Modelling House Purchase Decisions among Young Adults in Sabah Using the Stimulus-Organism-Response (S-O-R) Framework

by

Ku Siu Weng
(22050025)

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DECLARATION

I hereby declare that the work presented in this dissertation was conducted in full compliance with the regulations of Universiti Malaysia Sarawak (UNIMAS). Except where proper acknowledgment is given, this work is solely the effort of the author. This dissertation has not been accepted for the award of any other degree and is not being **concurrently** submitted for any other academic qualification.

Signature 

Student Name: Ku Siu Weng

Matric No: 22050025

Date: 28 April 2026

Faculty of Economics and Business
Universiti Malaysia Sarawak (UNIMAS)

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Modelling House Purchase Decisions among Young Adults in Sabah Using the Stimulus-Organism-Response (S-O-R) Framework

ABSTRACT

House is one of the essential needs of human beings acting as shelter to protect oneself and their families while providing privacy and comfort to achieve better quality of life. However, young adults today are found to be less associated with homeownership comparing to previous generations. In Sabah, there are unsold houses below affordable price of RM400,000 contradicting to the belief that price is the main factor influencing house purchase decisions. This study aims to find out what are the external factors (stimulus) influencing the internal factors (organism) on house purchase decision (response) through Stimulus-Organism-Response (S-O-R) framework. Feedback of 411 respondents were gathered through survey by utilizing convenience and snowball sampling among young adults aged between 20 to 40 years old residing in the three major cities of Sabah, namely Kota Kinabalu, Sandakan dan Tawau. Data collected was analysed using Partial Least Squares Structural Modelling (PLS-SEM). This study utilized higher order constructs (HOC) model. Results found positive and significant relationship between financing stimuli (S) and perceived affordability (O), cognitive stimuli (S) and subjective knowledge (O), and property stimuli (S) and perceived lifestyle fit (O). In addition, positive and significant relationships were also found between subjective knowledge (O) and house purchase decision (R), and between perceived lifestyle fit (O) and house purchase decision (R). As for mediation, subjective knowledge (O) was found to partially mediated the relationship between cognitive stimuli (S) and house purchase decision (R) while perceived lifestyle fit (O) was also found to partially mediated the relationship between property stimuli (S) and house purchase decision (R). Theoretically, the findings highlight the importance of S-O-R framework by including consumer psychology as mediator. The practical contributions include the importance of understanding current trend of housing consumer behaviour to develop targeted housing policy. The managerial implication highlighted the role of developer brand and house features in marketing strategy to attract consumers through lifestyle living.

Keywords: House purchase decision, young adults, Sabah, S-O-R framework, mediator.

Pemodelan Keputusan Pembelian Rumah di Kalangan Belia di Sabah Menggunakan Kerangka Stimulus-Organism-Response (S-O-R)

ABSTRAK

Rumah merupakan salah satu keperluan asas manusia yang berfungsi sebagai tempat perlindungan untuk melindungi diri sendiri dan keluarga, serta menyediakan privasi dan keselesaan bagi mencapai kualiti hidup yang lebih baik. Namun belia masa kini didapati kurang terlibat dalam pemilikan rumah berbanding generasi terdahulu. Di Sabah, terdapat rumah di bawah harga mampu milik iaitu RM400,000 yang tidak terjual, bertentangan dengan persepsi bahawa harga merupakan faktor utama yang mempengaruhi keputusan pembelian rumah. Kajian ini bertujuan untuk mengenal pasti faktor-faktor (Stimulus) yang mempengaruhi perspektif dalaman (Organism) terhadap keputusan pembelian rumah (Response) berdasarkan teori Stimulus-Organism-Response (S-O-R). Maklum balas daripada 411 responden diperolehi melalui tinjauan dengan menggunakan kaedah persampelan mudah dan bola salji daripada kalangan dewasa muda berumur antara 20 hingga 40 tahun yang menetap di tiga daerah utama di Sabah, iaitu Kota Kinabalu, Sandakan dan Tawau. Data terkumpul telah dianalisis menggunakan kaedah Partial Least Squares Structural Equation Modelling (PLS-SEM). Kajian ini menggunakan model Higher Order Construct (HOC). Hasil kajian mendapati hubungan positif dan signifikan antara rangsangan kewangan (S) dan persepsi kemampuan (O), rangsangan kognitif (S) dan pengetahuan subjektif (O), serta rangsangan hartanah (S) dan persepsi kesesuaian gaya hidup. Selain itu, hubungan positif dan signifikan juga ditemukan antara pengetahuan subjektif (O) dan keputusan pembelian rumah (R), serta antara persepsi kesesuaian gaya hidup (O) dan keputusan pembelian rumah (R). Dari segi pengantaraan (mediator), pengetahuan subjektif (O) didapati menjadi pengantara separa bagi hubungan antara rangsangan kognitif (S) dan keputusan pembelian rumah (R), manakala persepsi kesesuaian gaya hidup (O) didapati menjadi pengantara separa bagi hubungan antara rangsangan hartanah (S) dan keputusan pembelian rumah (R). Secara teorinya, penemuan ini menekankan kepentingan kerangka S-O-R dengan memasukkan psikologi pengguna sebagai pengantara. Sumbangan praktikal kajian merangkumi kepentingan memahami trend semasa tingkah laku pengguna perumahan untuk membangunkan dasar perumahan yang

bersasaran. Implikasi pengurusan pula menonjolkan peranan jenama pemaju dan ciri-ciri rumah dalam strategi pemasaran bagi menarik pengguna melalui gaya hidup.

***Kata Kunci**: Keputusan pembelian rumah, belia, Sabah, kerangka S-O-R, pengantara*.

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LIST OF ABBREVIATIONS

AIO	Activities, Interest and Opinions Framework
AKPK	Credit Counseling and Debt Management Agency
AVE	Average Variance Extracted
BLR	Base Lending Rate
BNM	Bank Negara Malaysia
CB-SEM	Covariance-Based Structural Equation Modelling
CCTV	Closed Circuit Television
CCRIS	Central Credit Reference Information System
CMB	Common Method Bias
DOSM	Department of Statistics Malaysia
EV	Electric Vehicle
FOMO	Fear of Missing Out
GoF	Goodness of Fit
HOC	Higher Order Construct
HTMT	Heterotrait-Monotrait Ratio of Correlations
LM	Linear Model
LOC	Lower Order Construct
MAE	Mean Absolute Error
MGA	Multigroup Assessment
NAPIC	National Property Information Centre
NFI	Normal Fit Index
PLS	Partial Least Squares
PLS-SEM	Partial Least Squares Structural Equation Modelling
PR1MA	Perumahan Rakyat 1 Malaysia
RMSE	Root Mean Square Error
SEM	Structural Equation Modelling
S-O-R	Stimulus-Organism-Response
SOFO	Small Office Flexible Office
SOHO	Small Office Home Office
SOVO	Small Office Versatile Office
SRMR	Standardised Root Mean Square Residue
TPB	Theory of Planned Behaviour
VBN	Value-Belief-Norms Theory

VIF	Variance Inflation Factor
YOLO	You Only Live Once

CHAPTER 1:

INTRODUCTION

1.1 Background of Study

House is one of the essential needs of human beings acting as shelter to protect oneself from extreme weathers, dangers and harms from outside environment (Ali & Chua, 2023; Anuar & Wahab, 2022; Asrar et al., 2024; Khoo et al., 2022; Napiórkowska-Baryła et al., 2024; Roshidi et al., 2021; Solikhah et al., 2024; Yaacob et al., 2023; Zamri et al., 2022). Besides, house also provides privacy and comfort to the homeowners that makes them feel safe, secure and relaxed, which enable them to conduct family activities to achieve a better quality of life (Anuar & Wahab, 2022; Ghazali et al., 2021; Hassan et al., 2021a; Hassan et al., 2021c; Sohaimi & Shuid, 2023). As an essential need, owning a house has always been the lifetime goal of many people (Anuar & Wahab, 2022; Badrudin et al., 2022; Hassan et al., 2022; Odermatt & Stutzer, 2022; Roshidi et al., 2021; Sukereman et al., 2021). Purchasing a house also symbolize the official rooting of a person at that certain location as part of the local society and community (Zyed et al., 2021).

In the process of making a house purchase decision, different people will have different preferences due to different factors (Hassan et al., 2021b). The factors can be categorised into external and internal factors. Example of external factors included price, location, neighbourhood, house type and design while internal factors included income, stage of life cycle, employment and education (Zulkifli & Ismail, 2023). Preference on housing attributes also might change according to their life events based on their needs and demands at that time (Azmi et al., 2022b; Fattah et al., 2020; Ismail et al., 2024a; Zulkifli & Ismail, 2023). For instance, young adults with single status who are living alone and just started working would prefer their house to be closer to their work location without concerning too much on the house size (Daud et al., 2022). Whereas, for married couple with children they would prefer bigger house size with school nearby (Muzafar & Kunasekaran, 2021). According to Hassan et al. (2021d), the changing demographics of population in terms

of age, gender, income, lifestyle and even migration pattern also can directly affect the house buyer's preference, family size and their affordability to purchase house.

People who choose to purchase a house and becoming the homeowners will usually have higher level of self-esteem and satisfaction because they own the house they lived in (Rohe et al., 2013 cited in Zyed et al., 2021), this helps to eliminate their worry for relocation (Wu et al., 2023) and trouble to find a permanent place to stay. Before purchasing a house, many factors are taken into considerations because a house is the most expensive item in a household spending (Hassan et al., 2021d; Zulkifli & Ismail, 2023). Therefore, house buyers are usually more cautious in selecting the housing attributes which truly suits them to prevent any regrets in the future (Ullah & Sepasgozar, 2020).

Many studies on housing preference and house purchase decision have been targeting the young adults as their focus (Asrar et al., 2024; Badrudin et al., 2022; Hassan et al., 2022; Ismail et al., 2021; Khoo et al., 2024; Sohaimi & Shuid, 2023; Sukereman et al., 2021; Yaacob et al., 2023; Zamri et al., 2022; Zyed et al., 2021). This is because young adults are in their transitional stage from childhood dependency to adulthood independence (Ismail et al., 2021; Napiórkowska-Baryła et al., 2024). However, there is no clear definition on the age range for the young adults where most researchers have been using different age range in their respective studies as shown in Table 1-1.

Table 1-1:
Age Range Definition of Young Adults by Various Authors

Age Group	Sources
18 – 20 years old	Al Fauzi (2024)
18 – 35 years old	Ismail et al. (2024a)
18 – 38 years old	Zyed et al. (2024)
20 – 39 years old	Badrudin et al. (2022)
20 – 40 years old	Olenrewaju and Wong (2020), Sukereman et al. (2021), Zamri et al. (2022)
21 – 30 years old	Asrar et al. (2024)
21 – 40 years old	Khoo et al. (2022) Khoo et al. (2024)
22 – 45 years old	Bui and Nguyen (2023)
25 – 35 years old	Sohaimi (2022)
26 – 44 years old	Kurniawan et al. (2020)

From Table 1-1 above, young adults that have been focused by many studies are ranging from the age of 18 to 45 years old. According to Ismail and Shaari (2020), generation

cohort for Generation Y are born in year 1977 to 1991 while Generation Z are born after year 1992. Thus, based on Table 1-1 current young adults comprised of both Generation Y and Generation Z. Both of this two generations cohort are different from previous generations in terms of housing preferences. According to Kaya et al. (2020), previous Generation X only concerns on having a roof over their heads, however Generation Y wants to achieve more in standards and better quality of life. On the other hand, Generation Z aspires to own their dream home that can help them achieve quality of life, productivity and self-worth (Abdullah et al., 2024).

Many first-time house buyers are within the age range of 20 to 40 years old (Olanrewaju & Wong, 2020). Those in the age of 20 to 30 years old are mainly consists of high school leavers and university graduates who just started venture into their first job with low starting salaries and less savings (Khan et al., 2017 cited in Khoo et al., 2024). According to Badrudin et al. (2022), these young adults are having difficulty in saving money for house downpayment perhaps due to their student loan debt. Thus, these young house buyers usually aim to purchase a smaller house with a lower cost. Whereas those in the age of 31 to 40 years old who have been working for a longer time are likely to have more savings and stable income that enables them to purchase a better house (Khan et al., 2017 cited in Khoo et al., 2024).

Young adults are facing more hardship in homeownership issue comparing to the previous generations due to their lower salary and higher living cost (Badrudin et al., 2022; Hassan et al., 2021e; Ismail et al., 2021; Sukereman et al., 2021). When young adults could not afford to purchase a house, they chose to rent (Anuar & Wahab, 2022). Young Malaysians are dropping homeownership dreams as the housing price are multiple times higher than their household annual income (MalayMail, 2024a). This is mainly due to the house pricing which differs by locations due to the difference in land values and scarcity of land at certain area (Hassan et al., 2021e). For instance, urban areas offer more job opportunities will attract more young adults from other sub-urban or rural areas to work and stay there (Ebekozien et al., 2023; Sivadas & Ismail, 2020; Thaker & Ariff, 2020). When the population increases in urban areas, so does the demand for housing and eventually drives up house prices (Khoo et al., 2024).

Despite all the difficulties, they would still prefer to stay in the cities which usually close to their workplace and shops for their daily convenience (Lamsali et al., 2020; Olanrewaju & Wong, 2020). Unfortunately, most of the affordable houses in the urban areas

are usually in the undesirable housing area with low quality, dilapidated physical condition and unsafe neighbourhood (Murcia & Matillano, 2022). According to Ghazali et al. (2021), cheaper house is usually smaller in size with limited space, bad environment, less privacy and noisier with crowded environment. This can lead to negative implications on their physical and emotional health.

There are also tendencies for them to choose sub-urban or rural areas where the location is remote, less convenient, unexciting neighbourhood and require longer daily commute (Ismail et al., 2021; Olanrewaju & Wong, 2020). In Malaysia, many people commute daily for more than 50 km to their workplace (Olanrewaju & Wong, 2020). These people are living in a district while working in another district through daily commuting. Such phenomenon is usually due to job scarcity in their own district but better career development and high housing costs in the urban area (Khoo et al., 2022).

In desperation for homeownership, many of these young adults usually do not emphasise on the quality and reputation of the house developer as long as they can afford to purchase the house (Kurniawan et al., 2020; Lamsali et al., 2020). Interestingly, according to Chia et al. (2016), young adults is also more open-minded and less believe in superstition. This is due to young adults nowadays generally has higher education background comparing to older generations.

In terms of affordability, to purchase a house it usually requires 10% of downpayment, and the house buyer need to find their own way to get the money (Anuar & Wahab, 2022). The mortgage usually requires long repayment period of more than 30 years (Hassan et al., 2021d; Hassan et al., 2022). On top of that, homeowner may also require to pay additional recurring fees such as building maintenance fee, property tax and monthly utility bills (Anuar & Wahab, 2022; Azmi & Bujang, 2021; Zuraimi et al., 2020). These financial burden by owning a house could result in major lifestyle changes which caused stress to the young homeowners (Anuar & Wahab, 2022; Zuraimi et al., 2020).

According to Kaya et al. (2020), a good quality of life is important to the young adults nowadays because they would want to upgrade their standard of living. Generation nowadays especially the Generation Z are frequently exposed to the short videos and posts of influencers' luxurious lifestyle on the social media. According to Patial et al. (2024), the combination of the fear of missing out (FOMO) in young adults together with the rapid and widespread of such short videos and posts on social media platforms do encourage them to

desire similar luxurious lifestyles resulting the impulsive buying and uncontrollable spending habits, which leads them to enormous debts (Bernama, 2024b). For them, maintaining luxurious lifestyle beyond their means is rather more important than owning a house (Bernama, 2024a; 2024b). As a result, there are numerous people being blacklisted for housing loan application due to low financial credit score (Hassan et al., 2021e).

Above all, owning a house also comes with complex and lengthy process which not only involving the application of financing facilities but also many other processes that involves multiple different parties such as house developer, financial institutions, legal firms and others. These house purchase process includes substantial paperwork and procedures, and it has been considered as a hassle among the young adults (Zyed et al., 2021). Many people including the young adults nowadays are still lacking the knowledge and information on the legal and financing procedures involved on the house purchase process which may lead to future disputes (MalayMail, 2024b). Thus, this may also deter the young adults nowadays to purchase a house.

This issue exists in Sabah, the second largest state in Malaysia with a total population of 3.7 million (DOSM, 2024a). In Sabah, most resident complaint on the housing as unaffordable even those offered at lower prices (Leung & Mansor, 2024). The median price of terrace house in Kota Kinabalu, capital of Sabah is RM566,500 while the median household income is only RM3,987 as compared to the situation in Kuala Lumpur, Johor, Selangor and Pulau Pinang as shown in Table 1-2 (DOSM, 2023 cited in Leung & Mansor, 2024). Although Sabah's median household disposable income is ranked 13th in Malaysia, the median price of terrace house is even higher than in Johor, the 4th highest median income state. This shows a high disparity between housing price and income in Sabah, posing a severe house unaffordability issue among Sabahan.

Table 1-2:
Median Terrace House Pricing and Median Household Income Comparison

States	Median Price Range of Terrace Houses (RM)	Median Household Disposable Income	
		Income (RM)	Overall Ranking Income in Malaysia
Kuala Lumpur	750,000	8,259	2nd
Selangor	700,000	8,187	3rd
Sabah	566,560	3,987	13th
Pulau Pinang	558,000	5,522	6th
Johor	450,000	5,889	4th

Source: DOSM (2023) cited in Leung and Mansor (2024)

In Sabah, many low- and middle-income groups are facing difficulties in achieving homeownership due to declining purchase power (The Borneo Post, 2025), which includes the high population of young adults in Sabah. In Malaysia, Sabah is ranked as the third highest state with young population that aged between 20 to 39 years old amounting 1,442,300 people after Selangor (2,601,200 people) and Johor (1,486,100 people) (DOSM, 2024c). Meanwhile, the percentage of this young population in Sabah is also ranked as the second highest among the states in Malaysia by 38.54% after Malacca (38.64%).

The young adults in Sabah are attracted to internal migration from other districts to the three main cities, namely Kota Kinabalu, Sandakan and Tawau. These three main cities have development density that offer more job opportunities that attract young adults from other sub-urban or rural areas to work and stay there (Sivadas & Ismail, 2020; Thaker & Ariff, 2020). This urban attraction encourages population increase and induced high demand of housing in these three main cities (Leung & Mansor, 2024) and eventually drives up house prices (Khoo et al., 2024). Young adults who migrate from other districts to the three main cities of Sabah are having difficulty in adapting to urban life and high cost of living besides achieving first homeownership (New Straits Times, 2025).

Sabah government acknowledged many people are facing difficulties in purchasing house with rising cost of living especially in major urban areas (The Star, 2025). Therefore, Sabah government implemented public-private partnerships in delivering quality affordable housing (The Borneo Post, 2025). In supporting government's aim to solve homeownership issue, numerous affordable houses below RM400,000.00 were built by house developers in Sabah. However, there are unsold houses below affordable prices particularly in its three main cities, Kota Kinabalu, Sandakan and Tawau as shown in Table 1-3, Table 1-4, Table 1-5 and Table 1-6 (NAPIC, 2025).

Table 1-3:
Unsold Houses Status in Sabah

Year	Price Range (RM'000)										
	Below 100	**100 - 200**	**200 - 300**	**300 - 400**	**400 - 500**	**500 - 600**	**600 - 700**	**700 - 800**	**800 - 900**	**900 – 1,000**	**Above 1,000**
2020	-	7	903	49	134	72	180	15	6	-	71
2021	584	7	605	443	432	548	191	37	-	-	86
2022	-	380	425	510	622	496	58	56	7	93	71
2023	-	292	421	234	503	333	62	51	-	93	79
Q3 2024	-	192	282	167	338	574	58	51	-	-	66

Source: National Property Information Centre (NAPIC, 2025)

Table 1-4:
Unsold Houses Status in Kota Kinabalu

Year	Price Range (RM'000)								
	200 - 300	300 - 400	400 - 500	500 - 600	600 - 700	700 - 800	800 - 900	900 – 1,000	Above 1,000
2020	68	-	25	66	54	15	6	-	26
2021	68	271	257	401	66	14	-	-	72
2022	-	238	239	342	47	9	-	93	61
2023	-	92	189	222	45	9	-	93	60
Q3 2024	-	65	63	466	72	9	-	-	60

Source: National Property Information Centre (NAPIC, 2025)

Table 1-5:
Unsold Houses Status in Sandakan

Year	Price Range (RM'000)						
	Below 100	100 – 200	200 – 300	300 – 400	400 – 500	500 – 600	Above 1,000
2020	-	-	19	-	16	6	19
2021	584	-	92	-	-	6	-
2022	-	372	64	121	-	-	-
2023	-	211	146	27	-	-	-
Q3 2024	-	159	41	-	-	22	-

Source: National Property Information Centre (NAPIC, 2025)

Table 1-6:
Unsold Houses Status in Tawau

Year	Price Range (RM'000)						
	100 – 200	200 – 300	400 – 500	500 – 600	600 – 700	800 – 900	Above 1,000
2020	-	12	21	-	119	-	-
2021	-	329	7	-	101	-	14
2022	-	234	252	60	-	7	10
2023	81	161	164	43	-	-	19
Q3 2024	4	55	128	18	-	-	6

Source: National Property Information Centre (NAPIC, 2025)

The data of unsold houses in Table 1-3 were converted into percentage and compared in Table 1-7. Overall, the trend of percentage of unsold affordable houses are reducing from year 2020 to 2024. However, the actual units of unsold affordable houses increased from 959 units in year 2020 to 1,639 units in year 2021, and thereafter reduced progressively from year 2021 to 2024. In 2020, affordable houses accounted for 66.73% from total unsold houses and 55.88% in year 2021. This figure slowly reduced to 48.38% in year 2022 and 45.79% in year 2023. This means that affordable houses accounted more than half of unsold

houses in year 2020 and 2021, and accounted almost half of unsold houses in year 2022 and 2023.

Table 1-7:
Comparison of Unsold Houses in Sabah

Year	Unsold Affordable Houses Below RM400,000		Unsold Houses Above RM400,000		Total Unsold Houses
	Units	Percentage (%)	Units	Percentage (%)	
2020	959	66.73	478	33.26	1437
2021	1639	55.88	1294	44.11	2933
2022	1315	48.38	1403	51.61	2718
2023	947	45.79	1121	54.20	2068
Q3 2024	641	37.09	1087	62.90	1728

Source: Author's own calculation based on data from National Property Information Centre (NAPIC, 2025)

Table 1-8:
Total Unsold Houses in Kota Kinabalu, Sandakan and Tawau below RM400,000

Year	Price Range											
	Below RM100,000			RM100,001 – RM200,000			RM200,001 – RM300,000			RM300,001 – RM400,000		
	Units in 3 cities	Total units in Sabah	Percentage (%)	Units in 3 cities	Total units in Sabah	Percentage (%)	Units in 3 cities	Total units in Sabah	Percentage (%)	Units in 3 cities	Total units in Sabah	Percentage (%)
2020	-	-	-	-	7	-	99	903	10.96	-	49	-
2021	584	584	100	-	7	-	489	605	80.83	271	443	61.17
2022	-	-	-	372	380	97.89	298	425	70.12	359	510	70.39
2023	-	-	-	292	292	100	307	421	72.92	119	234	50.85
Q3 2024	-	-	-	163	192	84.90	96	282	34.04	65	167	38.92

Source: Author's own calculation based on data from National Property Information Centre (NAPIC, 2025)

The data of unsold houses in three main cities, Kota Kinabalu, Sandakan and Tawau in Table 1-4, 1-5 and 1-6 are combined and analysed, and converted into percentage in Table 1-8. From Table 1-8, it was shown that most of the unsold affordable houses in Sabah during year 2021, 2022 and 2023 were located in Kota Kinabalu, Sandakan and Tawau. In 2021 alone, all unsold houses below RM100,000 were in the three main cities. Unsold houses in the three main cities priced between RM100,001 to RM200,000 in 2022 was 97.89% while year 2023 was 100%. Meanwhile, in year 2024, unsold houses priced between RM100,001 to RM200,000 accounted 84.9% in the three main cities while houses priced between

RM200,001 to RM300,000 and RM300,001 to RM400,000 accounted almost 40% in the three main cities.

The unsold affordable houses reflected the issue of supply and demand gap existed in Sabah. Without determining the real factors driving the house purchase decision, continuous building of affordable houses will not solve the homeownership issue in Sabah especially among the young adults. Building plenty of affordable houses that are not preferred by house buyers will not increase homeownership rate. Complaints on homeownership will remain as an issue. Unable to achieve homeownership will cause insecurity among the young adults because they will need to constantly worry on finding a permanent place to stay providing as shelter. In fact, homeownership issue will most likely continue to the next generation because children of non-homeowners are less likely to possess housing property (Csizmady & Kőszeghy, 2022).

1.2 Problem Statements

In Sabah, residents are complaining on the unaffordable housing issue where Sabah has relatively lower median household income but higher median house price comparing with other states in Malaysia as shown in Table 1-2 (Leung & Mansor, 2024). Therefore, Sabah government introduced the public-private partnerships in delivering quality affordable housing (The Borneo Post, 2025). Affordable houses in Malaysia are priced between RM160,000 to RM400,000 (Kamal et al., 2020). Although numerous affordable houses were built in Sabah, data showed unsold houses particularly in its three main cities of Kota Kinabalu, Sandakan and Tawau as shown in Table 1-3, Table 1-4, 1-5, 1-6, 1-7 and 1-8 from year 2020 to 2024.

On one hand, people are complaining expensive house price causing unaffordability for homeownership. While on the other hand, there are affordable houses priced below RM400,000.00 offered for sale in the market but are not purchased as shown in Table 1-3, 1-4, 1-5 and 1-6 which are mostly located in the three main cities of Sabah. Logically, people tend to react positively towards lowered price (Valls et al., 2012) since consumers' maximizing behaviour would drive them to get the things they want at the lowest possible price (Oliveira-Castro et al., 2015). Therefore, people who aim to own a house but could not afford high price would be more likely to grab the opportunity of purchasing the affordable houses on sale.

This indicator suggest that low house price may not be the primary factor influencing house purchase decision in Sabah. Instead, it could be due to other reasons such as location too far from urban (Olanrewaju & Wong, 2020), safety concern (Fattah et al., 2021), location prone to flood (Zulkifli & Ismail, 2023), location close to graveyard (Chia et al., 2016), house size too small (Ismail et al., 2024b), lack in infrastructure (Olanrewaju & Wong, 2020), buyer unable to obtain mortgage loan (Hassan et al., 2022), developer with history of delayed construction (Yap et al., 2019) and other reasons.

Hence, this study looked into which factors are the real determining reason on house purchase decision by filling in the conceptual gap by including both often and less studied factors including price, financing facilities, location, house features, facilities, security, neighbourhood, environment. social influence, developer brand and superstitious belief. Besides, there are lack of studies on Sabah thus could not reflect the real housing situation in Sabah. Therefore, this study aims to fill in the contextual gap by enlarging the scope of study to the three most populated main cities of Sabah, which are Kota Kinabalu, Sandakan and Tawau which also located most of the unsold affordable houses as shown in Table 1-8.

Most of the previous studies on housing focused on direct relationship between factors and house purchase decision such as studies by Yaacob et al. (2023), Zamri et al. (2022), Ismail et al. (2021) and Olanrewaju and Wong (2020). These factors are external sources where it came from outside and is beyond control of the individual (Zulkifli & Ismail, 2023). This type of straightforward input → output model neglects the consumer's mental states and internal processes, and assumes all consumers behave the same which is impossible (Jacoby, 2002). Therefore, this study aimed to fill in the theoretical gap which is to focus on the less explored role of organism in consumer behaviour as mediator utilising S-O-R framework in house purchase decision. Many previous studies agreed on the interrelationship between stimulus, organism and response as the basis of a consumer behaviour model (Goi et al., 2018). Perceived affordability, subjective knowledge and perceived lifestyle fit would be utilised as internal factors playing the role of organism in this study. The objective of this study is to determine the relationship between external stimuli (S) on internal perception (O), relationship between internal perception (O) on purchase decision (R) and the role of organism (O) as mediator between the stimuli (S) and response (R).

Consumer behaviour would determine the buying behaviour, at the same time consumer behaviour is also determined by generation differences. The current young adults

has different consumer behaviour comparing to the previous generation where current young adults is highly influenced by the 'you only live once' YOLO attitude that drive changes to traditional consumption values which emphasised on self-centred priority of consumption habits especially among young adults aged between 20 to 30 years old (Lee & Oh, 2018). Young adults also form deep emotional connection with product branding in expressing their identity and seeking fulfilment through consumerism (Donga et al., 2025). Comparing to higher self-control among older generation, young adults are more likely to exhibit impulsive buying behaviour (Iyer et al., 2020 cited in Nyrhinen et al., 2024) which are prone to excessive consumption and eventually lead to burdensome finance and well-being (Oksanen et al., 2018 cited in Nyrhinen et al., 2024). Since young adults exhibit different consumer behaviour from previous generation, studying them would provide better understanding on their consumerism needs. Therefore, this study focused on young adults aged between 20 to 40 years old in identifying their consumer behaviour on house purchase decision.

The homeownership issue among young adults has been going on for years. When people complain on expensive house price, affordable houses were being built but some were unsold, intriguing to determine what are the factors causing this scenario. The issue persisted although there have been previous studies on housing that offered many findings and suggestions. Hence, this study looked into the role of internal perception in influencing consumer behaviour by utilising S-O-R framework intending to provide findings from new perspective on factors influencing house purchase decision. Once the role of organism as internal psychology was confirmed in this study, property industry players would be able to better understand the practical needs of young adults in achieving homeownership.

1.3 Research Objectives

The general objective of this research is to identify the factors influencing house purchase decision among young adults in Sabah. According to S-O-R framework, stimuli would influence organism (S → O) and organism would influence response (O → R) in a series of decision-making process. In this study, the factors influencing house purchase decision were grouped into external factors and internal factors. External factors were identified as stimuli while internal factors were identified as organism. House purchase decision was identified as response. At the same time, organisms would act as mediator between the stimuli (S) and response (R). Therefore, the specific objectives of this study are:

i. To identify the relationship between financial stimuli (price, financing facilities, location) and perceived affordability (organism).

ii. To identify the relationship between cognitive stimuli (social influence, developer brand, superstitious belief) and subjective knowledge (organism).

iii. To identify the relationship between property stimuli (house features, facilities, security, neighbourhood, environment) and perceived lifestyle fit (organism).

iv. To identify the relationship between perceived affordability, subjective knowledge, perceived lifestyle fit (organism) and house purchase decision (response).

v. To identify the role of perceived affordability (organism) as mediator between financial stimuli and house purchase decision (response).

vi. To identify the role of subjective knowledge (organism) as mediator between cognitive stimuli and house purchase decision (response).

vii. To identify the role of perceived lifestyle fit (organism) as mediator between property stimuli and house purchase decision.

1.4 Research Questions

The research questions of this study are:

i. What is the relationship between financing stimuli (price, financing facilities, location) and perceived affordability (organism)?

ii. What is the relationship between cognitive stimuli (social influence, developer brand, superstitious belief) and subjective knowledge (organism)?

iii. What is the relationship between property stimuli (house features, facilities, security, neighbourhood, environment) and perceived lifestyle fit (organism)?

iv. What are the relationships between perceived affordability, subjective knowledge and perceived lifestyle fit (organism) and house purchase decision (response)?

v. Do perceived affordability (organism) mediate the relationship between financial stimuli and house purchase decision (response)?

vi. Do subjective knowledge (organism) mediate the relationship between cognitive stimuli and house purchase decision (response)?

vii. Do perceived lifestyle fit (organism) mediate the relationship between property stimuli and house purchase decision (response)?

1.5 Research Gap

There were three types of research gaps found which included theoretical gap, contextual gap and conceptual gap which were explained as below.

1.5.1 Theoretical Gap

Most of the previous studies on housing focused on direct relationship between factors and house purchase decision such as studies by Yaacob et al. (2023), Zamri et al. (2022), Ismail et al. (2021) and Olanrewaju and Wong (2020). These factors are external sources where it came from outside and is beyond control of the individual (Zulkifli & Ismail, 2023).

This type of straightforward input → output model neglects the consumer's mental states and internal processes, and assumes all consumers behave the same which is impossible (Jacoby, 2002). Different external factors will drive different internal perception because perception is formed when information from external environment enters the individual's mind. In addition, perception is different from one individual to another thus is unique among individuals (Istudor & Pelau, 2012). Since individual behaviour is always based on personal perceptions, consumer perception will influence on consumer behaviour (Idowu-Mogaji & Eze, 2024). Consumer behaviour during purchasing or consumer buying behaviour is a psychological process undergo by consumers when they acknowledge their needs and how they were fulfilled (Kumra, 2007 cited in Okoro et al., 2021). The combination of internal and external factors would influence the consumer buying behaviour (Modi & Jhulka, 2012 cited in Okoro et al., 2021).

This human psychology behaviour is best described by S-O-R framework. According to S-O-R framework, external factors act as stimuli (S) and affect the internal perception and

cognitive process of organism (O) to response (R) (Hochreiter et al., 2022; Mehrabian & Russell, 1974). Organism reflects internal affective and cognitive state of consumers which mediate between external stimuli and consumer's behaviour responses (Wang et al., 2021). S-O-R framework has been widely used in studying consumer behaviour including Arora et al. (2020), Chen et al. (2024), Kurniawan et al. (2021), Li et al. (2021), Pereira et al. (2023) Purwanto et al. (2022) and Zhu et al. (2020). Without the role of internal perception (O) as mediator, the direct relationship between external factors (S) and purchase decision (R) lacks human psychology process which incomplete the consumer behaviour.

Therefore, instead of direct relationship between external factors and purchase decision which has been done by previous researchers, this study aim to fill in the theoretical gap by focusing on the less explored role of organism in consumer behaviour as mediator utilising S-O-R framework in house purchase decision.

1.5.2 Contextual Gap

Numerous studies have examined the house purchase decisions of Malaysian youths (Asrar et al., 2024; Badrudin et al., 2022; Hassan et al., 2022; Ismail et al, 2021; Khoo et al., 2024; Sohaimi & Shuid, 2023; Sukereman et al., 2021; Yaacob et al., 2023; Zamri et al., 2022; Zyed et al., 2021). However, most of the studies were conducted in Peninsular Malaysia main cities such as Kuala Lumpur (Chung et al., 2018; Olanrewaju & Idrus, 2020; Zyed et al., 2021), Penang (Han et al., 2023; Rosli et al., 2024), Johor (Asrar et al., 2024; Ismail et al., 2023a) and Selangor (Osman et al., 2020; Zulkifli & Ismail, 2023) while only limited studies were on Sabah.

Previous studies on Sabah only focused on West Coast of Sabah specifically in Kota Kinabalu, Penampang, Tuaran and Putatan. Chia et al. (2016) studied the factors influencing house purchase intention in Kota Kinabalu, while research by Said et al. (2016) studied sustainable housing affordability in Kota Kinabalu (Sembulan, Inanam, Sepanggar), Penampang (Bundusan), Tuaran and Putatan. The latest study by Azman et al. (2024) on housing purchase decision for new transit-oriented development area in Kota Kinabalu only focused on the Aeropod residents. Meanwhile, another latest study by Leung and Mansor (2024) on housing affordability versus market demand also only focused on Kota Kinabalu.

The lack of studies on Sabah could not reflect the real situation in Sabah. Therefore, this study aims to fill in the contextual gap by enlarging the scope of study to the three most populated main cities of Sabah, which are Kota Kinabalu, Sandakan and Tawau.

1.5.3 Conceptual Gap

It is found that previous studies on factors influencing house purchase decision mostly only focus on factors such as price (Yaacob et al., 2023), financing facilities (Roshidi et al., 2021), location (Zamri et al, 2022), affordability (Azmi & Bujang, 2021), house features (Hassan et al., 2022), facilities (Olanrewaju & Wong, 2020), security (Said et al., 2022), neighbourhood (Fattah et al., 2021) and environment (Zulkifli & Ismail, 2023).

Only limited past research have included other factors. For example, Hassan et al. (2023) studied superstitious belief influence on house purchase intention, Yap et al. (2019) studied developer brand influence on Malaysian housing market, Nursal et al. (2024) studied social influence on house purchase intention, Zuraimi et al. (2020) studied financial, cost, process complication, luxury lifestyle and expectancy on housing affordability while Zyed et al. (2021) focused on homeownership education among millennials.

Therefore, the aim of this study is to fill in the conceptual gap of existing literatures that lacks of certain factors such as superstitious belief, developer brand and social influence as external factors. Meanwhile, the less studied factors of subjective knowledge and perceived lifestyle would be utilised as internal factors.

1.6 Significance of Study

This study aimed to determine which factors would influence house purchase decision among young adults that was less studied in Sabah using S-O-R framework as underpinning theory to understand the role of consumer behaviour in influencing house purchase decision. This study was expected to provide both theoretical and practical significance to scholars and industry stakeholders on Sabah's current residential property market.

1.6.1 Theoretical Significance

Comparing to previous housing studies that focused on direct relationship between external factors and house purchase decision which neglected the role of human psychology, this study focused on the role of consumer internal perception as mediator which is stimulated by external factors (Istudor & Pelau, 2012) and would influence the decision making. Therefore, this study offered theoretical contribution by utilising S-O-R framework as underpinning theory which is less used by other researchers on house purchasing studies. External factors would be utilised as stimuli (S) while internal factors would be utilised as organism (O) which also acted as mediator to influence the house purchase decision as response (R).

Secondly, this study discovered there were less used factors on house purchase studies but were relevant such as superstitious belief, developer brand, social influence, knowledge and lifestyle. Therefore, this study would include the less studied factors combining frequently used factors. The factors were then categorised into external (stimulus) and internal (organism) categories, with 11 external factors each pairing with 3 internal factors. Price, financial facilities and location were grouped as financing stimuli which were paired with perceived affordability as organism. Social influence, developer brand and superstitious belief were grouped as cognitive stimuli and paired with subjective knowledge as organism. House features, facilities, security, neighbourhood and environment were grouped as property stimuli and paired with perceived lifestyle fit as organism. The grouping of external factors utilized higher order construct (HOC) model. This study would expand the limited use of superstitious belief, developer brand, social influence, subjective knowledge and perceived lifestyle fit factors on house purchase decision studies.

Thirdly, this study would fill in the literature gap on limited similar housing studies in Sabah. This is due to most of the housing studies in Malaysia only focused on Peninsular Malaysia cities such as Kuala Lumpur, Penang, Selangor and Johor. This study would provide information and perspective of young adults in Sabah on housing decision.

1.6.2 Practical Significance

This study would provide latest information on young adults's consumer behaviour on house purchasing trend in Sabah, allowing the industry stakeholders to better understand the needs of young consumers in Sabah.

Through identifying the strongest factors in influencing house purchase decision, housing developer can revisit their current industry practices whether it matches with young consumer needs. Housing developers can then further plan for upcoming housing development that captures the needs and satisfaction of young consumers in Sabah. Besides, understanding consumer behaviour and needs would improve marketing strategies in promoting the houses to attract more potential customers.

