
Figure 2.3: Median multiple by state in Malaysia, 2019 (Source: NAPIC)



2.2.2 Maslow’s Hierarchy of Needs

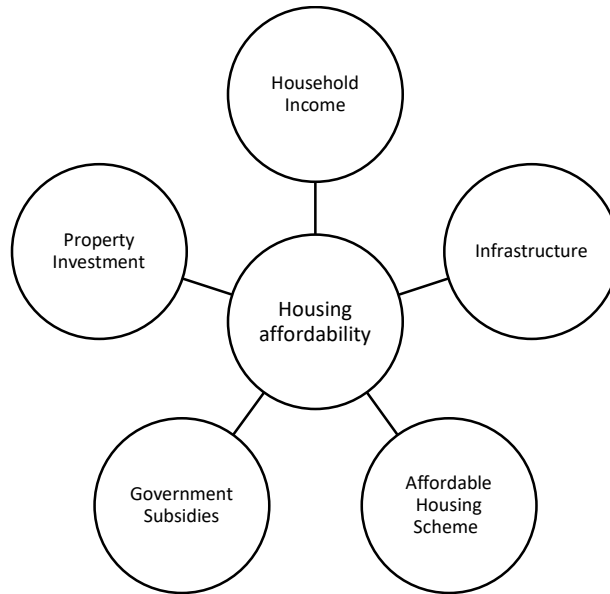
Theory of Maslow’s Hierarchy of Needs is introduced by a Psychologist, Mr. Abraham Harold Maslow in Year 1943. In Maslow’s Hierarchy of needs theory, it had identified five sets of human need arrangement in a hierarchy based on its important and priority. Five types of human needs include physiological needs, safety needs, belonging needs, esteem needs and self-actualization. Based on this Maslow Hierarchy of Needs of theory, housing is one of the most fundamental and basic needs for human, which falls under physiological needs level. People will be going to work in order to exchange money then purchase house to stay for rest, sleep, safety, protection from weather purpose.

Figure 2.4: Maslow Hierarchy of Needs (Source: Maslow 1943)



2.3 Proposed Theoretical / Conceptual Framework

Figure 2.5: Framework for the factor that influencing housing affordability



2.4 Hypotheses Development

2.4.1 Income

H1₀: Income is the main factor that influencing housing affordability in Petaling Jaya.

H1₁: Income is not the main factor that influencing housing affordability in Petaling Jaya.

Income is an important indication to determine housing affordability. Household income has close relationship with housing ownership as once the house price is too high and insufficient income for the local resident, it will cause people unable to afford a house. (Linneman and Megbolugbe, 1992).

2.4.2 Affordable Housing Scheme

H2₀: Affordable housing scheme is the main factor that influencing housing affordability in Petaling Jaya.

H2₁: Affordable housing scheme is not the main factor that influencing housing affordability in Petaling Jaya.

Positive relationship between affordable housing scheme and housing affordability issue in city area, as Government has invested large sum of money for affordable housing scheme to fulfill the demand of affordable house and stimulate the housing market. (The Malay Mail, 2016).

2.4.3 Government Subsidies

H3₀: Government subsidies is the main factor that influencing housing affordability in Petaling Jaya.

H3₁: Government subsidies is not the main factor that influencing housing affordability in Petaling Jaya.

One of the major reasons that people unable to afford a house is because of unaffordable to pay for the down payment and legal fee. Especially for those younger working household (YWH), it is quite challenging for them to save up this much money, so that it requires government to provide subsidies for them to help on purchasing the own house in younger age.

2.4.4 Property Investment

H4₀: Property investment is the main factor that influencing housing affordability in Petaling Jaya.

H4₁: Property investment is not the main factor that influencing housing affordability in Petaling Jaya.

Property investment was correlated with housing price as increase of property investor was indicated having higher demand in the property market and led to increase of housing price. However, government has set regulation to restrict and control activity from speculation, such as impose of Real Property Gains Tax (RPGT).

2.4.5 Infrastructure

H5₀: Infrastructure is the main factor that influencing housing affordability in Petaling Jaya.

H5₁: Infrastructure is not the main factor that influencing housing affordability in Petaling Jaya.

Infrastructure contributes as an important role in stimulate the housing market for a city development and growing. Studies has resulted that availability of public transportation infrastructure will have major influence of housing price in nearby area. (Mathur, 2008).

2.5 Conclusion

In Chapter 2, factors that influencing housing affordability are identified from the past literature research that focusing on household income, affordable housing scheme, government subsidies, property investment and infrastructure. Furthermore, theoretical models and conceptual framework has been mentioned in this chapter to have deeper understanding about the factor that influence housing affordability in liveable city.

Chapter 3 METHODOLOGY

3.0 Introduction

In chapter 3 will be discuss and describe of the methodology that been implemented in this research to examine the relationship between the problem and chosen dependent variables. It has been separated into few subs section, by start with the discussion of the research design that used for overall research process. Following by construct the survey questionnaire and do data analysis to illustrate the result of this research.

3.1 Research Design

Research design is a schedule planning that state the producers to followed by the researcher to complete their research study. Creswell (2019) stated that research design has covered from the decision of overall assumptions until detailed method of data collection and analysis. Research methodology are categorized into quantitative and qualitative methods. Research question is the main element to examine when decide the type of research methodology to be used in the research. Based on the research question, this study has adopted quantitative research method as it is more appropriate use to quantify the data collected and analysis the data to identify the main factor that influence affordable housing in Petaling Jaya area.

Quantitative research was a databased approach that use to measure the people idea by using statistical data and point of view. Quantitative research can collect a huge amount of data then generate into report for analysis. Quantitative research is useful for analysis the interrelationships between all variables according to the quantity and statistical strategies. (Yousaf Saeed, 2020). Outcome of analyses of data collection was extract from the assessment

result by supporting with the theory and literature. (Fellow & Liu, 2008). However, quantitative research will be required large sample size and will be selected randomly.

Descriptive research design was the applicable research design to implemented in this study. Descriptive research design is useful when trying to identify and describes a characteristic, phenomenon of a market trends and acceptance of new business concept models and opinion of the potential customer. (Kumar, 2013). Example of methods of descriptive research design have through review of case studies, surveys. Descriptive research design was perfect for this study to collect the information from local resident in Petaling Jaya to identify the factors that will influence affordable house the most in Petaling Jaya.

3.2 Data Collection Methods

Data Collection for this research has been divided into primary data and second data.

3.2.1 Primary Data

Primary data is the ‘first hand’ real time data that personally developed or collected by the researcher (Hair, Bush and Ortinau, 2016). Primary data is the process of accumulate raw information through survey questionnaires, experiment, interview based on the research. Primary data are more reliable and accurate as questions are set by the researcher, so that it will be more specific and related to the research question hence reduce the variability of the result.

In this research, researcher will collect the data though distribute online survey questionnaire by using google form. Researchers has contacted “*Persatuan Penduduk*” to confirm that they are under M40 category and get consent and help from them to send out the questionnaire to resident to get their feedback. Main advantage of online survey questionnaire was able to reach

to various segment of target respondent which hard to reach if using other type of data collection method. (Caroline and Barry, 2002). Besides that, online survey questionnaire is most cost efficient and time saving compared to other approaches like face-to-face interview. Therefore, face-to-face interview is not preferred due to time and cost constraint, hence online survey questionnaire was chosen to collect primary data for this research. In order able to collect more accurate answer and protect respondent's personal privacy by avoid any misuse of their personal data, the survey will be set in anonymous mode.

3.2.2 Secondary Data

Secondary data is referring to method of collecting data by referring to published source, for example article, journal, conference paper and magazines. Those historical data is from previous study that done by another researcher (Zikmund, Babin, Carr and Griffin, 2010). In the first step of conducting a study, researcher need to refer the past studies so able to have better picture and understanding of the study questions.

Secondary data can be easily to be collected as it is available online hence it is more cost effective and little time to obtain compare with primary data. Secondary data in this research study are mostly derived from the UTAR Library Database and NAPIC, DOSM website. UTAR Library Database has subscribed plenty of e-journals from different online database, such as Science Direct, Emerald-Sight. Besides that the UTAR subscribed database, external source that utilize to obtain secondary data have Google Scholar, Research Gate.

3.3 Sampling Design

3.3.1 Target Population

Target population is the group of people that can meet the criteria of this research objectives. (Burn & Grove, 1997). In this research study, the target population will be target on population of medium income household group (M40) that live in Petaling Jaya in order to examine the housing affordability issue in liveable city. Tenant and homeowner in Petaling Jaya will be eligible to participate in this research.

3.3.2 Sampling Frame and Sampling Location

Sampling frame is referring to the list of the elements that sample can be collect by the researcher. (Zikmund, 2010). In other word, sampling frame is inclusive of detail that contain in the target population. In this research, M40 of Petaling Jaya resident will be the target population. However, M40 was classified into four different group, which is M1, M2, M3 and M4. Each of the group will be differentiate based on their monthly household income range. Population that be listed in M1 group was ranged between Rm4,851 to Rm5,880, M2 group from Rm5,881 to Rm7,100, M3 group from Rm7,101 to Rm8,700 and M4 group will from Rm8,701 to Rm10,970. Population that falls under these four groups will be entitled to join this research.

3.3.3 Sampling Elements

Target respondents is the tenant and homeowner that lived in Petaling Jaya. Compared to young working household and T40 population, this research will be focusing on the M40 population. It is because of M40 population has lower affordability level to own a house. Hence, they are appropriate and suitable target respondents to determine the factor that influencing housing affordability.

3.3.4 Sampling Technique

Sampling technique is a method that used to infer the sample from a population without having to investigate every individual. (Saunders, Lewis and Thornhill, 2009). There are two main sampling technique that can utilize on the research, which is probability sampling and non-probability sampling. Non-probability sampling, sample selection will be according to the researcher judgement, hence do not have equal chances for all people to be select to use as sample. This study has used non-probability sampling approach which knows as purposive sampling. Purposive sampling is choosing the eligible people to participant in the survey. People who stay in Petaling Jaya and under M40 categories will be the qualify respondents for this survey.