Meanwhile, the government especially local authorities and Ministry of Local Government and Housing Sabah would be able to develop better housing development plan with better understanding of young consumers' housing needs. When developers propose new housing development plans, the government agencies would be able to determine whether the new proposal would cater the needs of young adults. This is because when newly built houses fail to meet consumer's demand, consumers would not purchase the house. In the end, the young adults did not achieve homeownership while vacant houses would be an aesthetic eyesore and cause ill social issue to the society and government agencies.

1.7 Scope of Study

According to Department of Statistics Malaysia (DOSM, 2024a), Sabah being the second largest state in Malaysia have a total population of 3.742 million. Sabah was chosen specifically for this study because of its high population of 1,422,300 young people and high percentage of population of 38.54% in young adults.

This study took place at the three main cities of Sabah, namely Kota Kinabalu, Sandakan and Tawau. These three main cities were selected due to their high population and development density which induced high demand of housing. These three main cities have been attracting people from other districts to migrate, work and stay due to higher job opportunities and better career development.

Kota Kinabalu being the capital of Sabah is an urbanised city that act as the economic and administrative centre of Sabah state. Many people migrated from other divisions to West Coast division as the state development is mainly focused on the West Coast division especially in Kota Kinabalu. This prompts the population boom in Kota Kinabalu and its surrounding areas due to higher job opportunities and better salaries (Besar et al., 2021). However, it has limited flat lands for housing development (Leung & Mansor, 2024) due to its coastal, forest and mountainous topography (Sabah State Government, n.d.). In order to

cope up with the fast economic expansion which mostly centered in Kota Kinabalu, more housing development has crossed over to the nearby districts such as Penampang, Putatan, Tuaran, and Papar. Due to the proximity, daily inter-district commuting between house and workplace are norms in these districts (The Borneo Post, 2022). According to Daily Express (2024), almost 27,000 vehicles travel from Papar to Kota Kinabalu daily.

Meanwhile, the other two main cities of Sabah namely Sandakan and Tawau are located at East Coast of Sabah. Both cities are more developed and larger compared to the other nearby smaller districts. Locals from the smaller districts nearby Sandakan such as Beluran, Kinabatangan, Telupid and Tongod are migrating to Sandakan for better job opportunities. Meanwhile locals from smaller districts nearby Tawau such as Kunak, Semporna and Kalabakan are also migrating to Tawau for the same reason. According to Eboy and Peter (2022), Kota Kinabalu received the highest in-migration record of 42,090 people, followed up by Tawau (28,708 people) and Sandakan (27,132 people) in year 2010. The reason that main cities are capable to attract more people to migrate, work and stay include better infrastructure, education, commercial, recreational facilities and better job opportunities (Mahmoud et al., 2022). With the population growth in these cities, it influences the increasing demand for housing (Leung & Mansor, 2024).

Besides, this study also included house purchasing of both new and second-hand house which involves monetary transactions between a house buyer and a seller regardless of whether it is purchased directly from house developer or real estate agents. However, land purchasing or building own house is excluded in this study.

1.8 Justification of Choice of Constructs

Researchers from previous studies have been investigating different factors influencing on house purchase decision. Referring from the house purchase decision factors from previous studies, it is found that the mostly examined factors are shown in Table 1-9.

Table 1-9:
Summary of Previous Studies on House Purchase Decision Factors

Previous Research	House Purchase Decision Factors	Authors
Factors influencing house buyer's decision in Malaysia case study: Sepang, Selangor	A. Internal i. Income ii. Stage of life cycle iii. Employment iv. Education	Zulkifli & Ismail (2023)

Table 1-9 continued

	B. External i. Financial and economic condition ii. House price iii. Location iv. Neighbourhood v. House type vi. Design vii. Government housing incentives	
Housing preference among young people: A study from the perspective of university students in Malaysia	i. Housing price ii. Housing location iii. Housing attributes	Yaacob et al. (2023)
Sustainability of residential investment in Klang Valley, Malaysia	i. Housing price ii. Housing type iii. Housing finishes iv. Housing design v. Distance to workplace vi. Distance to education vii. Distance to hospital viii. Distance to public transportation ix. Distance to shopping centres x. Distance to recreational park xi. Security xii. Safety level of the area xiii. Environment quality xiv. Quality of water xv. Size of green spaces xvi. Traffic congestion	Said et al. (2022)
Assessing housing preferences of young civil servants in Malaysia: Do location, financial capability and neighbourhood really matter?	i. Location ii. Financial iii. Neighbourhood	Zamri et al. (2022)
Measuring transport expenditure on housing affordability: A review	i. Location ii. Neighbourhood iii. Structural (lot size, number of bedrooms and bathrooms) iv. Financial v. Transportation expenditure	Roshidi et al. (2021)
Determinant factors influencing housing affordability among Bumiputera youths in Klang	i. Household income ii. Housing price iii. Loan approval iv. Household expenditure v. Type of property vi. Number of working households vii. Location	Sukereman et al. (2021)
Housing preferences: An analysis of Malaysians youths	i. Location ii. Neighbourhood iii. Financial status iv. Interior design v. Exterior design	Ismail et al. (2021)
Factors influencing housing purchase decision	i. Finance ii. Destination	Hassan et al. (2021b)

Table 1-9 continued

	iii.	Environment	
	iv.	Neighbourhood	
	v.	Infrastructure facilities	
	vi.	Developer service quality	
	vii.	Superstition belief	
	viii.	Dwelling characteristics	
A study on housing affordability in a Malaysian context	i.	Financial	Zuraimi et al. (2020)
	ii.	Cost	
	iii.	Process complication	
	iv.	Luxury lifestyle	
	v.	Expectancy	
The location, house or neighbourhood choice preferences among Malaysian housing generations	i.	House (dwelling characteristics)	Ismail & Shaari (2020)
	ii.	Location	
	iii.	Neighbourhood	
Inquisition of consumers prioritization criteria for home purchases in Malaysia using multi criteria decisions analysis: Does socio-cultural factors rank highly?	i.	Location	Lamsali et al. (2020)
	ii.	Structural	
	iii.	Socio-cultural	
	iv.	Financial	
	v.	Developers	
Evaluation of the requirements of first-time buyers in the purchase of affordable housing in Malaysia	i.	Price of house	Olanrewaju & Wong (2020)
	ii.	Crime rate	
	iii.	Care of environment	
	iv.	Presence of parking areas	
	v.	Type of building	
	vi.	Unit size	
	vii.	Number of bedrooms	
	viii.	Utility bills	
	ix.	Building location	
	x.	Accessibility to working place	
	xi.	Floor spaces	
	xii.	Number of bathrooms	
	xiii.	Interior decoration	
	xiv.	Availability of public transportation	
	xv.	Quality of neighbourhood	
	xvi.	Access to health centres	
	xvii.	Recreational facilities	
	xviii.	Aesthetic views	
	xix.	Kitchen size	
	xx.	Location of shopping mall or market	
	xxi.	Access to educational centre	
	xxii.	Access to child day care centre	
	xxiii.	Proximity to government establishments	
	xxiv.	Access to religious places	

Some of the factors used in previous studies mentioned above are straightforward such as house price, superstitious belief and lifestyle. Meanwhile, some are similar and could be categorised into a single factor such as distance and accessibility to all places can be both categorised into location factor. Financial and financing can be categorised under financing

facilities. House type, interior and exterior design, housing attributes, housing finishes, structural, dwelling characteristics, number of bedrooms and bathrooms, building quality and unit size can be categorised into house features factor. Meanwhile, availability of public transportation, parking areas and recreation facilities can be categorised into facilities factor. Security, crime rate and safety level of area can be categorised into security factor. Socio-cultural in Lamsali et al. (2020) refer to considerations related to the neighbourhood and community, therefore can be categorised into neighbourhood factor. Environmental quality, green spaces, aesthetic views and pollution can be categorised into environment factor. Developer service quality is related to developer's branding and image thus can be categorised into developer brand factor. Besides, there are also less studied factors such as social influence where Sukereman et al. (2023) found that herding behaviour exists among young adults to feel left out if not following the latest lifestyle trend of staying in serviced apartment. This is an interesting and important factor that could drive young adults into considering social influence when making decision in house purchasing.

Therefore, selection of external factors for this study were chosen among factors from past studies in relevant housing studies mentioned above. Each of the factors were explained further in the Chapter 2 Literature Review section.

1.9 Terms of References

To establish a mutual understanding and preventing different misconception on the terms and concepts used in this study, the following terms or references are defined.

1.9.1 House Purchase Decision

A housing purchase decision is a conclusion drawn after understanding the purpose to purchase a house and measure the related factors (Thaker & Sakaran, 2016 cited in Hassan et al., 2021d).

1.9.2 Price

Price is defined as a range or quality of goods during a sale of product that were agreed by both selling and buying parties (Fahri, 2024).

1.9.3 Financing Facilities

Financing facility is a contract between a customer (borrower) and creditor (lender) which the customer agrees to tie to obligations in paying back the creditor (Muneem et al., 2020).

1.9.4 Location

Location is a particular geographic location that is highly accessible and able to modify as per needs (Mariadas et al., 2019 cited in Asrar et al., 2024).

1.9.5 Social Influence

Social influence is a measure on how someone is affected by other people in terms of feelings, actions and thoughts either directly or indirectly (Smailovic et al., 2014).

1.9.6 Developer Brand

A brand refers to a name, term, sign, symbol, or design, or a combination of them that intends to distinguish the product or service from a specific seller from other competitors (Dace, 2004).

1.9.7 Superstitious Belief

Superstitious belief is defined as beliefs that do not conform with scientific explanation (Peterson, 1978 cited in Chukkali & Dey, 2020) that reflect psychological biases involving astrology and magic (Vyse, 2013 cited in Teklay et al., 2024).

1.9.8 House Features

House features are the structural component of housing including quality of construction materials used and physical features such as house type, design, size, number of living rooms, bedrooms, toilets, wall fence and gate which could highly affect the overall house value (Musa & Yusoff, 2017).

1.9.9 Facilities

Facilities are the physical basis that enable the function of a housing that include provision of drinking water, garbage disposal, electricity, telephones and roads (Gustin et al., 2023).

1.9.10 Security

Security is generally defined as free from danger and in safe or undisturbed condition (Hayes, 2023).

1.9.11 Neighbourhood

Neighbourhood is defined as the area surrounding homes or residents living in the housing area (Sengupta, 2024).

1.9.12 Environment

Environment is the surroundings in which an organism operates and interrelate with nature including air, water, land, flora, fauna and natural resources (Davis, 2014). Environment of a housing area refers to the interaction between human and nature (Hassan et al., 2021d).

1.9.13 Perceived Affordability

Perceived affordability is a psychological manifestation of an economic variable whether the individual is capable of spending. The ability of spending depends on the total income minus expenditures (Notani, 1997).

1.9.14 Subjective Knowledge

Subjective knowledge means the way we perceive the world and how we construct knowledge (Zins, 2004) based on the external information received and direct experience by individuals (Hwang & Nam, 2021).

1.9.15 Perceived Lifestyle Fit

Perceived lifestyle fit is an individual perception whether the quality of life is deemed fit to his preference (Šabić et al., 2023).

1.10 Organization of Study

This study consisted of five chapters which were introduction, literature review, research methodology, findings and discussion, and conclusion. Chapter 1, the introduction explained on the background of study, problem statement, research objectives, research questions, research gap, significance of study, scope of study, selection of constructs and terms of references. In Chapter 2, the literature review discussed on previous related research on the variables used in this study, the underpinning theory of this study, conceptual framework and hypotheses development. For Chapter 3, the methodology discussed the research design, population, sampling size, sampling method, unit of analysis, instrument development, data collection and data analysis used in this study. Chapter 4 reported the results achieved through data analysis. In Chapter 5, the results found were discussed thoroughly, while the implication and limitation of study were explained and recommended improvements for future studies.

1.11 Chapter Summary

This chapter has provided an overview of the study with background on factors influencing the house purchase decision, young adults and Sabah. The problem statement that served as the foundation for the motivation of this study was identified. It also outlined the research objectives and research questions that will guide this study. Additionally, this chapter has highlighted research gap, significance and contributions of study. The scope of this study specified the location and type of house purchase transaction to be included in this study. Justification of selecting constructs for this study were provided included a list of terms of references on constructs was explained to prevent confusion of terms to be used in this study. Lastly, the organisation of study is explained to provide a clearer overview.

In the following Chapter 2, Literature Review, relevant past literature on the research problem, variables and underpinning theories will be examined. Additionally, the development of conceptual framework and hypotheses would also be discussed.

CHAPTER 2:

LITERATURE REVIEWS

2.1 Introduction

In this chapter, the relevant past literature was referred to explain on each variable and the underpinning theory. Through the literature review, the conceptual framework and hypotheses were developed.

2.2 House Purchase Decision

A housing purchase decision is a conclusion drawn after understanding the purpose to purchase a house and measure the related factors (Thaker & Sakaran, 2016 cited in Hassan et al., 2021d). There are many reasons influencing house purchase decision. One of the reasons is to meet the basic needs as a shelter for family (DeLuca & Jang-Trettien, 2020). Owning a house provide safety and security for family from outside environment dangers (Lamsali et al., 2020; Napiórkowska-Baryła et al., 2024). Purchasing a house prevents the troubles of looking for a permanent place to stay and risk of eviction by landlord. Most important of all, owning a house aims to prevent homelessness (DeLuca & Jang-Trettien, 2020).

However, looking from another angle, renting offers more flexibility and lower economy burden comparing to purchasing a house while also able to provide shelter. Renters can choose better house and neighbourhood that accommodate to individual's needs (Napiórkowska-Baryła et al., 2024). For instance, a renter can afford to stay in a preferred house in city because of lower monthly rental than mortgage repayment (Anuar & Wahab, 2022) and save transportation cost (Asrar et al., 2024). Nevertheless, in the long run the mortgage loan will eventually being paid off and the house will be owned by the house buyer. In contrast, paying the monthly rental fees will be never ending while the house remains other people's property (Khoo et al., 2024; Napiórkowska-Baryła et al., 2024).

Different people have different opinions thus preferences on housing (Hassan et al., 2021d; Lamsali et al., 2020). For instance, some people prefer landed house while some prefer apartment. The different preferences are due to different needs and perceptions that have been formed in the individual through different backgrounds, upbringing, cultures and financial condition (Hassan et al., 2021d). The housing preferences may change as people go through different life cycle, such as a single homeowner does not require big house (Daud et al., 2022) while married couple with children will require bigger house (Muzafar & Kunasekaran, 2021).

Most of the house buyers still perceive purchasing a house as long-term needs (Wang, 2013 cited in Hassan et al., 2021d) especially those who already married and settle down. These house buyers usually think of a house as their permanent shelter that provides safety, comfort and privacy which allows them to conduct family activities and nurture their children for a better life quality (Hassan et al., 2021c; Hassan et al., 2022). They deem that by owning the house they achieved household security and not to worry the needs to find a place to stay (Napiórkowska-Baryła et al., 2024). If the house is to be a heritage to their children in the future, this further secures the future of their children to have a shelter (Csizmady & Kőszeghy, 2022).

However, purchasing a house as long term needs also symbolling the family is rooting in the area of housing (Zyed et al., 2021). Once a house is purchased, location of house cannot be changed (Hassan, 2023). That is why homeownership is also considered as barrier to pursue better job opportunities as buying a house equals to being stuck at a fixed place (Anuar & Wahab, 2022; Hassan, 2023). Besides, life-changing event may cause people extra needs and condition that did not exist before (Acolin, 2022). Unfortunate incidents may require changes such as accidents causing homeowner or family members' accessibility disability where flats without lift will be inconvenience for wheelchair mobility (Valderrama-Ulloa et al., 2023). The same condition applies when natural disaster destroys the house, homeowner must stick with the damaged house. Unfortunately, most countries do not cover damage caused by natural disaster, prompting homeowner suffering financially (Apergis, 2020).

Meanwhile, some house buyers also consider purchasing a house as both long-term and short-term investment because property values typically would appreciate over time (Azam et al., 2025). A house with good location, facilities, environment, neighbourhood and security will continue to be an asset of high demand despite the market fluctuation (Hassan

et al., 2021d). The continuous demand for housing also has trigger the capable house buyers to purchase houses as an investment through renting out to others (Anuar & Wahab, 2022; Hassan et al., 2021a). Some of those rich house buyers who want to ensure profits through renting could even own up to 50 properties just for rental investment (Raslim et al., 2020). Short-term investors will purchase the house at low price and then resell at higher price, leveraging the price difference in short period. Whereas for long-term investors, they will select houses with attractive features to appreciate its future resell value (Hassan et al., 2021d). In fact, house is a good and stable investment instrument to hedge against inflation compared to other assets (Said et al., 2022; Tan, 2008 cited in Zyed et al., 2021).

Apart from the above, the house buyers' overall satisfaction will also have great influence on their house purchase decision. House buyers' feeling of satisfaction can be described as perceptions, reactions and responses towards their house and neighbourhood which can be further defined as their quality of life (Fattah et al., 2021; Musa et al., 2020). Satisfaction with their house and living environment is vital and crucial component to their well-being, which also considered as a reflection of their socio-economic status in that neighbourhood (Fattah et al., 2020; Musa et al., 2020). According to Fattah et al. (2020), house buyers' satisfaction is influenced by their desired or preferred house types which need to fulfil their housing needs and future preference.

2.3 External Factors

The external factors (stimuli) of this study were grouped into three categories. The first category was financing stimuli which consisted of price, financing facilities and location as constructs. The second category was cognitive category which consisted constructs of social influence, developer brand and superstitious belief. The third category was property stimuli that included house features, facilities, security, neighbourhood and environment constructs.

2.3.1 Price

Price is defined as a range or quality of goods during a sale of product that were agreed by both selling and buying parties (Fahri, 2024). In other words, price refers to the amount of money an individual pay in order to obtain a product or service (Cuong, 2024). According to Shafii et al. (2020), house price is the most important and usually the first

factor that house buyers consider. This is supported by Olanrewaju and Wong (2020) who concluded the same for first time house buyers. As the most important factor in purchase decision making, house price is selected as the first variable of this study.

Price of houses in Malaysia are categorised into low-cost, medium-cost and high-cost based on its selling price. Currently, the price range for affordable houses in Malaysia is between RM160,000 to RM400,000 (Kamal et al., 2020) while houses with selling price above RM600,000 are considered as high-end property (Ismail & Ho, 2021). There are fees directly proportionate to house price such as legal fees, property tax, land tax and annual assessment rate, where the higher the house price, the higher these fees are (Acolin, 2022; Anuar & Wahab, 2022; Azmi & Bujang, 2021; Rahman et al., 2021; Zuraimi et al., 2020).

House prices varied in different place because of different characteristics in various location (Lim et al., 2021; Zuraimi et al., 2020). For example, houses are more expensive in the urban areas while more affordable in suburban and rural areas (Olanrewaju & Wong, 2020; Osman et al., 2020; Roshidi et al., 2021). Meanwhile, house price is also calculated by price per square meter, which means larger house will be pricier than smaller house (Lim et al., 2021). However, this size and price comparison does not apply to all conditions where a small house in urban area could be more expensive than a larger house in sub-urban due to land scarcity in urban area (Ebekozien et al., 2020).

Meanwhile, the availability of facilities such as universities, theme parks and shopping malls near the house location will also drive up the house price (Thaker & Ariff, 2020). Nonetheless, houses with security facilities will be more expensive because of the safety features that make the residents feel safe and secured (Ali & Chua, 2023). In contrast, houses located at area prone to natural disasters such as flood, earthquake, and landslide will be cheaper due to low demand (Apergis, 2020).

According to Anuar and Wahab (2022), some house buyers consider purchasing a house as an investment for future, where they will emphasize on the house's future resell value. Lim et al. (2021) mentioned that there are several factors that affects the house value such as location, facilities and house ownership status. For example, house with freehold ownership status will provide more value than leasehold. Aside from that, houses with better facilities and amenities also will have higher values (Lim et al., 2021). Thus, house that has better resell value will increase the house price in future.

2.3.2 Financing Facilities

Financing facility is a contract between a customer (borrower) and creditor (lender) which the customer agrees to tie to obligations in paying back the creditor (Muneem et al., 2020). In order to purchase a house, house buyers would apply mortgage loan, a type of financing facilities with financial institutions because they are unable to pay the house in a lump sum (Hassan et al., 2022). According to Yaacob et al. (2023), financing facilities involved the loan application process, the loan affordability and the repayment mechanism for purchasing a house. Several things that might influence or encourage the house buyers to apply for mortgage loan include loan discount, longer loan tenure and low interest rates (Lamsali et al., 2020). Mortgage loan in Malaysia is usually offered by financial institutions and commercial banks (Hassan et al., 2021e). The first two houses purchased under the same house buyer usually eligible for 90% margin of finance with the house as collateral and loan tenure of 30 years or even more due to expensive house price (Hassan et al., 2022).

As the condition for approving the mortgage loan, financial institutions will charge interest rate and processing fees on borrowers. The mortgage loan interest rate is influenced by Base Lending Rate (BLR) which is fixed by Bank Negara Malaysia (BNM) plus basis point which is the additional interest charged by financial institutions based on borrower's risk (Ismail et al., 2023a). According to Saha et al. (2023), financial institutions are competing with each other by offering competitive interest rate and payment terms to attract more borrowers. This is because amount of interest rates charged will directly affect the amount of monthly mortgage repayment. Meanwhile, longer payment term will help to reduce the burden of monthly mortgage repayment by dividing into smaller amount with higher frequency of repayment (Muzafar & Kunasekaran, 2021). In other words, most house buyers depended on financing facilities to own a house, making it an important variable in determining house purchase decision.

Unfortunately, not all mortgage loans are approved. It depends on house buyers' monthly salary whether capable to serve the monthly mortgage repayment through debt-to-income ratio (Azmi & Bujang, 2021; Khoo et al., 2022). If house buyers have high debt-to-income ratio this indicates that person is highly in debt and have high possibility of default (Khoo et al., 2022). Financial institutions would not simply approve any loans to those who are not qualified in order to reduce the risk of bankruptcy (Kamal et al., 2020), such as having a clean financial record with no default or blacklist will make approval easier (Yap & Ng, 2018 cited in Khoo et al., 2024). Many applications are rejected due to reasons such as heavy

debts, poor credit history, low usable income and documents does not support the capability on serving the loan repayment (Hassan et al., 2022), especially among fresh graduates and newly employed young adults because their loan application exceeded 30% of their gross household income due to expensive house price (Ismail et al., 2023a; Sukereman et al., 2021). For house buyer who has their mortgage loan rejected, it will leave a record in BNM's Central Credit Reference Information System (CCRIS). Record in CCRIS may affect the house buyer's loan application with other financial institutions (Ebekozien et al., 2020). Unable to obtain a mortgage loan would also cause financial constraints for house buyers.

2.3.3 Location

Location is a particular geographic location that is highly accessible and able to modify as per needs (Mariadas et al., 2019 cited in Asrar et al., 2024). According to Hassan (2023), a good house location could have different meaning on different people, which varies depending on each person's priorities, needs and preferences. A good connectivity of a housing location allows easy accessibility and even walkability to points of interest and key of resources (Hassan, 2023; Sohaimi & Shuid, 2023). Therefore, location is one of the most crucial determinants in influencing house purchase decision (Embi et al., 2021). This is supported by Rosli et al. (2024) where every house buyer would want to stay in their preferred location, since once the house purchase agreement is signed, the house location cannot simply be changed (Hassan, 2023). This important unchangeable characteristics of location makes it an important variable in this study.

Most house buyers would want their house to be situated at a convenient location near to the workplace, school, government office, recreational facilities, religious and community places (Lamsali et al., 2020; Olanrewaju & Wong, 2020; Rosli et al., 2024). Meanwhile for most parents, they usually prefer their house located near to school or childcare centre, so that it is easy for them to send their children for education (Olanrewaju & Wong, 2020; Sohaimi & Shuid, 2023). There are also some house buyers would prefer to have public amenities such as swimming pool and fitness centre (Eberlin, 2019 cited in Anuar & Wahab, 2022) and healthcare facilities (Rosli et al., 2024) near to their house. Others may want the convenience to get things from market, store and mall (Zuraimi et al., 2020).

The importance of house location also was shown when the affordable houses built at unattractive locations have failed to attract house buyers (Adzhar et al., 2021; Lamsali et al., 2020; Liu & Ong, 2021). This is because unattractive locations such as far from the urbans will usually result in lacking connectivity and convenience which is not preferred by many house buyers (Daud et al., 2022; Saleh et al., 2024; Zulkarnain et al., 2023). Although houses in urban areas usually cost more than those in rural due to higher demand (Hassan, 2023; Osman et al., 2020), some people are willing to compensate better location with higher house price (Embi et al., 2021) to save daily commuting time and transportation cost (Olanrewaju & Wong, 2020).

2.3.4 Social Influence

Social influence is a measure on how someone is affected by other people in terms of feelings, actions and thoughts either directly or indirectly (Smailovic et al., 2014). Nursal et al. (2024) mentioned that house buyers can be socially influenced by opinions of other especially those have direct or close relationships with them such as family, relatives and friends. Usually, family plays a dominant role in influencing house purchase decision as the financial, functional and support attributes (Ismail & Shaari, 2020). Therefore, family members, friends and even estate agents have influence on house buyers' decision making (DeMarco, 2016 cited in Rahadi et al., 2022). In contrast, Kurniawan et al. (2020) found that family members do not influence housing purchase decision on millennials. Therefore, the role of family members in influence house purchase decision is arguable.

Besides close family and friends, some house buyers are also affected by the real estate agents' effective marketing campaign. Agents play an important role as intermediate between seller and buyer while supporting customers (Ullah & Sepasgozar, 2020). But unfortunately, most of the real estate agents' main objective is to encourage the house buyers to purchase the house rather than honestly assisting the house buyers to find the most suitable house (Zyed et al., 2021). Apparently, the role of estate agent has been slowly substituted by ready access information through internet, further declining the influence of estate agents (Saber & Messinger, 2010).

Apart from that, young adults also tend to be influenced by unknown people through social media platform and internet forum where users shared their opinions on houses, locations and developers (Nursal et al., 2024). According to Zhu et al. (2020), this is because

nowadays house buyers tend to search for information online through reviews during pre-purchase. Patial et al. (2024) mentioned that FOMO is the psychology behind that drive human to follow the majority because most people especially the young adults would feel being left out if they did not hop on to the latest trend. According to Sukereman et al. (2023), this herding behaviour will happen when the house buyer is being influenced to follow the crowd to pursuit a particular type of residential property. People with similar demographic background such as age, education and employment have been found chasing the trend of purchasing serviced apartment.

This implies that both close and irrelevant people may also influence the house purchase decision among the young adults, making social influence a less explored but highly relevant variable as suitable to be included in this study.

2.3.5 Developer Brand

A brand refers to a name, term, sign, symbol, or design, or a combination of them that intends to distinguish the product or service from a specific seller from other competitors (Dace, 2004). Impressions and beliefs on a brand by customers are considered as brand image (Kelly & Kotler, 2022 cited in Fahri, 2024). Similarly, developer brands refer to the branding of a property developer.

In Malaysia, developer brand is an important consideration for a house buyer because it encourages them to choose a house with confidence (Chia et al., 2016, Lie et al., 2021). Branding allows the house buyers to have deep impression and able to distinguish one house developer from another through its reputation and image (Ngoc & Tien, 2021). This is also the reason why house developers invest in building a strong brand name as it can increase the recognition or eminence of its brand for long-term benefits. For instance, some house developers like Sunway Berhad have successful branding using its own company name on most of its projects such as Sunway Geo Residences and Sunway Velocity to make its Sunway brand name familiar and recognisable by the public (Yap et al., 2019). In contrast, the unrecognised developer brand is usually associated with low marketing activities in promoting the house developer's products and features (Chia et al., 2016).

House is a long-term product where the homeowners stay in the same house for decades as a lifetime investment. Therefore, a good quality house is important because it helps minimising the maintenance and repair costs for house defects. Many people believed

that house should be purchased from a trustworthy house developer to avoid the risk of sick and delayed housing project (Yap et al., 2019). There have been cases in Malaysia where the housing project was abandoned half-way or delayed construction by the house developer due to lack of funds (Hassan et al., 2022). According to Zyed et al. (2021), abandoned and delayed housing project could cause emotional stress, financial difficulties and social problems to the house buyers. Therefore, house developer's image is also greatly influenced by their ability to complete the housing project on time (Hidayati et al., 2023).

According to Hassan et al. (2021d), many house buyers prefer to purchase houses built by well-known developer that have won multiple housing awards. This is because house buyers expect good experience from the developer such as reliability, professionalism, technicalities and warranties. Well-known developers also ensure their quality for the finished house. Good quality finished house is very important in real estate in terms of having minimal maintenance and repair because any defects will require high repair cost (Yap et al., 2019). Some house developers still maintain the housing projects that has been built and provide after-sales service (Lie et al., 2021). Developer is also responsible for setting up maintenance and management body for the property (Kathitasapathy et al., 2023). Thus, house buyers would rather spend more money in purchasing houses from a well-known developer because it provides quality assurance and on-time delivery (Yap et al., 2019).

A study by Lie et al. (2021) found that developer brand has an influence in increasing purchase interest of house buyers. This is supported by Hidayati et al. (2023) who found that house purchase decisions were significantly influenced by developer brand. However, Chia et al. (2016) had different results where developer brand did not have a significant relationship with house purchase intention. Given to the difference findings, developer brand is chosen as variable as it may exist as a form of recognition and confidence boost by house buyers in making house purchase decision.

2.3.6 Superstitious Belief

Superstitious belief is defined as beliefs that do not conform with scientific explanation (Peterson, 1978 cited in Chukkali & Dey, 2020) that reflect psychological biases involving astrology and magic (Vyse, 2013 cited in Teklay et al., 2024). Superstitious belief often encourages certain behaviours in controlling one's good and bad luck (Kramer & Block, 2011 cited in Teklay et al., 2024). It is prevalent in many cultures although some may

deem it as irrational beliefs (Chukkali & Dey, 2020) since it is about events that cannot be interpreted by scientific reasoning including unnatural elements (Taher et al., 2020).

Malaysia is a multiracial country that have diverse ethnics such as Malays, Chinese, Indian and indigenous people where some still believe and practise superstition due to ancestral cultural practices passed down to them. As such these practises somehow influence the house buyer's purchase decision from certain aspects (Hassan et al., 2021f; Hassan et al., 2023). For example, some of the Chinese community are believers in *feng shui*, a Chinese ancient technique and concepts in preserving harmony with the nature while some of the Indian community believe in *Vastu Shastra*, a Hindu system in architecture (Hassan et al., 2021f; Hassan et al., 2023; Poojary & Kumar, 2024; Yap & Lum, 2020). Both *feng shui* and *Vastu Shastra* are ancient techniques that are believed to have the capability to bring balance and harmony into the life of homeowners (Poojary & Kumar, 2024).

Superstition belief in numbering also influences the house purchase decision especially among the Chinese (Hassan et al., 2023). Some Chinese believed in numerology due to the phonetic meanings of numbers in their language and dialects. Both the number 3 and number 8 are highly sought after for house number, because for Chinese the number 3 sounds like growth while number 8 sounds 'huat' which bring the meaning of prosperity or getting rich. Coincidently, in Indian *Vastu Shastra* the number 3 is believed to bring luck (Hassan et al., 2023; Shafii et al., 2020; Yap & Lum, 2020). Meanwhile, most Chinese will avoid the number 4 that sounds like death in their language and dialects (Hassan et al., 2023; Shafii et al., 2020; Yap & Lum, 2020). But in contrast, many Malays like the number 4 because it sounds like 'dapat' in their language which means gain or receive (Hassan et al., 2023). Due to this superstition belief in number, some house number or building floor number that carries the number 4 will be replaced with 3A in countries like Malaysia and some other Asian countries as well (Shafii et al., 2020; Yap & Lum, 2020).

Hassan et al. (2023) mentioned that the history of house or housing site also highly influences the house buyer. The housing site is preferably not being a previous old hospitals or religious locations to avoid concentration and lingering of spirits or ghosts which is believed to affect the homeowner's health, luck, career and business. According to Chia et al. (2016), many people feel afraid to have ghost around their house and such taboo has lead people to avoid purchase or staying in a house near graveyard or rumoured to be haunted.

In superstition belief of *feng shui*, the Chinese believed that the house view is important as the residents will look at the same view every day. They try to avoid houses that have the view lower than the street level or high-rise houses with the view facing curved elevated highway which resembles a sickle (Hassan et al., 2023). According to *feng shui*, the most ideal house should have the view of flowing water at the wide-open front while view of mountains or surrounded hills at the back of the house (Hassan et al., 2023; Yap & Lum, 2020). Meanwhile, in *Vastu Shastra* the Indian community believed house view with water bodies must be at the correct position because it will influence the flow of positive and negative energies (Hassan et al., 2023).

Selection of house based on the house's direction is deemed important in the superstition belief of *Vastu Shastra*. The Indian community usually avoid main door of their house facing in the direction of South-West because they believed that negative energy can enter the house from that direction. Meanwhile for the Chinese, certain house directions are discouraged by *feng shui* such as house that built on leaning terrain and have the access road direction leaning down towards the frontage main road (Hassan et al., 2023).

In general, superstitious belief is often neglected as a factor in house purchase decision. Although most superstitious belief in on *feng shui* and *Vastu Shastra,* Yap & Lum (2020) found that there are no differences in the prioritisation of superstitious belief elements between three distinct ethnic groups (Malay, Chinese and Indian). In fact, Hassan et al. (2023) found significant correlation between influences of superstition beliefs on young adults' house purchase intention while Ali & Chua (2023) found superstitious belief (*feng shui*) did not influence on hillside house purchase intention. Chia et al. (2016) also found superstitious belief (both numbers and ghost) do not significantly influence house purchase decision. Since there are different intakes on superstitious belief on house purchase decision by previous studies, superstitious belief was included as one of the variables to identify its influence in this study.

2.3.7 House Features

House features are the structural component of housing including quality of construction materials used and physical features such as house type, design, size, number of living rooms, bedrooms, toilets, wall fence and gate which could highly affect the overall house value (Musa & Yusoff, 2017). House features are chosen as a variable in this study

because house buyers emphasize the house features that they preferred such as house type, quality, design, size and number of rooms (Lamsali et al., 2020).

Olanrewaju and Wong (2020) mentioned that different house type will influence the preference, security, convenience and privacy of the homeowners. There are many house types in Malaysia, but basically it can be categorised into landed (townhouse, terrace, semi-detached, bungalow) or high-rise (apartment, shophouse, condominium) (Hassan et al., 2021a). Newer type of high-rise houses such as Small Office Home Office (SOHO), Small Office Flexible Office or Flexi-Office (SOFO) and Small Office Versatile Office (SOVO) come in smaller size but can be utilized as office or house (Hassan et al., 2021a; Sukereman et al., 2023). A study by Yaacob et al. (2023) found that most young adults nowadays prefer apartment or condominium because of its simplicity, convenience, facilities, security and lower price compared to landed house.

According to Khoo et al. (2024), house buyers pay more attention to house quality rather than its surrounding environment to have a comfortable house. However, it is noticed that house buyers nowadays not merely just focus on the house quality but also emphasise on other house features such as design which includes the practicality in using space and appeal of the house for aesthetic value (Yip et al., 2021). Modern houses nowadays are specially designed to adapt the homeowner's hectic lifestyle with convenience and comforting atmosphere (Hassan et al., 2021a).

Meanwhile, Hassan et al. (2021d) mentioned that other house features such as size and number of rooms are affected by the demographic and shift of population trend which influence the family size of young adults nowadays. For instance, young adults who working in the cities usually do not require large house (Daud et al., 2022). In contrast, house buyers who have the intention to raise a family will require more rooms and larger house size (Ismail et al., 2024b).

2.3.8 Facilities

Facilities are the physical basis that enable the function of a housing that include provision of drinking water, garbage disposal, electricity, telephones and roads (Gustin et al., 2023). Facilities are chosen as variable in this study because availability and convenient accessibility of facilities is an essential factor to be considered when purchasing a house (Rosli et al., 2024).

Most people prefer their house to have recreational facilities, parking facilities, public amenities and infrastructures (Olanrewaju & Wong, 2020; Sohaimi & Shuid, 2023). Recreational facilities such as green spaces, park and playground are essential to the residents where they can take a walk, exercise and relax their mind (Sohaimi & Shuid, 2023). Meanwhile, their children also can do outdoor physical activities at the designated playground without disturbing the other residents (Harun et al., 2022). Most of the high-rise properties in the medium and high range category will have facilities such as playground, lift, carpark, swimming pool and multi-purpose hall (Fakhrudin et al., 2011 cited in Musa et al., 2020). It is considered as a luxury to have such facilities because some of these facilities such as swimming pool and gym from outside will require entrance fees or monthly membership fees (Shamsudin et al., 2017).

Parking facilities are very important to the residents who have their own vehicles. Usually, the affordable house in the urban areas only have one parking space per house unit while low-cost house in sub-urban may have two parking spaces per house unit. However, the amount of parking space will never be adequate to accommodate the household vehicles (Olanrewaju & Wong, 2020). Apart from parking space, more people nowadays are demanding for electric vehicles (EV) charging parking lots. This is because the trend of environment sustainability has boosted the EV usage (Sørensen et al., 2021). Thus, in future EV charging facilities may become an important factor in house purchasing (Jang et al., 2020).

Meanwhile, public amenities and infrastructures such as public transportation, communication systems, public institutions, railway, roads, highways, bridges, water and electricity supply are highly influencing on house buyers' purchase decision because these facilities provide connectivity, accessibility and convenience to the community (Hassan et al., 2021d; Hassan, 2023; Rosli et al., 2024; Yip et al., 2021).

2.3.9 Security

Security is generally defined as free from danger and in safe or undisturbed condition (Hayes, 2023). One of the most crucial functions of a house is to provide a safe, secured and comfortable shelter for the homeowner and their family (Anuar & Wahab, 2022; Asrar et al., 2024; Lamsali et al., 2020; Roshidi et al., 2021; Solikhah et al., 2024; Yaacob et al., 2023). The sense of security allows the residents to live in peace and execute their daily routines

smoothly without any disturbance (Ghazali et al., 2021). Therefore, security is chosen as a variable in this study because security aspect of a house will highly influence house buyer's purchase decision (Khoo et al., 2022; Lamsali et al., 2020).

First time house buyers consider crime rate as important factor in choosing a house (Olanrewaju & Wong, 2020). Crimes such as burglaries and robberies have always been a threat to the residents' safety, and the trend has been increasing for both urban and rural areas (Adnan et al., 2023). However, compared to the urban area, less crime rate is reported in sub-urban and rural areas (Olanrewaju & Wong, 2020). Property crimes refer to theft, burglary and arson which not just result in loss of property but some even resulting in physical injuries (Adnan et al., 2023). Criminals will look for loose or lack of security features house to break in, even during daylight (Olanrewaju & Wong, 2020). Iliyasu et al. (2023) found that houses in less integrated areas are more susceptible to crime in comparison with more integrated areas. Meanwhile, house locations with higher accessibility also lead to higher probability of crime compared to locations with less accessibility (Adnan et al., 2023; Iliyasu et al., 2023).