3.3.5 Sampling Size

According to Malhotra and Peterson (2006), sample size is the total number of respondents that involved in the research study. In order to calculate a reliable sample size, this research has adopted Taro Yamane method. Calculation formula for Taro Yamane is presented as

$$n = \frac{N}{1 + N(e)^2}$$

where:

n = sample size

N = population size

e = margin error

Population for Petaling Jaya was estimated at 619,925 and adopted of confidence level of 90%. The calculation of sample size will be $n = \frac{619925}{1 + 619925(0.1)^2}$, the result of the sample size for this study will be 100. 100 set of survey questionnaire has been received from the feedback of Petaling Jaya resident.

3.4 Research Instrument

This study has used questionnaires as the research instrument. Respondent has to answer one set of question which ranging starts from a strong agreement to strong disagreement. This is to analysis that the statement and factor of influencing housing affordability in Petaling Jaya are either agreed or disagreed by the respondent. Pilot test will be conducted before the actual research. Purpose of conducting pilot test is to pre-determine the issue may happen in the actual research, as a signal for the researcher to solve and avoid the issue happen again during actual research.

3.4.1 Design of the questionnaire

At cover page of the questionnaire, brief introduction and research objective will be attached. This questionnaire will be contained of 30 questions and divided into two sections, which are Section A and Section B.

Section A will be associated to the respondent demographic background, such as gender, age, marital status, homeownership status, educational background, monthly income and household size. This section is consisting of 7 questions that able to identify respondent personal profile.

Section B is to determine the main 5 factor that influencing housing affordability in Petaling Jaya. In Section B, it has been break into few subsection which include income factor, affordable housing scheme factor, government subsidies, property investment and infrastructure factor. Total 23 questions in Section B and every question are compulsory for the respondent to answer. These survey questionnaires are limited to the Petaling Jaya resident that fall under M40 category. Questionnaires distribution and data collection will be needed for around two weeks to be complete.

3.5 Construct Measurement

According to Stanley Smith Stevens (1946), primary scale of measurement has been described in four levels, which are nominal, ordinal, interval and ratio. These measurements are applicable to measure thing in numerically mode. For this study, nominal scale, ratio scale and interval scale has been used. However, in the questionnaire, different scale measurement has been applied in different question.

3.5.1 Nominal Scale

Nominal scale is use in the variable that do not have any numerical significance. According to the questionnaire, nominal scale that without order has been applied in section A for question of gender, marital status, homeownership.

3.5.2 Ratio Scale

Ratio scale can be used in the variables on a scale that have measurable intervals. Ratio scale has a feature of exact zero. Ratio scale that used in questionnaire question were age, monthly income, household size.

3.5.3 Ordinal Scale

Central tendency of variable can be calculated by using ordinal scale. This shows that it brings relationship and meaningful between two variables. Likert scale are applied in the questionnaire. Likert scale are useful to analysis of the respondent preference and point of view based on the level of agreement (Joshi, Kale, Chandel and Pal, 2015). 5-Likert scale arranged from strongly disagree (1), disagree (2), neutral (3), agree (4) and strongly agree (5) was applied in questionnaire section B to identify the degree of satisfaction to the statements.

3.6 Data Processing

Data processing is a process that managing data collected and transforming the numerical data into useable information. Data processing able to ensure there is no missing data so that it can produce a higher accuracy result for this research. It is inclusive process of data checking, data editing, data coding and data transcribing.

3.6.1 Data Checking

Data Checking is an important process to check the data collected by eliminate the data which is not qualified for this study. Data checking help to ensure data accuracy and consistent by free from any human calculation mistakes.

3.6.2 Data Editing

Next step from data editing is to edit and amend the answer that inadequate. Hence, researcher will need to edit the data in order to complete the survey to ensure it is a comprehensive and usable response. Data editing help to keep away from getting false research outcomes.

3.6.3 Data Coding

Data coding is needed to categorize all the non-numerical information in proper manner and define with numerical codes. Data coded that arranged by following sequence can be easily enter into system to do the analysis.

3.6.4 Data Transcribing

Final data will be transfer into Statistical Package For Social Science (SPSS) system and Microsoft Excel to analysis the data collected from the questionnaire.

3.7 Data Analysis

Data analysis is the process of justify the information and make decision through evaluation and interpretation of the collected data. There are several analysis tests will be conducted to examine the factors, testing on hypothesis and develop explanations of the facts. Those factors will be evaluated by using descriptive analysis, reliability test and inferential analysis.

3.7.1 Descriptive Analysis

Descriptive analysis are referring of raw data has been transformed into result that can easily understand and explain. Data can be present in graphs or table form so that can provide a quick summary of the data. Nominal and ratio data will be showed in the pie chart by using frequency and percentage form, such as respondent's demographic. Furthermore, central tendency measurement such as mean will be applied to measure on the independent variable and interpreting the data.

3.7.2 Scale Measurement

Scale measurement is used to define and classify the level of measurement of each variable in the research study. Nominal scales, Ratio scales, 5-point Likert rating technique were adopted in this survey questionnaire.

3.7.2.1 Reliability Test (Pilot Test)

Reliability indicates the consistency of scores about measures to get the similar result in repeated testing. (Lim, 2014). Reliability test will determine the variable functional reliability under several of environments. It is to ensure that the measure is faultless then able to produces high consistent and precise result.

Cronbach’s alpha is the most common used reliability test, which is applicable to use for 5-point Liker scale question in Section B. Cronbach’s alpha can explain the reliability among each variable for this questionnaire.

Table 3.1 Rules of Thumb about Cronbach’s Alpha Coefficient Size (Source: Lavrakas, 2008)

Cronbach’s Alpha Coefficient Range	Internal Consistency
Less than 0.60	Poor
0.60 < 0.70	Moderate
0.70 < 0.80	Good
0.80 < 0.90	Very Good
0.90 and above	Excellent

Cronbach’s Alpha Coefficient range is between 0.0 to 1.0, however when the value of coefficient is higher means that the outcome having higher consistency and much reliable. According to George and Mallery (2003), it suggested that 0.70 will be the most acceptable and satisfactory range for the Cronbach’s Alpha value. However, when the Cronbach’s Alpha Coefficient is above 0.95, it can be consider the not a good condition as it means that the data are overplus.

3.7.3 Inferential Analysis

By using inferential analysis, researcher will collect data from sample's characteristics to draw conclusion and assumption for the larger population. On other words, inferential analysis aimed to infer and compile the findings from sample data and conclude for all target population of the study.

Inferential analysis that used in this research to analyze the main factor that affecting housing affordability in Petaling Jaya is Relative Important Index (RII). RII analysis method is use to determine the relative important of the causes and effects involved. (Aibinu & Jagboro, 2002). Different factor will be having different RII, so it can use to determine the ranking of each different factor from a group of population. RII will be expressed in percentages. RII value can be classified into five different level which is high level for $0.8 \leq RII \leq 1$, high-medium for $0.6 \leq RII \leq 0.8$, medium for $0.4 \leq RII \leq 0.6$, medium-low for $0.2 \leq RII \leq 0.4$ and low for $0 \leq RII \leq 0.2$ (Akadiri, 2010).

Formula of RII as presented as

$$RII = \frac{\sum W}{A \times N}$$

Where:

RII = Relative Important Index

W = Weight of each total response given by the respondent. (Equal to points of Likert Scale)

A = Highest weight in the scale

N = Total number in the respondents

Factor that has higher value of RII was indicate that it was the major factor that influence housing affordability in a liveable city. However, analysis of RII for each factor will be done by using SPSS software and Microsoft Excel.

3.8 Conclusion

In conclusion, chapter 3 has discussed on the quantitative research to identify the research questions. Secondly, purposive sampling techniques was used to choosing qualify respondent to answer the questionnaire. Lastly, data analysis method that will be used in this research will discussed which including descriptive analysis, scale measurement, reliability test and Relative Important Index (RII). Next chapter will show the detail of analysis result to identify the factor of influence housing affordability.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

Chapter 4 will analyze the results of 100 set of survey questionnaire by using Statistical Package for Social Science (SPSS) system and Microsoft Excel. Demographic of respondents, result of reliability analysis and Relative Important Index (RII) are included in the discussion of this chapter.

4.1 Descriptive Analysis

4.1.1 Respondent Demographic Background

Section A of the survey questionnaire was demographic background section. In this section, there is total of 7 demographics question that inclusive of gender, age, marital status, homeownership, educational background, monthly income and household size.

4.1.1.1 Gender

Table 4.1: Gender of Respondents

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	31	31.0	31.0	31.0
	Female	69	69.0	69.0	100.0
	Total	100	100.0	100.0	

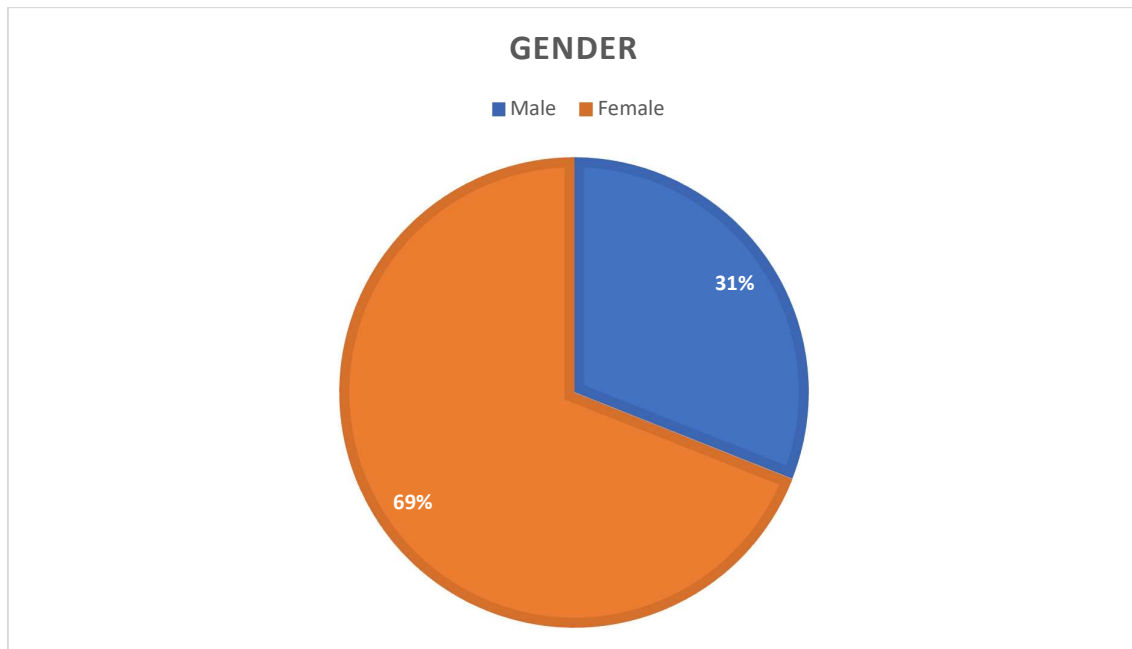


Figure 4.1: Gender of the Respondent

Table 4.1 and Figure 4.1 show the differences of male and female who responded to the questionnaire. Out of total 100 respondents, 31 of the respondents were male (31%) and 69 of the respondents were female (69%).

4.1.1.2 Age

Table 4.2: Age of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 21 years old	0	0	0	0
	21-30 years old	72	72.0	72.0	72.0
	31-40 years old	15	15.0	15.0	87.0
	41-50 years old	5	5.0	5.0	92.0
	51 years old and above	8	8.0	8.0	100.0
	Total	100	100.0	100.0	

Figure 4.2: Age of Respondents

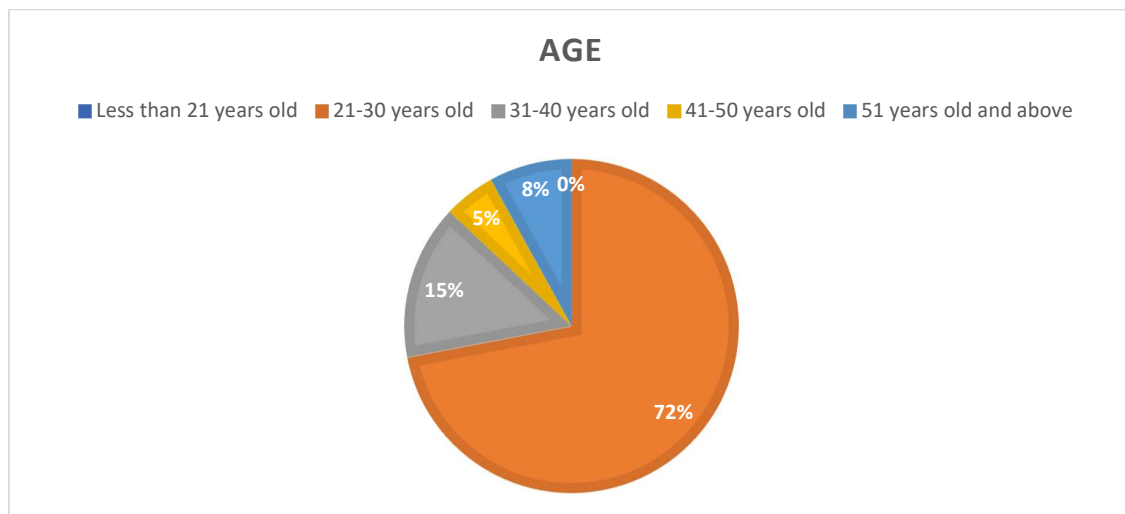


Table 4.2 and Figure 4.2 show the respondent’s age that participate in this questionnaire. All respondents have categorized into five group. Age group of 21-30 years old carries the highest percentage, which consist of 72 respondents (72%). The second highest number of respondents

were age group of 31-40 years old that consists of 15 respondents (15%), followed by 8 respondents from age 51 years old (8%) and above and 5 respondents from age group of 41-50 years old (5%). However, there are no respondents from the age group of below 21 years old, since that they are not the main target population for this survey.

4.1.1.3 Marital Status

Table 4.3: Marital Status of Respondents

Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	76	76.0	76.0	76.0
	Married	22	22.0	22.0	98.0
	Widow	2	2.0	2.0	100.0
	Total	100	100.0	100.0	

Figure 4.3: Marital Status of Respondents

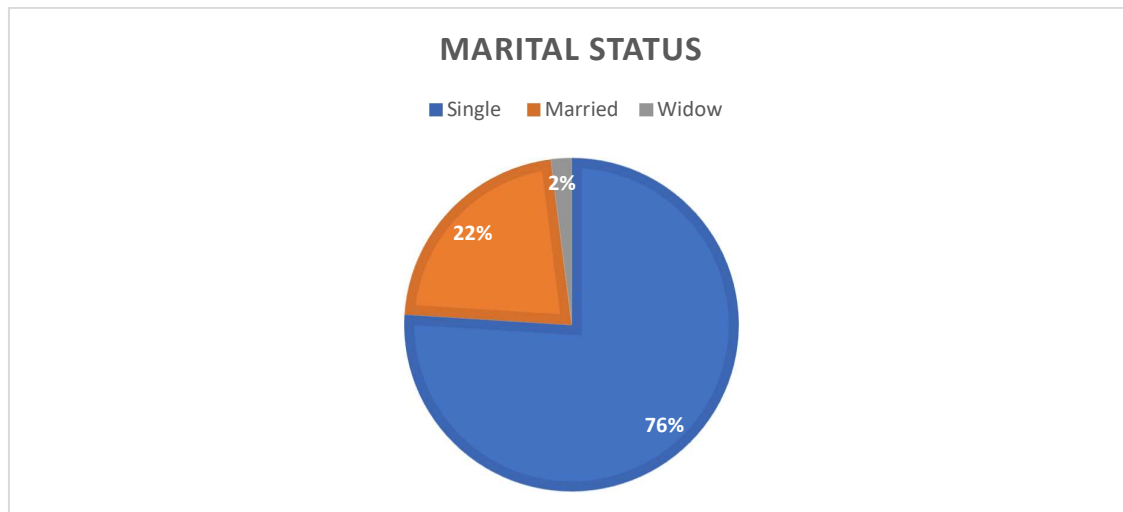


Table 4.3 and Figure 4.3 out of 100 of respondents, 76 of them are single (76%) followed by 22 of respondents are married (22%) and remaining 2 respondents was widow (2%).

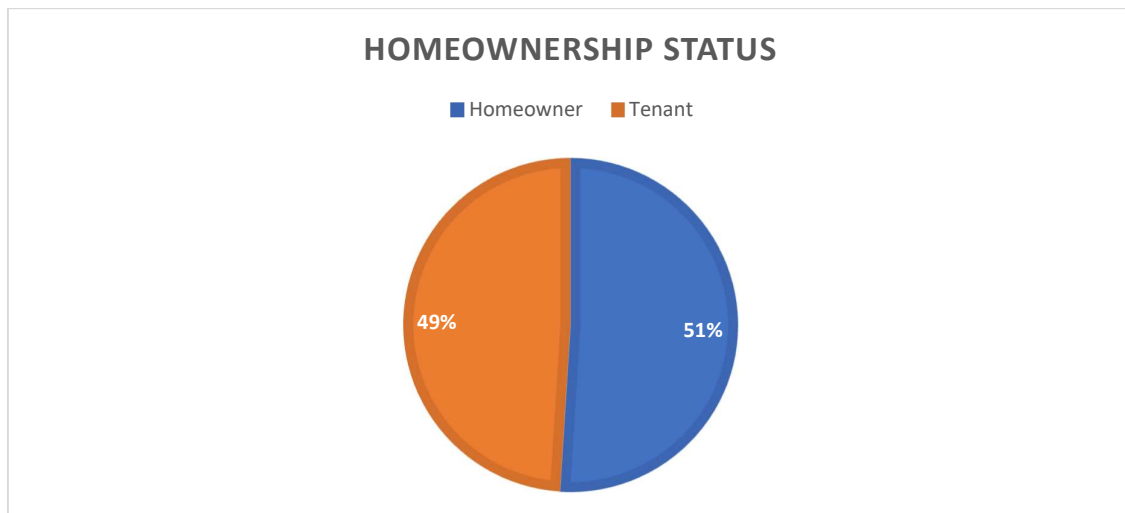
4.1.1.4 Homeownership

Table 4.4: Homeownership status of Respondents

Homeownership

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Homeowner	51	51.0	51.0	51.0
	Tenant	49	49.0	49.0	49.0
	Total	100	100.0	100.0	100.0

Figure 4.4: Homeownership status of Respondents



According to Table 4.4 and Figure 4.4, 51 of the respondents was homeowner (51%), meanwhile 49% of the respondents was tenant and does not own any houses (49%).