Homeowners nowadays emphasize the house's safety and security in the neighbourhood due to their worry of crime. Neighbourhood safety and security is important to the residents to ensure their well-being both physically and psychologically while protecting their belongings (Sohaimi & Shuid, 2023). The sense of safety is induced when residents can walk alone around their neighbourhood during both day and night knowing that they are living in a safe and secured environment (Bennett et al., 2007; Loukaito-sideris, 2006 cited in Han et al., 2023). Most parents consider neighbourhood safety and security the most important aspect in selecting a house (Khoo et al., 2024). For dual career parents that typically start working at 8 a.m. until 5 p.m., they are very concerning with their children's safety during their absence especially in the afternoon after school hours (Sohaimi & Shuid, 2023).

In Malaysia, gated and guarded housing are getting more preference from the house buyers because it is one of the measures to achieve neighbourhood safety and security (Khoo et al., 2022; Olanrewaju & Wong, 2020; Yaacob et al., 2023; Zamri et al., 2022). Gated and guarded housing is an enclosed housing area with limited access via electronic devices and the security guards filtering every visitor, where outsider have limited road point access thus could not simply enter the housing area. As such, gated and guarded housing is perceived as safer than non-gated housing (Adnan et al., 2023). Because of the safety and security

features, gated and guarded housing is also more expensive than non-gated housing. House buyers who prefer a deeper sense of security by living in a highly safe and secured neighbourhood are willing to pay more for the house price (Ali & Chua, 2023). There is also perception that gated or guarded housing is a symbolic of community with higher status (Lamsali et al., 2020).

2.3.10 Neighbourhood

Neighbourhood is defined as the area surrounding homes or residents living in the housing area (Sengupta, 2024). Neighbourhood is chosen as a variable in this study because a good neighbourhood is able to attract prospective house buyers due to its aesthetic appeal, green environment and good quality of lifestyle (Olanrewaju & Wong, 2020). Being a part of a reputable neighbourhood community can enhance the satisfaction among the residents (Fattah et al., 2021). A neighbourhood with satisfying environment, security and high social value will increase the residents' sense of belonging (Ali & Chua, 2023).

Good quality outdoor or green space in the neighbourhood will enable the residents to socialise and further promote the closeness among the community members (Harun et al., 2022). Closeness among the community members in the neighbourhood is important, especially from the aspect of social interaction and culture exchange among the people (Hassan et al., 2021d). Neighbourhood interaction and attachment are influenced by social networking, understanding and shared thoughts among the residents. Through interaction such as helping each other, receiving support from others and understanding each other would help to create strong bonding and attachment in the neighbourhood (Fattah et al., 2021; Han et al., 2023).

Maintaining a good neighbourhood has the potential to mature into a solid community especially among the young adults who emphasize community engagement. However, there are different types of neighbourhood communities. Some neighbourhood communities are more modern while some are more traditional and conservative (Hassan, 2023). However, the scenario in urban neighbourhood with differences in lifestyles, languages and cultures further reduce the interactions and connection among neighbours (Wang et al., 2025). In fact, Lamsali et al. (2020) found that house buyers usually prefer a neighbourhood of residents with the same demographic background such as nationalities, culture, race and religion.

Meanwhile, Sohaimi and Shuid (2023) found that influx of foreign workers in the same neighbourhood would trigger discomfort because they are often associated with criminal issues, intoxication, fight, disrespectful and overcrowding the place. Dissatisfaction with the neighbourhood which may be due to poor security level, neighbourhood environment, neighbourhood facilities, cleanliness, maintenance and privacy that directly affect the residents' livelihood will trigger their intention to move out (Fattah et al., 2021).

2.3.11 Environment

Environment is the surroundings in which an organism operates and interrelate with nature including air, water, land, flora, fauna and natural resources (Davis, 2014). Meanwhile, environment of a housing area refers to the interaction between human and nature (Hassan et al., 2021d). A green environment with a pleasant landscaping not only supports the ecology system but also provides comfortable ambience to the residents. It also helps to increase the overall neighbourhood image and provide the opportunity for the residents to interact with the nature hence increase their consciousness to the environment (Harun et al., 2022).

Meanwhile, a clean housing environment refers to a neighbourhood surrounding that is hygiene and clean (Han et al., 2023; Sohaimi & Shuid, 2023). House buyers who are environmentally conscious would prefer to stay in an environmentally friendly housing area with less pollution (Karuppanan and Sivam, 2009 cited in Sivadasan et al., 2020). Houses near the industrial zone or heavy traffic roads are avoided by most of the house buyers due to noise and air pollution which can lead to detrimental health problems on both mental and physical in long term (Ghazali et al., 2021). Tao et al. (2022) found that exposure to air pollution significantly associated with residents' physical and mental health while an environment of green space are conducive to better physical health. This is due to green vegetation reduces air-borne pollutants concentrations especially particulate matter thus reducing air pollution (Diener & Mudu, 2021).

Another aspect on housing environment is the low-lying flood prone area. Due to scarcity of land in cities and towns, many developments have encroached low-lying areas which are prone to flood. Flood at these low-lying areas is natural occurrence where excessive water flows through and form floodplains (Ayog et al., 2005). These low-lying areas are easily accumulated with water especially after heavy rain (Hsiao et al., 2021). Both

coastal and mountainous regions have low-lying areas that are flood-prone (Saad et al., 2024). House buyers tend to avoid purchasing houses that built at flood-prone area (Zulkifli & Ismail, 2023) to avoid damages to properties (Apergis, 2020).

Environment is chosen as a variable in this study because a good environment will make people want to stay while dissatisfying environment will encourage people to move to other places (Ismail et al., 2024a). Sohaimi and Shuid (2023) found that the residents staying in low-cost housing usually feeling uneasy with the unsatisfying environment such as crowded community, noise and dirty surrounding due to vandalism and inadequate facility maintenance. They also found that most house buyers especially young adults are more attracted to comfortable and ambience surroundings for their housing choice.

2.4 Consumer Internal Perception

The internal psychological process created an individual's perception of value. Perception of value plays a key role in the cognitive process which allows the person to produce an intuitive sensation, either immediate attractiveness or repulsiveness (Chen et al., 2024). The cognitive and intuitive differences among individuals will result in different decision making. Similarly, every person has their own distinctive behaviour and values which resulted in variance of housing choices (Ismail & Shaari, 2020; Zulkifli & Ismail, 2023). The internal perception in this study included perceived affordability, subjective knowledge and perceived lifestyle fit.

2.4.1 Perceived Affordability

Perceived affordability is a psychological manifestation of an economic variable whether the individual is capable of spending. The ability of spending depends on the total income minus expenditures (Notani, 1997). The concept of affordability involves financial aspect where a product is considered if it aligns with the allocated budget, and whether the value of product is worth the price (Ganesh & Nagadeepa, 2024). In other words, affordability is the ability for someone to sustain financially when his standard of living changes (Langston, 2006). However, most of the time people usually perceived their affordability based on subjective evaluation on household financial situation more than real disposable income and expenditure (Notani, 1997).

Unfortunately, people often desire to obtain or own products that they do not afford to purchase (Notani, 1997). Upon in reducing this unaffordability, consumer credit allows people to purchase products otherwise they could not afford (Gärling & Ranyard, 2020). There are different types of consumer credit including consumer loans, credit cards, hire purchase loans, car loans, catalogue loans, home credit and payday loans (Disney & Gathergood, 2013). Consumer credit allows consumers no longer depend on sole cash income but now can make spending based on psychologically felt perceived affordability (Tobin, 1972 cited in Notani, 1997).

For instance, two individuals with similar financial knowledge and economic conditions may choose to purchase a product differently, where one may choose to purchase with cash while another one to purchase by instalments, believing that instalments allow more money to be left at the end of month (Mette et al., 2019). This example depicted individuals with similar financial background may have different perceived affordability and thus make different purchase decision.

In terms of perceived affordability in owning a house, when the household income unable to cope up with the housing costs, it becomes house unaffordability (Azmi & Bujang, 2021). In Malaysia the housing affordability is evaluated using the median multiple method where housing is considered affordable if not exceeding three times of the annual median household gross income (Kamal et al., 2020; Liu & Ong, 2021). However, Malaysia's median multiple has exceeded 5.0 indicating the housing price in Malaysia is severely unaffordable (Hassan et al., 2021e; Nasir et al., 2022).

Hassan et al. (2022) mentioned that current house prices have increased up to two or threefold in the past ten years. Before purchasing a house through mortgage loan, house buyers need to ensure they afford for downpayment which is estimated 10% of house price (Anuar & Wahab, 2022; Hassan et al., 2022; Ismail et al., 2023a). Besides downpayment, there are other housing related fees such as property tax, annual assessment rate, utility and building maintenance fee (Acolin, 2022; Anuar & Wahab, 2022; Azmi & Bujang, 2021; Rahman et al., 2021; Zuraimi et al., 2020).

As such, house buyers' income level will directly influence their eligibility for mortgage loan and also their capability to serve the monthly mortgage repayment (Hassan et al, 2021e). However, the salary of the most people is not coping up with the increased house price and inflation. Another factor affecting the house affordability is the high cost of

living, especially among the young adults nowadays (Adzhar et al., 2021; Badrudin et al., 2022; Sukereman et al., 2021) which is more severe in urban area due to expensive lifestyle (Ghazali et al., 2022). In Sabah, household expenditure reaches nearly 50% of the household income which has impacted the household's capability to own a house (Leung & Mansor, 2024).

House buyers with better income or financial condition who perceived they have higher affordability are usually more confident and more likely to make the house purchase (Hassan et al., 2021d). Therefore, perceived affordability is chosen as the variable of internal factor for this study.

2.4.2 Subjective Knowledge

Subjective knowledge means the way we perceive the world and how we construct knowledge (Zins, 2004) based on the external information received and direct experience by individuals (Hwang & Nam, 2021). Subjective knowledge is unique to individuals because different individuals have different interpretations of the experiences. Interestingly, individuals may think they have sufficient knowledge despite having little information. Likewise, individuals may think their subjective knowledge is low even though they have sufficient information (Hwang & Nam, 2021). This is due to the Dunning-Kruger Effect, a cognitive bias in which incompetent or unaware subjects that tend to overestimate their knowledge or expertise (Aqueveque, 2018). Therefore, there are differences between what people think they know and what they actually know (Hwang & Nam, 2021). In other words, information is only accepted as real and meaningful to an individual who is aware of it by his own subjective mind (Zins, 2004).

When consumers have high involvement in an interested product, their product knowledge would increase (Engel et al., 1995 cited in Hwang & Nam, 2021). Increased knowledge would further drive them to search for more information and therefore increase their consumer knowledge. In contrast, when having insufficient knowledge on certain products, consumers would be concerned about unknown potential hazards and would prefer to avoid negative impacts (Hwang & Nam, 2021).

The same condition goes to process of purchasing a house, which is complex and lengthy that involve many different parties such as house developer, financial institutions, legal firms and others. Such processes usually involve substantial amount of financial and

legal paperwork. Many people tend to avoid such hassle due to the possibility of getting intertwined in legal disputes because of low subjective knowledge, especially the young adults. Therefore, some people hire real estate agents and rely heavily on them to assist in house purchasing in order to protect their interests (Zyed et al., 2021) and avoid negative impacts. Therefore, subjective knowledge is chosen as a variable as internal factor because it directly reflects one's understanding on the whole idea of purchasing a house which will result in the decision on either avoid or accept to purchase a house.

According to Zyed et al. (2021), Malaysians knowledge on house purchase is low, especially the young adults. Many misunderstandings and false assumptions in house purchasing is due to lack of knowledge. For that reason, many house buyers underestimate the cost and burden of mortgage debt. Kamal et al. (2020) suggested that all Malaysians should be educated on every aspect of house purchasing from basic knowledge, financial management and attitude on savings. Fortunately, most of the young adults nowadays are still aware of the needs to gather information on house purchase and is mostly done through online searching (Zyed et al., 2021).

Young adults not only having low awareness in house purchasing but also have low knowledge in financial management. They are unaware or have low knowledge on how to save money, how to apply mortgage loan, how to manage personal debt and ways to find the best interest rates. Many of them who are overconfident in their capability in repayment have resulted in default payment. Many Malaysians especially the young adults are unaware that they can consult Credit Counselling and Debt Management Agency (AKPK) for finance advice (Zyed et al., 2021).

House buyers should also have certain level of knowledge regarding the house handover process. After securing a mortgage loan and successfully purchase a house, house buyers should ensure several payments such as quit rent, assessment fees, management fee and utility bills are settled before able to receive the house keys. They may need to prepare themselves for the possibility of late delivery because in Malaysia, delay in house handover to the house buyers is normal. Even after receiving the house key, house buyers should know their rights on house warranty. Unfortunately, most Malaysians are not aware that they are eligible and have rights to claim house defective issue against the house developer (Zyed et al., 2021).

2.4.3 Perceived Lifestyle Fit

Perceived lifestyle fit is an individual perception whether the quality of life is deemed fit to his preference (Šabić et al., 2023). Lifestyle is commonly known as the way of living, or how someone portray his self-identity through his daily routine (Jensen, 2007). There are many types and ways to measure lifestyles, but the most widely used marketing scale is activities, interests and opinions (AIO) framework developed by Wells & Tigert (1971). Lifestyle is a concept in psychology (Anderson & Golden, 1984 cited in Wen & Huang, 2021) which plays a major role in consumer culture and behaviour including individuals' cognition and cultural affiliations (Horley, 1992 cited in Wen & Huang, 2021). Therefore, lifestyle is intertwined with individual habits, goals and beliefs. When daily habits are formed into lifestyle, it is hard to change (Jensen, 2007). For this reason, people would make behavioural choices in daily lives that is perceived to fit with their lifestyle (McGuire & Beattie, 2016).

For young adults, values and attitudes play important role which is influenced by culture, media and globalisation that indirectly pressure and shape the lifestyle (Jensen, 2007). Young adults nowadays mostly aim for new experiences in life and more prone to work in the cities with attractive aspects such as job availability, higher salary, exciting nightlife and diverse environment (Anuar & Wahab, 2022). Due to their desire for an exciting lifestyle, it drives them to prefer staying in the city for the convenience and proximity (Hassan, 2023).

With the YOLO attitude, young adults nowadays tend to prioritise their spending based on desire, especially on luxurious items such as cars, smartphones, fine dining and travel which eventually caused their difficulty in saving money (Hassan et al., 2021e). According to Khoo et al. (2022), purchasing a house requires to do the monthly budgeting and careful planning on the household's spending to avoid irrational or unnecessary spending on luxury goods in order to save up the money for the mortgage loan repayment. Unfortunately, many of the young adults nowadays do not properly manage their finance and budget which eventually affected their house affordability (Zyed et al., 2021).

Azmi et al. (2022b) mentioned that a house is no longer functioning as a simple shelter to the homeowner but is becoming more as a part of their lifestyle. There is an emerging trend in purchasing house that emphasize on lifestyle which shift towards the luxurious and branded residences equipped with high-end facilities such as sports club, gym room, swimming pool and golf course (Shamsudin et al., 2017; Sukereman et al., 2023).

Sukereman et al. (2023) found that young adults nowadays preferred serviced apartment which offers more convenience, privacy and also symbolise their perceived social class which encourages them to invite guest over to their house. Thus, some people especially the young adults purchase house for a lifestyle upgrade (Hassan et al., 2021a). Perceived lifestyle fit is chosen as variable for internal factor because it influences people's behaviours in making choices including choosing house that deemed fit to portray their lifestyle.

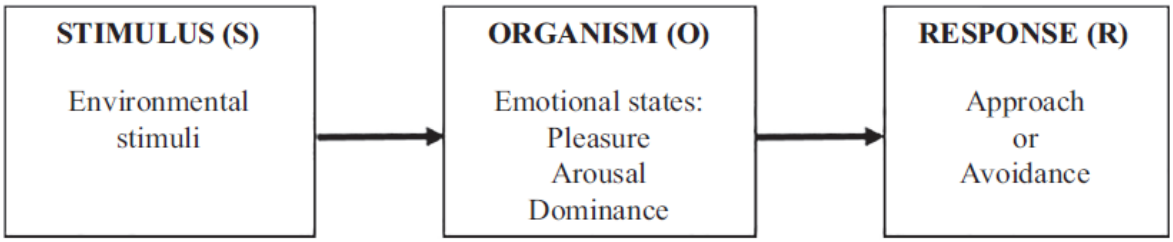
2.5 Underpinning Theory of Research

The underpinning theory used for this study is the stimulus-organism-response (S-O-R) framework. This section explained the theory and justification in selecting the theory. Selection of stimuli, organism and response were also explained.

2.5.1 Stimulus-Organism-Response (S-O-R) Framework

The S-O-R framework was originally developed by Mehrabian and Russell (1974). According to Hochreiter et al. (2022), this model was developed as a guiding principle on environmental psychology. The model suggests that many attributes of environment can act as stimuli (S) which affect a person's internal emotion, evaluation, perception or feelings through pleasure, arousal and dominance (O). These internal aspects will then induce the person's behavioural response either to approach or avoid (R) (Azmi et al., 2022a; Hochreiter et al., 2022; Mehrabian & Russell, 1974). The S-O-R framework's framework by Mehrabian and Russell (1974) is illustrated in Figure 2-1.

Figure 2-1:
S-O-R Framework by Mehrabian and Russell (1974)

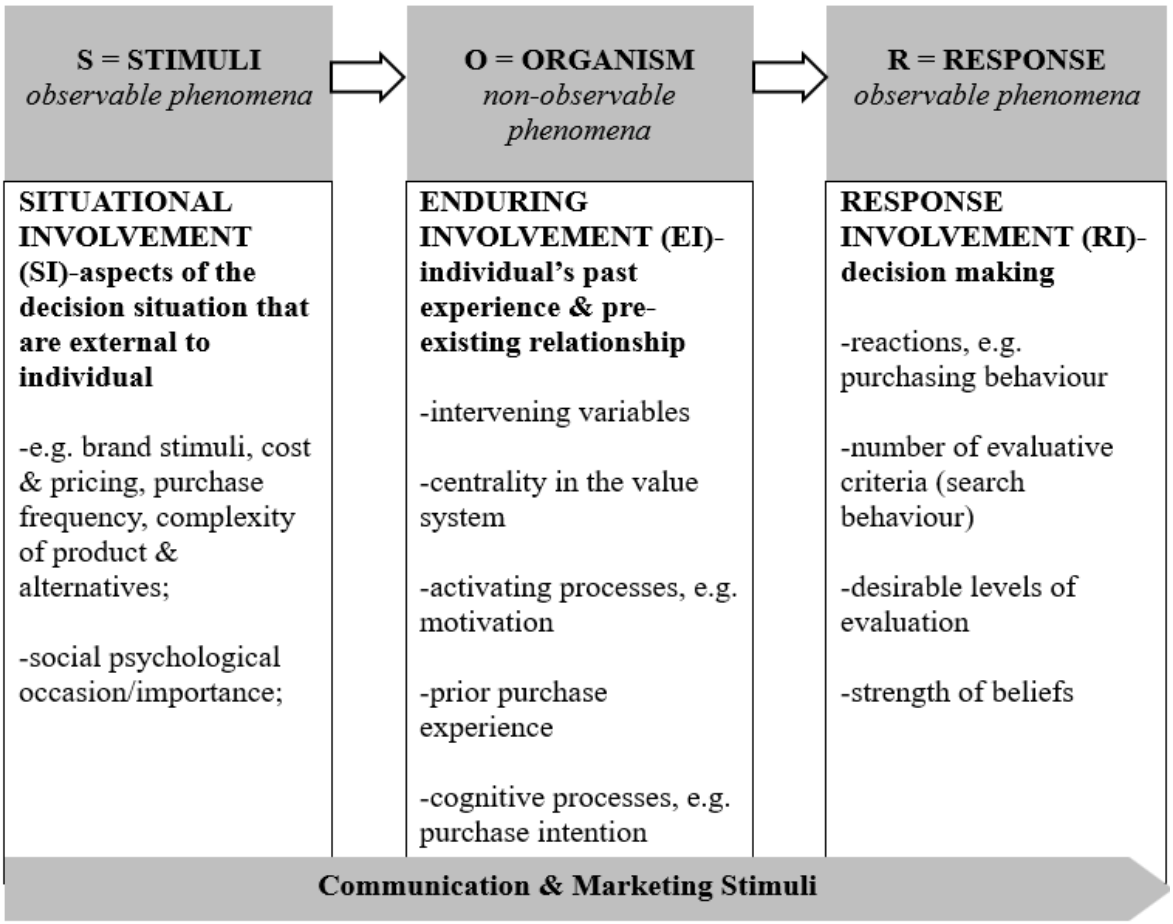


Source: Mehrabian and Russell (1974)

In 1977, Houston and Rothschild (1977) redeveloped the original S-O-R framework with clearer focus on consumer involvement, purchasing behaviour and decision making.

Later in 2003, Kroeber-Riel and Weinberg (2003) further translated the model into marketing-related stages with new perspectives on stimuli (S), organism (O) and response (R). Stimuli is the situational involvement where the aspects of decision are external to individual such as brand stimuli, cost and pricing, purchase frequency, complexity of products, alternatives and social psychological occasions or importance. Organism is the enduring involvement of individual's past experiences and pre-existing relationship which include intervening variables, centrality in the value system, activating process, prior purchase experience and cognitive process. Response is the involvement in decision making which include reactions, number of evaluative criteria, desirable levels of evaluations and strength of beliefs. Kroeber-Riel and Weinberg (2003) also developed the theory that motivation and intention in goods or service purchasing will be activated when consumer is exposed to brand stimuli combined with existing knowledge about the brand. Hochreiter et al. (2022) developed a new S-O-R framework adapted from Houston and Rothschild (1977) and Kroeber-Riel and Weinberg (2003) as illustrated in Figure 2-2.

Figure 2-2:
Newer S-O-R Framework Redeveloped by Hochereiter et al. (2022)



Source: Hochereiter et al. (2022)

The S-O-R framework provides an important theoretical enhancement compared to traditional behaviour study of stimulus-response models. S-O-R framework distinctly utilise organism as the mediating effect of internal psychological processes, a vital mechanism that facilitates the transformation of external stimuli into behavioural responses (Hongsuchon et al., 2025). Numerous studies have been using the S-O-R framework in consumer behaviour and responses especially on purchase intention, attitudes and repurchasing intention (Arora et al., 2020; Chen et al., 2024; Kurniawan et al., 2021; Li et al., 2021; Pereira et al., 2023; Purwanto et al., 2022; Zhu et al., 2020). These studies used the S-O-R framework from a variety of perspectives such as using Covid-19 pandemic as stimulus (Purwanto et al., 2022), online reviews effect on purchase intention (Zhu et al., 2020), website's atmosphere as stimulus on consumer behaviour (Kurniawan et al., 2021), impulsive buying behaviour (Pereira et al., 2023), showrooming behaviour (Arora et al., 2020) and panic buying behaviour (Li et al., 2021).

Azmi et al. (2022a) believed that S-O-R framework is adaptable in property context especially in studying the house buyers' purchase emotions affected by atmosphere. They utilised S-O-R framework in determining the virtual reality effect on house purchase intention. Meanwhile, the S-O-R framework was used by Sivadasan et al. (2020) in studying house buyer's purchase intention associated with green living concept. Chen et al. (2024) also studied on house buyer's acceptance of circular housing through S-O-R framework. They verified that atmosphere exhibited significant positive effect on pleasure emotion and arousal emotion while pleasure showed significant positive effect on purchase intention. They also found significant relationship between arousal caused by stimulus and purchase intention. Meanwhile, Yang et al. (2022) utilized S-O-R framework in housing choice willingness.

Therefore, the newer model of S-O-R framework redeveloped by Hochreiter et al. (2022) adapted from Houston and Rothchild (1977) and Kroeber-Riel and Weinberg (2023) will be used as the underpinning theory of this study specifically on house purchase decision. This model accepted important aspects such as brand stimuli, cost and pricing, social psychological occasion and other factors to be categorised into the stimuli (S) characteristics while recognising cognitive processes as organism (O) before reacting on purchase behaviour (R). Most of previous studies on housing only studied the direct factors to intention relationship, as explained by Jacoby (2002) as straightforward input → output model, or stimulus → response relationship which neglects the consumer's mental states and

internal processes. When information of external factors (S) enters a mind, it will generate internal perception (O) in an individual (Istudor & Pelau, 2012). This perception will then influence the individual's behaviour (Idowu-Moaji & Eze, 2024) which drives decision making (R). Every individual will have different perceptions (Istudor & Pelau, 2012) because different individuals have different interpretations of the experiences (Hwang & Nam, 2021). Therefore, assuming all individuals behaving the same is impossible (Jacoby, 2002). By including human psychology on internal processes as organism, this study recognised the importance of consumer behaviour in housing decision making after triggered by a series of external stimuli.

In this study, the external factors were chosen from both commonly and less used factors by previous researchers which included price, financing facilities, location, social influence, developer brand, superstitious belief, house features, facilities, security, neighbourhood and environment to act as the stimuli (S). Meanwhile, consumer internal perception of perceived affordability, subjective knowledge and perceived lifestyle fit were chosen as internal factors as organisms (O) and house purchase decision is response (R).

2.5.2 Selection of Stimuli

In a study by Cuong (2024) on second-hand clothes, price was utilised as a stimulus under S-O-R theory. Meanwhile, Sun (2018) utilised economics as a stimulus which emphasized the importance of price information comparison to select the most suitable product for consumer that could increase the consumer's purchase impulse. Tortosa-Edo et al. (2025) also utilised economic consciousness as stimulus which also emphasized on price attribute because during uncertain economic context, price is an important factor in consumer purchasing behaviour. Tan (2023) utilised monetary cost as stimulus in a green hotel study where monetary cost was referred as price paid by consumer.

Many previous studies had utilised financing facilities or loan including interest rates as stimulus in studying its effect on real estate market including Chen et al. (2022), Ajeeb and Lai (2024) and Iqbal et al. (2023). Kunovac and Zilic (2022) also studied on the effect of housing loan subsidies on housing affordability. In a study by Bhutta & Ringo (2021), financing facilities of interest rates has led an immediate 14% increase in house purchasing in United States.

Location and distance of a house have been studied as factors affecting house buyers' decision such as by Asrar et al. (2024), Hassan (2023), Rosli et al. (2024) and Zamri et al. (2022). This is because location is one of the determinants of house price where house in urban or close to facilities are more expensive than in rural (Hassan, 2023; Olanrewaju & Wong, 2020; Roshidi et al., 2021). In fact, according to Hassan (2023), location should be the first factor for consideration when purchasing a house. This is because location of property is the one thing that house owner cannot change after signing the house purchase agreement. Besides, the location of house will determine the distant to other important places for daily activities such as workplace, children's school and buying groceries. The distance of these places from house will determine the transportation cost and time required (Hassan et al., 2021c).

There have been previous studies utilising social influence as stimulus under S-O-R framework such as Juita et al. (2024) in a buy-now-pay-later study and Wu and Li (2018) in a social commerce study. Social influence was defined as influence to accept information obtained from others as evidence of reality. A closer relationship will prone to higher trust on the advice received (Wu & Li, 2018). García-Salirrosas et al. (2025) also found that social environment among close peers will cause social pressure that push the individual to accept or follow certain perception.

Brand image is often utilised as stimulus in S-O-R theory studies including Saha and Ali (2024), Majeed et al. (2024) and Jiang and Lyu (2024). A brand will provide the first impression of customer when the company is mentioned. The image will then stimulate the consumer to have cognitive and internal perception of the company. The customer will then create a general impression of the company through brand image and brand awareness (Jiang & Lyu, 2024). This impression will create a unique perceived identity that differentiates a particular company from its competitors (Majeed et al., 2024; Saha & Ali, 2024). The brand image reflected in customer includes the perception of good and bad of the company (Majeed et al., 2024).

Superstitious belief does influence believer's daily activities including buying behaviour because it involves luck and fortune (Chukkali & Dey, 2020). For instance, Teklay et al. (2024) studied the role of superstitious belief among the Chinese community on corporate investment while Taher et al. (2020) studied how superstitious belief influence patients in their medical beliefs. In Malaysia, there have been studies on how superstitious belief influence house purchasing especially on *feng shui* among Chinese communities

including Hassan et al. (2023), Yap and Lum (2020), Shafii et al. (2020) and Hassan et al. (2021f).

House features are house internal attributes such as quality of building and design (interior and exterior design) which are considered important for a house buyer (Chia et al., 2016). Chen et al. (2024) utilised design attribute as stimulus in a circular housing study where house design was found to influence the consumer's acceptance. House features have been one of the main factors influencing house buyer in catering needs of different family size (Yaacob et al., 2023). According to a study by Ismail and Shaari (2020), the dwelling characteristic is the primary factor in choosing a house among Generation Y and Z.

In a study by Djuraidi et al. (2024), it is found that facilities are one of the factors in motivating house buying interest. Facilities have become a major attraction of high-rise residential buildings (Sarip & Lee, 2015). People are willing to stay in vertical residential because of the facilities and amenities provided (Musa et al., 2020). Some house buyers are willing to pay maintenance fees to use the facilities provided in their housing such as recreational park, swimming pool and sport facilities (Shamsudin et al., 2017). According to Denstadli and Sønstebø (2025), house buyers were found to be positively influenced by shared facilities availability in the housing. In fact, their study showed that house buyers tend to compromise on house size in favour of facilities deemed essential for enhancing liveability.

Saha and Ali (2024) and Jayadi et al. (2022) utilised security as stimulus in S-O-R theory. Security stimulus of a housing area refers to the availability of defense system focuses on controlling threatening persons through entrance guards, closed-circuit television (CCTV) and adequate lighting (Zeng et al., 2023). Security has been one of the most important and appealing factors in determining the safety of a housing especially with the features of gated and guarded communities (Shamsudin & Ying, 2016). According to Tahir and Malek (2018), house owners prefer to have fenced-in residences for both their own house and the whole residency for safety and security. In fact, one of the most crucial functions of a house is to provide a safe, secured and comfortable shelter for the homeowner and their family (Ali & Chua, 2023; Anuar & Wahab, 2022).

According to Song et al. (2022a), importance of neighbourhood has been getting attention after the post-pandemic era of Covid-19 because people's daily activities have been confined within their neighbourhood during the pandemic time. During the pandemic,

neighbourhood played a critical role in enhancing residents' social connectedness and support for each other from isolation and loneliness. Even in non-pandemic times, a good neighbourhood with harmonious relationship among residents can create a good living atmosphere and promote closeness among neighbours (Han et al. 2023). In a study by Sohaimi and Shuid (2023), young professionals avoid neighbourhood with poor reputation and prefer moderate-cost residence that provide high standard and harmonious living environment that is safe for their family. A good neighbourhood will attract prospective house buyers (Olanrewaju & Wong, 2020) while dissatisfying neighbourhood will drive residents to move out (Fattah et al., 2021).

Environmental stimuli include the surrounding's temperature, noise and air quality that can affect an individual's perception of attractiveness to the surrounding (Nieves-Pavón et al., 2023). Peng and Kim (2014) utilised environment as stimulus under S-O-R framework. In a commercial district vitality study, Zhou and Wang (2025) utilised environmental quality as stimuli through green-view and openness of the district. Pleasant environment such as spacious space, green landscape, well-maintained and clean surrounding provoke visual stimuli that support psychological restoration (Lu et al., 2025). Environment that is perceived as more related will make a product appear more accessible and favourable (Berger and Fitzsimons, 2008 cited in Peng & Kim, 2014).

2.5.3 Selection of Organisms

Perceived affordability is a psychological manifestation of an economic variable whether the individual is capable of spending (Notani, 1997). In terms of credit products such as loan and payments with interest, affordability refers to consumer's ability to conduct repayment without significant hardship or causing financial constraint (Behera & Dadra, 2024). Chen et al. (2024) on their circular housing study utilised economy via affective value as organism under S-O-R framework. Segson and Tan (2018) utilised economic value as organism which act as a customer's perceived value in selecting their choices before making a decision. García-Salirrosas et al. (2025) utilised perceived financial value as organism where the perception of economic value directly impacts consumer's intention to purchase. Meanwhile Cakici and Tekeli (2022) utilised price level perception as organism in their study.

Subjective knowledge is the individual's subjective assessment and interpretation (Yang et al., 2025) based on the external information received and direct experience by individuals (Hwang & Nam, 2021). Information processing is a process by which stimuli are visualized, converted into useful information and then stored as knowledge (Rahahleh et al., 2020). The information undergoes a psychological process to identify which are accurate, believable, reliable and presented by creditable source (Nunthiphatprueksa & Suntrayuth, 2018). Subjective knowledge is unique to individuals because different individuals have different interpretations of the experiences (Hwang & Nam, 2021). Having certain knowledge will help an individual in understanding a product or service such as relevance in identifying accuracy and completeness of information on specific requirement (Tymoshchuk et al., 2024). Yang et al. (2025) utilised subjective knowledge on risk perception as organism while Sijabat (2024) utilised knowledge as organism in a Covid-19 study.

In a study on customer acceptance of circular housing, Chen et al. (2024) utilised affective value as organism under S-O-R theory. According to Chen et al. (2024), affective cognition is derived from an individual's cultural background and lifestyle which is categorised as a psychological process. Lifestyle is the way on how people live their life which emerge from how general living conditions and individual behaviour influence each other (García-Salirrosas et al., 2025). Lifestyle fit plays a crucial role in consumer behaviour (Lee et al., 2012 cited in Lu & Zhao, 2025) which is relevant to consumption choices and decision-making (Kim & Jia, 2005 cited in Lu & Zhao, 2025). Besides, an individual's perceived lifestyle fit will influence one's purchase intention (Kim et al., 2009 cited in Haristiyanti et al., 2023).

2.5.4 Selection of Response

Many previous studies utilised purchase decision as response under S-O-R theory including Widayat et al. (2022), Yaqub et al. (2023), Sijabat (2024) and Rahahleh et al. (2020). Purchase decision depended on the psychological factors that either encourage or discourage consumer committing to purchase or not purchasing, or even looking for other alternatives (Noel, 2009 cited in Rahahleh et al., 2020).

2.5.5 Justification of Selected Theory

S-O-R framework highlights the relationship on how external factors (S) trigger the internal states (O) on an individual to react (R) (Hochreiter et al., 2022; Mehrabian & Russell, 1974). S-O-R framework's key path is Stimulus → Organism → Response. Every person may response in a different way to the stimulus based on their internal primary emotional reaction (Nunthiphatprueksa & Suntrayuth, 2018) through past experiences and existing relationship (Hochreiter et al., 2022).

Compared to Theory of Planned Behaviour (TPB), TPB is a theory designed to predict and explain human behavior in specific contexts. In TPB, three components of attitude towards the behaviour, subjective norm and perceived behavioural control determine the intention, which then will determine behaviour. The key path of TPB is Attitude/Norm/Control → Intention → Behaviour. Attitude towards the behaviour refers to an individual's positive or negative feelings towards a particular behaviour. Subjective norm refers to the social pressure of perform or not performing the behaviour. Perceived behavioural control refers to the ease of difficulty in performing the behaviour (Ajzen, 1991). In short, TPB is a psychological approach that connects personal behaviour and belief (Lee et al., 2023) that leads to intention and behaviour.

Meanwhile, Value-Belief-Norms (VBN) Theory is based on Norm Activation theory that studied altruistic purposes and behaviours in pro-environmental background (Lee et al., 2023). VBN Theory explains that individuals who accept a movement's basic value (value), believe the value is being threatened (belief), and believe that they are obliged to take action (personal norms) that will provide support (behaviour). The key path of VBN Theory is Values → Beliefs → Norms → Behaviour. The values are fundamental guiding principles that form the basis of beliefs which include altruistic values, egoistic values, traditional values and openness to change values. There are three beliefs which include new ecological paradigm, awareness of consequences and ascription of responsibility. The personal norms are a feeling of moral obligation to the environment while behaviour refers to pro-environmental action (Stern et al., 1999). In short, VBN Theory refers to the process that drives one's beliefs on moral obligation that drives his pro-environmental behaviour.

Although all three S-O-R framework, TPB and VBN Theory have similarities in terms of sequential steps and are related to human psychology in decision making, but the three theories focused on different elements. S-O-R framework focused on how external stimulus triggers internal state to react, TPB weigh on how important and the cost of a

behaviour while VBN weighs on how moral obligation drives an action. TPB is not suitable in this study because this study did not focus on planned action through personal beliefs (behavioural, normative and control beliefs) (Ajzen, 1991). In fact, the aim of this study is to determine whether the stimuli factors can trigger respondents to make decisions, and not about making plans. This study also did not apply any morality or environmental element and therefore is not suitable to apply VBN Theory.

Table 2-1:
Comparison between Theories

Feature	S-O-R Framework	TPB	VBN Theory
Focus	External Stimulus	Planned action	Environment
Key path	Stimulus → Organism → Response	Attitude/Control/Norm → Intention → Behaviour	Values → Beliefs → Norms → Behaviour
Trigger by	External factors	Importance of behaviour	Moral obligation

Besides, this study focused on how certain factors stimulate an individual to make decision whether to purchase a house or not through the role of human psychology (organism) as mediator. This is to fill in the literature gap in previous studies that only focused on factors' direct influence on purchase decision which assumes all consumers behave the same and do not have individual differences which is impossible. S-O-R framework is able to highlight the role of consumer behaviour as organism rather than the straightforward input → output model which neglects the consumer's mental states and internal processes (Jacoby, 2002). Therefore, the most suitable theory for this study is S-O-R framework.

2.6 Conceptual Framework

The conceptual framework of this study was based on the S-O-R framework which consisted of stimulus as independent variable, organism as mediator and response as dependent variable (Vieira, 2013 cited in Kurniawan et al., 2021). At the same time, organism (O) in this study would be utilised as mediator on relationship between stimulus (S) and response (R). Similar studies utilising organism (O) as mediator include Hetharie et al. (2019), Goi et al. (2018), Chen et al. (2024), Zhu et al. (2020), Song et al. (2022b), Wang et al. (2021) and Gabriella et al. (2021).

According to S-O-R framework, the stimulus (S) will influence organism (O), and then organism (O) will influence response (R) in the sequence of S → O and then O →R (Segson & Tan, 2018). In this study, each external factor (stimuli) is expected to influence certain internal factors (organism). The conceptual framework of this study categorised the external factors into three thematic groups, where each theme corresponds to specific internal human psychology internal factors (O).

The first group is Financial Stimuli which consisted of price, financing facilities and location (S) that were expected to trigger house buyers' perceived affordability (O) on owning a house. House affordability depends on the house price and financing availability (Hassan et al., 2021e). Meanwhile a house's location would determine its proximity from work and school, which in turn affecting daily traveling cost and time that may require additional expenditure (Zamri et al., 2022).

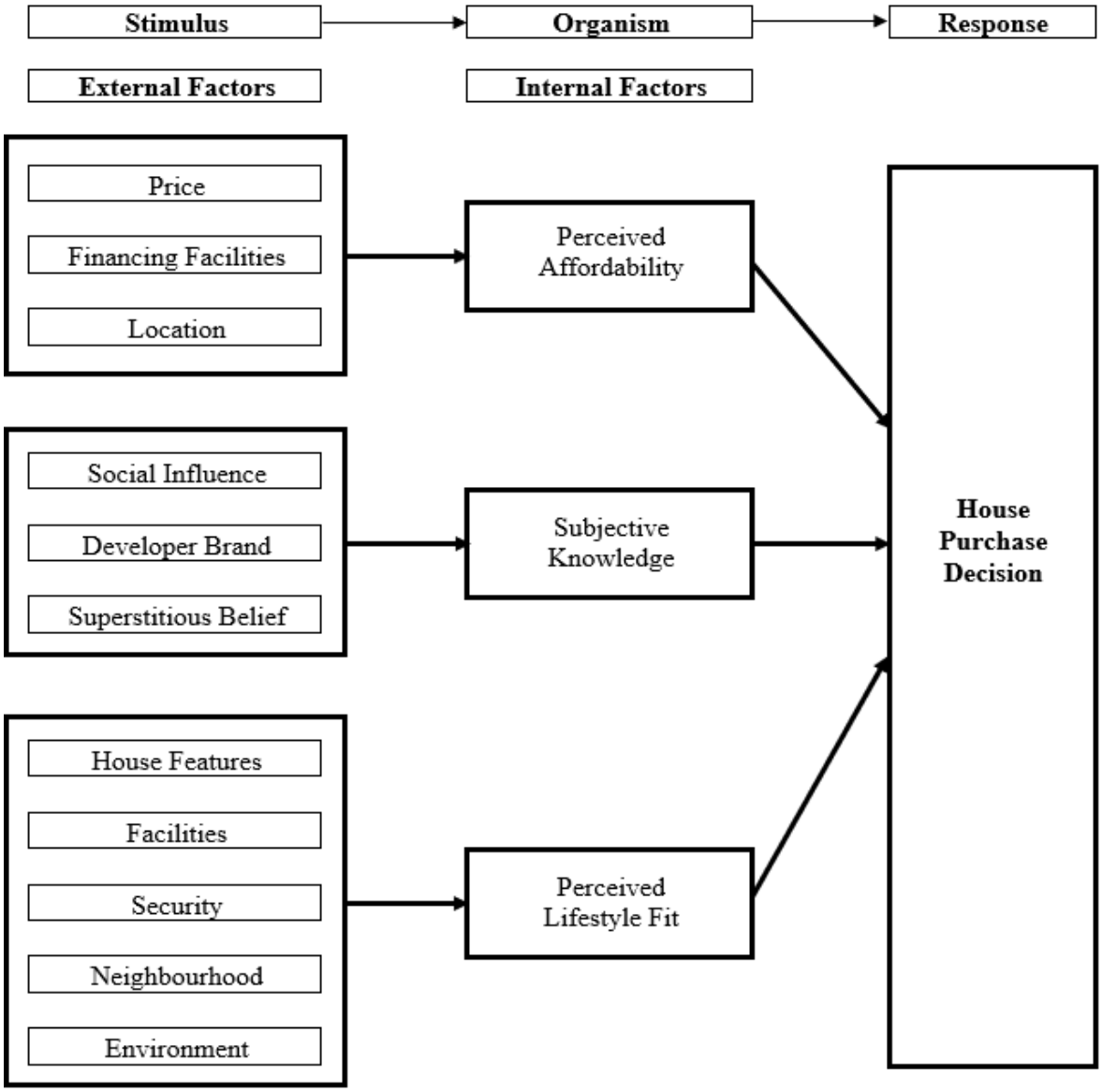
The second group is Cognitive Stimuli that comprised of social influence, developer brand and superstitious belief (S) were information-based which were expected to have influence on subjective knowledge (O). Information plays a crucial role in shaping consumer's cognition and perception (Zuo et al., 2025). For instance, people believe in superstition will significantly influence the demand and supply of property market (Keong et al., 2019). Developer brand's reputation and credibility reduced perceived risk (Carnevale et al., 2018) and increased quality assurance (Yap et al., 2019) of the house developer. Besides, close relation between family members foster communication which promotes learning will improve knowledge management (Barros-Contreras & Palma-Ruiz, 2020). Meanwhile social influence such as social media do increase users' subjective knowledge (Dreston & Neubaum, 2025).

The third group is Property Stimuli that comprised of house features, facilities, security, neighbourhood and environment (S) were expected to stimulate house buyers' perceived lifestyle fit (O). These external factors defined the physical utility and attractiveness of a house that offer functional lifestyle requirements because nowadays, a house is no longer just a simple shelter but is becoming a part of lifestyle (Azmi et al., 2022b). Individuals or families with higher affordability prefer houses with aesthetic design (Yip et al., 2021) and facilities (Olanrewaju & Wong, 2020) in desirable neighbourhoods (Hassan et al., 2021b) free of pollution (Karuppanan and Sivam, 2009 cited in Sivadasan et al., 2020) with security features (Ali & Chua, 2023).

Meanwhile, the three internal factors of perceived affordability, subjective knowledge and perceived lifestyle fit (organisms) are expected to influence the house purchase decision (response). An individual's perceived affordability in terms of financial will affect his judgement on difficulty level to own a house (Kamal et al., 2020). Subjective knowledge of house buyers will influence their confidence and perceived risk in making a purchase decision (Hwang & Nam, 2021). Some people purchase house for lifestyle upgrade (Hassan et al., 2021a) and improve standard of living to achieve a good quality of life (Kaya et al., 2020).

As for mediation relationship, organism of perceived affordability was expected to mediate the relationship between financing stimuli and house purchase decision (Ismail et al., 2023b). Meanwhile, subjective knowledge was also expected to mediate the relationship between cognitive stimuli and house purchase decision while perceived lifestyle fit was expected to mediate between property stimuli and house purchase decision. The conceptual framework of this study is illustrated in Figure 2-3.

Figure 2-3:
Conceptual Framework



The development of hypotheses relationship with each independent variables, mediators and dependent variables were explained in the following subsections from 2.7.1 to 2.7.9.

2.7 Hypotheses Development

There were total of nine hypotheses developed for this study and each was explained in the following section.

2.7.1 Financing Stimuli and Perceived Affordability

Financing stimuli consisted of three constructs which included price, financing facilities and location. All three constructs were expected to have relationship with perceived affordability as explained below.

2.7.1.1 Price and Perceived Affordability

Price influenced the perception of affordability where expensive prices reduced affordability of house buyers (Rangaswamy et al., 2022). This is supported by Kunovac and Zilic (2022) that argued when housing price increases, the house became more unaffordable. Ismail et al. (2023a) and Sukereman et al. (2021) also found that house price significantly influence housing affordability. Under normal economic theories, higher prices would reduce demand for goods (Rangaswamy et al., 2022). This is because when a house is expensive, it reduces house buyer's purchasing power of disposable income (Baumol et al., 2011 cited in Rangaswamy et al., 2022). Unfortunately, many families are facing imbalanced increase in house price compared to income (Hassan et al., 2021e). This is worsened by the high living cost and stagnant income growth faced by individuals (Adzhar et al., 2021). Financial affordability is low when house buyer's remaining income is very small after deducting monthly expenses and other financial obligations (Hassan et al., 2022).

However, even when the house price is increasing, the house could be still affordable by certain groups of customers (Rangaswamy et al., 2022). In other words, some houses with exorbitant prices are still affordable for some people (Stone, 2006 cited in Azmi & Bujang, 2021). This is true for investors who may find high priced properties attractive with anticipation of value appreciation in future (DeBardhan et al., 2003 cited in Rangaswamy et al., 2022). In contrast, some people with very low or no income at all could not even afford a low-priced house (Azmi & Bujang, 2021). However, affordability is also measured as a proportion of a family's income (Khoo et al., 2024). This means a family with a few working members who have higher income is perceived as more affordable because household incomes and expenditures are used to determine housing affordability (Ismail et al., 2023a). Hence, high price does not necessarily result in reduced perceived affordability (Rangaswamy et al., 2022).

2.7.1.2 Financing facilities and Perceived Affordability

Perceived affordability is more than financial means for an individual which includes the relative burden of purchasing power (Rangaswamy et al., 2022). This is because sometimes human desire to obtain or own products that they do not afford to purchase (Notani, 1997). Financing facilities of credit service affects individuals' perceptions on affordability, allowing the lower- and middle-income groups to purchase or consume goods and services that they otherwise would not be able to afford (Kus & Fan, 2015). Current credit ecosystem is made easier by providing flexible credit products with lower interest rates and convenient repayment options (Behera & Dadra, 2024). Su et al. (2023) found that consumer credit increases financial liquidity, and borrowers will have higher perceived affordability because of higher disposable income. In contrast, some borrowers have lower perceived affordability because they now have lower credit scores, which will affect future borrowing (Liberman et al., 2021).

The same goes to house purchasing. Due to unable paying lump sum of the house price, house buyers usually opt to purchase house through financing facility such as mortgage loan and will need to carry an approximate 30 years term of monthly mortgage repayment which could affect their other expenses commitment (Hassan et al., 2021d; Hassan et al., 2022). Once being committed to mortgage repayment, other household expenses such as food and medical care would be reduced (Kuroki, 2023), therefore leading to lower perceived affordability and standard of living (Deidda, 2015 cited in Jurčišinová et al., 2025).

The mortgage terms offered directly influenced the monthly living cost and balance of savings (Leung & Mansor, 2024). High interest rate will increase amount of loan instalments that require borrower to pay more each month (Khoo et al., 2024). This is supported by Sujit et al. (2024) who found monetary policy changes in interest rates are a major factor influencing their perceived affordability in house purchasing decisions. In fact, interest rate is constantly fluctuating due to the unstable BLR. For instance, in 2022 there is a sudden sharp rise of interest rates in response to global inflation pressures, resulting in sudden affordability shock (Loeffler, 2025). The initial low interest rate was perceived to afford a mortgage loan, but when it increased, the mortgage loan now became unaffordable.

Meanwhile, longer payment term could help lower-income house buyers to reduce the burden of monthly mortgage repayment. For example, house priced at RM300,000 may be unaffordable for 10 years mortgage loan but it can be affordable if spread over 30 years.

This enable lower income house buyers to be eligible for mortgage loan and own a house (Muzafar & Kunasekaran, 2021). Although longer term helps reduce monthly commitment, it also comes with interest rate premium which cause higher cumulative costs on total loan (Park, 2019) due to higher default risk (Li et al., 2018). In other words, borrowers with longer loan term may end up paying more than engaging in shorter term loan.

Different financing facilities could influence house buyers' perceived affordability such as monthly mortgage repayment (Azmi & Bujang, 2021), loan interest (Lamsali et al., 2020), loan term (Muzafar & Kunasekaran, 2021) and loan approval (Sukereman et al., 2021; Osman et al., 2020). If a house buyer has to bear high mortgage burden to purchase a house, then the house would be perceived as unaffordable (Rangaswamy et al., 2022). People who are bearing a loan could have financial distress worrying they might have debt repayment difficulties (Rendall et al., 2021) and therefore lower affordability in other expenses.

2.7.1.3 Location and Perceived Affordability

Location is one of the most crucial determinants in influencing house affordability (Hassan et al., 2021c). This is because house prices vary in different places due to different characteristics in various location (Lim et al., 2021; Zuraimi et al., 2020). For example, houses are more expensive in the urban areas due to higher job opportunities (Olanrewaju & Wong, 2020; Osman et al., 2020; Roshidi et al., 2021). This is because land in urban areas are more expensive due to its scarcity and higher demand (Ebekozien et al., 2020). House buyers desire their house near to important locations such as workplace and school, thus increasing the demand in convenient location therefore also increasing the price and become less affordable (Lamsali et al., 2020; Olanrewaju & Wong, 2020).

Although houses in sub-urban and rural areas are more affordable in terms of price (Olanrewaju & Wong, 2020), the location is usually far away from workplace. The further distance between house and point of interest will incur extra transportation cost and travelling time (Asrar et al., 2024; Daud et al., 2022; Khoo et al., 2024; Olanrewaju & Wong, 2020; Zamri et al., 2022). In contrast, living in urban areas with close proximity to workplace will reduce or eliminate transportation cost (Asrar et al., 2024), perceived as more affordable than living in sub-urban or rural. Perumahan Rakyat 1Malaysia (PR1MA) program under Malaysia government has been providing affordable houses for middle-income groups in urban areas (Jamaluddin et al., 2016).

Although house in urban is more convenient and require less transportation cost and time than house in rural and sub-urban (Asrar et al., 2024), but the house prices in urban are much more expensive and unaffordable comparing to transportation cost. Therefore, the following hypotheses were proposed.

H1: There is a negative relationship between financing stimuli and perceived affordability.

H1a: There is a negative relationship between price and perceived affordability

H1b: There is a negative relationship between financing facilities and perceived affordability.

H1c: There is a negative relationship between location and perceived affordability.

2.7.2 Cognitive Stimuli and Subjective Knowledge

Cognitive stimuli consisted of three constructs which included social influence, developer brand and superstitious belief. All three constructs were expected to have relationship with subjective knowledge as explained below.

2.7.2.1 Social Influence and Subjective Knowledge

According to Social Learning Theory, individuals learn knowledge, skills, and behaviours through social interaction, observation and imitation (Ott, 2024). The social interaction usually starts with closest people such as family which passes down its beliefs and practices (Flowers & Coyne, 2025) that embedded as subjective knowledge in an individual. Besides family, Kang et al. (2019) found that knowledge sharing is contagious among friends and virtual communities (Liao, 2017) that encourage development of new concepts and ideas through collective tacit knowledge (Holford, 2016). Meanwhile social influence such as social media also increases users' subjective knowledge (Dreston & Neubaum, 2025).

Social influence can cause changes in an individual's perceptions after interacting with other people (Rashotte, 2007 cited in Chou et al., 2015). The individual will accept the information obtained and perceived the information as evidence about reality or facts especially if the information provider is an authoritative figure in the topic field (Deutsch & Gerrard, 1955 cited in Chou et al., 2015). At the same time, the individual will have higher trust in the information received from a person with close relationship (Wu & Li, 2018). The

information received will then be processed as new knowledge (Rahahleh et al., 2020). This knowledge is then absorbed as personal cognitive experience as subjective knowledge. Even when the knowledge is already acquired through previous experience, subjective reality is further strengthened and socially constructed by significant others (Smirnova, 2019).

However, social influence does not necessarily increase one's subjective knowledge especially when the interaction with trusted sources provides contrary opinions, undermining the new information (Kruglanski & Sheveland, 2013). This is common when the influencer is perceived as having the Dunning-Kruger Effect (Aqueveque, 2018), leading the influencer's opinions being rejected. Besides, individuals with higher education background such as Doctoral degree are more independent and confident therefore are less influenced by family, friends or third parties (Tan, 2022).

In terms of house purchasing, young adults especially first-time house buyers usually lack information and knowledge on process of house purchasing and obtaining mortgage loan. Therefore, they often refer to their close family, relative and friends for advice and opinion (Nursal et al., 2024). Young adults who are tech-savvy tend to use social media and thus also could be influenced by the opinions and experiences by people posted on social media when they lack knowledge (Siddiqui & Singh, 2016). Through interaction while discussing housing, the young adults would acquire the information and absorbed as knowledge. According to Sukereman et al. (2023), some young adults have been following the trend to live in a serviced apartment due to peer pressure and herding behaviour. When this young house buyer is interested in serviced apartment, their interest drives them to search for more information and therefore increase their subjective knowledge in housing (Hwang & Nam, 2021).

2.7.2.2 Developer Brand and Subjective Knowledge

Consumers use heuristic cues as mental shortcuts to simplify the evaluation of an object or product, and brand image is one the clues (Yeung & Soman, 2007 cited in De Toni et al., 2023). Therefore, brand image provides consumers with clue in making subjective judgment to determine whether the brand is worth purchasing (Chen et al., 2021). This is because known brands with strong and good image positively affect the product's perceived value (De Toni et al., 2023). The experiences associated with the brand are then processed as subjective knowledge (Hwang & Nam, 2021).

Brand image is a relatively consistent and enduring perception that will remain in a mindset for a long time (Fahri, 2024). Consumers who know and are familiar with a brand will have high understanding and knowledge of the product because of the established perceived values (De Toni et al., 2023). Interest in brand products will encourage consumers to search for relevant product information, therefore increasing product knowledge (Hwang & Nam, 2021). Besides active searching, products also promote their brand through direct and indirect marketing such as advertisement (Ngoc & Tien, 2021). The advertisement's informative effect directly inform consumer on product's attributes which increase the consumer's subjective knowledge (Mehta et al., 2008).

For instance, house buyers perceived a well-known developer as reliable, experienced and professional that has high technicalities through the brand image brought up by the developer. Well-known developer is perceived as able to increase house value in terms of location, infrastructures, reliability and warranties for future investment. Branded developer is also perceived as a quality assurance and provide on-time delivery (Yap et al., 2019). The positive brand image of developer built by marketing influences the house buyer's subjective knowledge on the perceived value of the house quality built by the developer.

However, this does not apply to knowledgeable and experienced house buyers who has high self-confidence and own subjective knowledge. They will conduct information search on house information without relying much on developer's portrayed brand image (Utkarsh et al., 2019). This differs from novice or first-time house buyers especially on less-known developer that did not market its brand. Consumers will make inferences to fill in the information gaps when the brand did not provide much information (Deval et al., 2013). Even brands with negative information are still perceived as higher quality than unrecognised brands (Simonyan & Goldstein, 2016). Similarly, first-time house buyers lacking experience and knowledge in house purchasing process have many questions on the house purchase paperwork and may be even facing mortgage application rejection. Established developers may have professional sales team that offer guidance to customers to resolve their issues by giving correct information (Usman et al., 2025).

Yap et al. (2019) found that house buyers tend to purchase house from branded developers more than less-known developers because of the perceived high-quality houses, which is purely a subjective knowledge developed through developer's brand reputation.

2.7.2.3 Superstitious Belief and Subjective Knowledge

Griffiths et al. (2019) in an experiment found that illusion of causality was predicted by people's level of common superstitious beliefs endorsement. This is because sometimes people try to explain a phenomenon with superstitious belief when there is no scientific causal existence relationship (Chukkali & Dey, 2020). For instance, when an individual believes that certain objects can be subjectively invoked to control luck even though no such objective influence exists (Kramer & Block, 2011 cited in Teklay et al., 2024), this will lead to close-mindedness, which may cause miscalibration of knowledge demonstrated by low objective knowledge and high subjective knowledge (Chaney et al., 2025).

Tosyali and Aktas (2021) found that people with lower analytical thinking tendencies were more likely to engage in superstitions. However, superstitious belief is not only among individuals with lower education levels but among individuals who are highly educated as well (Sumaranjitha & Sreedhar, 1992 cited in Chukkali & Dey, 2020). This is because people are not equally superstitious (Griffiths et al., 2019). It is prevalent in certain cultures (Chukkali & Dey, 2020) and the ingrained irrational ideas that can influence individuals' perception and thoughts particularly in times of uncertainty (Yamani et al., 2025). However, not all people believe in superstition especially among young adults (Chia et al., 2016). Although some may aware but they do not believe in superstition thus do not influence their subjective knowledge especially among higher educated individuals (Mocan & Pogorelova, 2017).

For instance, in terms of Chinese superstitious belief in *feng shui, a* house's location, land topography, interior design and number of house can influence the resident's luck and health which have no scientific causal existence relationship (Hassan et al., 2023). Superstitious believers will develop subjective knowledge of illusion of causality in terms of health and luck caused by feng shui. This illusion of causality is then taken as heuristic cues, known as superstitious heuristics as a decision shortcut based on superstitious beliefs (Liu et al., 2025). Therefore, the following hypotheses were proposed.

H2: There is a positive relationship between cognitive stimuli and subjective knowledge.

H2a: There is a positive relationship between social influence and subjective knowledge.

H2b: There is positive relationship between developer brand and subjective knowledge.

H2c: There is a positive relationship between superstitious belief and subjective knowledge.

2.7.3 Property Stimuli and Perceived Lifestyle Fit

Property stimuli consisted of five constructs which included house features, facilities, security, neighbourhood and environment. All five constructs were expected to have relationship with perceived lifestyle fit as explained below.

2.7.3.1 House Features and Perceived Lifestyle Fit

Houses are built to adapt people's changing lifestyle through new pattern of modernisation and innovations (Sári, 2010). House buyers' decisions in choosing types of house are based on the lifestyle they want (Generalov & Generalova, 2020). House features such as design and quality are considered as material expression on the homeowner's lifestyle (Rapoport, 1969 cited in Zarrabi et al., 2022). For instance, staying in serviced apartments is convenient and can showcase their social class for socially active lifestyle residents, which encourages them to invite people over for gathering. This is because in their perception, staying in serviced apartment is the new social norm and a form of lifestyle living (Sukereman et al., 2023).

There has been increasing trend of housing image that is linked to lifestyle living to accommodate society's socio-economic development and technology advancement. The lifestyle living is often associated with luxurious or high-end property built by developers that include additional features such as smart home and environment-friendly green building to provide a privilege status for its residents. House design and house type has transformed in the flow of emerging lifestyle living including the introduction of high-rise condominium, service apartment, serviced suits and others (Sarip & Lee, 2015).

Different housing types also influence convenience, privacy and security of residents (Olanrewaju & Wong, 2020). As more people are prioritising privacy, they prefer houses that are designed to provide privacy in terms of visual penetration in house design through window, space and other features (Qaradaghi & Aalhashem, 2023). Personal privacy is especially important for homebody lifestyle residents (Cutlery, 1947 cited in Nguyen et al.,

2023) who enjoy quiet and peaceful environment (Wells and Tigert, 1971 cited in Nguyen et al., 2023).

House buyers with different lifestyles have different preferences and needs in housing criteria such as size, number of rooms and common space. A couple with a child can live comfortably in a one-bedroom apartment but as their family grows bigger, they would demand for a bigger unit with more rooms (Muzafar & Kunasekaran, 2021). Therefore, family-oriented lifestyle house buyers would prefer bigger house size and more common space for family activities (Nguyen et al., 2023). In contrast, young adults with busy lifestyles who work and stay in cities do not require a large room (Daud et al., 2022).

However, although modern designs, convenience and privacy are highly desirable to be portrayed as a part of lifestyles, the ideal house features depend heavily on affordability of house buyers. This is because architectural designed houses come with higher prices (Rong et al., 2025). Besides, larger house is also more expensive than smaller house in same location (Lim et al., 2021). In other words, homeowners with limited financial affordability would not be able to live in a house with features of desired lifestyle but only as the lifestyle that is perceived fit with their financial affordability.

2.7.3.2 Facilities and Perceived Lifestyle Fit

Housing with adequate facilities is always highly sought after by house buyers. This is because facilities provided within or nearby the housing offer convenience for homeowners such as reducing travel time and cost (Anuar & Wahab, 2022). According to Lie et al. (2021), housing with good facilities will provide convenience therefore easier for residents to carry out daily activities especially for busy lifestyle residents. Infrastructure facilities such as connecting roads, highways, bridges and railway nearby provide better accessibility for house buyer's convenience (Hassan, 2023; Rosli et al., 2024; Yip et al., 2021).

Some high-end properties came with state-of-the-art lifestyle clubhouse facilities to fulfil the luxury needs of its residents such as swimming pool, gymnasium, sauna and Jacuzzi, yoga room or patio, barbeque corner, cafe or bar lounge, function hall, karaoke room, library and children's playground. These facilities aimed to promote lifestyle living among residents with day-to-day social activity requirements (Sarip & Lee, 2015).

Musa et al. (2020) found that house buyers deemed highly satisfied facilities and maintenance are important for their living environment. The availability of sport facilities

such as gym, swimming pool, basketball court and tennis court in a residence increased the likelihood of its residents living a healthier lifestyle through exercising. Physical activities such as sports contribute in forming a healthier lifestyle where the skills and abilities developed by sport can promote people's well-being through physical, mental and psychological performance (Nagy & Tobak, 2015). Green parks or open space that provide pathways will promote walking which gained popularity as healthy lifestyle (Fonseca et al. 2022). This is because walking is a form of exercise that promotes healthy living to battle illness such as obesity since the modern lifestyle are often associated with calorie-dense fast food and ease of transportation diminishing daily physical activity (Mahmoud, 2022).

However, this type of facilities does not weigh the same importance to all residents. For instance, such facilities may be important and will be used by residents who live active lifestyle in sports and prioritise social lifestyle. This is especially true for family-oriented lifestyle residents with children who valued children's playground and other sport facilities for conducting activities with family and improving physical and mental health (Nguyen et al., 2023).

Having such facilities require proper maintenance or else the quality of facilities and condition will deteriorate and eventually became unusable or cause physical danger to users (Musa et al., 2020). Maintaining the facilities requires extra cost in form of maintenance fee charged to residents by the residential management committee (Anuar & Wahab, 2022). Some homeowners are willing to pay the maintenance fee for they need such facilities and are satisfied with the reasonable charges to maintain the comfort lifestyle (Shamsudin et al., 2017). However, the extra expenditure may be too high for certain homeowners that it became unaffordable especially among low-income earners (Tiun, 2003 cited in Mohamad, 2015). Meanwhile, residents who have busy working lifestyles or passive in sports do not have time or interest to enjoy the facilities thus the facilities do not contribute to their lifestyle fit (Ngyuen et al., 2023).

2.7.3.3 Security and Perceived Lifestyle Fit

Security is a concern that involved one's own safety, therefore assessing safety and risk has been a daily lifestyle for some people (Mesch, 2000 cited in Jensen, 2007). Strategizing one's lifestyle in terms of maintaining security is a way to adapting risk in this globalised society (Rojek, 2001 cited in Jensen, 2007) through predictable routines

(Giddens, 1986 cited in Jensen, 2007). Therefore, lifestyle can be considered as a set of habits and choices formed in order to remain secure (Jensen, 2007).

Risk is perceived as an acute problem whether in abstract or concrete form. Therefore, people would adopt lifestyles that make them feel living secure although it may lead to a non-sustainable lifestyle such as requiring more financial and resources. This is to ensure safety concept is physically implemented (Jensen, 2007). For instance, the first thing that house buyers pay attention to is the security level of the housing area from crime activities (Lie et al., 2021). Availability of security features allows residents to feel safe (Zeng et al., 2023). This is because the sense of security allows the homeowner to live in peace and execute their daily routines smoothly to maintain their existing lifestyle (Ghazali et al., 2021).

Security is highly important to family-oriented lifestyle residents in terms of safety from crime (Hu et al., 2016 cited in Nguyen et al., 2023). Meanwhile for homebody lifestyle residents, they value personal privacy which is important to them (Cutlery, 1947 cited in Nguyen et al., 2023). Due to privacy, they also perceived safety in living environment is priority (Schwartz et al., 2012 cited in Nguyen et al., 2023). This is supported by Qaradaghi and Aalhashem (2023) who found that individual privacy is essential for a secure and safe living environment.

Gated and guarded housing are perceived as safer than non-gated housing because the availability of electronic devices or security guards that restrict outsiders access (Adnan et al., 2023). Due to the safer perception, staying in gated or guarded housing is highly desired (Lamsali et al., 2020). For the past decades, housing developers have been riding on the trend where gated properties had been transformed into image of living in modern and sophisticated lifestyle (Shamsudin et al., 2017). Gated and guarded community is perceived as a symbol of wealth, luxury lifestyle, upper-class group (Sarip & Lee, 2015; Shamsudin et al., 2017) and exclusivity (Hammad et al., 2025).

However, the security features came with a price. Gated and guarded housing is usually more expensive in requiring additional management fees for employing the security guards and installing CCTV (Shamsudin et al., 2017). More advanced visitor management systems such as using mobile applications and scanning system for resident's verification also require higher monthly management fees. Besides monetary forms, gated housing also causes time and inconvenience for busy lifestyle residents that depend heavily on food and

parcel delivery services for having to grant access through gates for such deliveries. Same condition is applied to socially active homeowners in providing access to visiting family and friends through mobile applications or have to inform security guards in advance (Chompunic et al., 2023). Such inconvenience may lead to segregation that may weaken the relationship of socially active residents with family and friends (Hammad et al., 2025).

Still, a safe living environment positively contributes to health because unsafe residential caused negative effect on residents' emotion including anxiety and decreased life satisfaction which then leads to physical health issues and thus unable to having normal and usual daily life activities (Zeng et al., 2023). Lamsali et al. (2020) found that safety was overwhelmingly prioritised by house buyers with preference on low crime, gated and guarded residential. Besides, a safe residential allow its residents to walk in the housing area without the fear of safety during both day and night especially among women (Bennett et al., 2007) who lives alone (Jang & Jung, 2025).

2.7.3.4 Neighbourhood and Perceived Lifestyle Fit

Choosing a housing neighbourhood is a lifestyle choice connected to social class. In order to be accepted in a neighbourhood, one has to fit in the circle (Rapoport 2001 cited in Jensen, 2007) in terms of manners, style, background, financial and even consumption behaviour (Poster, 2004 cited in Jensen, 2007). That is the reason why certain housing is designated for certain social class such as Mont Kiara, Sri Hartamas and Damansara in Kuala Lumpur which are preferred by affluent Malaysians and expatriates due to high-end lifestyle and exclusive living (Lee & Srirangam, 2023). Exclusivity is seen as a high social status symbol of distinctiveness and uniqueness (Oh, 2013). However, living in a high-end residential requires high financial affordability because besides the expensive price of luxurious house, the monthly management fee is also very costly because of the luxurious facilities and services provided (Nguyen & Do, 2020).

Neighbourhood could provide the social needs for socially active residents to communicate, express themselves and engaged in social activities (Generalov & Generalova, 2020). A good community in the neighbourhood is important for social interaction and community building among the homeowners (Hassan et al., 2021d). Neighbourhood with positive vibes including safe environment, accessibility and social interaction among neighbours will enhance residential satisfaction and quality of life (Fattah et al., 2020). A good neighbourhood with harmonious relationships among residents can create a good living

atmosphere and promote closeness among neighbours (Han et al. 2023), which in turn can improve the social lifestyle and increase sense of belonging among the community (Ali & Chua, 2023).

Salehi et al. (2016) found positive association between better neighbourhood, better wellbeing outcomes and healthier lifestyle behaviours. Similar lifestyles among residents can lead to better communication and mutual understanding among neighbours and enhance commitment to neighbourhood (Jansen, 2011 cited in Zarrabi et al., 2022). In a study by Stokes (2020), perceived neighbourhood quality can buffer against discrimination and issue of depression through socialising.

However, in reality not all neighbours share the same lifestyle as they may come from different backgrounds which further reduce the interactions and connection among neighbours (Wang et al., 2025). As homeowners usually prefer a neighbourhood of residents with the same demographic background such as nationalities, culture, race and religion (Lamsali et al., 2020), changes in neighbours demographic such as sudden influx of foreign workers will trigger discomfort (Sohaimi & Shuid, 2023). This is because residential mobility is a norm due to family life cycle (Fattah et al., 2020), job transition (Kull et al., 2016), changes in marital status (Li, 2004), coming of age (Chaulagain, 2025), housing size and distance to preferred location (Woo & Morrow-Jones, 2011), and dissatisfactions to existing neighbourhood (Fattah et al., 2020). Such changes in neighbourhood demographic may disturb the initial perceived fitting of lifestyle in the neighbourhood.

2.7.3.5 Environment and Perceived Lifestyle Fit

Environment has a great influence on people's lifestyles (Florindo et al., 2013). People with environmentally friendly lifestyle prefer to stay in housing with more natural features and less pollution (Karuppanan and Sivam, 2009 cited in Sivadasan et al., 2020). The same applies to homeowners who prioritise healthy lifestyle. Natural environment and green space can increase mental wellbeing through psychological restoration and stress reduction (Hartig et al., 2014 cited in Mouratidis, 2020). This is supported by Nieuwenhuijsen (2020) where green surrounding planted with trees mitigate air pollution, heat and noise pollution level which will ease the mind and promote better cognitive functioning through better mood, promoting a healthier lifestyle.

Staying in a natural, green and clean environment away from pollution would encourage people to interact with nature and increase physical activity such as walking with

family and friends (Florindo et al., 2013). Besides, exposure to natural physical environment was found to promote better sleep health where adults living in housing with access to green space or natural water features have a lower likelihood of insufficient sleep which leads to better physical and mental health (Billings et al., 2020).

Ironically, not everyone has the same definition and perception of natural environment. Although most people perceive natural environment as green and no pollution, some people may perceive nature as sign of poverty, dirty and even dangerous (Bradshaw et al., 2020). Nature lover's lifestyle is closely related to human-nature interactions (Bashan et al., 2021) while urban dwellers prioritise convenience and accessibilities due to busy lifestyle (Junker-Köhler et al., 2025).

In terms of housing, the major benefits of homeownership include maintaining privacy and control of home environment (Kwon et al., 2016). Home environment such as cleanliness, green environment and absence of noise and air pollution are important to house buyers (Harun et al., 2022; Lamsali et al., 2020). Individuals with strong homebody lifestyle prioritise home-based activities alone in quiet and peaceful environment rather than crowded and noisy surroundings (Wells & Tigert, 1971). However, this could be perceived as boring by urban lifestyle residents who prefer vibrant and energetic city lifestyle with bustling places, busy streets and recreational amenities (Mehta, 2024). Therefore, the following hypotheses were proposed.

H3: There is a positive relationship between property stimuli and perceived lifestyle fit.

H3a: There is a positive relationship between house features and perceived lifestyle fit.

H3b: There is a positive relationship between facilities and perceived lifestyle fit.

H3c: There is a positive relationship between security and perceived lifestyle fit.

H3d: There is a positive relationship between neighbourhood and perceived lifestyle fit.

H3e: There is a positive relationship between environment and perceived lifestyle fit.

2.7.4 Perceived Affordability and House Purchase Decision

According to Notani (1997), perceived affordability has direct influence on purchase intention. However, this relationship is less applied on inexpensive items that allow repeated purchase such as groceries. Therefore, the role of perceived affordability is more important on purchasing expensive product, such as house. Perceived affordability in owning a house means how much a family or individual is willing to sacrifice financially to pay for a house considering their incomes (Lennartz, 2017 cited in Rangaswamy et al., 2022).

House affordability depends on the house buyer's income level, whether they have enough savings to pay for downpayment and serve the monthly mortgage repayment (Azmi & Bujang, 2021; Hassan et al., 2022). In a study by Yaacob and Noor (2023), younger generation nowadays faces problems to owning a house due to the unaffordable housing market. Salaries of young adults nowadays especially those who just start their career are not coping up with the house price and inflation thus reduce their house affordability (Hassan et al., 2022). According to Leung and Mansor (2024), house affordability is on the decline, leading to difficulty in purchasing a house. Besides the capability to serve the monthly mortgage loan repayment, house buyers also need to make sure they have the capability to pay other house related fees such as property tax, assessment rate, utility fees, maintenance fees and others (Acolin, 2022; Anuar & Wahab, 2022; Azmi & Bujang, 2021; Rahman et al., 2021; Zuraimi et al., 2020).

Interestingly, having the ability or affording to purchase an expensive item alone does not necessarily lead to the purchasing action. One must have the intention on purchasing the item plus having the affordability to do so in order for the purchase to take place. In addition, the purchase intention will be stronger if the person like the product. Otherwise, if the person like the product but could not afford, he would not have strong intention to make the purchase. Nevertheless, purchase intention is only purely an internal and psychological phenomenon which does not reflect the actual purchase (Notani, 1997). For instance, although a house may be perceived as affordable, but the location is too far from workplace may be perceived as inconvenient thus reduce house buyers' purchasing intention (Adzhar et al., 2021).

In terms of investment, smart and rational investors will avoid making house purchase during real estate bubble period because the house price would rise dramatically then fell (Glaeser & Nathanson, 2015). During economy boom when most people have higher income, purchasing power is higher leading to higher perceived affordability and

people would purchase house for higher standard of living or as investments. Likewise, when income falls the purchasing power is reduced with other consumption expenses increases, house purchasing will be less important (Akintoye and Skitmore, 1994 cited in Rangaswamy et al., 2022). This implies that people with high perceived affordability are more likely to make house purchase and vice versa. Therefore, the following hypothesis was proposed.

H4: There is a positive relationship between perceived affordability and house purchase decision.

2.7.5 Subjective Knowledge and House Purchase Decision

Subjective knowledge can affect the quality of consumers' decision-making (Moorman et al., 2004). In terms of economy, the cost of obtaining full information for comparison among brands on a product far exceeds its benefit in decision-making even to the extent of expensive products such as car and house (Davies, 2017). Therefore, although there is difference between what people think they know and what they actually know (Hwang & Nam, 2021), house buyers may only depends on their subjective knowledge and assumption in making decisions. Limited subjective knowledge could induce the tendency to risk aversion (Kwon & Lee, 2011). For example, first time house buyers believed that their limited and poor financial management caused difficulty for them to make house purchase decision due to their low subjective knowledge (Khoo et al., 2022).

It is important for house buyers to have adequate knowledge while choosing a house for themselves (Ibem et al., 2015 cited in Hassan et al., 2021d). This is because when individuals under- or overestimate their subjective knowledge level, the gap of proper information may cause non-ideal or unsuitable purchase decision behaviour. The underestimated subjective knowledge may lead to low confidence, which escalate to anxiety and uncertainty in making purchase decision, further delaying or avoid to make the decision (Hwang & Nam, 2021). Unfortunately, information asymmetry in property market is common (Tseung et al., 2022 cited in Zuo et al., 2025) in addition to young adults lacking in experience and knowledge in property purchasing (Zyed et al., 2021).

Young adults who are lacking knowledge especially in financial management and house purchase process usually will have less interest in purchasing a house. Those who do not conduct deep research but just relying on subjective knowledge could end up underestimate the potential cost and burden of mortgage debt especially those who are

overconfident in their income and ability in repayment would result in higher risk of default (Zyed et al., 2021). In other words, people with perceived higher subjective knowledge are more likely purchase house. Therefore, the following hypothesis was proposed.

H5: There is a positive relationship between subjective knowledge and house purchase decision.

2.7.6 Perceived Lifestyle Fit and House Purchase Decision

Individuals would make choices that are perceived to align with life orientation to accept current lifestyles (Šabić et al., 2023). Likewise, when choosing or evaluating a product, consumers will consider whether the product fits their lifestyle. Many lifestyle characteristics were associated with young consumers' decision-making patterns (Kwan et al., 2008 cited in Wen & Huang, 2021). Lifestyle is also a strong factor influencing consumer's purchase behaviour as the products reflect their identities (Gutman, 1982 cited in Akkaya, 2021). Therefore, lifestyle and attitudes affect both decision making and consumer behaviour (Valaskova & Klieštik, 2015 cited in Okoro et al., 2021).

One way in expressing one's lifestyle is through what type of house he lives in (landed or high rise), how the house is furnished or even decision to own or rent a house (Jensen, 2007). One of the reasons for purchasing a house is to create living environments that enhance homeowner's quality of life (Saleem & Alchalabi, 2025). Bui and Nguyen (2023) found that lifestyle was one of the factors considered among young house buyers to purchase apartment with their growing preference for sophisticated and contemporary living. For them housing is a part of their lifestyle and no longer just a simple shelter (Azmi et al., 2022b). House buyers do not only purchase a house purely for staying. Instead, they are buying the lifestyle concept offering feel good factors by owning the particular house. They reflect their lifestyle through available facilities in housing such as higher tier security, sports facilities, better privacy, lush and greenery landscapes (Sarip & Lee, 2015).