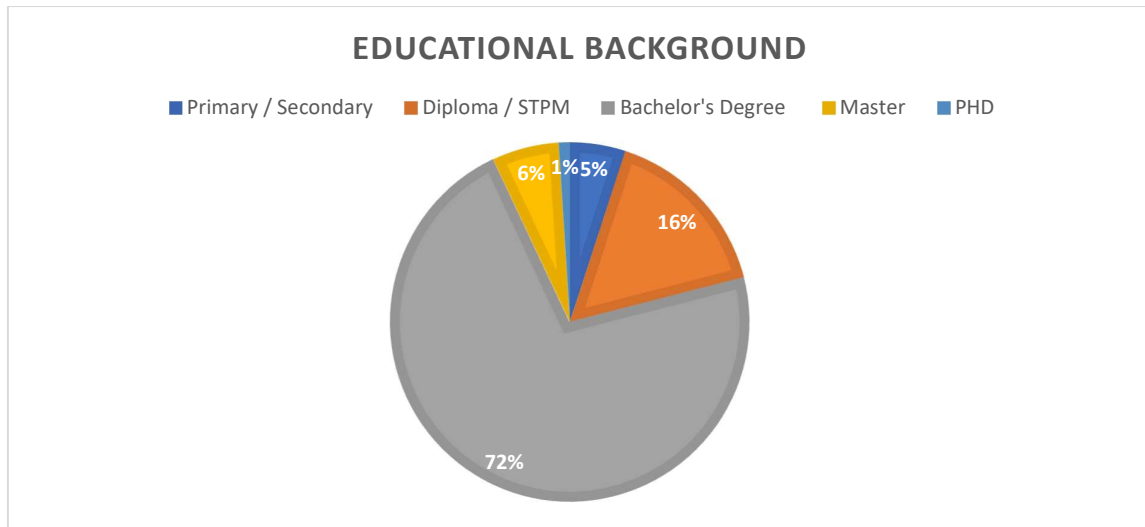
4.1.1.5 Educational Background

Table 4.5: Educational Background of Respondents

Educational Background

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary / Secondary	5	5.0	5.0	5.0
	Diploma / STPM	16	16.0	16.0	16.0
	Bachelor's Degree	72	72.0	72.0	72.0
	Master	6	6.0	6.0	6.0
	PHD	1	1.0	1.0	1.0
	Total	100	100.0	100.0	100.0

Figure 4.5: Educational Background of Respondents



Based on the Table 4.5 and Figure 4.5, it shows that major respondent were Bachelor Degree holder with having 72 respondents (72%), followed by 16 respondents of Diploma / STPM holder (16%), 6 respondents of Master holder (6%), 5 respondents from primary / secondary (5%) and the lowest was under PHD which only having 1 respondents (1%).

4.1.1.6 Monthly Income

Table 4.6: Monthly Income of Respondents

Monthly Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	RM4,500 - RM5,499	72	72.0	72.0	72.0
	RM5,500 - RM6,499	11	11.0	11.0	11.0
	RM6,500 - RM7,499	7	7.0	7.0	7.0
	RM7,500 – RM8,499	4	4.0	4.0	4.0
	RM8,500 – RM9,499	2	2.0	2.0	2.0
	RM9,500 – RM10,499	0	0.0	0.0	0.0
	RM10,500 And Above	4	4.0	4.0	4.0
	Total	100	100.0	100.0	100.0

Figure 4.6: Monthly Income of Respondents

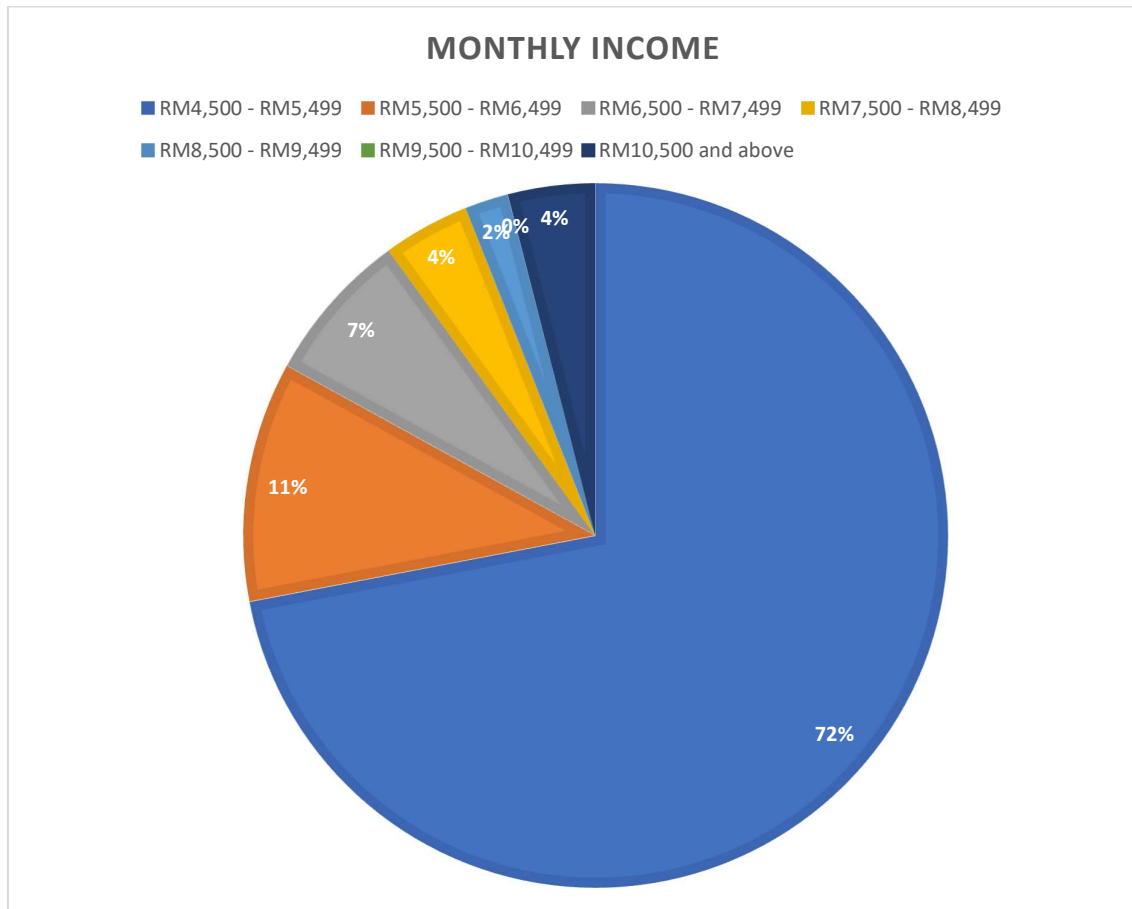


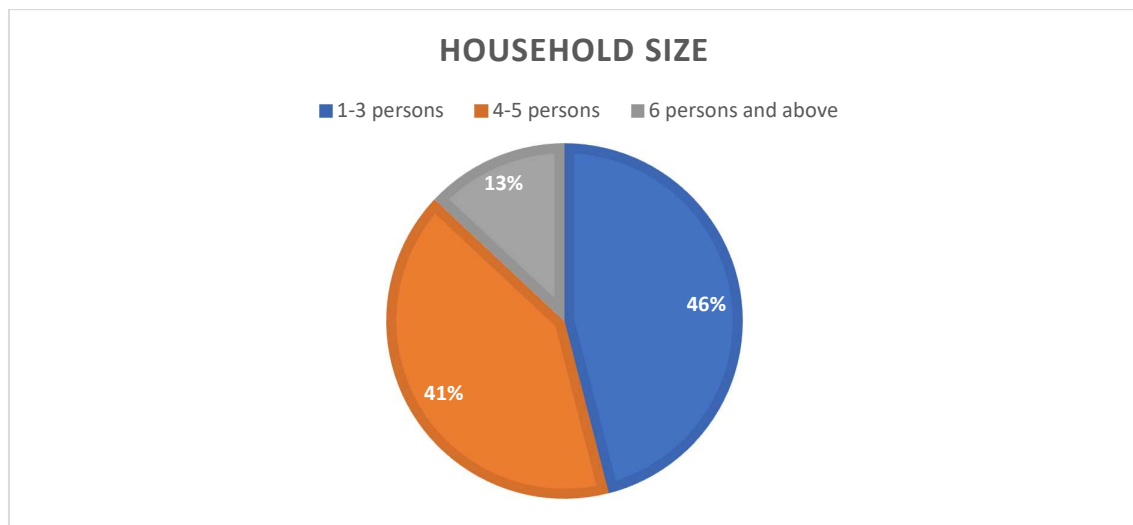
Table 4.6 and Figure 4.6 are show the monthly income for the respondents. Monthly income for majority of the respondents were RM4,500–RM5,499, which consist of total 72 respondents (72%). Second highest monthly income for the respondents were RM5,500–RM6,499 that consist of 11 respondents. (11%), followed by groups of RM6,500–RM7,499 that consist of 7 respondents (7%), RM7,500–RM 8,499 and RM 10,500 and above that each of both groups are consist of 4 respondents (4%), RM8,500-RM9,499 that consist of 2 respondents (2%). However, there are no respondent from income group of RM9,500-RM10,499.

4.1.1.7 Household Size

Table 4.7: Household size of Respondents

Household Size					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1–3 persons	46	46.0	46.0	46.0
	4-5 persons	41	41.0	41.0	41.0
	6 persons and above	13	13.0	13.0	13.0
	Total	100	100.0	100.0	100.0

Figure 4.7: Household size of Respondents



By referring to the Table 4.7 and Figure 4.7, out of 100 of respondents, 46 of respondents have 1-3 household (46%). Second highest were group of 4-5 household that consist of 41 of respondents (41%). Lastly, there are only 13 of respondents have 6 household and above (13%).

4.2 Scale Measurement

4.2.1 Cronbach Alpha test on the factor that influencing housing affordability

Aim of conducting pilot test is to ensure that whether the respondents for the survey questionnaire understands the questions to avoid any misinterpretations (Naoum, 2007). Cronbach Alpha analysis will be utilized to do reliability test for this survey questionnaire. According to Hill (1998), it stated that 10 to 30 participants for pilot test in research will be recommended. The reliability test will be test on 20 respondents from the questionnaire.

Table 4.8: Reliability Analysis (Cronbach Alpha)

NO	Criteria	Cronbach's Alpha	Number of Items	Strength of Association
1	Income	0.606	4	Moderate
2	Affordable Housing Scheme	0.731	5	Good
3	Government Subsidies	0.862	5	Very Good
4	Property Investment	0.609	4	Moderate
5	Infrastructure	0.788	5	Good
	Overall	0.891	23	Very Good

According to table 4.8 Cronbach's Alpha reliability test, total of 20 respondents and 23 items has been used to measured. The highest variable for Cronbach Alpha value is Government Subsidies with 0.862, followed by Infrastructure with 0.788, Affordable Housing Scheme with 0.731, Property Investment with 0.609 and lastly Household Income with 0.606. All independent variables have been tested and all resulted in acceptable conditions as all independent variables has more than 0.6 of Cronbach's Alpha value. Nonetheless, income factor and property investment factor are only in moderate category, it may be due to some questions are quite similar, hence cause confusion to the respondents. Overall value of 0.891 Cronbach Alpha for this whole research, which it is under very good category.

4.3 Relative Important Index (RII) for factor that influencing housing affordability

4.3.1 Income factor

Table 4.9: RII Analysis for income factor

Subfactor	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Mean	RII	RANK
I am willing to pay more than 30% of my total income to purchase a residential property in Petaling Jaya	1	14	93	184	75	3.67	0.734	4
I think that my monthly income is not enough to save for the housing deposit to purchase house in Petaling Jaya.	3	10	57	132	200	4.02	0.804	3

MAIN FACTOR INFLUENCING HOUSING AFFORDABILITY IN LIVEABLE CITY: CASE STUDY IN PJ

The current house market price in Petaling Jaya is too expensive for me to purchase.	3	4	39	148	225	4.19	0.838	2
I think cost of living in Petaling Jaya are high.	1	2	36	180	205	4.24	0.848	1

According to the Table 4.9, it showed that statement of “I think cost of living in Petaling Jaya are high.” are having the highest RII value, which consist of 0.848. Most of the residential strongly agree that cost of living in Petaling Jaya are high.

4.3.2 Affordable Housing Scheme factor

Table 4.10: RII Analysis for affordable housing scheme factor

Subfactor	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Mean	RII	RANK
I am aware of affordable housing scheme, such as 1 Malaysia People Housing Scheme (PR1MA), Rumah Selangorku.	1	10	84	116	185	3.96	0.792	4
I am satisfaction with the amount of affordable housing scheme available in Petaling Jaya area.	3	76	90	76	50	2.95	0.59	5

MAIN FACTOR INFLUENCING HOUSING AFFORDABILITY IN LIVEABLE CITY: CASE STUDY IN PJ

I will consider to purchase affordable housing scheme if I can afford it and eligible for it.	2	2	81	128	190	4.03	0.806	3
I think that property developer should build more affordable housing scheme in major city area, such as Petaling Jaya.	1	2	57	152	205	4.17	0.834	1
I think that affordable housing scheme able to help on mitigate housing overprice issue in city area like Petaling Jaya.	2	6	63	120	220	4.11	0.822	2

Based on table 4.10, it showed that statement of “I think that property developer should build more affordable housing scheme in major city area, such as Petaling Jaya.” are having the highest RII value, which consist of 0.834.

4.3.3 Government Subsidies factor

Table 4.11: RII Analysis for government subsidies factor

Subfactor	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Mean	RII	RANK
I am aware of government subsidies for homeownership, such as Home Ownership Campaign (HOC), My First Home Scheme (MFHS).	4	8	72	132	175	3.91	0.782	5
I would like to apply for financial assistance program provided by government when I purchase property.	3	2	42	128	250	4.25	0.85	3

MAIN FACTOR INFLUENCING HOUSING AFFORDABILITY IN LIVEABLE CITY: CASE STUDY IN PJ

I agree that those financial assistance program should be incorporated in housing policy to help on assist people to purchase their own house.	0	0	39	136	265	4.4	0.88	1
I think that those government subsidies can provide great help on helping home ownership.	1	0	42	124	270	4.37	0.874	2
I think that government subsidies able to help on mitigate housing overprice issue in city area like Petaling Jaya.	2	8	42	116	255	4.23	0.846	4

By referring to table 4.11 able to see that statement of “I agree that those financial assistance program should be incorporated in housing policy to help on assist people to purchase their own house.” having the highest RII value among other 4 statements, as it consist of 0.88.

4.3.4 Property Investment factor

Table 4.12: RII Analysis for property investment factor

Subfactor	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Mean	RII	RANK
I am think developer should build the development to the state for public housing or build the development for rental control.	2	4	69	188	130	3.93	0.786	3
I am aware of government subsidies of property investment for foreigner, such as Malaysia My Second House (MM2H).	9	14	93	104	135	3.55	0.71	4

MAIN FACTOR INFLUENCING HOUSING AFFORDABILITY IN LIVEABLE CITY: CASE STUDY IN PJ

I think that increasing of property investor in Malaysia housing market will affect the house price.	1	2	45	172	200	4.2	0.84	2
I think that it will bring up the housing market price when there is property investment in the area.	1	0	48	156	220	4.25	0.85	1

In table 4.12, result of RII analysis for property investment factor showed that statement of “I think that it will bring up the housing market price when there is property investment in the area.” have the highest RII value that consist of 0.85.

4.3.5 Infrastructure factor

Table 4.13: RII Analysis for infrastructure factor

Subfactor	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Mean	RII	RANK
I am satisfied with access to work by using road or highway.	1	12	57	160	170	4	0.8	4
I am satisfied with access to public transportation station.	4	14	51	160	160	3.89	0.778	5
I am satisfied with access to shopping mall.	1	6	51	172	180	4.1	0.82	3

MAIN FACTOR INFLUENCING HOUSING AFFORDABILITY IN LIVEABLE CITY: CASE STUDY IN PJ

I will concern of neighborhood features (facilities) while making decision of purchase a property, especially in city area like Petaling Jaya.	0	0	42	136	260	4.38	0.876	1
I think that infrastructure features (facilities) will be influence housing price?	1	0	30	164	240	4.35	0.87	2

According to table 4.13, statement of “I will concern of neighborhood features (facilities) while making decision of purchase a property, especially in city area like Petaling Jaya.” have the highest RII value compared to other statement, which consist of 0.876 RII value.

4.3.6 RII for each factor

Table 4.14 RII Ranking

No	Factor group	RII	Rank
1	Income	0.806	3
2	Affordable Housing Scheme	0.769	5
3	Government Subsidies	0.847	1
4	Property Investment	0.797	4
5	Infrastructure	0.83	2

According to table 4.14, analysis result showed that government subsidies has the highest RII value among these five factors, which consist of 0.847. Second highest RII value are belongs to infrastructure, which consist of 0.83, followed by income of 0.806 RII value, property investment 0.797 RII value and lastly affordable housing scheme that only consist of 0.769 RII value. It showed that government subsidies is the most main factor that influencing housing affordability in Petaling Jaya.

4.4 Conclusion

In Chapter 4, it showed that 100 of respondents has been utilised to do for data analysis. It indicated that all independent factors are influencing housing affordability in Petaling Jaya. The most main factor that influence housing affordability in liveable city is government subsidies. Next chapter will be discussed on the major finding for each factor that influence housing affordability.

Chapter 5: Discussion, Conclusion and Implications

5.0 Introduction

This chapter will be provided an overview of the previous chapter. Moreover, Chapter 5 will also provide a summary of statistical analysis and major findings in Chapter 5. Result in chapter 4 will be used to compare with the research objectives that stated in Chapter 1 to validate the research objectives and hypotheses. Then, implications for this study will be discuss and followed by limitations of this study and recommendations for future research along with final conclusion for this research.

5.1 Summary of Statistical Analyses

In this section will be present summary of the descriptive analysis for the demographic profile, scare measurement and relative important index analysis.

5.1.1 Descriptive Analysis

Demographic profile in the questionnaire are used to analyse the respondent's gender, age, marital status, homeownership, educational background, monthly income and household size.

Majority of the respondents are female which represent 69% and male respondent with only 31%. Secondly, target respondent was categorized into 5 different group and the highest age group was belongs to 21-30 years old with 72%, meanwhile there are not respondent from age

group of below 21 years old. Thirdly, highest percentage for marital status categories of respondent were single with 76%. Fourthly, homeownership status for the respondents was nearly the same as 51% of respondents have owned their own house, however 49% of respondents were renting a house. Fifthly, result for educational background shows that most of the respondents were a Bachelor's Degree holder with 72% in total but there are only one respondent is from PHD holder. Sixthly, respondents that earn monthly income that between RM4,500 to RM5,499 are consist of 72%, which it is the major monthly income group for this questionnaire. It is match that majority of the respondent are from monthly income group of RM4,500 and from 21-30 years old, as some of the respondents may be fresh graduate or has not been working for a long time. Household size that 1 to 3 person was the highest percentage that consist of 46% and followed closely to household size that having 4 to 5 person in 41%.

5.1.2 Scale Measurement

Table 5.1 Reliability Analysis (Cronbach Alpha)

NO	Criteria	Cronbach's Alpha	Number of Items	Strength of Association
1	Income	0.606	4	Moderate
2	Affordable Housing Scheme	0.731	5	Good
3	Government Subsidies	0.862	5	Very Good
4	Property Investment	0.609	4	Moderate
5	Infrastructure	0.788	5	Good
	Overall	0.891	23	Very Good

Five criteria in above were more than 0.6 and lower than 0.95, one of the criteria was under very good category. Furthermore, overall value of 0.891 Cronbach Alpha for this whole research, which it is under very good category. It shows that the data collected for this questionnaire is reliable to continue for further analysis.