Lifestyle is rapidly changing in a relatively short time towards becoming more luxurious and excessive (Zahra & Anoraga, 2021). For some individuals, owning a house is to achieve luxurious standard of living and status symbol. This is because quality of life affects the satisfaction of homeowners (Rangaswamy et al., 2022). Young adults nowadays are constantly connected on social media which exposed them to other people's luxurious lifestyle due to FOMO (Patial et al., 2024). Following the trend, many of them aim to have

the exciting vibrant lifestyle which drives them to stay in the city (Anuar & Wahab, 2022). Meanwhile for some wealthy people, high end properties are seen as luxury assets with potential to generate wealth effect (Rangaswamy et al., 2022).

However, not everyone has the financial affordability to own a house that is deemed fit to his personal lifestyle (Azmi & Bujang, 2021). The perceived fit lifestyle for an individual may also change in line with life cycle. For instance, a homebody lifestyle homeowner would be slowly replaced by family-oriented lifestyle once he gets married and have children (Nguyen et al., 2023). For rational house buyers that plan ahead, they prioritise more on other aspects than lifestyle as they would want to age in place when they get old (Ismail et al., 2024a). Meanwhile for investors, lifestyle is never a consideration when making house purchase decision because the house bought is for renting (Anuar & Wahab, 2022) or investment purpose (Hassan et al., 2021d).

Concept of lifestyle should be applied to predict consumer's residential needs (Michelson & Reed, 1970 cited in Zarrabi et al., 2022) because lifestyle is one of the cultural parameters in making a house as a home (Lawrence, 1987 cited in Zarrabi et al., 2022). Therefore, the following hypothesis was proposed.

H6: There is a positive relationship between perceived lifestyle fit and house purchase decision.

2.7.7 Mediating Effect of Perceived Affordability

In this study, perceived affordability was hypothesised to mediate the relationship between financing stimuli (which consisted of price, financing facilities and location) and house purchase decision.

When an individual was given the pricing information, he would consider his affordability of purchasing power and preference on an item before making decision to buy (Monroe, 2010). This is because even though the house buyers can apply loans from banks, the property price would affect household affordability where if the household debt is too high, it would affect the quality of life (Yap & Ng, 2018). This is supported by Will and Renz (2025) who found that commitment to housing loans negatively affects homeowner's life satisfaction. Besides, interest rate from loans would influence the overall monthly instalment payable by borrowers. Therefore, under the burden of reality, house buyers need to sacrifice their desired location and stay in farther but more affordable location (Yap & Ng, 2018).

In addition, Ismail et al. (2023b) found that affordability partially mediated the relationship between economic factors and home ownership, where the economic factors included house price, income and expenditure. Besides, relationship between home ownership and location under the environmental factor was also found to be fully mediated by affordability. Therefore, the following hypothesis was proposed.

H7: Perceived affordability mediates the relationship between financing stimuli and house purchase decision.

2.7.8 Mediating Effect of Subjective Knowledge

In this study, subjective knowledge was hypothesised to mediate the relationship between cognitive stimuli (which consisted of social influence, developer brand and superstitious belief) and house purchase decision.

Positive experience from peers largely influences on mortgage decisions when an individual subjectively perceived that the housing market is attractive (Kuchler & Stroebe, 2021). Likewise, when an individual was exposed to other people's mortgage strain through social networks, negative expectations were generated on housing market thus hindering participation (McCabe, 2018). The subjective perception and negative expectations in both scenarios were due to the existing subjective knowledge and experiences from the individual. This is because when social influence provides new information, the reliability of information is the main concern (Gupta et al., 2021) to determine whether it is trustable (Abuhalimeh et al., 2012). Reliability of information depends on individual's subjective knowledge and experiences for cognitive analysis (Shutaleva, 2023). Interestingly, Quevedo-Silva et al. (2025) found that consumers with high subjective knowledge do not prioritise social influence on their decision making in purchase intention.

Subjective knowledge also mediates the relationship between branding and purchase decision. A brand associates its product performance which could trigger brand preference, which would turn into brand knowledge and leave impression on consumer's subjective knowledge. (Duman, 2018). When a consumer is interested in a product, it will encourage information searching and thus further increase the subjective knowledge of product (Hwang & Nam, 2021). The subjective knowledge would then induce consumers to perceive they are knowledgeable in the product thus increasing engagement in brand through product purchasing, and eventually result in brand attachment (Duman, 2018). In property market,

well-known developer brands became an assurance to house buyers on house quality and punctual delivery because of the subjective knowledge on such assumption rooted in house buyers' mind (Yap et al., 2019).

In terms of superstitious belief, Block and Kramer (2009) found that consumers would purchase products with positive superstition associated to their assumed knowledge even though the purchase contradicted with economic principles. For example, a house with number eight is more expensive because of the subjective knowledge that number eight means auspicious and will bring good fortune (Kuo & Hsieh, 2026) even though there is no scientific causal relationship. Meanwhile, consumers who do not believe in superstition would make more rational choices (Block & Kramer, 2009). In other words, consumers would process the superstition entity whether it relates to their subjective knowledge before making purchase decision. Therefore, the following hypothesis was proposed.

H8: Subjective knowledge mediates the relationship between cognitive stimuli and house purchase decision.

2.7.9 Mediating Effect of Perceived Lifestyle Fit

In this study, perceived lifestyle fit was hypothesised to mediate the relationship between property stimuli (which consisted of house features, facilities, security, neighbourhood and environment) and house purchase decision.

House features such as size and number of rooms are one of the important factors in determining house purchase decision. Features such as bigger houses with many rooms may fit to the lifestyle of married couples with children due to more personal and common space (Nguyen et al., 2023) but do not fit to a single person's need (Daud et al., 2022). In fact, the space not utilised is a type of waste (Haykal, 2017) because a large house requires higher maintenance cost (Milwicz & Nowotarski, 2015).

Likewise, facilities could be attractive to residents with active lifestyle who fully utilise the facilities such as swimming pool and gym room (Nguyen et al., 2023). This is because staying in a housing that provides such facilities saves the travel time and club membership cost (Shamsudin et al., 2017). However, residents with busy lifestyle do not have time to use the facilities (Nguyen et al., 2023) thus such facilities do not play a role in influencing them to purchase the property.

Security is one of the most important factors in determining house purchase decision as it involves the residents' safety from burglaries and crimes (Adnan et al., 2023). However, better security features such as gated and guarded housing usually require higher monthly management fees because of the extra service (Shamsudin et al., 2017) thus living in a gated and guarded community is perceived as a symbol of wealth, luxury lifestyle and upper-class group (Sarip & Lee, 2015). Besides, busy lifestyle residents who always rely on food delivery may find the guarded community a nuisance as it requires the resident to confirm the delivery order with security guards for every delivery made (Chompunic et al., 2023).

A reputable neighbourhood with good surroundings and strong community would attract house buyers (Ali & Chua, 2023). Perceived living conditions were found to mediate the relationship between social relations among neighbours and overall housing satisfaction (Erdogan et al., 2020). This is because some people prefer to live in a prestige neighbourhood that is perceived fit to their social class (Lee & Srirangam, 2023) with similar lifestyle (Wang et al., 2025).

The environment of a house such as cleanliness and the surrounding would determine the house buyer's purchase decision because nobody would like to live in a polluted environment (Harun et al., 2022). Specifically for environmental-friendly lifestyle residents, they would prefer their house in green environment with fresh air (Karuppanan and Sivam, 2009 cited in Sivadasan et al., 2020). In contrast, residents who prefer urban lifestyle would not be persuaded to purchase houses with green lifestyle features because it was considered boring and far from city (Mehta, 2024).

Although a property may have attractive features such as modern design, gym and swimming pool facilities, gated and guarded, close community and conducive environment, such property stimuli is not enough for a house buyer to make the purchase if the attractions do not fit to his lifestyle. In other words, property features are only mere physical attributes until the buyer perceives that the house fit between those features and their desired way of life. This makes perceived lifestyle fit as an important mediator variable in the house purchase decision. Therefore, the following hypothesis was proposed.

H9: Perceived lifestyle fit mediates the relationship between property stimuli and house purchase decision.

2.7.10 Summary of Hypotheses

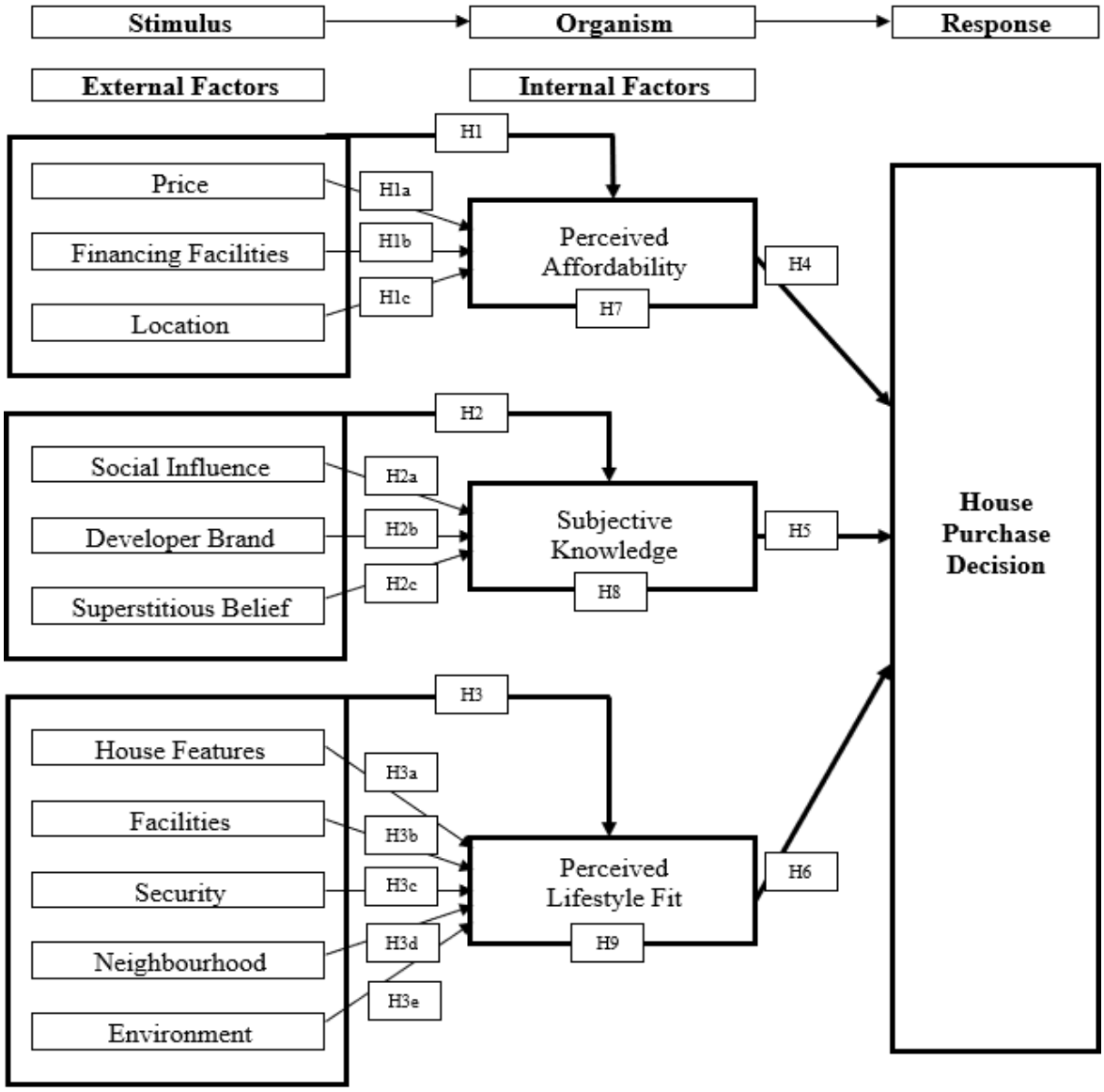
A total of 9 hypotheses were developed for this study as shown in Table 2-2.

Table 2-2:
Summary of Hypotheses

	Hypotheses
H1	There is a negative relationship between financing stimuli and perceived affordability.
H2	There is a positive relationship between cognitive stimuli and subjective knowledge.
H3	There is a positive relationship between property stimuli and perceived lifestyle fit.
H4	There is a positive relationship between perceived affordability and house purchase decision.
H5	There is a positive relationship between subjective knowledge and house purchase decision.
H6	There is a positive relationship between perceived lifestyle fit and house purchase decision.
H7	Perceived affordability mediates the relationship between financing stimuli and house purchase decision.
H8	Subjective knowledge mediates the relationship between cognitive stimuli and house purchase decision.
H9	Perceived lifestyle fit mediates the relationship between property stimuli and house purchase decision.

A model was proposed for the above hypotheses as shown in Figure 2-4.

Figure 2-4:
Conceptual Framework with Hypotheses



2.8 Chapter Summary

In this chapter, the past literature related to the topic of this study on both young adults and house homeownership has been discussed. The variables were discussed thoroughly from the aspect of past literature. Meanwhile, the underpinning theory, S-O-R framework was also discussed on its relation to this study. From the literature review, the conceptual framework was developed. By understanding the relation between variables categorised under stimulus, organism and response, 9 hypotheses were proposed. In the next chapter, the methodology that will be used in conducting this study will be discussed which

include the research design, population, sampling size, sampling method, instrument development, data collection and data analysis.

CHAPTER 3:

RESEARCH METHODOLOGY

3.1 Introduction

This chapter present how the methodology of this study was performed. This included the type of research design used, target population, sample size and how sampling procedures took place, how the instrument was developed, process of data collection and data analysis.

3.2 Research Design

According to Hair et al. (2020), a research design provides the basic directions for carrying out a project. Descriptive research is designed to obtain data that describes the characteristics of topic of interest in the research. In descriptive research, hypothesis derived from theory serves to guide the research process. Descriptive research designs are usually structured and designed to measure the characteristics described in research questions. In descriptive studies, data collection involves structured process such as questionnaire with structured questions containing specific items that require respondents to select from a fixed number of choices. Data collected are then used to test the hypotheses of research. Descriptive studies can be conducted as either cross-sectional or longitudinal.

This study is a descriptive research to measure the factors influencing house purchase decision among young adults in Sabah. In order to get the representative of young adults in Sabah, this study opted for quantitative design through survey method. This was a cross sectional study and conducted in a non-contrived setting which means it is not done under laboratory-controlled environment.

3.3 Research Approach

This study utilised quantitative research method because quantitative study is a more structured data collection technique where all questions are fixed and answers were also provided to be chosen by respondents. In contrast, qualitative method utilises semi-structure or unstructured questions where there is no fixed answer from respondents. Quantitative data gathered is usually in number form to directly represent the characteristics of point of study. Meanwhile, qualitative method encourages respondent to provide answers freely and subjectively that could lead to different perception by researcher. Therefore, quantitative method provides more objective ratings rather than subjective perception in qualitative method. Besides, quantitative research can achieve higher representative through large samples comparing to qualitative research due to the process of data collection method (Hair et al., 2020). When higher representative is achieved, the result of study is more relevant and applicable to the population.

The objectives of this study require primary data collection because the information is not available from secondary data. Therefore, the primary data for this study was gathered through self-completion survey that was filled in by respondents themselves.

3.4 Data Collection

The data collection of this study involved a few processes including planning the strategy and approach, obtaining the population, calculating the sample size, choosing the sampling method and unit of analysis, preparing the instrument questionnaire and segregating the data collection phases.

3.4.1 Data Collection Strategy

The time horizon of this study was cross-sectional where data were collected at one point in time (Creswell & Creswell, 2018) to obtain the latest trend of young adults' opinion on house purchase decision.

3.4.2 Data Collection Approach

This study used survey method to collect responses from young adults aged between 20 to 40 years old who are residing in Kota Kinabalu, Sandakan and Tawau. To obtain

feedback from large samples of individuals, survey method was the best approach (Hair et al., 2020). Survey design also helps in answering the relationships between variables (Creswell & Creswell, 2018), which is suitable for this study. Survey also enables respondents to be aware that their information was being collected (Hair et al., 2020). The survey approach was online data collection through questionnaire as instrument using Google forms. Respondents answered the survey through self-completion methods (Hair et al., 2020). Google forms are selected because of cost effective, real-time responses and convenience for respondents.

3.4.3 Population and Sampling

The population of study was obtained first, followed up by calculating the sample size.

3.4.3.1 Population

The population of this study was among the young adults aged in between 20 to 40 years old who are residing in Kota Kinabalu, Sandakan and Tawau. The information of population obtained from Department of Statistics Malaysia (DOSM) was from age 20 to 39 years old as shown in Table 3-1.

Table 3-1:
Population Within Age Range from 20 to 39 Years Old in Kota Kinabalu, Sandakan and Tawau for Year 2024

Age	Population		
	Kota Kinabalu	Sandakan	Tawau
20 – 24	55,900	57,600	46,900
25 – 29	54,500	57,800	48,100
30 – 34	50,300	46,700	39,800
35 – 39	45,700	41,200	34,500
Total	206,400	203,300	169,300
Grand Total		**579,000**	

Source: DOSM (2024b)

According to DOSM (2024b), the total population of young adults aged between 20 to 39 years old in Kota Kinabalu, Sandakan and Tawau are 579,000 people. Sampling frame from the target population is not available as the name list, permanent address and contact number registered with National Registration Department are considered privacy data and

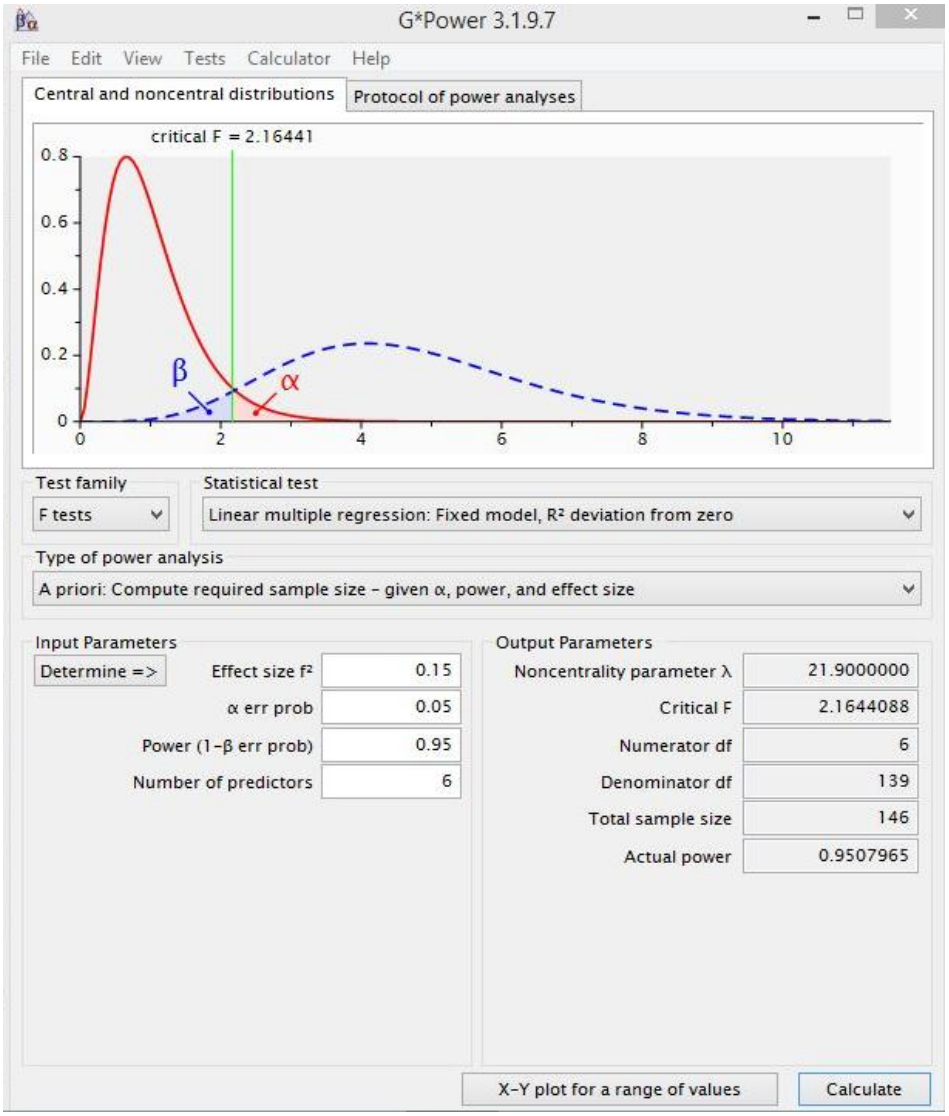
thus is confidential. Besides, the list from National Registration Department may not be updated regularly as people from Kota Kinabalu, Sandakan and Tawau may have moved to other places for work and study. Vice versa, people from other districts may have move in and reside in Kota Kinabalu, Sandakan and Tawau for work and study purposes. Therefore, non-probability sampling method was utilised since there was no sampling frame available for the population of this study.

3.4.3.2 Sampling Size

Sampling allows researchers to select representation of relevant participants rather than interacting with the whole population which to some extent is non achievable (Nyimbili & Nyimbili, 2024). Adequate and suitable sample size is crucial because if the sample size is too small it could cause random variations while if the sample size is too large it will become statistically significant (Kang, 2021). The sample-to-variable ratio suggests a minimum observation-to-variable ratio of 5:1 (Hair et al., 2019). In this study there are 15 variables, therefore the minimum sample size should be five times the independent variables which comes to a minimum sample size of 75.

According to Memon et al. (2020), there have been recommendations to use power analysis to calculate sample size by Hair et al. (2017). Calculation using G*Power is easy to use for various statistical methods and has interesting graphical user interface (Kang, 2021). The G*Power setting is referred to Memon et al. (2020). First, the test family is selected to 'F tests'. Secondly, the statistical test is selected to 'Linear multiple regression: fixed model, R^2 deviation from zero'. Next, the type of power analysis is to remain 'A-priori: Compute required sample size – given α, power and effect size'. After that, at the input parameters, the effect size f^2 is to remain 0.15 (medium effect) while α err prob also to remain at 0.05. Although the recommended power (1 – β err prob) setting is 0.80 by Memon et al. (2020), this study will use power value of 0.95 with only 0.05 error probability to reduce the error probability. Next for the number of predictors, number 14 is entered as the maximum arrows pointing to dependent variable in this study's conceptual framework. The final step is to click on calculate, and the G*Power software estimated minimum sample size for this study is 194. The G*Power result is shown in Figure 3-1.

Figure 3-1:
G*Power Calculation



In ensuring the sample size represented the population, Krejcie and Morgan (1970) table will be referred as well besides G*Power software calculation. Krejcie and Morgan (1970) formula is as follow:

$$s = \frac{X^2 NP(1-P)}{d^2(N-1) + X^2 P(1-P)}$$

Whereby,

s = required sample.

X^2 = the table value of chi-square for 1 degree of freedom at desired confidence level (3.841).

N = the population size.

P = the population proportion (assumed to be .50 since this would provide the maximum sample size).

d = the degree of accuracy expressed as a proportion (.05).

The population of this study is 579,000 people and the calculation of sample size is as follow:

$$s = \frac{(3.841)x579{,}000x0.50(1-0.50)}{0.05^2(579{,}000-1)+(3.841)0.50(1-0.50)}$$

$$s = \frac{555{,}984.75}{1{,}448.45775}$$

s = 383.846

$s \approx 384$

According to Krejcie and Morgan (1970) calculation, the minimum sample size for a population above 579,000 is 384 samples with confidence level at 95%. The comparison of suggested minimum sample size from Krejcie and Morgan (1970), G*Power software and sample-to-variable ratio are compared as shown in Table 3-2.

Table 3-2:
Comparison of Suggested Minimum Sample Size

	Krejcie & Morgan (1970)	G*Power Software	Sample-to-variable Ratio (Hair et al., 2019)
Suggested minimum sample size	384	146	75

This study chosen a minimum sample size of 384 as suggested by the calculation from Krejcie and Morgan (1970) to ensure the statistical significance confident in population representation as higher sample size will provide higher accuracy (Creswell & Creswell, 2018).

3.4.3.3 Sampling Method

In this study, convenience sampling and snowball sampling methods were chosen because of a few reasons. First, the sampling frame of population is unavailable therefore there is no specific list of respondents for this study. Secondly, convenience sampling

allowed researchers to approach the most readily available targeted respondents who are known to fulfil the criteria of age and residing districts. This convenience enables researchers to contact many respondents quickly and cost-effectively (Hair et al., 2020). However, convenience sampling would only reach members in the population who are conveniently available (Sekaran & Bougie, 2019). The number of samples from convenience sampling may not be enough for minimum sample size because they are limited to only those who are in the reachable range. Therefore, snowball sampling method was also utilised to enlarge the sample size. Snowball sampling method used the initial respondent's help to identify the other respondents in target population through referral (Hair et al., 2020). The 'snowball' would gather the relevant subjects as it rolls along (Schindler, 2021). In this study, respondents contacted through both convenience and snowball sampling were asked to forward the questionnaire to other people who were the target population in terms of age and residing districts.

Although both convenience sampling methods provided convenience, ease, speed and low cost, but it suffered from selection bias because the people answering questionnaire may not be in the target population (Hair et al., 2020). Besides, there are no statistical methods for measuring sampling error for a non-probability sample in snowball sampling method. Therefore, the findings cannot be generalised to the target population with any measured degree of confidence (Hair et al., 2020).

3.4.4 Unit of Analysis

The target population were identified among young adults within the age of 20 to 40 years old residing in the three selected main cities in Sabah, namely Kota Kinabalu, Sandakan and Tawau. The unit analysis of study is individuals because the target respondents are young adults who is unique thus will represent their own opinions on house purchase decision.

3.4.5 Data Collection Instrument Questionnaire

This study utilised survey design through questionnaire as way to retrieve opinions from respondents as primary data. Survey design assist in answering the relationships between variables (Creswell & Creswell, 2018). The survey questionnaire of this study were constructed from adapting questionnaires from multiple validated sources that is deemed

relevant to the constructs used in this study referring to house purchasing studies. The complete questionnaire was shown in Appendix 1.

The questionnaire consists of two sections. Section A was designed to collect respondent's basic demographic information such as age, gender, citizenship, ethnicity, highest education qualification, marital status, number of children, monthly household income, residing location, homeownership status and future house purchase intention. The answer selections of Section A were provided, and respondent can choose from various choices. If the answer selection did not represent respondent's intended answer, there is an 'other' selection where respondent can fill in the blank with their desired answers.

In Section B, the questionnaire focused on the 15 variables categorised under external factors, internal factors and house purchase decision. Respondents were asked to rate their agreement or disagreement on each question. The rating scale followed the original researcher's usage of rating scale, where all questionnaires used Likert scale 5-point (1 – Strongly Disagree, 2- Disagree, 3 - Neither Agree or Disagree, 4 – Agree, 5 – Strongly Agree). The measurement of items, constructs and source of references were shown in Table 3-3.

Table 3-3:
Constructs, Items and Sources of Reference for Questionnaire

Dimension	Definition of Variable		Description	Adapted Sources
Price	Price is defined as a range or quality of goods during a sale of product that were agreed by both selling and buying parties (Fahri, 2024).	1	House price offered in market is an important factor to consider when purchasing a house.	Zulkifli & Ismail (2023)
		2	House price offered in my desired location is expensive.	
		3	Price of houses is increasing every year.	Zuraimi et al. (2020)
		4	Price of houses nowadays are very expensive.	
		5	Taxes of house are costly.	Ghumare et al. (2020)
Financing Facilities	Financing facility is a contract between a customer (borrower) and creditor (lender) which the customer agrees to tie to obligations in paying back the creditor (Muneem et al., 2020).	1	Interest rate of mortgage loan is important as it affects the overall loan amount.	Chia et al. (2016)
		2	Mortgage loan tenure is an important factor considering my retirement age.	
		3	Mortgage loan processing fee is important because it involves additional expenses.	
		4	Monthly mortgage loan repayment amount is an important factor as it affects my monthly household expenses.	

Table 3-3 continued

		5	I would only consider purchasing a house if I am able to secure a mortgage loan.	
Location	Location is a particular geographic location that is highly accessible and able to modify as per needs (Mariadas et al., 2019 cited in Asrar et al., 2024).	1	I prefer a house close to my workplace.	Asrar et al. (2024)
		2	I prefer a house close to school (e.g. for my children or investment purpose).	
		3	I prefer a house close to shopping mall/shops.	
		4	I prefer a house close to city centre/Central Business District (CBD).	
		5	I prefer a house close to health facilities (e.g. hospital and clinic).	
Social Influence	Social influence is a measure on how someone is affected by other people in terms of feelings, actions and thoughts either directly or indirectly (Smailovic et al., 2014).	1	I ask opinions and experience from my parents or other elders regarding house purchasing.	Hidayati et al. (2023)
		2	I discuss my house purchase plan with my spouse/partner or someone I am especially close to.	
		3	I ask opinions and experience on house purchasing from my social networks (friends or colleague).	
		4	I look for house purchase comments and experience sharing from social media postings (Facebook, Instagram, etc).	
		5	I ask opinion from property agents regarding house purchase process.	Kaya et al. (2020)
Developer Brand	A brand refers to a name, term, sign, symbol, or design, or a combination of them that intend to distinguish the product or service from a specific seller from other competitors (Dace, 2024).	1	Well-known developers produce higher-quality houses, thus are more expensive.	Yap et al. (2019)
		2	Not all developers produce properties of the same quality.	
		3	I am willing to pay a higher price for purchasing house from well-known developer.	
		4	Well-known developers provide a better quality-assurance.	
		5	I prefer to purchase house from well-known developer.	
Superstitious Belief	Superstitious belief is defined as beliefs that do not conform with scientific explanation (Peterson, 1978 cited in Chukkali & Dey, 2020) that reflect psychological biases involving astrology and magic (Vyse, 2013 cited in Teklay et al., 2024).	1	I avoid houses rumoured with ghost or haunted.	Chia et al. (2016)
		2	I avoid houses built on old sites of hospitals or religious locations.	Hassan et al. (2023)
		3	I avoid houses with views considered unfavourable due to cultural or personal beliefs (e.g. cemeteries or hospital).	
		4	I avoid unfavourable direction of house according to certain religious belief.	
		5	I avoid house number 4 and prefer number 3 and 8.	
House Features	House features are the structural component of housing including quality of construction materials	1	I prefer a specific suitable housing type (e.g. terrace, semi-detached, bungalow, apartment, flat) that caters to my family needs.	Ismail et al. (2021)

Table 3-3 continued

	used and physical features such as house type, design, size, number of living rooms, bedrooms, toilets, wall fence and gate which could highly affect the overall house value (Musa & Yusoff, 2017).	2	I prefer the house size that can meet my family's needs.	
		3	I prefer the house with enough bedrooms to fulfil my family's needs.	
		4	I prefer a house built with quality materials.	
		5	I prefer a house's layout design that is comfortable to me.	
Facilities	Facilities are the physical basis that enable the function of a housing that include provision of drinking water, garbage disposal, electricity, telephones and roads (Gustin et al., 2023).	1	I prefer to have recreational park in my housing area.	Hidayati et al. (2023)
		2	Every house should have access to stable supply of water and electricity.	
		3	I prefer to have sport facilities (e.g. gym, swimming pool) in my housing area.	Azmi & Bujang (2021)
		4	I prefer to have public transportation nearby my housing area.	Zhang & Yan (2023)
		5	I prefer to have adequate parking bay at my housing area.	
Security	Security is generally defined as free from danger and in safe or undisturbed condition (Hayes, 2023).	1	Housing area with low crime rate is safe.	Zamri et al. (2022)
		2	High security and protection system (i.e. CCTV) can reduce housing crime rate.	
		3	I prefer gated and guarded housing.	
		4	Having security guards patrolling in housing area is safer.	Kaya et al. (2020)
		5	I prefer to stay in a safe housing area.	Ismail et al. (2021)
Neighbourhood	Neighbourhood is defined as the area surrounding homes or residents living in the housing area (Sengupta, 2024).	1	Demographic profiles of my neighbours are important.	Lamsali et al. (2020)
		2	Social status/prestige of my neighbourhood is important.	
		3	I prefer harmonious social relationship among my neighbours.	Rahadi et al. (2022)
		4	I prefer having neighbours from the same races.	Zamri et al. (2022)
		5	I prefer to stay in a neighbourhood that suits my preference.	
Environment	Environment of a housing area refers to the interaction between human and nature (Hassan et al., 2021d).	1	I prefer beautiful housing environment and clean surrounding.	Hidayati et al. (2023)
		2	I avoid living in flood-prone area.	
		3	I prefer pleasant landscaping in my housing area.	Azman et al. (2024)
		4	I avoid living in polluted area.	Chia et al. (2016)
		5	I avoid living nearby heavy traffic area.	
Perceived Affordability	Perceived affordability is a psychological manifestation of an economic variable whether the individual is capable of spending (Notani, 1997).	1	I do not have any trouble saving money for downpayment for a house I intend to purchase.	Zuraimi et al. (2020)
		2	I believe I can afford to purchase a house with my income.	
		3	I believe I can afford to purchase a house in my desired location.	

Table 3-3 continued

		4	I believe I can afford to pay the monthly mortgage repayment.	Azman et al. (2024)
		5	I believe I can afford to purchase a house despite high cost of living.	
Subjective Knowledge	Subjective knowledge means the way we perceive the world and how we construct knowledge (Zins, 2004) based on the external information received and direct experience by individuals (Hwang & Nam, 2021).	1	I prefer to undergo the house purchase process on my own rather than hiring an agent to help me.	Zuraimi et al. (2020)
		2	I am aware on how the process of buying a house goes.	
		3	I know that properties information is available online.	
		4	I know about the mortgage loan process.	
		5	I know how to compare the price value of house (e.g. location, facilities, environment etc).	
Perceived Lifestyle Fit	Perceived lifestyle fit is an individual perception on quality of life through the context of preferred lifestyle that is deemed fit (Šabić et al., 2023).	1	I prefer a house that offers lifestyle-enhancing features such as a clubhouse for recreational activities.	Rahadi et al. (2022)
		2	I prefer a house that can provide privacy to me.	
		3	I prefer a fully furnished house for my convenience.	
		4	I prefer a house that suits my lifestyle.	
		5	I rather buy a car than a house.	
House Purchase Decision	A housing purchase decision is a conclusion drawn after understanding the purpose to purchase a house and measure the related factors (Thaker & Sakaran, 2016 cited in Hassan et al., 2021d).	1	I purchase a house to fit my basic needs.	Zuraimi et al. (2020)
		2	I only consider purchase a house that is suitable with my preference.	
		3	I purchase a house to meet my long-term needs.	Hidayati et al. (2023)
		4	I purchase a house for investment purpose.	
		5	I only consider purchasing a house that offers overall satisfaction.	Kurniawan et al. (2020)

3.4.6 Data Collection Phase

There are three stages in data collection which are pre-test, pilot test and actual data collection.

3.4.6.1 Pre-Test

In ensuring the questionnaire can be understood by respondents, a pre-test was conducted. Volunteers were selected to have similar backgrounds with respondent in terms of age from 20 to 40 years old. A pre-test was conducted to ensure correct wording and

sequence of questionnaires. Motive of conducting the pre-test is to ensure respondents understand the questions and there is clear instruction of the questionnaire. In addition, a pre-test can determine if there is a need for extra questions or remove any existing irrelevant questions (Memon et al., 2017).

According to Memon et al. (2017), no fixed rule has been determined for pre-test sample size, but it is better to accommodate the questionnaire's need in terms of length and difficulty. Willis (2005) recommended sample sizes between 5 and 15 for a large-scale survey pre-test. Therefore, the pre-test of questionnaire in this study have selected 6 participants from the age ranged between 20 to 40 years old. Purpose of pre-test and clear instructions were given to participants before the pre-test. Respondents were asked to provide feedback on their understanding on questions and any improvements needed. Responses received are shown in Table 3-4.

Table 3-4:
Responses Received from Pre-Test

Code	Original Questions	R1	R2	R3	R4	R5	R6	Amended Questions
P4	Price range of houses nowadays are very expensive.	-	-	-	Prices better than price range.	-	-	Price of houses nowadays are very expensive.
L2	I prefer a house close to school.	-	-	-	Children's school, a general school or personal education need?	-	-	I prefer a house close to school (e.g. for my children or investment purpose).
L5	I prefer a house close to health facilities.	-	-	-	What type of health facilities?	-	-	I prefer a house close to health facilities (e.g. hospital and clinic).
SI3	I ask opinions and experience on house purchasing from my social networks.	-	-	-	-	Example of social networks?	-	I ask opinions and experience on house purchasing from my social networks (friends or colleague).
SI4	I look for house purchase comments and experience sharing from	-	-	-	-	Example of social media?	-	I look for house purchase comments and experience sharing from

Table 3-4 continued

	social media postings.							social media postings (Facebook, Instagram, etc).
DB5	I only purchase house from well-known developer.	-	-	-	Too strong.	-	-	I prefer to purchase house from well-known developer.
SB1	I avoid houses rumoured with ghost.	-	-	-	Haunted house.	-	-	I avoid houses rumoured with ghost or haunted.
SB3	I avoid houses with the views of cemeteries, hospital or those facing curved highway that resembles a sickle.	-	-	-	I avoid houses with views considered unfavourable due to cultural or personal beliefs.	-	-	I avoid houses with views considered unfavourable due to cultural or personal beliefs (e.g. cemeteries or hospital).
SB4	I avoid unfavourable direction of house according to certain belief (such as feng shui or other religious belief).	-	-	-	Too focused on certain religion.	-	-	I avoid unfavourable direction of house according to certain religious belief.
F1	I prefer to have parks in my housing area.	-	-	-	-	Parks and car parks confusing.	-	I prefer to have recreational park in my housing area.
F2	Every house should have sufficient access to water and electricity.	-	-	-	-	Sufficient or stable?	-	Every house should have access to stable supply of water and electricity.
F5	I prefer to have parking bay at my housing area.	-	-	-	Adequate parking.	Adequate parking.	-	I prefer to have adequate parking bay at my housing area.
S4	Having private housing security is safer and more secured.	-	-	-	Private guards or personal security systems?	Private?	-	Having housing security guards patrolling in housing area is safer.

Table 3-4 continued

N5	I prefer a house with suitable neighbourhood.	-	-	-	Meaning of suitable neighbourhood ?	Meaning of suitable neighbourhood ?	-	I prefer to stay in a neighbourhood that suits my preference.
E2	I avoid living in flood-area.	-	-	-	Flood-prone area.	-	-	I avoid living in flood-prone area.
PA3	I afford to purchase house in urban areas.	-	-	-	-	Not necessarily in urban.	-	I can afford to purchase house in my desired location.

3.4.6.2 Pilot-Test

Pilot test is a mini version of a full-scale study. It is a crucial element of a good research design because it enables researcher to know in advance the potential issues including the appropriateness of instrument and protocols (Teijlingen & Hundley, 2002). Conducting pilot test can increase the likelihood of success for the main study because a trial was run, and researcher have experience and could amend the issues before running the actual data collection process.