5.1.3 Inferential Analysis Summary: Relative Important Index (RII)

Table 5.2 Highest RII value for subfactor

No	Subfactor	Factor group	RII	Rank
1	I think cost of living in Petaling Jaya are high.	Income	0.848	4
2	I think that property developer should build more affordable housing scheme in major city area, such as Petaling Jaya.	Affordable Housing Scheme	0.834	5
3	I agree that those financial assistance program should be incorporated in housing policy to help on assist people to purchase their own house.	Government Subsidies	0.88	1
4	I think that it will bring up the housing market price when there is property investment in the area.	Property Investment	0.85	3
5	I will concern of neighborhood features (facilities) while making decision of purchase a property, especially in city area like Petaling Jaya.	Infrastructure	0.876	2

This research was aimed to identify the major factor that influencing housing affordability in Petaling Jaya. Relative Important Index (RII) analysis has been conducted to diagnostic and answer the research problem of this study. According to the table above, can be summaries that main subfactor that influence housing affordability in Petaling Jaya is due to cost of living in Petaling Jaya was high, lack of affordable housing in city area, financial assistance program should be incorporated in housing policy, investment activity available in city area and availability of facilities in neighborhood area. Lastly by refer to Akadiri (2010), factor than having RII value that higher and equal of 0.8, it can be classified into high level. All of the factor in this research was under high level category since than all factors were above 0.8 RII value.

5.2 Discussion on Major Finding

Table 5.3: RII Ranking

No	Factor group	RII	Rank
1	Income	0.806	3
2	Affordable Housing Scheme	0.769	5
3	Government Subsidies	0.847	1
4	Property Investment	0.797	4
5	Infrastructure	0.83	2 -

5.2.1 Income factor

H1₀: Income is the main factor that influencing housing affordability in Petaling Jaya.

This study has found that living of cost in Petaling Jaya are relatively high hence influence the house affordability in Petaling Jaya area. There is difficult to buy a house when there are continuous raising of living cost with comparatively low monthly income. As supported by the research done by DOSM in Year 2019, Petaling Jaya are ranked in top for mean of monthly household expenditure within Selangor state. Since living cost in Petaling Jaya was high, people does not have extra saving to purchase their own house. It caused most of the resident in Petaling Jaya affordability level are low as they are unaffordable to purchase a house.

5.2.2 Affordable Housing Scheme factor

H2₀: Affordable housing scheme is the main factor that influencing housing affordability in Petaling Jaya.

Malaysia faces shortage of affordable housing for the citizen. Malaysia has failed to provide adequate supply of affordable housing hence it caused a wide gap between the demand and supply of affordable housing scheme. From Year 2016-2017, there are only 24% of new launches affordable houses that are below Rm250k. It indicated that undersupply of affordable houses for Malaysia citizen.

5.2.3 Government Subsidies factor

H3₀: Government subsidies is the main factor that influencing housing affordability in Petaling Jaya.

Hypotheses of **H3₀** was accepted as government subsidies is the main factor that influencing housing affordability. Respondent were agreed that financial assistance program should be incorporated in housing policy to help on assist people to purchase their own house. Government has introduced manifold of financial assistance program for low income and medium income household with aim to mitigate housing affordability issue. Tighten and difficulties in secure a bank loan from financial institution are one of the reasons that people are unable to afford a house. Government subsidies can provide the homebuyer a flexible financial loan on paying their down payment and housing mortgage.

5.2.4 Property Investment factor

H4₀: Property Investment is the main factor that influencing housing affordability in Petaling Jaya.

Property investment may be considered as an element of the gross domestic product (GDP), as there is a strong positive impact of housing investment on the national GDP. When investment on housing property been increase, simultaneously national GDP will be move up. Increase in GDP are reflecting country economy are getting better and favourable, people will start to make investment in property. Therefore, property price will be increase due to demand of housing will be exceed supply of housing market.

5.2.5 Infrastructure factor

H5₀: Infrastructure is the main factor that influencing housing affordability in Petaling Jaya.

Location is one of the element that will be influencing housing price, hence property that having good location will normally linked to accessibility to nearby facilities and amenities. It is supported by the research that done by Song, Cao, Han and Hickman (2019) which stated that public transportation infrastructure brings positive impact of the house price. In the contrary, housing price has negative impact when the property is close to school as it brings noise and speed restriction that cause traffic congestion. Hence, it indicates that housing price will be affected by infrastructure factor. It is reasonable that home buyer will concern of neighbourhood facilities when making decision of purchase a property.

5.3 Implications of the Study

5.3.1 Managerial Implications

Research result can provide a greater understanding on the factor that influences the housing affordability in a liveable city. Findings in this study can be used as a reference that bring awareness for the government and developer to plan for a better future planning hence to increase homeownership rate and mitigate the housing affordability issue in liveable city area. This is because inadequate research on household data to provide for housing developer, hence failure to correspond of housing supply and demand, then terribly having high vacant rate of housing and low housing affordability. Government plays an important role to control and ensure that house price is affordable especially for the middle-income earners (M40). So that, people have the opportunity to purchase their own house. Government should incorporate with developer or financial institutions to roll out with several programme to aid Malaysia citizen on purchasing housing. At the same time, developer able to mitigate the issue of housing overhang in the property market.

5.4 Limitations of the Study

Throughout the research, there are several limitations that need to point out for acknowledgement purpose for future deeper research. First limitation in this research was limited data has been obtained. Population in Petaling Jaya are around six hundred thousand, but researcher has reached only 100 respondents. As 100 of respondents involved are unable to represent the whole population in Petaling Jaya, hence result for the research may not be sufficient to show the actual conditions. While at the same time people may have different perspective on the factor that influencing housing affordability.

Furthermore, limitations that need to pinpoint was the accuracy of the data collected, since that data for this research are collected through online questionnaire. Due to pandemic, researcher

is unable to conduct face to face interview. Answer provided through online questionnaire may not be so accurate because researcher cannot get the feedback from respondent immediately, hence it is difficult to justify the accurately of the respond. Lastly, this research is mainly study on Petaling Jaya, so that it is inappropriate to use in other state of Malaysia. Different geographical area might have different housing price movement as their have different cost of living.

5.5 Recommendations for Future Research

For future studies, it is recommended to adapt larger number of sample sizes to increase the precision of the result or conduct face to face interview with the resident to get a more precious information. By conduct interview physically, research have the opportunity to directly communicate with the resident and investigate the area by itself so that able to get more information and have deeper understanding. This is the reason that data collected through interview is more detailed and subjective. Moreover, second recommendation would be future research can be broader into housing affordability level in whole Malaysia. So that the result can be used for general in whole Malaysia, but not only limited to the specific area. Lastly, future researcher should be considered with more factor to examine the influence level so that to make the research more comprehensive and extensive.

5.6 Conclusion

Government should do improvement of the financial assistance to increase the homeownership rate in M40 population group. In conclusion, the objectives of this research had been achieved by determining and evaluate the main factor that influence housing affordability in liveable city.

REFERENCE

- Bujang, A. A., Zarin, H. A., & Jumadi, N. (2010). The relationship between demographic factors and housing affordability. *Malaysian Journal of Real Estate*, 5(1), 49-58.
- Department of Statistics Malaysia Official Portal. (2021). Retrieved 1 December 2021, from https://www.dosm.gov.my/v1/index.php?r=column/cthemByCat&cat=493&bul_id=VTNHRkdiZkFzenBNd1Y1dmg2UUlrZz09&menu_id=amVoWU54UTI0a21NWmdhMjFMMWcyZz09
- Gholipour, H. (2013). DETERMINANTS OF FOREIGN INVESTMENTS IN RESIDENTIAL PROPERTIES: EVIDENCE FROM MALAYSIAN STATES. *International Journal Of Strategic Property Management*, 17(3), 317-322. doi: 10.3846/1648715x.2013.822436
- Hadi A.S. et al. (2018) Managing the Growing Kuala Lumpur Mega Urban Region for Livable City: The Sustainable Development Goals as Guiding Frame. In: Leal Filho W. (eds) Handbook of Sustainability Science and Research. World Sustainability Series. Springer, Cham. https://doi.org/10.1007/978-3-319-63007-6_21
- Hassan, I.M., Aziz, F.A., Bakar, N.A., & Ahmad, N.H. (2019). Housing Affordability of Middle Income Households in Kuala Lumpur.
- HOC 2020-2021 – REHDA Malaysia. (2021). Retrieved 1 December 2021, from <http://rehda.com/hoc2020-2021/>
- Khazanah Research Institute. 2015. Making Housing Affordable. Kuala Lumpur: Khazanah Research Institute. License: Creative Commons Attribution CC BY 3.0.
- LIM, S., SIM, S., TAN, C., TAN, S., & TAN, W. (2016). DETERMINANTS OF HOUSING PRICE IN MALAYSIA.

- Lip, Saw & Tan, Teck Hong. (2014). Factors Affecting the Purchase Decision of Investors in the Residential Property Market in Malaysia. 5. 1985-7527.
- Liu, F., Min, M., Zhao, K., & Hu, W. (2020). Spatial-Temporal Variation in the Impacts of Urban Infrastructure on Housing Prices in Wuhan, China. *Sustainability*, 12(3), 1281. doi: 10.3390/su12031281
- Mathur, S. (2008). Impact of Transportation and Other Jurisdictional-Level Infrastructure and Services on Housing Prices. *Journal Of Urban Planning And Development*, 134(1), 32-41. doi: 10.1061/(asce)0733-9488(2008)134:1(32)
- Mohd Shoed, A., & Subramaniam, G. (2015). Housing Affordability among Generation Y in Malaysia A Conceptual Analysis. *ADVANCES IN BUSINESS RESEARCH INTERNATIONAL JOURNAL*, 1(2), 16. doi: 10.24191/abrij.v1i2.10010
- MyDeposit 2020: Permohonan Skim Pembiayaan Deposit Rumah Pertama. (2021). Retrieved 1 December 2021, from <https://semakanonline.com/mydeposit/>
- Raji, Fauziah & Baqutayan, Shadiya & Qutayan, Ba & Ariffin, Aini & Razali, Muhammad & Kamarudin, Norhaya. (2016). RESIDENT'S PERCEPTION ON LIVABILITY IN AFFORDABLE HOUSING IN MALAYSIA. 03.
- Sani, D.N., Rahim, A.R., & Munaa'im, I.M. (2017). INDICATOR OF HOUSING AFFORDABILITY IN MALAYSIA.
- Shakur, E., Mohamed, A., & Hadi, A. (2021). Home ownership for liveable city: case study of Kajang City, Malaysia. *Journal Of Housing And The Built Environment*, 36(4), 1763-1785. doi: 10.1007/s10901-021-09821-4
- Yap, J., & Ng, X. (2018). Housing affordability in Malaysia: perception, price range, influencing factors and policies. *International Journal Of Housing Markets And Analysis*, 11(3), 476-497. doi: 10.1108/ijhma-08-2017-0069

Zainon, N., Mohd-Rahim, F., Sulaiman, S., Abd-Karim, S., & Hamzah, A. (2017). Factors Affecting the Demand of Affordable Housing among the Middle-Income Groups in Klang Valley Malaysia. *Journal Of Design And Built Environment*, 1-10. doi: 10.22452/jdbe.sp2017no1.1

APPENDICES

Appendix 3.1: Survey Questionnaire

Survey Questionnaire



UNIVERSITI TUNKU ABDUL RAHMAN
FACULTY OF ACCOUNTANCY AND MANAGEMENT
ACADEMIC YEAR 2021
OCTOBER 2021 TRIMESTER
BACHELOR OF BUILDING AND PROPERTY MANAGEMENT (HONS)

Dear Respondent,

I am student currently pursuing Degree in Building and Property Management from Faculty Accountancy and Management (FAM) in Universiti Tunku Abdul Rahman, Sungai Long Campus.

I am currently conducting a study on “HOUSING AFFORDABILITY AND LIVEABLE CITY: CASE STUDY IN PETALING JAYA” for my final year report (FYP). The purpose of this study is to determine and evaluate the factor that influencing affordable housing for liveable city in Petaling Jaya.

I would like to thank you for your time spending to participate in this survey. Your answer will be kept PRIVATE and CONFIDENTIAL and use for academic purpose only. This questionnaire will take approximate 5-10 minutes to complete.

Thank you for your participation.

Your sincerely,

Name	Student ID
Siw Jing Yi	1903651

Section A: Demographic

This section requires you to provide personal information. Please provide the correct information by selecting the respective answer.

1. Gender

- () Male
- () Female

2. Age

- () Less than 21 years old
- () 21 – 30 years old
- () 31 – 40 years old
- () 41 – 50 years old
- () 51 years old and above

3. Marital Status

- () Single
- () Married
- () Widow

4. Homeownership

- () Homeowner
- () Tenant

5. Educational Background

- () Primary / Secondary
- () Diploma / STPM
- () Bachelor's Degree
- () Master
- () PhD

6. Monthly Income

- () Rm4,500 – Rm5,499
- () Rm5,500 – Rm6,499
- () Rm6,500 – Rm7,499
- () Rm7,500 – Rm8,499
- () Rm8,500 – Rm9,499
- () Rm9,500 – Rm10,499
- () Rm10,500 and above

7. Household Size

- () 1 – 3 person
- () 4 – 5 person
- () 6 person and above

Section B: Factors that affect the housing affordability of residential property in Petaling Jaya

Instruction: The objective of section B is to identify the factors that affecting the housing affordability of residential property in Petaling Jaya. Please select and tick (O) to all answer.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

A. Household Income

I am willing to pay more than 30% of my total income to purchase a residential property in Petaling Jaya.	1	2	3	4	5
I think that my monthly income is not enough to save for the housing deposit to purchase house in Petaling Jaya.	1	2	3	4	5
The current house market price in Petaling Jaya is too expensive for me to purchase.	1	2	3	4	5
I think cost of living in Petaling Jaya are high.	1	2	3	4	5

B. Affordable Housing Scheme

I am aware of affordable housing scheme, such as 1 Malaysia People Housing Scheme (PR1MA), Rumah Selangorku.	1	2	3	4	5
I am satisfaction with the amount of affordable housing scheme available in Petaling Jaya area.	1	2	3	4	5
I will consider to purchase affordable housing scheme if I can afford it and eligible for it.	1	2	3	4	5
I think that property developer should build more affordable housing scheme in major city area, such as Petaling Jaya.	1	2	3	4	5
I think that affordable housing scheme able to help on mitigate housing overprice issue in city area like Petaling Jaya.	1	2	3	4	5

C. Government Subsidies

I am aware of government subsidies for homeownership, such as Home Ownership Campaign (HOC), My First Home Scheme (MFHS).	1	2	3	4	5
I would like to apply for financial assistance program provided by government when I purchase property.	1	2	3	4	5
I agree that those financial assistance program should be incorporated in housing policy to help on assist people to purchase their own house.	1	2	3	4	5
I think that those government subsidies can provide great help on helping home ownership.	1	2	3	4	5
I think that government subsidies able to help on mitigate housing overprice issue in city area like Petaling Jaya.	1	2	3	4	5

D. Property Investment

I am think developer should build the development to the state for public housing or build the development for rental control.	1	2	3	4	5
I am aware of government subsidies of property investment for foreigner, such as Malaysia My Second House (MM2H).	1	2	3	4	5
I think that increasing of property investor in Malaysia housing market will affect the house price.	1	2	3	4	5
I think that it will bring up the housing market price when there is property investment in the area.	1	2	3	4	5

E. Infrastructure

I am satisfied with access to work by using road or highway.	1	2	3	4	5
I am satisfied with access to public transportation station.	1	2	3	4	5
I am satisfied with access to shopping mall.	1	2	3	4	5
I will concern of neighborhood features (facilities) while making decision of purchase a property, especially in city area like Petaling Jaya.	1	2	3	4	5
I think that infrastructure features (facilities) will be influence housing price?	1	2	3	4	5

Supervisor Signature:



Dr Elia Syarafina Abdul Shakur
Assistant Professor

Appendix 4.1: SPSS Data Output (Pilot Test)

Pilot Test

i) Household Income

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded ^a	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.606	.631	4

ii) Affordable Housing Scheme

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded ^a	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.731	5

iii) Government Subsidies

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded ^a	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.862	4

iv) Property Investment

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded ^a	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.609	4

v) Infrastructure

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded ^a	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's	
Alpha	N of Items
.788	5

vi) Overall

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded ^a	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's	
Alpha	N of Items
.891	23

Appendix 4.2: SPSS Data Output (Central Tendency of Skewness)

i) Household Income

		Statistics			
		Household Income (1. I am willing to pay more than 30% of my total income to purchase a residential property in Petaling Jaya)	2. I think that my monthly income is not enough to save for the housing deposit to purchase house in Petaling Jaya.	3. The current house market price in Petaling Jaya is too expensive for me to purchase.	4. I think cost of living in Petaling Jaya are high.
N	Valid	100	100	100	100
	Missing	0	0	0	0
Mean		3.67	4.02	4.19	4.24
Median		4.00	4.00	4.00	4.00
Mode		4	5	5	4
Std. Deviation		.853	1.035	.950	.780

ii) Affordable Housing Scheme

		Statistics				
		Affordable Housing Scheme (1. I am aware of affordable housing scheme, such as 1 Malaysia People Housing Scheme (PR1MA), Rumah Selangorku.)	2. I am satisfaction with the amount of affordable housing scheme available in Petaling Jaya area.	3. I will consider to purchase affordable housing scheme if I can afford it and eligible for it.	4. I think that property developer should build more affordable housing scheme in major city area, such as Petaling Jaya.	5. I think that affordable housing scheme able to help on mitigate housing overprice issue in city area like Petaling Jaya.
N	Valid	100	100	100	100	100
	Missing	0	0	0	0	0
Mean		3.96	2.95	4.03	4.17	4.11
Median		4.00	3.00	4.00	4.00	4.00
Mode		5	2	5	5	5
Std. Deviation		.974	1.048	.937	.842	.973

iii) Government Subsidies

		Statistics			
		Government Subsidies (1. I am aware of government subsidies for homeownership, such as Home Ownership Campaign (HOC), My First Home Scheme (MFHS))	2. I would like to apply for financial assistance program provided by government when I purchase property.	3. I agree that those financial assistance program should be incorporated in housing policy to help on assist people to purchase their own house.	4. I think that those government subsidies can provide great help on helping home ownership.
N	Valid	100	100	100	100
	Missing	0	0	0	0
Mean		3.91	4.25	4.40	4.37
Median		4.00	4.50	5.00	5.00
Mode		5	5	5	5
Std. Deviation		1.055	.947	.711	.800

iv) Property Investment

		Statistics			
		Property Investment (1. I am think developer should build the development to the state for public housing or build the development for rental control.)	2. I am aware of government subsidies of property investment for foreigner, such as Malaysia My Second House (MM2H).	3. I think that increasing of property investor in Malaysia housing market will affect the house price.	4. I think that it will bring up the housing market price when there is property investment in the area.
N	Valid	100	100	100	100
	Missing	0	0	0	0
Mean		3.93	3.55	4.20	4.25
Median		4.00	4.00	4.00	4.00
Mode		4	3	4	5
Std. Deviation		.868	1.218	.804	.796

v) Infrastructure

		Statistics				
		Infrastructure (1. I am satisfied with access to work by using road or highway.)	2. I am satisfied with access to public transportation station.	3. I am satisfied with access to shopping mall.	4. I will concern of neighborhood features (facilities) while making decision of purchase a property, especially in city area like Petaling Jaya.	5. I think that infrastructure features (facilities) will be influence housing price?
N	Valid	100	100	100	100	100
	Missing	0	0	0	0	0
Mean		4.00	3.89	4.10	4.38	4.35
Median		4.00	4.00	4.00	5.00	4.00
Mode		4	4	4	5	5
Std. Deviation		.932	1.063	.859	.722	.744

Appendix 4.3 SPSS Data Output (Frequencies)

Frequencies

1. I am willing to pay more than 30% of my total income to purchase a residential property in Petaling Jaya

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	1.0	1.0	1.0
	Disagree	7	7.0	7.0	8.0
	Neutral	31	31.0	31.0	39.0
	Agree	46	46.0	46.0	85.0
	Strongly Agree	15	15.0	15.0	100.0
	Total	100	100.0	100.0	