According to Teijlingen and Hundley (2002), reasons for administering pilot tests include testing adequacy of research instruments, assessment of the feasibility of a full-scale survey, assessing whether the research protocol is realistic and workable, revealing logistics issues, collecting preliminary data and ensuring whether the sampling technique is effective.

Coefficient alpha is calculated to check the internal consistency reliability of the measure. Usually, 30 samples are enough to ensure the mean of any samples from the target population to be approximately equal to the population. Therefore, sample size of 30 individuals is efficient for pilot test (Memon et al., 2017).

Thus, the pilot-test of this study selected 40 respondents who fulfilled the criteria of age (20 to 40 years old) and residing in Kota Kinabalu, Sandakan and Tawau. The list of pilot test respondents selected were contacts who were known personally to researcher. Pilot test respondents were contacted through Whatsapp and explained on the purpose of pilot test. Respondents were then asked to answer questionnaires honestly and were reminded to only answer once.

For pilot test, reliability and validity were tested. The first reliability test was internal consistency reliability. Based on the result of Cronbach's alpha for pilot test, the questionnaire items were proved as reliable as shown in Table 3-5 where all values exceeded 0.7 (Hair et al., 2020).

Table 3-5:
Cronbach's Alpha Result from Pilot Test

Variable	Cronbach's Alpha
Price	0.913
Financing Facilities	0.966
Location	0.892
Social Influence	0.916
Developer Brand	0.888
Superstitious Belief	0.883
House Features	0.974
Facilities	0.939
Security	0.962
Neighbourhood	0.898
Environment	0.963
Perceived Affordability	0.946
Subjective Knowledge	0857
Perceived Lifestyle Fit	0.796
House Purchase Decision	0.861

As for indicator reliability test, the result of outer loadings was shown in Table 3-6. All the factor loading readings exceeding 0.7 in Table 3-6 were acceptable (Hair et al., 2020). Items of L3 (0.613) under Location, DB2 (0.685) under Developer Brand, SK1 (0.640) under Subjective Knowledge and PLF1 under Perceived Lifestyle Fit were still acceptable as their AVE scores greater than 0.6 (Byrne, 2016). Besides, the convergent validity result of pilot test was acceptable as all AVE readings exceeded 0.50 as shown in Table 3-6 (Ramayah et al., 2018).

Table 3-6:
Factor Loading and AVE Result from Pilot Test

Variable	Code	Factor Loading	AVE
Price	P1	0.767	0.740
	P2	0.854	
	P3	0.933	
	P4	0.929	
	P5	0.806	

Table 3-6 continued

Financing Facilities	FF1	0.975	0.873
	FF2	0.951	
	FF3	0.894	
	FF4	0.954	
	FF5	0.894	
Location	L1	0.893	0.672
	L2	0.826	
	L3	0.613	
	L4	0.850	
	L5	0.881	
Social Influence	SI1	0.913	0.746
	SI2	0.779	
	SI3	0.789	
	SI4	0.880	
	SI5	0.943	
Developer Brand	DB1	0.871	0.694
	DB2	0.685	
	DB3	0.861	
	DB4	0.875	
	DB5	0.858	
Superstitious Belief	SB1	0.752	0.669
	SB2	0.881	
	SB3	0.839	
	SB4	0.795	
	SB5	0.861	
House Features	HF1	0.957	0.905
	HF2	0.986	
	HF3	0.916	
	HF4	0.926	
	HF5	0.970	
Facilities	F1	0.938	0.804
	F2	0.896	
	F3	0.810	
	F4	0.893	
	F5	0.941	
Security	S1	0.916	0.869
	S2	0.934	
	S3	0.954	
	S4	0.931	
	S5	0.924	
Neighbourhood	N1	0.865	0.706
	N2	0.849	
	N3	0.854	
	N4	0.760	

Table 3-6 continued

	N5	0.867	
Environment	E1	0.952	0.871
	E2	0.904	
	E3	0.943	
	E4	0.960	
	E5	0.905	
Perceived Affordability	PA1	0.815	0.818
	PA2	0.935	
	PA3	0.929	
	PA4	0.953	
	PA5	0.883	
Subjective Knowledge	SK1	0.640	0.643
	SK2	0.801	
	SK3	0.847	
	SK4	0.851	
	SK5	0.851	
Perceived Lifestyle Fit	PLF1	0.662	0.657
	PLF2	0.895	
	PLF3	0.732	
	PLF4	0.923	
	PLF5	0.693	
House Purchase Decision	HPD1	0.841	0.652
	HPD2	0.806	
	HPD3	0.901	
	HPD4	0.559	
	HPD5	0.881	

The discriminant validity in this pilot test referred to two results, Fornell & Larcker's criterion and HTMT Criterion as shown in Table 3-7 and Table 3-8. The square root of each construct's average variance extracted (AVE) is higher than the correlation with other constructs in Fornell & Larcker's criterion while all inter-construct HTMT values were below the 0.90 threshold recommended for social science research (Hair et al., 2021). Both results indicated acceptable discriminant validity among constructs in the pilot test.

Table 3-7:
Fornell and Larcker's Criterion Result from Pilot Test

	PA	DB	E	F	FF	HF	HPD	SK	PLF	L	N	P	S	SB	SI
PA	0.90														
DB	0.39	0.83													
E	0.18	0.67	0.93												
F	0.30	0.71	0.72	0.89											
FF	0.17	0.41	0.61	0.45	0.93										
HF	0.13	0.64	0.78	0.83	0.63	0.95									
HPD	0.28	0.60	0.67	0.68	0.69	0.74	0.80								
SK	0.27	0.51	0.40	0.32	0.52	0.34	0.57	0.80							
PLF	0.33	0.65	0.63	0.61	0.58	0.66	0.64	0.58	0.81						
L	0.28	0.79	0.68	0.80	0.47	0.79	0.65	0.38	0.62	0.82					
N	0.20	0.78	0.69	0.81	0.47	0.80	0.65	0.37	0.66	0.76	0.83				
P	0.21	0.67	0.73	0.70	0.61	0.73	0.69	0.35	0.68	0.69	0.68	0.86			
S	0.17	0.63	0.76	0.75	0.42	0.77	0.51	0.19	0.52	0.69	0.68	0.67	0.93		
SB	0.39	0.55	0.36	0.29	0.29	0.36	0.36	0.41	0.28	0.40	0.45	0.34	0.32	0.81	
SI	0.07	0.60	0.58	0.57	0.65	0.62	0.78	0.65	0.67	0.63	0.66	0.66	0.43	0.34	0.86

Table 3-8:
HTMT Matrix Result from Pilot Test

	PA	DB	E	F	FF	HF	HPD	SK	PLF	L	N	P	S	SB	SI
PA															
DB	0.40														
E	0.18	0.73													
F	0.31	0.78	0.74												
FF	0.16	0.42	0.60	0.45											
HF	0.13	0.69	0.80	0.87	0.64										
HPD	0.28	0.69	0.70	0.71	0.71	0.76									
SK	0.29	0.58	0.43	0.35	0.54	0.37	0.66								
PLF	0.45	0.79	0.63	0.66	0.54	0.66	0.68	0.68							
L	0.24	0.88	0.74	0.85	0.46	0.84	0.77	0.43	0.70						
N	0.21	0.86	0.70	0.85	0.46	0.81	0.71	0.40	0.68	0.82					
P	0.18	0.74	0.78	0.73	0.62	0.75	0.74	0.39	0.71	0.73	0.71				
S	0.15	0.68	0.79	0.78	0.42	0.80	0.53	0.22	0.53	0.73	0.69	0.70			
SB	0.41	0.60	0.36	0.31	0.26	0.36	0.39	0.41	0.38	0.44	0.51	0.33	0.35		
SI	0.15	0.63	0.60	0.60	0.68	0.64	0.86	0.68	0.69	0.74	0.70	0.70	0.44	0.32	

3.4.6.3 Actual Data Collection

After conducting pre-test and pilot test to validate the instrument and identify potential issues during data collection, improvements found were applied to the actual data collection process.

To collect data from Kota Kinabalu, Sandakan and Tawau, the distribution of survey was done via Whatsapp. The questionnaire was designed using Google form because online platform provides convenience to respondent. Google form can be easily assessed using smartphone where smartphone has become a daily necessity for young adults (Osailan, 2021). Each response received was carefully examined to exclude non targeted respondents.

As calculated using formula by Krejcie and Morgan (1970), a minimum sample size of 384 must be collected for this study.

3.5 Data Analysis

The data analysis of this study was conducted using Smart PLS 4.0 software for Partial Least Squares-Structural Equation Modelling (PLS-SEM). Smart PLS software is designed for high usability and user-friendly to support beginners and experts which include additional algorithm such as bootstrapping (Memon et al., 2021). PLS has been increasingly utilised in many marketing research (Hair et al., 2011). The data analysis started with preliminary analysis, then followed by descriptive statistics, measurement model assessment and structural model assessment.

3.5.1 Preliminary Analysis

Quality of data collected can greatly affect the analysis and result of study. According to Burleson et al. (2023), best practices in data quality procedures include correspondence, completeness, carefulness and credibility.

To ensure the correspondence of this study are from those targeted respondent, their demographic data was screened through carefully to exclude those not within the age range of 20 to 40 years old and not residing in Kota Kinabalu, Sandakan and Tawau. Completeness of data was examined through data cleaning to detect missing data where respondents skipped questions. Removing missing responses was to prevent prediction inaccuracy especially using PLS-SEM (Hair et al., 2020; Wang et al., 2022). Carefulness of respondents

while answering survey is unpredictable by researcher especially survey through online medium (Burleson et al., 2023). Therefore, data cleaning in detecting straight-lining, outliers, contradictory and unrealistic responses can identify inattentive respondents (Sovacool et al., 2021). Credibility of this study from common method bias was done in both procedural and statistical controls. Procedural controls include careful wording usage in questions to reduce jargon and minimising wording in each question (Burleson et al., 2023). Meanwhile statistical control was examined through Variance Inflation Factor (VIF) test result where VIF lower than 3.3 were considered free of common method bias (Kock, 2015).

3.5.2 Descriptive Statistics

Descriptive statistics on respondents' demographic profiles was conducted using measures of central tendency to locate the centre of distribution including mean values and standard deviation. The purpose of descriptive analysis is to summarise and condense the information for better understanding (Hair et al., 2020).

3.5.3 Partial Least Square Structure Equation Modelling (PLS-SEM)

PLS-SEM has been used for much research on multivariate data analysis (Memon et al., 2021). PLS-SEM is a causal modelling approach to maximising the explanation of the variance of dependent latent constructs (Hair et al., 2011).

According to the rule of thumbs for selecting CB-SEM (covariance-based structural equation modelling) or PLS-SEM by Hair et al. (2011), usually among the attributes, there will be key attributes that has the highest influence. A study on theory testing should utilise CB-SEM while a study predicting key target or driver constructs should utilise PLS-SEM. (Hair et al., 2011). Since this study's objective is to identify key factors influencing house purchase decision, thus this study should use PLS-SEM. As for structural model, the rule of thumb also advised complex model to select PLS-SEM (Hair et al., 2011). This study focused on 15 variables which is considered complex as it involves many constructs and indicators. Therefore, PLS SEM was deemed as suitable for this study.

PLS-SEM assessment consists of two steps, which is measurement model and structural model assessments. The measurement model defines the associations between latent variables and their indicators, whereas the structural model represents the connections between latent variables (Hair et al., 2011).

3.5.4 Higher Order Constructs (HOC) Model

This study utilised higher order constructs (HOC) model. HOC allows researchers to model a construct on a more abstract dimension (higher-order component) with a more concrete subdimensions (lower-order components) (Sarstedt et al., 2019). In this study, constructs of price, financing facilities and location were grouped as Financing Stimuli meanwhile social influence, developer brand and superstitious belief were grouped as Cognitive stimuli. Constructs of house features, facilities, security, neighbourhood and environment were grouped as Property Stimuli.

There were a few reasons to utilise higher-order multidimensional constructs in this study. The first reason is to increase the content bandwidth where using broader constructs can better predict the criteria (Johnson et al., 2011). By combining constructs of price, financing facilities and location, it can better predict the criteria of financing stimuli. The same applies to both cognitive stimuli and property stimuli. The second reason is to reduce the number of path model to achieve model parsimony (Sarsteadt et al., 2019). If this study was to conduct under single regression model, there would be a total of 11 stimuli constructs, resulting in 11 hypotheses for the relationship between stimulus and organism. Using HOC in this study reduced the number of stimulus to organism path from 11 hypotheses to only 3 hypotheses for relationship between stimulus and organism.

The HOC used in this study was type II reflective-formative model (Sarsteadt et al., 2019). The specification of lower order construct (LOC) was reflective model. The reflective constructs are highly correlated and interchangeable that removal of any indicators will not alter the meaning of latent variables (Haenlain & Kaplan, 2004 and Hulland, 1999 cited in Ramayah et al., 2018). The causal arrows point from latent variable to indicator (Ramayah et al., 2018). Meanwhile, the relationship between the HOC and LOC was formative model. This is because first order components defined the characteristics of the higher order component where any changes of lower order component would cause direct changes to higher order component (Duarte & Amaro, 2018).

For specifying the HOC, there are 3 approaches which include repeated indicators approach, embedded two-stage approach and disjoint two-stage approach. Repeated indicators approach assigned all indicators of the lower-order component to higher-order component (Sarsteadt et al., 2019). This study utilised S-O-R framework where stimulus would predict the organism. Repeated indicator approach may create calculation redundancy,

causing biased results. Meanwhile, in the first stage, embedded two-stage approach actually corresponds to repeated indicators approach.

Therefore, in this study, the disjoint two-stage approach was used. In stage 1, the model calculated the construct scores of lower-order components, which was between the latent construct and its indicators. The construct scores from stage 1 were used as data of financing stimuli, cognitive stimuli and property stimuli. While in stage 2, the model calculated the higher-order component, which was the stimuli, organism and response.

The disjoint two-stage approach was used in this study as it shows better parameter of recovery of paths pointing from exogenous constructs to HOC and from HOC to endogenous constructs. Besides, in stage 1, disjoint two-stage approach only consider the lower-order component in the path model without the higher-order. Comparing to embedded two-stage approach, this approach completely isolated HOC to ensure the path coefficients to organism variables are not influenced by the measurement items of sub-dimensions component (Sarsteadt et al., 2019).

During estimation of HOC, Mode A (correlation weighs) was chosen for stage 1 reflective model while Mode B (regression weights) would be chosen for stage 2's formative model (Sarsteadt et al., 2019). As for validation of HOC, it involved both process of measurement model and structural model which would be explained in the section below of 3.5.5 Assessment of Measurement Model and 3.5.6 Assessment of Structural Model.

3.5.5 Assessment of Measurement Model

Measurement model is also referred as outer model which displays the relationship between indicators and latent constructs. The relationship between indicator and latent constructs are unidirectional which represent predictive relationship (Hair et al., 2020).

Since this study utilised HOC, the measurement model would also be separated into two parts. The first part was to focus on lower-order components while the second part was to measure the higher-order construct as a whole which was represented by the relationships between higher-order component and lower-order components. The first part focused on LOC including measuring the collinearity (VIF), internal consistency reliability (Cronbach's alpha and composite reliability), indicator reliability (outer loadings), convergent validity (AVE) and discriminant validity (Fornell & Larcker criterion and HTMT correlations). The second part measured the HOC as a whole and the LOC would represent the indicators of

HOC. This included the measurements of convergent validity, collinearity between indicators and significance and relevance of outer weights (Sarsteadt et al., 2019).

Collinearity issue is measured using VIF. VIF value of 5 or higher (Hair et al., 2011) or 3.3 or higher (Diamantopoulos & Sigouw, 2006) indicates potential collinearity problem exist (Ramayah et al., 2018). Composite reliability measures internal consistency and considers the loadings of indicators. The value between 0.70 - 0.90 is regarded as satisfactory while values above 0.90 are not desirable. Indicator reliability (outer loadings) is measured to evaluate consistency of its indicators with intended measure item. The acceptable values are 0.708 or higher but loadings >0.7, 0.6, 0.5 or 0.4 is adequate if other items have high scores of loadings to complement AVE and composite reliability (Ramayah et al., 2018).

Convergent validity determines if a new or existing measure is consistent with other established measures that assess the same concept, providing evidence that the measure is indeed measuring what it's intended to measure. AVE is considered valid if exceeds 0.50 (Ramayah et al. 2018). Discriminant validity refers to the extent the constructs under investigation are truly distinct from one another. Discriminant validity is assessed using two criteria including Fornell & Larcker's criterion and HTMT. For Fornell & Larcker's criterion, the square root of AVE of a construct should be larger than the correlations between the construct and other constructs in the model. For HTMT Criterion, .85 is stringent criterion while .90 is conservative criterion (Ramayah et al., 2018).

3.5.6 Assessment of Structural Model

Structural model is also referred as inner model that represents the relationship between the latent constructs. The relationships between latent constructs can be either unidirectional or bidirectional (Hair et al., 2020). For disjoint two-stage approach, this study used multi-items in the second stage that permits the application of all structural model assessment criteria. Therefore, the structural model was assessed on the grounds of stage two results (Sarsteadt et al., 2019).

For assessment of structural model of the HOC, the measurement involved collinearity between constructs, significance and relevant of the path coefficients, explanatory power (R^2), effect size (f^2), predictive power (PLSpredict), predictive relevance (Q^2) and model fit (Sarsteadt et al., 2019).

Collinearity issue is measured using VIF. VIF value of 5 or higher (Hair et al., 2011) or 3.3 or higher (Diamantopoulos & Sigouw, 2006) indicates potential collinearity problem exist (Ramayah et al., 2018). The significance and relevance of the structural model relationship using bootstrapping. The minimum number of bootstrap samples is 5,000 and the number of cases should be equal to the number of observations in the original sample (Hair et al., 2011). The explanatory power of R^2 (Coefficient of Determination) is to evaluate the model's predictive accuracy. The effect ranges from 0 to 1 where higher value indicating higher levels of predictive accuracy (Ramayah et al., 2018). R^2 values of 0.75 is substantial, 0.50 is moderate and 0.25 is weak (Hair et al., 2017). The f^2 values of 0.35 is considered large, 0.15 as medium and 0.02 as small effect sizes (Cohen, 1988). The predictive relevance (Q^2) of the path model using blindfolding procedure. Q^2 value larger than 0 indicates the exogenous constructs have predictive relevance for endogenous construct under investigation (Ramayah et al., 2018).

For PLSpredict, a Q^2 predict value of zero or less suggests that the predictive power of the PLS-SEM analysis for that indicator does not even outperform the most naïve benchmark. For those indicators with Q^2 predict > 0, the next step is to compare the Root Mean Square Error (RMSE) or Mean Absolute Error (MAE) values with the naïve Linear Model (LM) benchmark (Shmueli et al., 2019). There are four possible outcomes from the comparisons as shown in Table 3-9.

Table 3-9:
Possible Outcomes of PLSpredict

Prediction Pattern	Explanation
PLS-SEM < LM for none of the indicators	If the PLS-SEM analysis (compared to the LM) yields lower prediction errors in terms of the RMSE (or the MAE) for none of the indicators, this indicates that the model lacks predictive power.
PLS-SEM < LM for a minority of the indicators	If the minority of the dependent construct's indicators produces lower PLS-SEM prediction errors compared to the naïve LM benchmark, this indicates that the model has a low predictive power.
PLS-SEM < LM for a majority of the indicators	If the majority (or the same number) of indicators in the PLS-SEM analysis yields smaller prediction errors compared to the LM, this indicates a medium predictive power.
PLS-SEM < LM for all indicators	If all indicators in the PLS-SEM analysis have lower RMSE (or MAE) values compared to the naïve LM benchmark, the model has high predictive power.

Source: Shmueli et al. (2019)

3.6 Validity

Validity refers to the degree which a study accurately reflects or assesses the specific concept that the researcher is attempting to measure (Ahmad & Bujang, 2022). Validity is concerned with the study's success at measuring what the researchers set out to measure (Hair et al., 2020).

According to Teijlingen and Hundley (2002), pilot study can improve the internal validity of questionnaire by administering the questionnaire during pilot test exactly the same way during the actual data collection. The feedback from pilot test's subject were considered and implemented in actual data collection questions by discarding unnecessary, difficult or ambiguous questions. Questions were also shortened or revised for easier understanding. The validity tests involved in this study included content validity, face validity and construct validity.

3.6.1 Content Validity

Content validity of a scale requires a systematic but subjective assessment of scale that is able to measure what it is supposed to measure. To ensure content validity of questionnaire of this study, the questions were sent for expert validation (Hair et al., 2020). Four experts in Marketing were consulted for questionnaire content validation from Universiti Teknologi Mara, University of Technology Sarawak, Swinburne University of Technology Sarawak Campus and Curtin University Malaysia. The comments from experts were taken into considerations and the questionnaire were amended accordingly as shown in Appendix 2.

3.6.2 Face Validity

Face validity is concerned with how a measure or procedure appears (Ahmad & Bujang, 2022). The face validity of this study was ensured through expert review on questionnaire and conducting pre-test. The language, structure and wording of questions were improved to ensure respondents understand the meaning of questions. The feedback from expert and pre-test respondents were applied to the questions.

3.6.3 Construct Validity

Construct validity seeks agreement between a theoretical concept and a specific measuring device or procedure. Construct validity can be broken down into two sub-categories which are convergent validity and discriminate validity. Convergent validity is the actual general agreement among ratings, gathered independently of one another, where measures should be theoretically related. Discriminate validity is the lack of a relationship among measures which theoretically should not be related (Ahmad & Bujang, 2022). Convergent validity of this study was measured using AVE (Average Variance Extracted) while discriminant validity was measured using Fornell & Larcker's criterion and HTMT during data analysis (Ramayah et al. 2018).

3.7 Reliability

Reliability of a study is concerned with the accuracy of the actual measuring instrument or procedure. A measurement is said to be reliable or consistent if the measurement can produce similar results if used again in similar circumstances. Internal consistency is the extent to which tests or procedures assess the same characteristics, skill or quality. It is the measure of the precision between the observers of the measuring instruments used in a study. This type of reliability often helps researchers interpret data and predict the value of scores and the limits of the relationship among variables (Ahmad & Bujang, 2022; Hair et al., 2020).

In this study the reliability test was conducted at two stages which were at pilot test and after actual data collection. Reliability test at pilot test was to ensure the reliability of instruments to be used during actual data collection (Teijlingen & Hundley, 2002). Reliability test was conducted to test the internal consistency of the scales used in the questionnaire using Cronbach's alpha coefficients to indicate the degree of consistency. Cronbach alpha value of a scale higher than 0.7 is acceptable as shown in Table 3-10. (Hair et al., 2020).

Table 3-10:
Rules of Thumb on Cronbach's Alpha Coefficient Size

Cronbach's Alpha Coefficient Range	Reliability Assessment
< 0.6	Poor
0.6 to 0.7	Acceptable for exploratory research
0.7 to 0.8	Good

Table 3-10 continued

0.8 to 0.9	Excellent
0.9 to 0.95	Somewhat high
> 0.95	Too high, indicators are redundant

Source: Hair et al. (2020)

3.8 Chapter Summary

In conclusion, this was a cross-sectional study utilised quantitative research method through survey distribution to targeted respondents. The unit analysis was individuals identified through convenience and snowball sampling. The minimum sample size was 384 respondents aged between 20 to 40 years old residing in Kota Kinabalu, Sandakan and Tawau. A pre-test and pilot test were conducted to ensure the reliability and validity of questionnaires before the actual data collection. The questionnaire was administered on Google form and distributed through Whatsapp. This study utilised PLS-SEM using Smart PLS 4.0 software for data analysis. HOC method was used to consolidate the subdimensions of constructs. The data analysis utilising PLS-SEM was analysed on measurement model and structural model assessments. In the next chapter, data collected will be analysed and the results will be presented.

CHAPTER 4:

FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents the result of data analysis collected during actual data collection. Data collected were analysed for preliminary data analysis, profile of respondents, descriptive statistics and common method bias. Data was also analysed using PLS-SEM for assessment of measurement model and assessment of structural model.

4.2 Response Rate

A total of 1,000 surveys were distributed via WhatsApp and only 817 responses were received. However, 406 of the responses received were not in the targeted respondent age or residing district. Therefore, this study achieved a response rate of 41.1% with 411 usable responses. The responses received surpassed the minimum 384 sampling size as required using Krecjie and Morgan (1970) calculation.

4.3 Preliminary Data Analysis

After receiving data from respondents, all data were checked and ensured the correspondence of this study were from people aged between 20 to 40 years old residing in Kota Kinabalu, Sandakan and Tawau. Data were also checked for missing data, straight lining and contradictory response to ensure quality of data and to prevent prediction inaccuracy especially using PLS-SEM (Hair et al., 2020; Wang et al., 2022). There were no missing data nor straight lining detected in the data collected in this study.

4.4 Profile of Respondents

The profile of respondents was analysed to have a better understanding on demographic distributions including age, gender, ethnicity, education background, occupation, marriage status, number of children and monthly income as in Table 4-1.

Table 4-1:
Demographic Profile of Respondents

Demographic Profile	Category	Frequency (N=411)	Percentage (%)
Gender	Male	167	40.63
	Female	244	59.36
Age Group	20-25 years old	46	11.19
	26-30 years old	74	18.00
	31-35 years old	130	31.63
	36-40 years old	161	39.17
Ethnicity	Bajau	36	8.75
	Bugis	15	3.64
	Kadazan Dusun	56	13.62
	Melayu Brunei	19	4.62
	Murut	8	1.94
	Sino Kadazan Dusun	22	5.35
	Suluk	7	1.70
	Sungai	13	3.16
	Other Bumiputera Sabah	49	11.92
	Malay	21	5.10
	Chinese	142	34.54
	India	3	0.72
	Others	20	4.86
Highest level of education	SPM	67	16.30
	STPM	41	9.97
	Diploma	79	19.22
	Bachelor's degree	172	41.84
	Master's degree	40	9.73
	Doctorate Degree	4	0.97
	Professional Certificate	5	1.21
	Others	3	0.72
Current occupation status	Private sector	121	29.44
	Public sector/Government	204	46.63
	Self-employed	43	10.46
	Unemployed	11	2.67
	Housewife	3	0.72
	Student	27	6.56
	Others	2	0.48
Marital status	Single	186	45.25

Table 4-1 continued

	Married	211	51.33
	Divorced	11	2.67
	Widow	3	0.72
Number of children	0	232	56.44
	1	57	13.86
	2	63	15.32
	3	33	8.02
	4	19	4.62
	5	3	0.72
	6	2	0.48
	7	2	0.48
Monthly household income	Less than RM2,000	91	22.14
	RM2,001-RM4,000	156	37.95
	RM4,001-RM6,000	66	16.05
	RM6,001-RM8,000	34	8.27
	RM8,001-RM10,000	29	7.05
	RM10,001-RM12,000	10	2.43
	RM12,001 and above	25	6.08
Current residing district	Kota Kinabalu	113	27.49
	Sandakan	199	48.41
	Tawau	99	24.08
Homeownership status (Owned house)	Yes	180	43.79
	No	231	56.21

Note: N=411

This research focused on the three main cities in Sabah comprising of Kota Kinabalu, Sandakan and Tawau. Almost half of the respondents, 48.41% reside in Sandakan while 27.49% reside in Kota Kinabalu and 24.08% reside in Tawau.

This study focused on young adults aged between 20 to 40 years old. The highest respondent group were from the age group of 36 to 40 years old (39.17%) followed up by 31 to 35 years old (31.63%), 26 to 30 years old (18%) and the least was aged 20 to 25 years old (11.19%). More than half of respondents were female (59.36%) while male accommodated 40.63% of responses.

Most of the respondents are Chinese (34.54%) followed up by KadazanDusun, the largest indigenous group in Sabah at 13.62%. Other local Sabah ethnicity has lower proportionate such as Bajau (8.75%), Sino Kadazan Dusun (5.35%), Melayu Brunei (4.62%), Bugis (3.64%), Sungai (3.16%), Murut (1.94%) and Suluk (1.70%) while 11.92%

respondents were other Bumiputra Sabah. There were also 5.10% Malay, 0.72% Indian and 4.86% of other races respondents took part in the survey.

The highest education background of respondents was diverse where most of the respondents have Bachelor's degree (41.84%), followed up by Diploma (19.22%), Sijil Pelajaran Malaysia (16.30%), Sijil Tinggi Pelajaran Malaysia (9.97%), Master's Degree (9.73%), professional certificate (1.21%), Doctorate degree (0.97%) and others (0.72%).

As for occupation, most of the respondents work in public sector (46.63%) while 29.44% work in private sector. There were also self-employed (10.46%), student (6.56%), unemployed (2.67%), housewife (0.72%) and others (0.48%).

Among the respondents, 51.33% were married while 45.25% were single. There were also 2.67% divorcees and 0.72% widows. Most of the respondents have no children (56.44%) while 13.86% have only one child, 15.32% have two children and 14.38% have three children and above.

As for household income, most of the respondents earned between RM2,001 to RM4,000 (37.95%), followed up by less than RM2,000 (22.14%), between RM4,001 to RM6,000 (16.05%), between RM6,001 to RM8,000 (8.27%), between RM8,001 to RM10,000 (7.05%), between RM10,001 to RM12,000 (2.43%) and more than RM12,001 (6.08%).

Among the total 411 respondents, 180 were homeowners (43.79%) while 231 were non-homeowners (56.20%). Among the non-homeowners, 64.63% of them were staying in family's house while 32.46% were renting house and 2.59% stay in company's quarters. As much as 208 non-homeowners (90.04%) planned to purchase house in future. Only 9.95% did not have any plan to purchase house in future as shown in Table 4-2.

Table 4-2:
Analysis of Non-Homeowner Status

Demographic Profile	Category	Frequency (N=231)	Percentage (%)
Non-Homeowner current house status	Rented	75	32.46
	Family's house	147	64.63
	Provided by employer	6	2.59
	Others	3	1.29
Non-Homeowners intend to purchase house in future	Yes	208	90.04
	No	23	9.95

Note: N = 231

4.5 Descriptive Statistics

The descriptive statistics of collected data were analysed to summarise and condense the information for better understanding for this study. The statistics analysed included mean and standard deviation. Mean is the arithmetic average used to measure the central tendency. The standard deviation describes the spread or variability of the sample distribution values from the mean. Standard deviation smaller than 1.0 means consistent while more than 3.0 indicates a lot of variability in respondent's opinions (Hair et al., 2019). Since this study utilised HOC model, the descriptive statistics were reported separately for stage 1, LOC and stage 2, HOC model. In stage 1, each variable was assessed using 5-point Likert scale and the results were shown in Table 4-3.

Table 4-3:
Mean and Standard Deviation Analysis Result for Stage 1 LOC

Construct	Indicator	Mean	Standard Deviation
Price	P1	4.231	1.000
	P2	4.151	1.030
	P3	4.348	1.000
	P5	4.129	1.023
Financing Facilities	FF1	4.109	0.974
	FF3	4.015	0.986
	FF5	4.105	1.033
Location	L1	4.068	1.039
	L2	3.954	1.042
	L3	3.530	1.083
	L4	3.455	1.069
	L5	3.876	1.072
Social Influence	SI1	3.832	1.048
	SI2	4.175	1.017
	SI3	3.630	1.122
	SI4	3.745	1.081
	SI5	3.730	1.086
Developer Brand	DB1	3.776	1.053
	DB2	4.029	1.010
	DB3	3.324	1.065
	DB4	3.630	1.080
	DB5	3.586	1.060
Superstitious Belief	SB1	3.745	1.194
	SB2	3.594	1.197
	SB3	3.584	1.202
	SB4	3.316	1.213
	SB5	2.871	1.290

Table 4-3 continued

House Features	HF1	4.073	0.979
	HF2	4.192	0.951
	HF4	4.287	0.946
	HF5	4.319	0.922
Facilities	F1	3.927	1.046
	F2	4.482	0.957
	F3	3.713	1.058
	F4	3.881	1.077
	F5	4.273	0.993
Security	S1	4.224	1.046
	S2	4.229	1.016
	S4	4.158	1.052
	S5	4.394	0.964
Neighbourhood	N1	3.912	1.012
	N2	3.732	1.012
	N3	4.180	0.980
	N4	3.146	1.241
	N5	3.791	1.096
Environment	E2	4.401	0.970
	E3	4.180	0.985
	E5	4.273	0.986
Perceived Affordability	PA1	3.119	1.120
	PA2	3.168	1.139
	PA3	2.990	1.129
	PA4	3.282	1.107
	PA5	2.959	1.107
Subjective Knowledge	SK1	3.345	1.026
	SK2	3.528	1.047
	SK3	3.693	0.935
	SK4	3.392	1.049
	SK5	3.513	1.024
Perceived Lifestyle Fit	PLF1	3.148	1.051
	PLF2	4.100	0.997
	PLF3	3.489	1.117
	PLF4	3.971	1.020
House Purchase Decision	HPD1	4.182	0.909
	HPD2	4.024	0.966
	HPD3	4.234	0.935
	HPD4	3.489	1.143
	HPD5	4.102	0.954

In stage 1, the mean values ranged from 2.871 to 4.482 indicated that respondents had mixed perceptions on the statements of items provided, ranging from slight disagreement

to strong agreement. Most respondents rated agree on statements for variables of price, financing facilities, house features, security and environment. Meanwhile most respondents rated neutral to slightly agree on statements for location, social influence, developer brand, facilities, neighbourhood, perceived lifestyle fit and house purchase decision except. For superstitious belief, most respondents rated neutral to slight agreement on statements except SB5 which was rated as slight disagreement. As for perceived affordability and subjective knowledge, most respondents rated neutral on the statements. In addition, standard deviation ranged from 0.922 to 1.290 was considered low and deemed within acceptable level due to minimal dispersion.

Meanwhile for stage 2 HOC, each variable was assessed using unstandardised composite scores through averaging the raw Likert Scale responses for each construct. This approach ensures the mean and standard deviation remain relevant to the original Likert Scale range used in this study. The results were shown in Table 4-4.

Table 4-4:
Mean and Standard Deviation Analysis Result for Stage 2 HOC

Construct	Mean	Standard Deviation
Financing Stimuli	3.997	0.794
Cognitive Stimuli	3.637	0.739
Property Stimuli	4.084	0.774
Perceived Affordability	3.103	1.000
Subjective Knowledge	3.494	0.844
Perceived Lifestyle Fit	3.677	0.835
House Purchase Decision	4.006	0.812

In stage 2, the mean values range from 3.103 to 4.084 indicated that respondents mostly ranging from neutral to agree. Most respondents rated agree on statements for financing stimuli, property stimuli and house purchase decision. Meanwhile most respondents rated neutral to slightly agree on statements for cognitive stimuli, subjective knowledge and perceived lifestyle fit. As for perceived affordability, the responses are more prone to neutral. For standard deviation, all constructs ranged between 0.739 to 0.844 which was considered low and stable across respondents, except on perceived affordability with standard deviation of 1.000 which showed a widely spread opinion among respondents. The standard deviation values were deemed within acceptable level due to minimal dispersion.

4.6 Common Method Bias

Common method bias is unavoidable when questionnaires on Likert-type scales are used as part of structural equalling modelling (SEM) (Kock, 2015). This is especially among self-administered questionnaires in cross-sectional design (Lindell & Whitney, 2001) by single source (Miller & Simmering, 2022). Effort to minimise common method bias in this study was done in procedural controls include careful wording usage in questions to reduce jargon and minimising wording in each question (Burleson et al., 2023).

Meanwhile, statistical control through full collinearity test was performed following the recommendation of Kock (2015). The Inner Variance Inflation Factor (VIF) values were obtained from stage 2 to look at relationships between HOC, mediators and dependent variable as the overall model. VIF values lower than 3.3 were considered free of common method bias (Kock, 2015). The VIF result of this study was shown in Table 4-5 where all VIF values were below 3.3, indicating this model was free from CMB.

Table 4-5:
VIF Result from Full Collinearity Test

Construct	Inner VIF Values from Full Collinearity Test
Financing Stimuli → Perceived Affordability	1.000
Cognitive Stimuli → Subjective Knowledge	1.000
Property Stimuli → Perceived Lifestyle Fit	1.000
Perceived Affordability → House Purchase Decision	1.409
Subjective Knowledge → House Purchase Decision	1.573
Perceived Lifestyle Fit → House Purchase Decision	1.270

To provide additional assurance, a post-hoc statistical analysis was conducted using gender as a marker variable that is theoretically unrelated to detect the presence of common method bias in this study (Lindell & Whitney, 2001). The correlation between marker variable and the constructs were checked and the results were shown in Table 4-6. All values were below the threshold of 0.30 (Lindell & Whitney, 2001).

Table 4-6:
Correlation of Constructs with Marker Variable

Construct	Correlation with Marker Variable
House Purchase Decision	-0.047
Perceived Affordability	-0.128
Subjective Knowledge	-0.103
Perceived Lifestyle Fit	-0.060

Referring to Lin et al. (2015), a method factor model was used as recommended by Podsakoff et al. (2003) and PLS marker variable approach were used to create a method factor with marker variable as recommended by Rönkkö and Ylitalo (2011). Values of baseline model without marker variable and values of method factor model with marker variable were compared (Lin et al, 2015). The results were shown in Table 4-7. The result show that percentage of change were less than 10% threshold (Rönkkö & Ylitalo, 2011). This implied that common method bias was not an issue in this study.

Table 4-7:
Comparison of Path Coefficients between Baseline Model and Method Factor Model

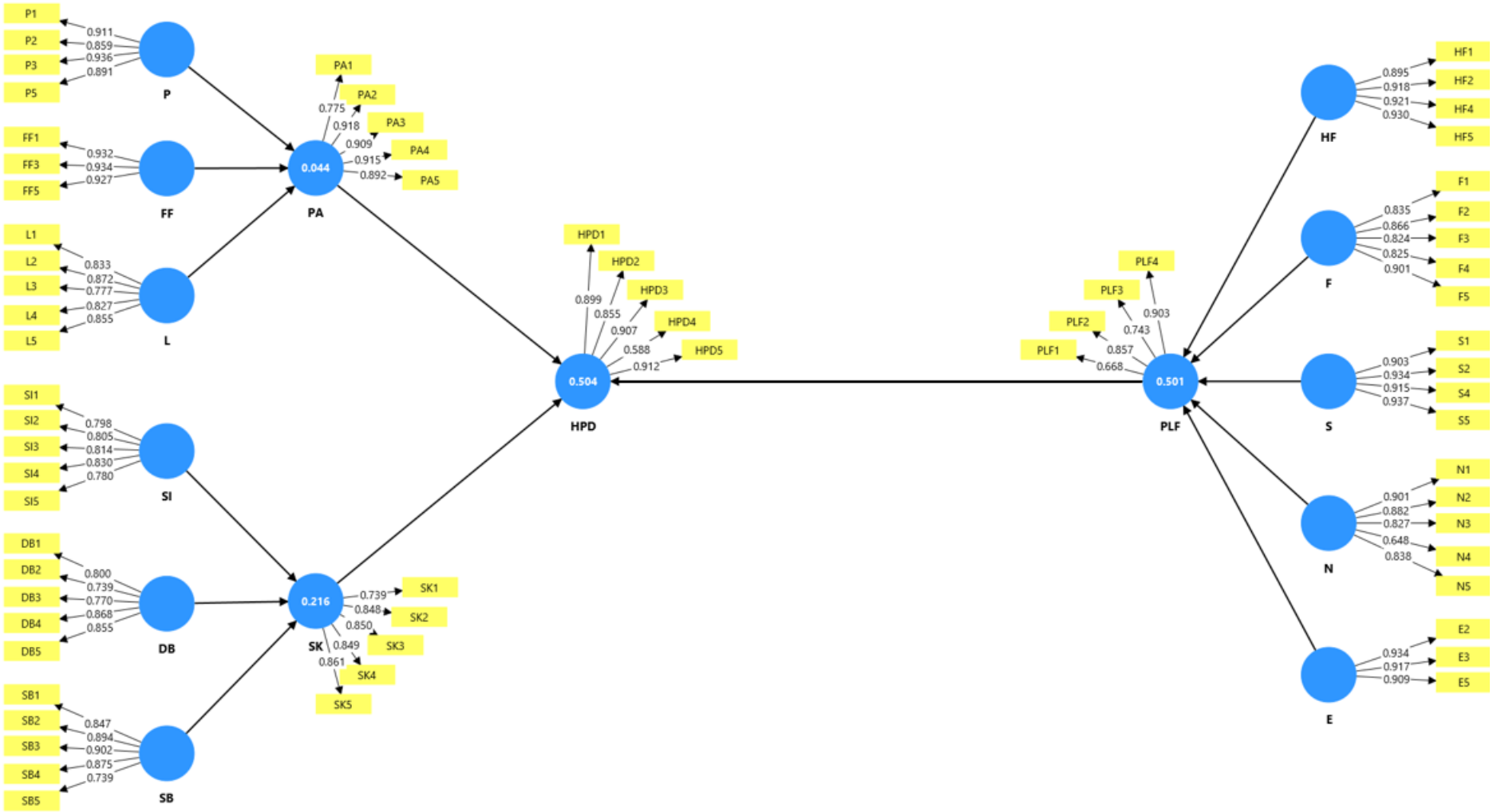
Path	Baseline Model	Method Factor Model	Difference	Percentage of Change (%)
Financing Stimuli → Perceived Affordability	0.209	0.204	0.005	2.392
Cognitive Stimuli → Subjective Knowledge	0.464	0.461	0.003	0.646
Property Stimuli → Perceived Lifestyle Fit	0.708	0.706	0.002	0.282
Perceived Affordability → House Purchase Decision	0.024	0.025	-0.001	4.166
Subjective Knowledge → House Purchase Decision	0.294	0.295	-0.001	0.340
Perceived Lifestyle Fit → House Purchase Decision	0.515	0.515	0	0

This study has tested and obtained results of full collinearity below VIF values of 3.3 as recommended by Kock (2015), correlation between marker variable and the constructs below 0.30 (Lindell & Whitney, 2001) and percentage of change between baseline method and method factor model were less than 10% threshold (Rönkkö & Ylitalo, 2011). The three tests indicated that common method variance was not present in this study.

4.7 Assessment of Measurement Model

This study utilised HOC type II reflective-formative model. This study's measurement model was assessed on collinearity (VIF), internal consistency reliability (Cronbach's Alpha and composite reliability), indicator reliability (outer loadings), convergent validity (factor loadings and AVE) and discriminant validity (Fornell & Larcker criterion and HTMT correlations) (Ramayah et al., 2018). The assessment of measurement model of this study was shown in Figure 4-1 with outer loadings values for each construct items.

Figure 4-1:
Assessment of Measurement Model



4.7.1 Collinearity (Outer Model)

Since this study utilised HOC, there were results of collinearity test from stage 1 and stage 2. Collinearity issue is measured using VIF. VIF value of 5 or higher indicates potential collinearity problem may exist (Hair et al., 2011).

In stage 1, the VIF results of this study were presented in Table 4-8.

Table 4-8:
VIF Values (Outer Model)

Construct	Indicator	VIF
Price	P1	3.320
	P2	3.134
	P3	5.850
	P4	6.751
	P5	3.127
Financing Facilities	FF1	5.610
	FF2	7.284
	FF3	4.208
	FF4	6.919
	FF5	3.852
Location	L1	2.457
	L2	2.817
	L3	2.083
	L4	2.243
	L5	2.548
Social Influence	SI1	2.040
	SI2	1.978
	SI3	2.027
	SI4	2.222
	SI5	1.883
Developer Brand	DB1	1.914
	DB2	1.630
	DB3	2.255
	DB4	2.857
	DB5	2.510
Superstitious Belief	SB1	2.677
	SB2	3.549
	SB3	3.981
	SB4	3.201
	SB5	1.775
House Features	HF1	3.340
	HF2	5.420
	HF3	6.133

Table 4-8 continued

	HF4	4.903
	HF5	5.518
Facilities	F1	2.271
	F2	3.609
	F3	2.415
	F4	2.308
	F5	4.174
Security	S1	3.338
	S2	4.727
	S3	5.760
	S4	5.502
	S5	4.762
Neighbourhood	N1	3.572
	N2	3.192
	N3	2.191
	N4	1.691
	N5	2.312
Environment	E1	5.969
	E2	6.475
	E3	3.914
	E4	7.268
	E5	3.107
Perceived Affordability	PA1	1.871
	PA2	4.333
	PA3	4.023
	PA4	4.141
	PA5	3.743
Subjective Knowledge	SK1	1.626
	SK2	2.346
	SK3	2.206
	SK4	2.654
	SK5	2.633
Perceived Lifestyle Fit	PLF1	1.537
	PLF2	2.234
	PLF3	1.677
	PLF4	2.733
	PLF5	1.161
House Purchase Decision	HPD1	4.114
	HPD2	2.579
	HPD3	4.581
	HPD4	1.302
	HPD5	3.632

The results showed FF2 (7.284), E4 (7.268), P4 (6.751) and HF3 (6.133) exceeding VIF values of 5.0 thus were deleted. After deleting the four indicators, the data was analysed again and the new result was shown in Table 4-9.

Table 4-9:
VIF Values (Outer Model) after Deleting FF2, E4, P4 and HF3

Construct	Indicator	VIF
Price	P1	3.256
	P2	2.990
	P3	4.204
	P5	2.645
Financing Facilities	FF1	5.030
	FF3	3.886
	FF4	5.882
	FF5	3.749
Location	L1	2.457
	L2	2.817
	L3	2.083
	L4	2.243
	L5	2.548
Social Influence	SI1	2.040
	SI2	1.978
	SI3	2.027
	SI4	2.222
	SI5	1.883
Developer Brand	DB1	1.914
	DB2	1.630
	DB3	2.255
	DB4	2.857
	DB5	2.510
Superstitious Belief	SB1	2.677
	SB2	3.549
	SB3	3.981
	SB4	3.201
	SB5	1.775
House Features	HF1	3.318
	HF2	3.892
	HF4	4.797
	HF5	4.994
Facilities	F1	2.271
	F2	3.609
	F3	2.415
	F4	2.308

Table 4-9 continued

	F5	4.174
Security	S1	3.338
	S2	4.727
	S3	5.760
	S4	5.502
	S5	4.762
Neighbourhood	N1	3.572
	N2	3.192
	N3	2.191
	N4	1.691
	N5	2.312
Environment	E1	5.563
	E2	4.846
	E3	3.844
	E5	2.857
Perceived Affordability	PA1	1.871
	PA2	4.333
	PA3	4.023
	PA4	4.141
	PA5	3.743
Subjective Knowledge	SK1	1.626
	SK2	2.346
	SK3	2.206
	SK4	2.654
	SK5	2.633
Perceived Lifestyle Fit	PLF1	1.537
	PLF2	2.234
	PLF3	1.677
	PLF4	2.733
	PLF5	1.161
House Purchase Decision	HPD1	4.114
	HPD2	2.579
	HPD3	4.581
	HPD4	1.302
	HPD5	3.632

The result still showed FF4 (5.882), S3 (5.760) and E1 (5.563) exceeding VIF values of 5.0 thus were deleted. After deleting the three indicators, the data was analysed again and the new result was shown in Table 4-10.

Table 4-10:
VIF Values (Outer Model) after Deleting FF4, S3 and E1

Construct	Indicator	VIF
Price	P1	3.256
	P2	2.990
	P3	4.204
	P5	2.645
Financing Facilities	FF1	3.858
	FF3	3.673
	FF5	3.077
Location	L1	2.457
	L2	2.817
	L3	2.083
	L4	2.243
	L5	2.548
Social Influence	SI1	2.040
	SI2	1.978
	SI3	2.027
	SI4	2.222
	SI5	1.883
Developer Brand	DB1	1.914
	DB2	1.630
	DB3	2.255
	DB4	2.857
	DB5	2.510
Superstitious Belief	SB1	2.677
	SB2	3.549
	SB3	3.981
	SB4	3.201
	SB5	1.775
House Features	HF1	3.318
	HF2	3.892
	HF4	4.797
	HF5	4.994
Facilities	F1	2.271
	F2	3.609
	F3	2.415
	F4	2.308
	F5	4.174
Security	S1	3.338
	S2	4.520
	S4	3.793
	S5	4.454
Neighbourhood	N1	3.572
	N2	3.192

Table 4-10 continued

	N3	2.191
	N4	1.691
	N5	2.312
Environment	E2	3.634
	E3	2.967
	E5	2.795
Perceived Affordability	PA1	1.871
	PA2	4.333
	PA3	4.023
	PA4	4.141
	PA5	3.743
Subjective Knowledge	SK1	1.626
	SK2	2.346
	SK3	2.206
	SK4	2.654
	SK5	2.633
Perceived Lifestyle Fit	PLF1	1.537
	PLF2	2.234
	PLF3	1.677
	PLF4	2.733
	PLF5	1.161
House Purchase Decision	HPD1	4.114
	HPD2	2.579
	HPD3	4.581
	HPD4	1.302
	HPD5	3.632

This study's model now had no collinearity issues as all VIF values for outer model were below 5.0 (Hair et al., 2011) after deleting FF2, FF4, E1, E4, P4, HF3 and S3.

4.7.2 Indicator Reliability

Indicator reliability (outer loadings) is measured to evaluate consistency of its indicators with intended measure item. The acceptable values are 0.708 or higher but loadings more than 0.7, 0.6, 0.5 or 0.4 is adequate if other items have high scores of loadings to complement AVE and composite reliability (Ramayah et al., 2018). In stage 1, the result of loading factor of this study was shown in Table 4-11.

Table 4-11:
Factor Loading and AVE Results

Construct	Code	Factor Loading	AVE
Price	P1	0.911	0.810
	P2	0.859	
	P3	0.936	
	P5	0.891	
Financing Facilities	FF1	0.932	0.866
	FF3	0.934	
	FF5	0.927	
Location	L1	0.833	0.695
	L2	0.872	
	L3	0.777	
	L4	0.827	
	L5	0.855	
Social Influence	SI1	0.798	0.649
	SI2	0.805	
	SI3	0.814	
	SI4	0.830	
	SI5	0.780	
Developer Brand	DB1	0.800	0.652
	DB2	0.738	
	DB3	0.770	
	DB4	0.868	
	DB5	0.855	
Superstitious Belief	SB1	0.847	0.729
	SB2	0.894	
	SB3	0.902	
	SB4	0.875	
	SB5	0.739	
House Features	HF1	0.896	0.839
	HF2	0.918	
	HF4	0.921	
	HF5	0.930	
Facilities	F1	0.835	0.724
	F2	0.865	
	F3	0.825	
	F4	0.826	
	F5	0.901	
Security	S1	0.903	0.851
	S2	0.934	
	S4	0.915	
	S5	0.937	
Neighbourhood	N1	0.900	0.679
	N2	0.883	

Table 4-11 continued

	N3	0.826	
	N4	0.652	
	N5	0.839	
Environment	E2	0.934	0.846
	E3	0.917	
	E5	0.909	
Perceived Affordability	PA1	0.775	0.781
	PA2	0.918	
	PA3	0.909	
	PA4	0.915	
	PA5	0.892	
Subjective Knowledge	SK1	0.739	0.690
	SK2	0.848	
	SK3	0.850	
	SK4	0.849	
	SK5	0.861	
Perceived Lifestyle Fit	PLF1	0.678	0.637
	PLF2	0.850	
	PLF3	0.749	
	PLF4	0.896	
	PLF5	0.252	
House Purchase Decision	HPD1	0.898	0.708
	HPD2	0.855	
	HPD3	0.907	
	HPD4	0.590	
	HPD5	0.912	

All of the factor loading readings exceeding 0.7 in Table 4-11 were acceptable (Hair et al., 2011). Items of PLF1 (0.678) and N4 (0.652) were still acceptable as their AVE scores greater than 0.6 (Byrne, 2016). Meanwhile, item of HPD4 (0.590) was acceptable as the AVE score greater than 0.5 (Byrne, 2016). However, item of PLF5 (0.252) was below the threshold of 0.4 therefore was deleted.

4.7.3 Internal Consistency Reliability

Internal consistency reliability is used to assess a summated scale where several items are summed to form a total score for a construct (Hair et al., 2020). Internal consistency reliability is measured using Cronbach's Alpha and composite reliability. Cronbach's Alpha provides the estimate of reliability based on inter-correlation of the observed indicators (Ramayah et al., 2018). However, composite reliability is considered as more accurate

approach (Hair et al., 2020). Composite reliability measures internal consistency and considers the loadings of indicators (Ramayah et al., 2018). Cronbach alpha value of a scale higher than 0.7 is acceptable (Hair et al., 2020).

In stage 1, the Cronbach's Alpha and composite reliability values were shown in Table 4-12. All the Cronbach's Alpha and composite reliability values in this study were above 0.7 therefore were acceptable.

Table 4-12:
Cronbach's Alpha and Composite Reliability Test Result

Construct	Cronbach's Alpha	Composite Reliability (rho C)
Price	0.924	0.944
Financing Facilities	0.923	0.951
Location	0.891	0.919
Social Influence	0.865	0.902
Developer Brand	0.866	0.903
Superstitious Belief	0.905	0.930
House Features	0.936	0.954
Facilities	0.904	0.929
Security	0.941	0.958
Neighbourhood	0.881	0.913
Environment	0.909	0.943
Perceived Affordability	0.929	0.947
Subjective Knowledge	0.887	0.917
Perceived Lifestyle Fit	0.811	0.874
House Purchase Decision	0.891	0.922

4.7.4 Convergent Validity

Convergent validity determines if a new or existing measure is consistent with other established measures that assess the same concept, providing evidence that the measure is indeed measuring what it intended to measure. AVE is considered valid if exceeds 0.50 (Ramayah et al. 2018).

In stage 1, convergent validity result of this study was acceptable as all AVE readings exceed 0.50 as shown in Table 4-11 (Ramayah et al. 2018).

4.7.5 Discriminant Validity

Discriminant validity refers to the extent the constructs under investigation are truly distinct from one another. Discriminant validity is assessed using two criteria including Fornell and Larcker's criterion and HTMT. For Fornell and Larkcer's criterion, the square root of AVE of a construct should be larger than the correlations between the construct and other constructs in the model. For HTMT Criterion, .85 is stringent criterion while .90 is conservative criterion (Ramayah et al., 2018).

In stage 1, the result of Fornell & Larcker's Criterion and HTMT Matrix from this study were presented in Table 4-13 and Table 4-14. The square root of each construct's AVE is higher than the correlation with other constructs in Fornell and Larcker's criterion while all inter-construct HTMT values were below the 0.90 threshold (Ramayah et al., 2018). Both results indicated acceptable discriminant validity among constructs of this study.

Table 4-13:
Fornell and Larcker's Criterion Result

	DB	E	F	FF	HF	HPD	L	N	P	PA	PLF	S	SB	SI	SK
DB	0.808														
E	0.566	0.920													
F	0.622	0.761	0.851												
FF	0.596	0.653	0.613	0.931											
HF	0.647	0.770	0.783	0.678	0.916										
HPD	0.646	0.693	0.672	0.633	0.761	0.841									
L	0.615	0.575	0.655	0.596	0.642	0.601	0.834								
N	0.604	0.639	0.618	0.506	0.644	0.650	0.485	0.824							
P	0.585	0.681	0.655	0.770	0.692	0.615	0.613	0.516	0.900						
PA	0.359	0.223	0.252	0.158	0.232	0.349	0.202	0.269	0.131	0.884					
PLF	0.541	0.613	0.617	0.509	0.654	0.655	0.491	0.599	0.540	0.329	0.798				
S	0.615	0.798	0.766	0.658	0.783	0.677	0.586	0.651	0.708	0.231	0.585	0.922			
SB	0.457	0.429	0.399	0.367	0.397	0.460	0.371	0.494	0.373	0.221	0.375	0.415	0.854		
SI	0.614	0.607	0.634	0.642	0.661	0.623	0.663	0.531	0.623	0.181	0.497	0.613	0.384	0.806	
SK	0.420	0.430	0.377	0.343	0.424	0.538	0.387	0.438	0.311	0.529	0.448	0.409	0.329	0.374	0.830

Table 4-14:
HTMT Matrix Result

	DB	E	F	FF	HF	HPD	L	N	P	PA	PLF	S	SB	SI	SK
DB															
E	0.623														
F	0.688	0.832													
FF	0.654	0.713	0.664												
HF	0.705	0.834	0.844	0.731											
HPD	0.726	0.757	0.739	0.688	0.822										
L	0.681	0.633	0.724	0.649	0.695	0.670									
N	0.668	0.685	0.662	0.530	0.681	0.712	0.531								
P	0.635	0.740	0.708	0.833	0.741	0.661	0.665	0.536							
PA	0.402	0.239	0.276	0.166	0.247	0.391	0.210	0.295	0.131						
PLF	0.628	0.680	0.709	0.561	0.718	0.735	0.571	0.676	0.581	0.401					
S	0.668	0.862	0.822	0.705	0.832	0.728	0.633	0.684	0.756	0.244	0.635				
SB	0.512	0.469	0.432	0.397	0.428	0.517	0.404	0.571	0.400	0.238	0.441	0.446			
SI	0.699	0.682	0.714	0.715	0.732	0.699	0.751	0.587	0.695	0.200	0.578	0.675	0.431		
SK	0.469	0.473	0.413	0.373	0.460	0.604	0.426	0.489	0.333	0.579	0.524	0.441	0.364	0.419	

4.8 Goodness of Fit (GoF)

Before starting assessment of structural model, it is important to estimate the model fit. In terms of PLS-SEM, model fit focused on the discrepance between the observed or approximated values of the dependent variables and the values predicted by the model (Hair et al., 2013 cited in Ramayah et al., 2018).

Standardised root mean square residual (SRMR) referred to the acquired discrepancy between the observed correlations and the model-implied correlations. A value less than 0.10 or 0.08 (more conservative) is considered a good fit (Henseler et al., 2014 cited in Ramayah et al., 2018). Exact Model Fit test using dG and dULS referred to bootstrapping-based test for significant discrepancies between the observed and model-implied co-variance matrices. The test should not be significant where dULS < 95% bootstrap quantile (HI95 of dULS) and dG < 95% bootstrap quantile (HI95 of dG) (Djikstra & Henseler, 2015 cited in Ramayah et al., 2018). Normal fit index (NFI) measures the x^2 value of proposed model relative to the x^2 value of the null model which should be larger than 0.90 (Lohmoller, 1989; Hu & Bentler, 1998 and Bryne, 2016 cited in Ramayah et al., 2018). The model fit was tested and the results were shown in Table 4-15.

Table 4-15:
Results of Model Fit

	Saturated Model	Estimated Model
SRMR	0.036	0.075
D_ULS	0.158	0.670
D_G	0.092	0.184
Chi-Square	194.502	369.965
NFI	0.958	0.920

The results showed that the SRMR value was 0.036, less than the threshold of 0.08. The NFI of this study's model was 0.958 which surpassed the minimum 0.90 level. Therefore, this study's model was deemed fit.

4.9 Preliminary Analysis of External Stimuli

This study utilised the HOC approach to combine different constructs into higher-order constructs model for better prediction of criteria (Johnson et al., 2011) and to reduce the paths to achieve model parsimony (Sarsteadt et al., 2019). However, when constructs are

combined, its individual contribution and effect on the relationship are unclear. Therefore, a preliminary analysis of each construct in LOC were performed to identify each construct's contribution in the relationships. The structural model of this preliminary analysis of external stimuli was shown in Appendix 4.

4.9.1 Financing Stimuli

Preliminary analysis of financial stimuli on constructs of price, financing facilities and location were tested on collinearity, path coefficients and effect size, and the results were shown in Table 4-16.

Table 4-16:
Preliminary Analysis of Financing Stimuli

Hypothesis	Path	Inner VIF Values	β (Coefficient)	P Values	f^2	Decision
H1a	P → PA	2.694	-0.043	0.587	0.001	Not supported
H1b	FF → PA	2.613	0.085	0.335	0.003	Not supported
H1c	L → PA	1.705	0.178	0.005	0.019	Not supported

The results from Table 4-16 shown that all inner VIF values of price, financing facilities and location were less than the 5.0 threshold thus collinearity issue did not exist (Hair et al., 2011).

However, the hypothesised direction of all H1a, H1b and H1c were negative but both H1b and H1c showed positive beta coefficient ($\beta = 0.085$, $\beta = 0.178$) while only H1a showed negative beta coefficient ($\beta = -0.043$). Besides, both H1a and H1b were not significant ($p = 0.587$, $p = 0.335$) but H1c was significant ($p = 0.005$). Therefore, all three hypotheses of H1a, H1b and H1c were rejected.

Meanwhile, only location (L) have small effect size ($f^2 = 0.019$) while both price (P) ($f^2 = 0.001$) and financing facilities (FF) ($f^2 = 0.003$) have negligible effect size on perceived affordability.

4.9.2 Cognitive Stimuli

Preliminary analysis of cognitive stimuli on constructs of social influence, developer brand and superstitious belief were tested on collinearity, path coefficients and effect size and the results were shown in Table 4-17.

Table 4-17:
Preliminary Analysis of Cognitive Stimuli

Hypothesis	Path	Inner VIF Values	β (Coefficient)	P Values	f^2	Decision
H2a	SI → SK	1.641	0.162	0.011	0.020	Supported
H2b	DB → SK	1.768	0.251	0.000	0.045	Supported
H2c	SB → SK	1.292	0.152	0.007	0.023	Supported

The results from Table 4-17 shown that all inner VIF values of social influence, developer brand and superstitious belief were less than the 5.0 threshold thus collinearity issue did not exist (Hair et al., 2011).

The hypothesised direction of all H2a, H2b and H2c were positive which aligned with the results of beta coefficient (β = 0.162, β = 0.251, β = 0.152). All H2a, H2b and H2c were significant (p = 0.011, p = 0.000, p = 0.007). Therefore, all three hypotheses of H2a, H2b and H2c were accepted.

Meanwhile, all the effect sizes of social influence (SI) (f^2 = 0.020), developer brand (DB) (f^2 = 0.045) and superstitious belief (SB) (f^2 = 0.023) have small effect sizes on subjective knowledge.

4.9.3 Property Stimuli

Preliminary analysis of property stimuli on constructs of house features, facilities, security, neighbourhood and environment were tested on collinearity, path coefficients and effect size and the results were shown in Table 4-18.

Table 4-18:
Preliminary Analysis of Property Stimuli

Hypothesis	Path	Inner VIF Values	β (Coefficient)	P Values	f^2	Decision
H3a	HF → PLF	3.592	0.297	0.000	0.049	Supported
H3b	F → PLF	3.304	0.156	0.034	0.015	Supported

Table 4-18 continued

H3c	S → PLF	3.743	-0.037	0.580	0.001	Not supported
H3d	N → PLF	1.963	0.248	0.000	0.063	Supported
H3e	E → PLF	3.543	0.136	0.035	0.010	Supported

The results from Table 4-18 shown that all inner VIF values of social influence, developer brand and superstitious belief were less than the 5.0 threshold thus collinearity issue did not exist (Hair et al., 2011).

The hypothesised direction of H3a, H3b, H3d and H3e were positive which aligned with the results of beta coefficient ($\beta = 0.297$, $\beta = 0.156$, $\beta = 0.248$, $\beta = 0.136$). H3a, H3b, H3d and H3e were significant ($p = 0.000$, $p = 0.034$, $p = 0.000$, $p = 0.035$). Therefore, hypotheses of H3a, H3b, H3d and H3e were accepted. In contrast, the hypothesised direction of H3c was positive which contradicted with the result of beta coefficient ($\beta = -0.037$). In addition, the p-value of H3c was also not significant ($p = 0.580$). Therefore, H3c was rejected.

Meanwhile, house features (HF) ($f^2 = 0.049$), facilities (F) ($f^2 = 0.015$), neighbourhood (N) ($f^2 = 0.063$) and environment (E) ($f^2 = 0.010$) have small effect sizes on perceived lifestyle fit. Security (S) has a negligible effect size ($f^2 = 0.001$) on perceived lifestyle fit.

4.9.4 Summary of Explanatory and Predictive Power

Preliminary analysis of financing stimuli, cognitive stimuli and property stimuli on their constructs were tested on predictive relevance and the results were shown in Table 4-19.

Table 4-19:
Explanatory Power and Predictive Relevance of Preliminary Analysis

Endogenous Construct	R^2	R^2 Adjusted	Q^2
Perceived Affordability	0.044	0.037	0.024
Subjective Knowledge	0.216	0.210	0.194
Perceived Lifestyle Fit	0.501	0.495	0.486
House Purchase Decision	0.504	0.500	0.542

Table 4-20:
Result of f^2 Values for Preliminary Analysis

Path	Relationship	f^2	Effect Size
PA → HPD	Perceived Affordability → House Purchase Decision	0.001	None
SK → HPD	Subjective Knowledge → House Purchase Decision	0.111	Medium
PLF → HPD	Perceived Lifestyle Fit → House Purchase Decision	0.420	Large

Table 4-19 shown the results of explanatory power (R^2) and predictive relevance (Q^2). R^2 values of 0.75 is substantial, 0.50 is moderate and 0.25 is weak (Hair et al., 2017) while Q^2 value larger than 0 indicates the exogenous constructs have predictive relevance for endogenous construct under investigation (Fornell & Cha, 1994). Meanwhile Table 4-20 showed the effect size (f^2) of paths from organisms to response. The f^2 values of 0.35 is considered large, 0.15 as medium and 0.02 as small effect sizes (Cohen, 1988).

The R^2 values for perceived affordability (PA) was 0.044, indicating that only 4.4% of the variance in perceived affordability was explained by the combined influence of price, financing facilities and location. This result suggested the model had fall below the 0.25 threshold for weak explanatory power, indicating the model may be missing key determinants of perceived affordability.

The R^2 values for subjective knowledge (SK) was 0.216, indicating that only 21.6% of the variance in subjective knowledge was explained by the combined influence of social influence, developer brand and superstitious belief. This result suggested the model had weak predicting power for subjective knowledge.

The R^2 values for perceived lifestyle fit (PLF) was 0.501, indicating that 50.1% of the variance in perceived lifestyle fit was explained by the combined influence of house features, facilities, security, neighbourhood and environment. This result suggested the model had moderate explanatory power for predicting perceived lifestyle fit.

The R^2 values for house purchase decision (HPD) was 0.504, indicating that 50.4% of the variance in house purchase decision was explained by the combined influence of perceived affordability, subjective knowledge and perceived lifestyle fit. This result suggested the model had moderate explanatory power for predicting house purchase decision. This was due to the combination of effect size of path from perceived affordability ($f^2 = 0.001$), subjective knowledge ($f^2 = 0.111$) and perceived lifestyle fit ($f^2 = 0.420$) to house purchase decision.

All the Q^2 values of perceived affordability, subjective knowledge, perceived lifestyle fit and house purchase decision were larger than 0, indicated the exogenous constructs have predictive relevance for the endogenous constructs. Perceived affordability and subjective knowledge had low predictive power (Q^2 = 0.024, Q^2 = 0.194) while perceived lifestyle fit and house purchase decision had moderate predictive power (Q^2 = 0.486, Q^2 = 0.542).

In summary, the preliminary analysis of financing stimuli, cognitive stimuli and property stimuli successfully validated the individual influence of constructs and overall predictive power of the model. The study was then proceeded to the main structural model assessment on the stage 2 HOC to evaluate the impact of house buyers decision making through broad category of stimuli instead of individual factors.

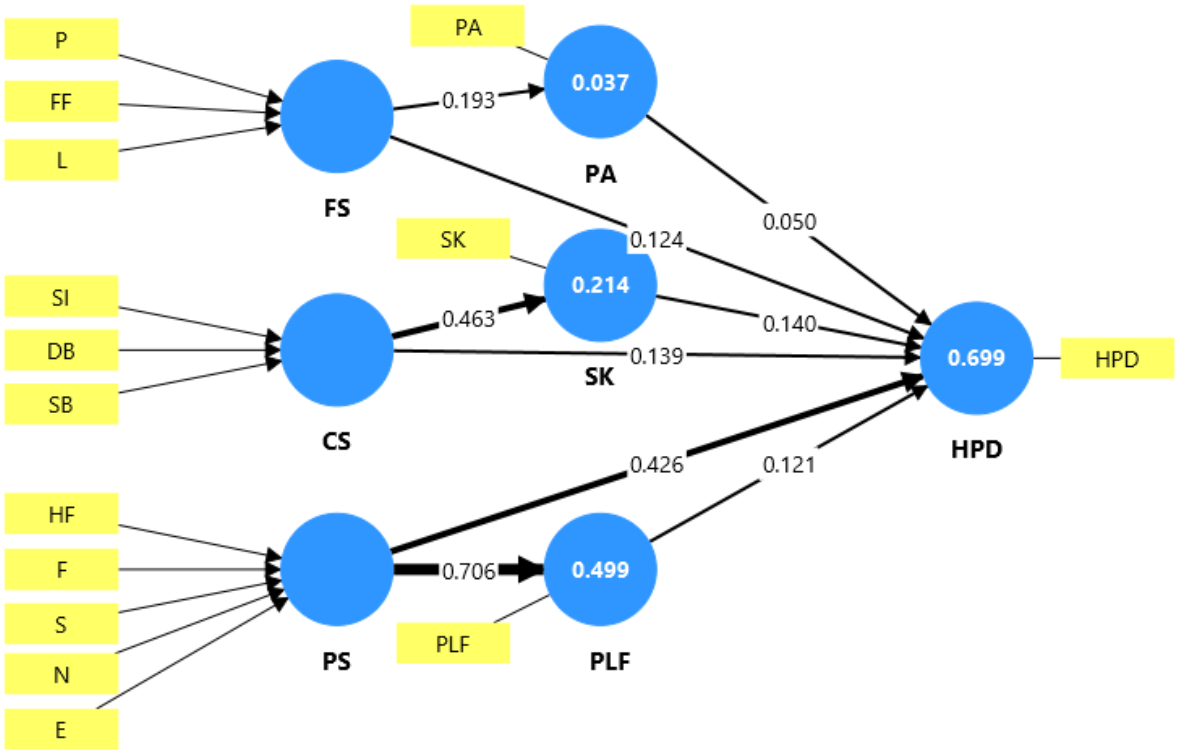
4.10 Assessment of Structural Model

Before starting the assessment of structural model, the latent variable scores of constructs price, financing facilities, location, social influence, developer brand, superstitious belief, house features, facilities, security, neighbourhood and environment were obtained as the scores for financing stimuli, cognitive stimuli and property stimuli in stage 2 HOC. The scores obtained were as shown in Appendix 3.

The assessment of structural model only involved the stage 2 of higher-order constructs of the model. Although the 9 hypotheses of this study did not include direct path from independent variables to dependent variable, but the structural model included the path from independent variables to dependent variable. This is due to the need of testing the type of mediation involved in H7, H8 and H9.

The structural model was assessed for collinearity issues, followed up by significance and relevance of the structural model relationship using bootstrapping, mediation analysis, R^2 (Coefficient of Determination), level of effect size (f^2), the predictive relevance (Q^2) and PLSpredict relevance of the path model (Ramayah et al., 2018). The assessment of structural model of this study was shown in Figure 4-2 with the path coefficients and R^2 values of the outer model (Ramayah et al., 2018).

Figure 4-2:
Assessment of Structural Model



4.10.1 Collinearity (Inner Model)

Collinearity issue is measured using VIF. VIF value of 5 or higher indicates potential collinearity problem may exist (Hair et al., 2011). The VIF results of this study were presented in Table 4-21. All VIF values were below 5 which indicated that collinearity issues did not exist in this study.

Table 4-21:
VIF Results

Hypothesis	Path	VIF Values
H1	Financing Stimuli → Perceived Affordability	1.000
H2	Cognitive Stimuli → Subjective Knowledge	1.000
H3	Property Stimuli → Perceived Lifestyle Fit	1.000
H4	Perceived Affordability → House Purchase Decision	1.458
H5	Subjective Knowledge → House Purchase Decision	1.695
H6	Perceived Lifestyle Fit → House Purchase Decision	2.107
- (For mediation testing)	Financing Stimuli → House Purchase Decision	3.252
	Cognitive Stimuli → House Purchase Decision	3.331
	Property Stimuli → House Purchase Decision	4.017

4.10.2 Significance and Relevance of Structural Model Relations

The significance and relevance of the structural model relationship was measured using bootstrapping with 5000 subsamples at 0.05 significance level and two tailed test type (Ramayah et al., 2018). The result of path coefficient analysis was shown in Table 4-22.

Table 4-22:
Path Coefficient Result

Hypothesis	Path	Hypothesised Direction	β (Coefficient)	T Stats	P Values	Significant	Decision
H1	FS → PA	Negative	0.193	3.302	0.001	Yes	Not supported
H2	CS → SK	Positive	0.463	8.108	0.000	Yes	Supported
H3	PS → PLF	Positive	0.706	18.090	0.000	Yes	Supported
H4	PA → HPD	Positive	0.050	1.484	0.138	No	Not supported
H5	SK → HPD	Positive	0.140	3.583	0.000	Yes	Supported
H6	PLF → HPD	Positive	0.121	2.595	0.009	Yes	Supported

A relationship is statistically significant when p-values are less than 0.05, t statistics more than 1.96 while beta result indicated the positive or negative direction of relationship.

H1 proposed a negative relationship between financing stimuli (FS) (consisted of price, financing facilities and location) and perceived affordability (PA). The p value (p = 0001) was less than 0.05 and t statistics (t = 3.302) exceeded 1.96 which was significant. However, the test result showed a positive beta (β = 0.193) which did not align with the predicted direction. Therefore, H1 was not supported.

H2 proposed a positive relationship between cognitive stimuli (CS) (consisted of social influence, developer brand and superstitious belief) and subjective knowledge (SK). The test result showed a positive beta (β = 0.463) which aligned with the predicted direction. The p value (p = 0.000) was less than 0.05 and t statistics (t = 8.108) exceeded 1.96 which was significant. Therefore, H2 was supported.

H3 proposed a positive relationship between property stimuli (PS) (included house features, facilities, security, neighbourhood and environment) and perceived lifestyle fit (PLF). The test result showed a positive beta (β = 0.706) which aligned with the predicted direction. The p value (p = 0.000) was less than 0.05 and t statistics (t = 18.090) exceeded 1.96 which was significant. Therefore, H3 was supported.

H4 proposed a positive relationship between perceived affordability (PA) and house purchase decision (HPD). The test result showed a positive beta (β = 0.050) which aligned with the predicted direction. However, the p value (p = 0.138) was more than 0.05 and t statistics (t = 1.484) was less than 1.96 which was not significant. Therefore, H4 was not supported.

H5 proposed a positive relationship between subjective knowledge (SK) and house purchase decision (HPD). The test result showed a positive beta (β = 0.140) which aligned with the predicted direction. The p value (p = 0.000) was less than 0.05 and the and t statistics (t = 3.583) exceeded 1.96 which was significant. Therefore, H5 was supported.

H6 proposed a positive relationship between perceived lifestyle fit (PLF) and house purchase decision (HPD). The test result showed a positive beta (β = 0.121) which aligned with the predicted direction. The p value (p = 0.009) was less than 0.05 and the t statistics (t = 2.595) exceeded 1.96 which was significant. Therefore, H6 was supported.

4.10.3 Mediation Analysis

There were three mediation relationships being tested in this study and the result was show in Table 4-23.

Table 4-23:
Indirect Effects for Mediators

Hypothesis	Path	β (Coefficient)	P Values	Significant	Decision
H7	FS → PA → HPD	0.010	0.189	No	Not supported
H8	CS → SK → HPD	0.065	0.001	Yes	Supported
H9	PS → PLF → HPD	0.085	0.011	Yes	Supported

H7 proposed perceived affordability (PA) mediates the relationship between financing stimuli (FS) and house purchase decision (HPD). The p value (p = 0.189) exceeded 0.05 which was not significant. Therefore, H7 was not supported.

H8 proposed subjective knowledge (SK) mediates the relationship between cognitive stimuli and house purchase decision (HPD). The p value (p = 0.001) was less than 0.05 which was significant. Therefore, H8 was supported.

H9 proposed perceived lifestyle fit (PLF) mediates the relationship between property stimuli and house purchase decision (HPD). The p value (p = 0.011) was less than 0.05 which was significant. Therefore, H9 was supported.

Meanwhile, the type of mediation was identified through comparing the indirect effects and direct effects of mediators as shown in Table 4-24.

Table 4-24:
Mediation Type

Hypothesis	Path	Direct Effect (P values)	Significance	Indirect Effect (P values)	Significance	Mediation Type
H7	FS → PA → HPD	0.027	Yes	0.189	No	No Mediation
H8	CS → SK → HPD	0.022	Yes	0.001	Yes	Partial Mediation
H9	PS → PLF → HPD	0.000	Yes	0.011	Yes	Partial Mediation

For H7, the direct effect was significant but the indirect effect was not significant. Therefore, there is no mediation for this path. Meanwhile for H8 and H9, both direct effect and indirect effect were significant. Therefore, both H8 and H9 were partial mediation.

Table 4-25:
Total Effect

Hypothesis	Path	Direct Effect (β Coefficient)	Indirect Effect (β Coefficient)	Total Effect (β Coefficient)
H7	FS → PA → HPD	0.124	0.010	0.134
H8	CS → SK → HPD	0.139	0.065	0.204
H9	PS → PLF → HPD	0.426	0.085	0.511

The total effect represented the cumulative impact of both direct and mediated paths. The results of total effects in Table 4-25 showed that mediator of perceived lifestyle fit has the highest total effect (0.511) among perceived affordability (0.134) and subjective knowledge (0.204). Therefore, perceived lifestyle fit was the most influential mediator in the model of this study.

4.10.4 Coefficient of Determination (R^2)

The R^2 (Coefficient of Determination) was assessed with purpose to evaluate the model's predictive accuracy. The effect ranges from 0 to 1 where higher value indicating

higher levels of predictive accuracy (Ramayah et al., 2018). R^2 values of 0.75 is substantial, 0.50 is moderate and 0.25 is weak (Hair et al., 2017). The result of R^2 was shown in Table 4-26.