2. I think that my monthly income is not enough to save for the housing deposit to purchase house in Petaling Jaya.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	3.0	3.0	3.0
	Disagree	5	5.0	5.0	8.0
	Neutral	19	19.0	19.0	27.0
	Agree	33	33.0	33.0	60.0
	Strongly Agree	40	40.0	40.0	100.0
	Total	100	100.0	100.0	

3. The current house market price in Petaling Jaya is too expensive for me to purchase.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	3.0	3.0	3.0
	Disagree	2	2.0	2.0	5.0
	Neutral	13	13.0	13.0	18.0
	Agree	37	37.0	37.0	55.0
	Strongly Agree	45	45.0	45.0	100.0
	Total	100	100.0	100.0	

4. I think cost of living in Petaling Jaya are high.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	1.0	1.0	1.0
	Disagree	1	1.0	1.0	2.0
	Neutral	12	12.0	12.0	14.0
	Agree	45	45.0	45.0	59.0
	Strongly Agree	41	41.0	41.0	100.0
	Total	100	100.0	100.0	

1. I am aware of affordable housing scheme, such as 1 Malaysia People Housing Scheme (PR1MA), Rumah Selangorku

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	1.0	1.0	1.0
	Disagree	5	5.0	5.0	6.0
	Neutral	28	28.0	28.0	34.0
	Agree	29	29.0	29.0	63.0
	Strongly Agree	37	37.0	37.0	100.0
	Total	100	100.0	100.0	

2. I am satisfaction with the amount of affordable housing scheme available in Petaling Jaya area.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	3.0	3.0	3.0
	Disagree	38	38.0	38.0	41.0
	Neutral	30	30.0	30.0	71.0
	Agree	19	19.0	19.0	90.0
	Strongly Agree	10	10.0	10.0	100.0
	Total	100	100.0	100.0	

3. I will consider to purchase affordable housing scheme if I can afford it and eligible for it.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	2.0	2.0	2.0
	Disagree	1	1.0	1.0	3.0
	Neutral	27	27.0	27.0	30.0
	Agree	32	32.0	32.0	62.0
	Strongly Agree	38	38.0	38.0	100.0
	Total	100	100.0	100.0	

4. I think that property developer should build more affordable housing scheme in major city area, such as Petaling Jaya.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	1.0	1.0	1.0
	Disagree	1	1.0	1.0	2.0
	Neutral	19	19.0	19.0	21.0
	Agree	38	38.0	38.0	59.0
	Strongly Agree	41	41.0	41.0	100.0
	Total	100	100.0	100.0	

5. I think that affordable housing scheme able to help on mitigate housing overprice issue in city area like Petaling Jaya.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	2.0	2.0	2.0
	Disagree	3	3.0	3.0	5.0
	Neutral	21	21.0	21.0	26.0
	Agree	30	30.0	30.0	56.0
	Strongly Agree	44	44.0	44.0	100.0
	Total	100	100.0	100.0	

1. I am aware of government subsidies for homeownership, such as Home Ownership Campaign (HOC), My First Home Scheme (MFHS).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	4.0	4.0	4.0
	Disagree	4	4.0	4.0	8.0
	Neutral	24	24.0	24.0	32.0
	Agree	33	33.0	33.0	65.0
	Strongly Agree	35	35.0	35.0	100.0
	Total	100	100.0	100.0	

2. I would like to apply for financial assistance program provided by government when I purchase property.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	3.0	3.0	3.0
	Disagree	1	1.0	1.0	4.0
	Neutral	14	14.0	14.0	18.0
	Agree	32	32.0	32.0	50.0
	Strongly Agree	50	50.0	50.0	100.0
	Total	100	100.0	100.0	

3. I agree that those financial assistance program should be incorporated in housing policy to help on assist people to purchase their own house.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	13	13.0	13.0	13.0
	Agree	34	34.0	34.0	47.0
	Strongly Agree	53	53.0	53.0	100.0
	Total	100	100.0	100.0	

4. I think that those government subsidies can provide great help on helping home ownership.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	1.0	1.0	1.0
	Neutral	14	14.0	14.0	15.0
	Agree	31	31.0	31.0	46.0
	Strongly Agree	54	54.0	54.0	100.0
	Total	100	100.0	100.0	

5. I think that government subsidies able to help on mitigate housing overprice issue in city area like Petaling Jaya.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	2.0	2.0	2.0
	Disagree	4	4.0	4.0	6.0
	Neutral	14	14.0	14.0	20.0
	Agree	29	29.0	29.0	49.0
	Strongly Agree	51	51.0	51.0	100.0
	Total	100	100.0	100.0	

1. I am think developer should build the development to the state for public housing or build the development for rental control.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	2.0	2.0	2.0
	Disagree	2	2.0	2.0	4.0
	Neutral	23	23.0	23.0	27.0
	Agree	47	47.0	47.0	74.0
	Strongly Agree	26	26.0	26.0	100.0
	Total	100	100.0	100.0	

2. I am aware of government subsidies of property investment for foreigner, such as Malaysia My Second House (MM2H).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	9.0	9.0	9.0
	Disagree	7	7.0	7.0	16.0
	Neutral	31	31.0	31.0	47.0
	Agree	26	26.0	26.0	73.0
	Strongly Agree	27	27.0	27.0	100.0
	Total	100	100.0	100.0	

3. I think that increasing of property investor in Malaysia housing market will affect the house price.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	1.0	1.0	1.0
	Disagree	1	1.0	1.0	2.0
	Neutral	15	15.0	15.0	17.0
	Agree	43	43.0	43.0	60.0
	Strongly Agree	40	40.0	40.0	100.0
	Total	100	100.0	100.0	

4. I think that it will bring up the housing market price when there is property investment in the area.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	1.0	1.0	1.0
	Neutral	16	16.0	16.0	17.0
	Agree	39	39.0	39.0	56.0
	Strongly Agree	44	44.0	44.0	100.0
	Total	100	100.0	100.0	

1. I am satisfied with access to work by using road or highway.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	1.0	1.0	1.0
	Disagree	6	6.0	6.0	7.0
	Neutral	19	19.0	19.0	26.0
	Agree	40	40.0	40.0	66.0
	Strongly Agree	34	34.0	34.0	100.0
	Total	100	100.0	100.0	

2. I am satisfied with access to public transportation station.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	4.0	4.0	4.0
	Disagree	7	7.0	7.0	11.0
	Neutral	17	17.0	17.0	28.0
	Agree	40	40.0	40.0	68.0
	Strongly Agree	32	32.0	32.0	100.0
	Total	100	100.0	100.0	

3. I am satisfied with access to shopping mall.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	1.0	1.0	1.0
	Disagree	3	3.0	3.0	4.0
	Neutral	17	17.0	17.0	21.0
	Agree	43	43.0	43.0	64.0
	Strongly Agree	36	36.0	36.0	100.0
	Total	100	100.0	100.0	

4. I will concern of neighborhood features (facilities) while making decision of purchase a property, especially in city area like Petaling Jaya.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	14	14.0	14.0	14.0
	Agree	34	34.0	34.0	48.0
	Strongly Agree	52	52.0	52.0	100.0
	Total	100	100.0	100.0	

5. I think that infrastructure features (facilities) will be influence housing price?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	1.0	1.0	1.0
	Neutral	10	10.0	10.0	11.0
	Agree	41	41.0	41.0	52.0
	Strongly Agree	48	48.0	48.0	100.0
	Total	100	100.0	100.0	

Appendix 4.4: Inferential Analysis - Relative Important Index Output (Main Factor)

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Total (W)	N	A*N	RII	Rank
Income factor										
Q1	1	14	93	184	75	367	100	500	0.734	4
Q2	3	10	57	132	200	402	100	500	0.804	3
Q3	3	4	39	148	225	419	100	500	0.838	2
Q4	1	2	36	180	205	424	100	500	0.848	1
Affordable Housing Scheme factor										
Q5	1	10	84	116	185	396	100	500	0.792	4
Q6	3	76	90	76	50	295	100	500	0.59	5
Q7	2	2	81	128	190	403	100	500	0.806	3
Q8	1	2	57	152	205	417	100	500	0.834	1
Q9	2	6	63	120	220	411	100	500	0.822	2
Government Subsidies factor										
Q10	4	8	72	132	175	391	100	500	0.782	5
Q11	3	2	42	128	250	425	100	500	0.85	3

MAIN FACTOR INFLUENCING HOUSING AFFORDABILITY IN LIVEABLE CITY: CASE STUDY IN PJ

Q12	0	0	39	136	265	440	100	500	0.88	1
Q13	1	0	42	124	270	437	100	500	0.874	2
Q14	2	8	42	116	255	423	100	500	0.846	4
Property Investment factor										
Q15	2	4	69	188	130	393	100	500	0.786	3
Q16	9	14	93	104	135	355	100	500	0.71	4
Q17	1	2	45	172	200	420	100	500	0.84	2
Q18	1	0	48	156	220	425	100	500	0.85	1
Infrastructure factor										
Q19	1	12	57	160	170	400	100	500	0.8	4
Q20	4	14	51	160	160	389	100	500	0.778	5
Q21	1	6	51	172	180	410	100	500	0.82	3
Q22	0	0	42	136	260	438	100	500	0.876	1
Q23	1	0	30	164	240	435	100	500	0.87	2

Appendix 4.5 Inferential Analysis - Relative Important Index Output (Most Main Factor)

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Total (W)	N	A*N	RII	Rank
Income	8	30	225	644	705	1612	400	2000	0.806	3
Affordable Housing Scheme	9	96	375	592	850	1922	500	2500	0.769	5
Government Subsidies	10	18	237	636	1215	2116	500	2500	0.847	1
Property Investment	13	20	255	620	685	1593	400	2000	0.797	4
Infrastructure	7	32	231	792	1010	2072	500	2500	0.83	2