Table 4-26:
Result of R^2 Values

Construct	R^2	R^2 Adjusted
Perceived Affordability (PA)	0.037	0.035
Subjective Knowledge (SK)	0.214	0.212
Perceived Lifestyle Fit (PLF)	0.499	0.498
House Purchase Decision (HPD)	0.699	0.694

The R^2 values for perceived affordability (PA) was 0.037, indicating that only 3.7% of the variance in perceived affordability was explained by financing stimuli, the combined influence of price, financing facilities and location. This result suggested the model had fall below the 0.25 threshold for weak explanatory power, indicating the model may be missing key determinants of perceived affordability such as income (Azmi & Bujang, 2021) and government subsidy (Lai et al., 2023). This could be due to the small effect size of financing stimuli towards perceived affordability ($f^2 = 0.039$). Since the effect size is small, it is not strong enough to significantly influence house buyer's perceived affordability.

The R^2 values for subjective knowledge (SK) was 0.214, indicating that only 21.4% of the variance in subjective knowledge was explained by cognitive stimuli, the combined effect of social influence, developer brand and superstitious belief. This result suggested the model had weak explanatory power for predicting subjective knowledge. This could be due to the medium effect size of cognitive stimuli towards subjective knowledge ($f^2 = 0.273$). This supported the hypothesis that cognitive-based stimuli could influence house buyer's subjective knowledge.

The R^2 values for perceived lifestyle fit (PLF) was 0.499, indicating that 49.9% of the variance in perceived lifestyle fit was explained by property stimuli, the combined influence of house features, facilities, security, neighbourhood and environment. This result suggested the model had moderate explanatory power for predicting perceived lifestyle fit. This could be due to the exceptionally large effect size of property stimuli towards perceived lifestyle fit ($f^2 = 0.995$). This suggested that property-related stimuli were high contributor to house buyer's perception of lifestyle compatibility.

The R^2 values for house purchase decision (HPD) was 0.699, indicating that 69.9% of the variance in house purchase decision was explained by the combined influence of perceived affordability, subjective knowledge and perceived lifestyle fit. This result suggested the model had substantial explanatory power for predicting house purchase decision. This could be due to the small effect size of perceived lifestyle fit ($f^2 = 0.023$) and subjective knowledge ($f^2 = 0.039$) towards house purchase decision. Besides, the R^2 had escalated from the preliminary analysis of external stimuli ($R^2 = 0.504$) to 0.699 in stage 2 HOC, which proved that utilising HOC to group relevant exogenous constructs as external stimuli group evidently improve the prediction of criteria (Johnson et al., 2011).

4.10.5 Effect Size (f^2)

The level of effect size (f^2) assesses the relative impact of a predictor construct (exogenous) on endogenous construct. It specifically assesses how strong does one exogenous construct have effect on endogenous construct in terms of R^2 values. The f^2 values of 0.35 is considered large, 0.15 as medium and 0.02 as small effect sizes (Cohen, 1988). The f^2 values of this study were shown in Table 4-27.

Table 4-27:
Result of f^2 Values

Path	Relationship	f^2	Effect Size
FS → PA	Financing Stimuli → Perceived Affordability	0.039	Small
CS → SK	Cognitive Stimuli → Subjective Knowledge	0.273	Medium
PS → PLF	Property Stimuli → Perceived Lifestyle Fit	0.995	Large
PA → HPD	Perceived Affordability → House Purchase Decision	0.006	None
SK → HPD	Subjective Knowledge → House Purchase Decision	0.039	Small
PLF → HPD	Perceived Lifestyle Fit → House Purchase Decision	0.023	Small
FS → HPD	Financing Stimuli → House Purchase Decision	0.016	None
CS → HPD	Cognitive Stimuli → House Purchase Decision	0.019	None
PS → HPD	Property Stimuli → House Purchase Decision	0.150	Medium

The result from Table 4-27 showed that only property stimuli had an exceptionally large effect on perceived lifestyle fit ($f^2 = 0.995$) indicating high importance of property stimuli towards perceived lifestyle fit. Cognitive stimuli also contributed meaningfully with medium effect on subjective knowledge ($f^2 = 0.273$). Financing stimuli has only small effect size on perceived affordability ($f^2 = 0.039$). As explained previously, this could be due to the effect of price, financing facilities and location towards perceived affordability were not

strong enough comparing to other key determinants that not included in this study such as income (Azmi & Bujang, 2021) and government subsidy (Lai et al., 2023).

As for the mediators, both subjective knowledge and perceived lifestyle fit have small effect size on house purchase decision (f^2 = 0.039, f^2 = 0.023) while perceived affordability had no effect on house purchase decision (f^2 = 0.006).

Although not stated in hypothesis, the direct paths from external stimuli to house purchase decision were tested to identify the mediation type of mediators. The direct path of property stimuli has medium effect on house purchase decision (f^2 = 0.150) while there were no effect of both direct paths of financing stimuli and cognitive stimuli towards house purchase decision (f^2 = 0.016, f^2 = 0.019).

When the three direct paths from external stimuli to the house purchase decision were introduced, the model complexity increased and the additional predictors compete to explain the same variance of house purchase decision. These changes were theoretically expected on the redistribution of effect size in full structural model when compared with the effect size of preliminary analysis of external stimuli in Table 4-20. Adding relationship paths naturally shifted the f^2 values of paths from organism of perceived affordability (f^2 : 0.001 → 0.006), subjective knowledge (f^2: 0.111 → 0.039) and perceived lifestyle fit (f^2 : 0.420 → 0.023) to house purchase decision. This shift shown that the organism were sensitive to the presence of direct external stimuli, which proved that comparing the direct and indirect effect of mediators provide a more comprehensive model on this study.

4.10.6 Predictive Relevance (Q^2)

Predictive relevance (Q^2) of a path model is used to predict the model's ability to predict or reconstruct data. Q^2 value larger than 0 indicates the exogenous constructs have predictive relevance for endogenous construct under investigation (Fornell & Cha, 1994). The result of Q^2 predict was shown in Table 4-28.

Table 4-28:
Result of Q^2 Predict Values

Endogenous Construct	Q^2 Predict	RMSE	MAE
Perceived Affordability (PA)	0.030	0.989	0.808
Subjective Knowledge (SK)	0.204	0.898	0.706
Perceived Lifestyle Fit (PLF)	0.492	0.719	0.558
House Purchase Decision (HPD)	0.654	0.594	0.436

All the Q^2 values of perceived affordability, subjective knowledge, perceived lifestyle fit and house purchase decision were larger than 0, indicated the exogenous constructs have predictive relevance for the endogenous constructs. Perceived affordability and subjective knowledge had low predictive power (Q^2 = 0.030, Q^2 = 0.204) while perceived lifestyle fit and house purchase decision had substantial predictive power (Q^2 = 0.492, Q^2 = 0.654). This indicated that this model effectively predicted outcomes for the constructs.

4.10.7 PLSpredict

In analysis for PLSpredict, a Q^2 predict value of zero or less suggests that the predictive power of the PLS-SEM analysis for that indicator does not even outperform the most naïve benchmark. For those indicators with Q^2 predict > 0, the RMSE or MAE values are compare with the naïve LM benchmark (Shmueli et al., 2019). Since the Q^2 values obtained in this study exceeded 0, the next step would be to compare between PLS-SEM RMSE and LM RMSE. The results were shown in Table 4-29.

Table 4-29:
Predictive Performance Assessment of PLSpredict

Endogenous Construct	PLS-SEM RMSE	LM RMSE	Comparison
Perceived Affordability (PA)	0.987	0.948	LM performed better
Subjective Knowledge (SK)	0.896	0.884	LM performed better
Perceived Lifestyle Fit (PLF)	0.717	0.727	PLS outperformed
House Purchase Decision (HPD)	0.592	0.598	PLS outperformed

The results shown same number of indicators (LM performed better for PA and SK while PLS outperformed for PLF and HPD) in the PLS-SEM analysis yielded smaller prediction errors compared to the LM. This indicates a medium predictive power of this study's model (Shmueli et al., 2019). Besides, this model achieved a lower PLS-SEM RMSE than LM RMSE for house purchase decision, the core dependent variable of this study, indicating the predictive accuracy of utilising S-O-R framework in this study.

4.11 Multigroup Assessment (MGA)

Multigroup analysis (MGA) is commonly used for group comparisons which provides a better understanding of consumer behaviour in the marketing field (Cheah et al.,

2023). This is because groups are heterogeneous in perceptions and evaluations on latent constructs (Sarstedt & Ringle, 2010 cited in Cheah et al., 2023). Disregarding the population heterogeneity can seriously bias the results and cause inappropriate conclusions (Hair et al., 2019 cited in Cheah et al., 2023).

In this study, MGA would be conducted to determine if there is any difference between male and female group of respondents in the hypothesised relationships. The MGA was assessed using Bootstrap MGA, 5,000 subsamples and a 2-tailed significance test. Based on 2-tailed p-values, a value below 0.05 or above 0.95 indicated significant difference between the groups. The results were shown in Table 4-30 below.

Table 4-30:
Result of MGA

Hypothesis	Path Type	Relationship	MGA P-Value	Verdict
H1	Direct	FS → PA	0.147	Robust
H2	Direct	CS → SK	0.309	Robust
H3	Direct	PS → PLF	0.160	Robust
H4	Direct	PA → HPD	0.433	Robust
H5	Direct	SK → HPD	0.256	Robust
H6	Direct	PLF → HPD	0.062	Robust
H7	Mediation	FS → PA → HPD	0.455	Robust
H8	Mediation	CS → SK → HPD	0.352	Robust
H9	Mediation	PS → PLF → HPD	0.050	Significant

The results shown revealed that H1 to H8 have no statistically significant differences between male and female respondents ($p > 0.05$). This indicated that the influence of financing stimuli (FS) on perceived affordability (PA), cognitive stimuli (CS) on subjective knowledge (SK), property stimuli (PS) on perceived lifestyle fit (PLF) and all stimuli on house purchase decision (HPD) remained consistent across genders. This demonstrated that S-O-R framework was robust and not biased by gender of respondents. Even the mediation relationships between financing stimuli → perceived affordability → house purchase decision (FS → PA → HPD) and cognitive stimuli → subjective knowledge → house purchase decision (CS → SK → HPD) were also robust.

However, there was a significant difference between gender for H9 which perceived lifestyle fit (PLF) mediates the relationship between property stimuli (PS) and house purchase decision (HPD). The result suggested that the path of property stimuli → perceived

lifestyle fit → house purchase decision (PS → PLF → HPD) was more influential for one group. This suggested that even though both genders value property features, the psychological process of translating these features into lifestyle fit to house purchase decision differs among gender.

4.12 Chapter Summary

In conclusion, this chapter has provided the results of data analysis collected. Preliminary data analysis was performed to ensure the data collected was free from missing data and straight lining. The response rate successfully exceeded the sampling size required. Profile of respondents were analysed to better capture their demographic information. Descriptive statistics of mean and standard deviation were analysed to summarise and condense the information for better understanding for this study. Common method bias was not an issue in this study according to collinearity and marker variable test results. Assessment of measurement model was conducted for the stage 1 LOC including collinearity, indicator reliability, internal consistency reliability, convergent validity and discriminant validity. The values of Cronbach's Alpha, composite reliability, factor loading, AVE, Fornell & Larcker's criterion and HTMT matrix of this study were acceptable thus was deemed reliable and valid. Before moving on to structural model assessment, the goodness of fit of this model was tested and the result shown the model is fit. Due to this study utilised HOC method, the contribution and influence of each exogenous constructs of LOC were assessed beforehand. Thereafter, the assessment of structural model was conducted including collinearity test, significance and relevance of structural model, mediation analysis, coefficient of determination, effect size, predictive relevance and PLSpredit. It was found that this study did not have issue of collinearity. The nine hypotheses of study were tested through result of path coefficient and indirect effects, where six hypotheses were found supported while three hypotheses not supported. An additional MGA was tested among gender and found that H1 to H8 did not have significant difference among gender except H9. In the next chapter, the result of data analysis would be further discussed.

CHAPTER 5:

CONCLUSIONS

5.1 Introduction

This chapter discussed the findings from results obtained from the chapter 4 linked with the research objectives of this study. The implications of theoretical and practical of this study would be addressed as well. The limitations of this study were discussed and recommendations were suggested for future studies. Finally, a conclusion was made for this whole study.

5.2 Discussion

The following section discussed the findings of each research objective of this study with reference from the results obtained through data analysis in this study.

5.2.1 Research Objective 1

The first specific objective of this study is to identify the relationship between financial stimuli (price, financing facilities and location) and perceived affordability (organism). A main hypothesis with three sub-hypotheses were created to explore this relationship. H1 was the hypothesis of stage 2 at HOC while H1a, H1b and H1c were the hypotheses at stage 1, LOC.

H1: There is a negative relationship between financing stimuli (price, financing facilities and location) and perceived affordability.

H1a: There is a negative relationship between price and perceived affordability

H1b: There is a negative relationship between financing facilities and perceived affordability.

H1c: There is a negative relationship between location and perceived affordability.

The relationship between financing stimuli (price, financing facilities and location) and perceived affordability was found to be positive (β = 0.193) and significant (p = 0001). However, the proposed direction of hypothesis was negative thus the hypothesis was rejected. To further understand the result of such relationship, H1a, H1b and H1c were studied.

The proposed directions of H1a, H1b and H1c were negative. The relationship of H1a between price and perceived affordability was found to be negative (β = -0.043) as predicted but not significant (p = 0.587). This result showed that higher house price does lead to lower perceived affordability as argued by Rangaswamy et al. (2022) and supported by Kunovac and Zilic (2022). However, this condition could not apply to all people as the same price could be perceived as unaffordable by lower-income earner while high-income earner may perceived as affordable (Stone, 2006 cited in Azmi & Bujang, 2021). Besides, the effect was not significant because although a house price is expensive, obtaining a mortgage loan with satisfying interest rate is not hard for house buyers (Kam et al., 2021) therefore price does not necessarily play a significant role in house buyer's decision.

This is related to H1b, where this study revealed that better financing facilities would result in higher affordability but the result of such relationship was not significant in this study. This is due to the result of H1b relationship between financing facilities and perceived affordability was found to be positive (β = 0.085) but not significant (p = 0.335). This could be due to no matter the credit is favourable or not, borrower still need the loan to purchase a house because of the unaffordable house price (Muzafar & Kunasekaran, 2021). Therefore, the financing facilities influence on perceived affordability is not significant as well.

As for H1c, the result shown that the relationship between location and perceived affordability was positive (β = 0.178) and significant (p = 0.005). From the results of beta coefficient, it was observed that location (β = 0.178) was the strongest predictor of perceived affordability comparing to price (β = -0.043) and financing facilities (β = 0.085). Although the effect size was small (f^2 = 0.019), respondents agreed that better house location was perceived as more affordable. This contradicted with the finding that houses in better location are less affordable, where houses are more expensive in the urban areas while

cheaper in the sub-urban and rural areas (Olanrewaju & Wong, 2020; Osman et al., 2020). However, according to Lamsali et al. (2020), most people prefer their house at convenient location near to workplace and schools. Therefore, there are house buyers that willing to compensate better location with higher house price (Embi et al., 2021).

Therefore, all three hypotheses were rejected. The rejection of all H1a, H1b and H1c explained the rejection of H1 since H1a, H1b and H1c tested the direct relationship between constructs of price, financing facilities and location to perceived affordability. However, the coefficient of determination, R^2 values for perceived affordability was 0.037, which had fall below the 0.25 threshold for weak explanatory power (Hair et al., 2017). This indicated that only 3.7% of the variance in perceived affordability was explained by financing stimuli, the combined influence of price, financing facilities and location. In other words, financing stimuli (price, financing facilities and location) failed to explain variance of perceived affordability. This may be due to missing key determinants such as income (Azmi & Bujang, 2021) and government subsidy (Lai et al., 2023) which have higher influence on perceived affordability compared to price, financing facilities and location. The missing key determinants also drive the small effect size of financing stimuli towards perceived affordability ($f^2 = 0.039$) which is not strong enough to significantly influence house buyer's perceived affordability. This could also be explained through the small effect size of location ($f^2 = 0.019$), negligible effect size of price ($f^2 = 0.001$) and financing facilities ($f^2 = 0.003$) on perceived affordability.

This could be due to instead of the financial capability to purchase a house, the perception on affordability now focused on value. Siahaan et al. (2019) found that perception of consumer value is strongly influenced by the economic value and location of housing. Some people are willing to compensate better location with higher house price because of perceived value (Embi et al., 2021). When people live in prime area close to workplace and children's school, they can save daily commuting time and transportation cost (Olanrewaju & Wong, 2020). In Sabah, traffic congestion is a major issue during peak hours where commuters experience hour-long traffic jams (Paramasivam et al., 2023). The time and cost saved can be better used for their personal interest, family activities and career advancement (Asrar et al., 2024).

Besides, some house buyers do not just consider a house as shelter but as an investment. This changes their perception on affordability. A higher house price may be seen as affordable if it has high potential in value growth or rental yield. Some house buyers

consider purchasing a house as an investment and emphasize on the house's future resell value (Anuar & Wahab, 2022). In other words, they would get a mortgage loan to purchase a more expensive house at prime location as investment to get better rental or resell value in future.

5.2.2 Research Objective 2

The second specific objective of this study is to identify the relationship between cognitive stimuli (social influence, developer brand and superstitious belief) and subjective knowledge (organism). One main hypothesis and three sub-hypotheses were created to explore this relationship. H2 was the hypothesis of stage 2 at HOC while H2a, H2b and H2c were the hypotheses at stage 1, LOC.

H2: There is a positive relationship between cognitive stimuli and subjective knowledge.

H2a: There is a positive relationship between social influence and subjective knowledge.

H2b: There is positive relationship between developer brand and subjective knowledge.

H2c: There is a positive relationship between superstitious belief and subjective knowledge.

The relationship between cognitive stimuli (social influence, developer brand and superstitious belief) and subjective knowledge was found to be positive ($\beta = 0.463$) and significant ($p = 0.000$). The proposed direction of hypothesis was positive which aligned with the result thus the hypothesis was supported. To further understand the result of such relationship, H2a, H2b and H2c were studied.

The relationship of H2a between social influence and subjective knowledge was found to be positive ($\beta = 0.162$) and significant ($p = 0.011$). This positive and significant relationship was in line with Rashotte (2007) cited in Chou et al. (2015) that social influence will affect individual's perception where new information accepted through this interaction will be perceived as facts. When people have questions or in doubt, they often seek for answers from the people they are close with such as family and friends (Nursal et al., 2024) especially for first-time house buyers who have no experience. During discussion, they can obtain information from other people's sharing of experiences and opinions. Since the

discussion is with close people, unclear information or perception can be clarified by asking further explanation. The closer the relationship, the higher trust would be developed (Wu & Li, 2018). The information will be perceived as more accurate if provided by an authoritative figure in the topic field (Deutsch & Gerrard, 1955 cited in Chou et al., 2015).

Meanwhile the relationship of H2b between developer brand and subjective knowledge was found to be positive ($\beta = 0.251$) and not significant ($p = 0.000$). From the results of beta coefficient, it was observed that H2b's developer brand ($\beta = 0.251$) was the strongest predictor of subjective knowledge compared to social influence ($\beta = 0.162$) and superstitious belief ($\beta = 0.152$). This is also in line with Yap et al. (2019) where well-known developers built the brand image as reliable and professional because of the experiences they had. The image portrayed was recognised as an information to consumer (Mehta et al., 2008) through direct and indirect marketing (Ngoc & Tien, 2021).

The relationship of H2c between superstitious belief and subjective knowledge was found to be positive ($\beta = 0.152$) and significant ($p = 0.007$). This result could be influenced by the respondent's ethnicity due to Chinese respondents make up to 34.54% in this study, the highest percentage among all ethnicities. This is due to superstitious belief especially *feng shui* is more prominent among Chinese. When considering a house, Chinese believe in *feng shui,* an ancient technique that are believed to have the capability to bring balance and harmony into the life of house owners (Poojary & Kumar, 2024). Such superstitious belief is a heuristic cue that provide shortcut for people to explain what they want to believe (Liu et al., 2025) even though there is no scientific causality explanation (Chukkali & Dey, 2020). Therefore, people who believe in *feng shui* would believe they have the subjective knowledge to identify houses that can significantly increase the house future investment prospects among potential buyers who also believe in *feng shui* (Hassan et al., 2023) because a house considered auspicious would be able to sell in higher price.

Therefore, all three hypotheses were supported. All H2a, H2b and H2c were accepted therefore H2 was accepted since H2a, H2b and H2c tested the direct relationship between constructs of social influence, developer brand and superstitious belief and subjective knowledge. However, the coefficient of determination, R^2 values for subjective knowledge was 0.214 which was considered weak in explanatory power (Hair et al., 2017). This indicated that only 21.4% of the variance in subjective knowledge was explained by social influence, developer brand and superstitious belief. Cognitive stimuli has a medium effect size towards subjective knowledge ($f^2 = 0.273$). This is due to the combination of weak effect

sizes of social influence (f^2 = 0.020), developer brand (f^2 = 0.045) and superstitious belief (f^2 = 0.023) on subjective knowledge.

From the R^2 and f^2 values obtained, it could be concluded that cognitive stimuli in this study could have select more relevant factors such as experience, information searching and expertise. For instance, experience is one important source of subjective knowledge because subjective knowledge is accumulated through experiences (Hwang & Nam, 2021). Experiences with a product will increase one's subjective knowledge (Lichtenstern et al., 2024). Information searching is another important drive in encouraging subjective knowledge (Tajdini, 2021) because increased knowledge would further drive consumers to search for more information and therefore increase their subjective knowledge (Hwang & Nam, 2021). Besides, expertise such as knowledge and experience will lead to higher subjective knowledge that allows them to have less false familiarity and more accurate recognition on facts (Atir et al., 2024).

5.2.3 Research Objective 3

The third specific objective of this study is to identify the relationship between property stimuli (house features, facilities, security, neighbourhood and environment) on perceived lifestyle fit (organism). One main hypothesis and five sub-hypotheses were created to explore this relationship. H3 was the hypothesis of stage 2 at HOC while H3a, H3b, H3c, H3d and H3e were the hypotheses at stage 1, LOC.

H3: There is a positive relationship between property stimuli and perceived lifestyle fit.

H3a: There is a positive relationship between house features and perceived lifestyle fit.

H3b: There is a positive relationship between facilities and perceived lifestyle fit.

H3c: There is a positive relationship between security and perceived lifestyle fit.

H3d: There is a positive relationship between neighbourhood and perceived lifestyle fit.

H3e: There is a positive relationship between environment and perceived lifestyle fit.

The relationship between property stimuli (house features, facilities, security, neighbourhood and environment) on perceived lifestyle fit was found to be positive (β = 0.706) and significant (p = 0.000). The proposed direction of hypothesis was positive which

aligned with the result thus the hypothesis was supported. To further understand the result of such relationship, H3a, H3b, H3c, H3d and H3e were studied.

The relationship of H3a between house features and perceived lifestyle fit was found to be positive (β = 0.297) and significant (p = 0.000). From the results of beta coefficient, it was observed that house features (β = 0.297) was the strongest predictor of perceived lifestyle fit compared to facilities (β = 0.156), security (β = -0.037), neighbourhood (β = 0.248) and environment (β = 0.136). This was in line with finding by Sarip and Lee (2015) who mentioned that house design and house type has transformed in the flow of emerging lifestyle living. To most homeowners, a house is no longer functioning as a simple shelter but is becoming more as a part of their lifestyle (Azmi et al., 2022b). This is because after a hectic and tiring day, busy homeowner would want to rest in a private space and comfortable atmosphere (Bui & Nguyen, 2023; Hassan et al., 2021a). Even though the current house size is shrinking due to expensive and scarcity of land, there is an emerging trend of minimalist that function as design strategy and lifestyle philosophy which is perceived as fit to current living (Gandhi & Sutaria, 2025).

The relationship of H3b between facilities and perceived lifestyle fit was found to be positive (β = 0.156) and significant (p = 0.034). This was in line with the finding by Ismail et al. (2024b) where homeowners are found to prefer living in luxury place with extra amenities and facilities to accommodate their lifestyle. According to Shamsudin et al. (2017), house buyers are willing to pay more for proper facilities in form of maintenance fees. Sports facilities (Nagy & Tobak, 2015) and open space or parks (Fonseca et al., 2022) allow homeowners to exercise regularly to achieve healthier lifestyle.

However, the relationship of H3c between security and perceived lifestyle fit was found to be negative (β = -0.037) and not significant (p = 0.580). This contradicted with the importance of security to allow homeowner to live in peace and maintaining their lifestyle through daily routines (Ghazali et al., 2021). This could be due to the financial compromise required as more secured feeling require more financial and resources (Jensen, 2007). For instance, staying in gated and guarded community require additional management fee (Shamsudin et al., 2017). The money spent on security feature could be better used for other usage. For modern lifestyle, ordering food and parcel delivery service are norms for busy lifestyle people. The extra security gated and guarded feature would cause inconvenience for the homeowners (Chompunic et al., 2023). Therefore, security was not considered as a significant impact on perceived lifestyle fit among respondents.

Meanwhile the relationship of H3d between neighbourhood and perceived lifestyle fit was found to be positive ($\beta = 0.248$) and significant ($p = 0.000$). This was supported by Salehi et al. (2016) who found better neighbourhood were positively associated with healthier lifestyle behaviours. This is in line with Fattah et al. (2021) where being a part of a reputable neighbourhood community can enhance the satisfaction among the residents. A good neighbourhood with harmonious relationship among residents can create a good living atmosphere and promote closeness among neighbours (Han et al. 2023). Maintaining closeness will increase social interaction (Hassan et al., 2021d) and therefore improve social lifestyle through social networking (Han et al., 2023).

The relationship of H3e between environment and perceived lifestyle fit was found to be positive ($\beta = 0.136$) and significant ($p = 0.035$). This was in line with Sivadasan et al (2020) that environmental-friendly homeowners prefer natural environment and less pollution, such as green environment surrounded by trees (Nieuwenhuijsen, 2020). Homeowner with healthy lifestyle prioritise clean environment that can increase physical activity such as walking (Florindo et al., 2013) and good sleep quality for better mental and physical health (Billings et al., 2020).

Therefore, four hypotheses of H3a, H3b, H3d and H3e were supported while H3c was rejected. Meanwhile, the coefficient of determination, R^2 values for perceived lifestyle fit was 0.499, which was considered moderate in explanatory power (Hair et al., 2017). This indicated that 49.9% of the variance in perceived lifestyle fit was explained by property stimuli, the combined influence of house features, facilities, security, neighbourhood and environment. In other words, there is still another half of unexplored determinants of perceived lifestyle fit which could be stage of life and family composition. For instance, young adult in earlier stage of life usually is still single therefore has higher preference for independence lifestyle. When they get married, they shift to adopt family-oriented lifestyle and would sacrifice by trading off personal privacy for family members welfare (Nguyen et al., 2023).

Another interesting finding from this result was property stimuli has a very large effect size ($f^2 = 0.995$) on perceived lifestyle fit even though each constructs have small effect sizes on perceived lifestyle. For instance, all the effect sizes of house features ($f^2 = 0.049$), facilities ($f^2 = 0.015$), neighbourhood ($f^2 = 0.063$) and environment ($f^2 = 0.010$) towards perceived lifestyle fit were small while security has negligible effect size on perceived lifestyle fit ($f^2 = 0.001$). Although each constructs have only small effect size,

however when combined the property stimuli showcased collective effect size of 0.995. This proved the differences of testing the individual relationship of each construct with organism at stage 1 LOC compared to testing the constructs as a whole package using HOC model.

5.2.4 Research Objective 4

The fourth specific objective of this study is to identify the relationship between perceived affordability, subjective knowledge and perceived lifestyle fit (organism) on house purchase decision (response). Three hypotheses were created to explore these relationships.

H4: There is a positive relationship between perceived affordability and house purchase decision.

H5: There is a positive relationship between subjective knowledge and house purchase decision.

H6: There is a positive relationship between perceived lifestyle fit and house purchase decision.

For H4, the relationship between perceived affordability and house purchase decision was found to be positive ($\beta = 0.050$) but not significant ($p = 0.138$) thus H4 was rejected. This implied that respondents agreed that higher perceived affordability would drive them to make house purchase decision, only that this was not significant. This result was related to the negligible effect size ($f^2 = 0.006$) of perceived affordability towards house purchase decision. This was explained by Notani (1997) that having the affordability to purchase does not necessarily result on the purchasing action, instead the intention to purchase plays a more important role in driving the purchase action. Besides, when a house is needed as shelter, home buyers would have to purchase whether they afford or not in order to prevent homelessness (DeLuca & Jang-Trettien, 2020). As for investors, affordability is never a concern as they would purchase the house and then resell at higher price (Hassan et al., 2021d). In fact, some investors prefer high priced properties that is perceived to appreciate higher value in future (DeBardhan et al., 2003 cited in Rangaswamy et al., 2022).

This could also relate to young adults nowadays that have a different attitude and behaviour towards material ownership. Sehra et al. (2022) found that materialism, psychological factors and social media have a considerable impact on young adults' impulsive housing and real estate buying behaviour. This shown that the current impulsive buying behaviour exists among young adults to the extent of expensive real estate property.

This contrasted with the traditional perspective that purchasing a property require thorough consideration because it was the most expensive item in a household spending (Hassan et al., 2021d) and house buyers will consider thoroughly to prevent any regrets in the future (Ullah & Sepasgozar, 2020).

For H5, the relationship between subjective knowledge and house purchase decision was found to be positive (β = 0.140) and significant (p = 0.000) thus H5 was accepted. From the results of beta coefficient, it was observed that H5 subjective knowledge (β = 0.140) was the strongest predictor of house purchase decision compared to perceived affordability (β = 0.050) and perceived lifestyle fit (β = 0.121). This was in line with several studies that found subjective knowledge is associated with positive purchase intention such as Eberhardt et al. (2021), Gu (2022) and Ng (2022). Although there is difference between what people think they know and what they actually know (Hwang & Nam, 2021), there is a tendency for consumer to rely on their intuitive thinking (Quevedo-Silva et al., 2025). This is because consumer with high subjective knowledge has high confidence in making decision (Utkarsh et al., 2019) including on purchase decision (Huertas & Hanna, 2020). Subjective knowledge in financial literacy also highly influences the house purchase decision. In Malaysia, young adults have been advised to improve their financial literacy before purchasing their first house since purchasing a house is a significant decision involving financial commitment and long-term investment (Sapiri et al., 2023). One of the initiatives taken by Malaysia government is through AKPK establishing the Credit Counselling system to promote, educate and advise public on financial matters and assist in house purchasing journey (Liu & Ong, 2021).

For H6, the relationship between perceived lifestyle fit and house purchase decision was found to be positive (β = 0.121) and significant (p = 0.009) thus H6 was accepted. This was in line with Azmi et al. (2022b) that mentioned a house is no longer functioning as a simple shelter to the homeowner but is becoming more as a part of their lifestyle. Some people especially young adults purchase house for a lifestyle upgrade (Hassan et al., 2021a). House buyers do not only purchase a house purely for staying. Instead, they are buying the lifestyle concept offering luxurious extras including facilities provided such as swimming pool, gym room, security service, sea view or city view and greenery landscapes (Sarip & Lee, 2015). Bui and Nguyen (2023) found that lifestyle was one of the reasons among young house buyers to consider purchasing apartment due to their growing preference for sophisticated and contemporary living. One of the emerging trends of housing preferences

among young adults is to stay in serviced apartment that offer privacy, convenience and higher perceived social class (Sukereman et al., 2023).

The coefficient of determination, R^2 values for house purchase decision was 0.699, which was considered near substantial explanatory power (Hair et al., 2017). This indicated that 69.9% of the variance in house purchase decision was explained by perceived affordability, subjective knowledge and perceived lifestyle fit. Although both effect sizes of subjective knowledge (f^2 = 0.039) and perceived lifestyle fit (f^2 = 0.023) were small including the negligible effect size of perceived affordability (f^2 = 0.006), but when combined these three constructs produced near substantial explanatory power for house purchase decision.

5.2.5 Research Objective 5

The fifth specific objective of this study is to identify the role of perceived affordability (organism) as mediator between financial stimuli and house purchase decision (response). A hypothesis was created to explore this relationship:

H7: Perceived affordability mediates the relationship between financing stimuli and house purchase decision.

The result showed that perceived affordability did not mediate the relationship between financing stimuli and house purchase decision with p-value (p = 0.189) exceeded 0.05 which was not significant. In fact, the direct relationship between financing stimuli and house purchase decision was found to be significant (p = 0.027). The total beta coefficient effect of H7 was 0.134. This result differed from Ismail et al. (2023b) who found that affordability partially mediated the relationship between economic factors and home ownership where the economic factors included house price, income and expenditure. This could be due to the different constructs used for financing stimuli in this study that did not include income and expenditure which were included by Ismail et al. (2023b). As mentioned earlier in discussion for H1, this study could be missing the key determinants of income, government subsidy and expenditure as constructs for perceived affordability.

5.2.6 Research Objective 6

The sixth specific objective of this study is to identify the role of subjective knowledge (organism) as mediator between cognitive stimuli and house purchase decision (response). A hypothesis was created to explore this relationship:

H8: Subjective knowledge mediates the relationship between cognitive stimuli and house purchase decision.

The result showed that subjective knowledge mediated the relationship between cognitive stimuli and house purchase decision through partial mediation with both significant indirect effect ($p = 0.001$) and significant direct effect ($p = 0.022$). The total beta coefficient effect of H8 was 0.204. This result was in line with Kuchler and Stroebe (2021) who found that peer pressure affects people's subjective perception on house purchase intention. Similarly, subjective knowledge could induce consumer into product purchasing through brand engagement (Duman, 2018) such as assumption that well-known developer produced higher quality houses (Yap et al., 2019).

The role of subjective knowledge as partial mediator indicated that there were both house buyers make house purchase directly influenced by cognitive stimuli including social influence, developer brand and superstitious belief, and also house buyers that were influenced indirectly by subjective knowledge in making house purchase decision. This suggested that after exposed to cognitive stimuli (stimuli), internal psychology of subjective knowledge (organism) indeed played an important role in house purchase decision making (response). Therefore, house developers could take this opportunity to increase consumer's subjective knowledge through better branding development (Yap et al., 2019).

5.2.7 Research Objective 7

The seventh specific objective of this study is to identify the role of perceived lifestyle fit (organism) as mediator between property stimuli and house purchase decision. A hypothesis was created to explore this relationship:

H9: Perceived lifestyle fit mediates the relationship between property stimuli and house purchase decision.

The result showed that perceived lifestyle fit mediated the relationship between property stimuli and house purchase decision through partial mediation with both significant

indirect effect (p = 0.011) and significant direct effect (p = 0.000). The total beta coefficient effect of perceived lifestyle fit was 0.511, the most influential mediator in this study among perceived affordability (0.134) and subjective knowledge (0.204). The role of perceived lifestyle fit as partial mediator indicated that although there are still house buyers that look for basic property feature of a house, there are also some house buyers that assume purchasing a house as lifestyle upgrade (Hassan et al., 2021a). This was in line with Bui and Nguyen (2023) that house buyers look for house that can provide a comfortable atmosphere after a tiring day due to busy modern lifestyle. The emerging of lifestyle living among young adults drive the property industry to steer towards building houses aligned with customer preference of contemporary lifestyle (Kwon & Kim, 2017).

This suggested that after exposed to property stimuli (stimuli), internal psychology of perceived lifestyle fit (organism) indeed played an important role in house purchase decision making (response). Therefore, house developers could take this opportunity to expand marketing strategy to present how a house can upgrade and improve existing lifestyle through showcasing attractive features of house.

5.2.8 Summary of Discussion

As the conclusion, this study successfully achieved all seven objectives which were to identify the relationship between stimuli and organisms, between organisms and response, and organisms as mediators utilising S-O-R frameworks. A total of 9 hypotheses were tested, and 6 hypotheses were supported while 3 hypotheses were rejected as shown in Table 5-1.

Table 5-1:
Summary of Research Objectives

Research Objective		Hypothesis	Status
RO1	H1	There is a negative relationship between financing stimuli and perceived affordability.	Not supported
RO2	H2	There is a positive relationship between cognitive stimuli and subjective knowledge.	Supported
RO3	H3	There is a positive relationship between property stimuli and perceived lifestyle fit.	Supported
RO4	H4	There is a positive relationship between perceived affordability and house purchase decision.	Not supported
	H5	There is a positive relationship between subjective knowledge and house purchase decision.	Supported
	H6	There is a positive relationship between perceived lifestyle fit and house purchase decision.	Supported

Table 5-1 continued

RO5	H7	Perceived affordability mediates the relationship between financing facilities and house purchase decision.	Not supported
RO6	H8	Subjective knowledge mediates the relationship between cognitive stimuli and house purchase decision.	Supported
RO7	H9	Perceived lifestyle fit mediates the relationship between property stimuli and house purchase decision.	Supported

5.3 Implications

This study made significant theoretical and practical contributions to the property market in terms of customer purchasing factors by utilising S-O-R framework.

5.3.1 Theoretical Implication

In S-O-R framework, external factors act as stimuli (S) and affect the internal perception and cognitive process of organism (O) to response (R) (Mehrabian & Russell, 1974). This study utilised S-O-R framework in applying house purchasing factors to identify the role of consumer internal psychology (organism) as mediator when stimulated by external factors (stimuli) in affecting decision making (response) (Istudor & Pelau, 2012). This was to fill in the theoretical gap from previous housing study that neglected the role of consumer psychology by using the concept of straightforward input → output model that assumes all consumers behave the same (Jacoby, 2002). Internal psychology differs among individuals as same external environment would form different perception among different individuals (Istudor & Pelau, 2012).

This study successfully achieved all seven objectives to identify the relationship between stimuli and organisms, between organisms and response, and organisms as mediators utilising S-O-R frameworks. Especially for the mediators, it was found that subjective knowledge and perceived lifestyle fit played role as partial mediation, indicated that human psychology did influence consumer's behaviour and decision making when induced by external stimulus (Modi & Jhulka, 2012 cited in Okoro et al., 2021).

In the PLSpredict result, this model achieved predictive accuracy of utilising S-O-R framework in this study. Meanwhile the MGA result also shown that using S-O-R framework

in this study was robust and not biased by gender of respondents. This showed that S-O-R framework is also effectively used as theory in housing related studies that focus on house purchasing factors involving consumer psychology.

5.3.2 Practical Implication

Surprisingly, this study found that location has positive and significant relationship with perceived affordability, which contradicted with previous studies that assumed better location means higher house price thus lower affordability (Olanrewaju & Wong, 2020). According to Embi et al. (2021), some house buyers are willing to compensate better location with higher house price which explained such finding as convenient location could save traveling distance and time (Asrar et al., 2024). Therefore, government could escalate the existing PR1MA program by converting reserved state land near prime area to residential land use although the house price may need to be higher due to expensive urban land.

In solving issue for expensive urban land, town planner and local authorities could initiate new township as new city centres. In getting support, government can develop partnership with local developer to build new community of satellite township equipped with facilities such as schools, housing, offices and banks. Engaging in partnership with local developers will increase involvement of property stakeholders that have better understanding of the local property market. Dispersing the focus of city centres to satellite town can reduce the overcrowding urban population while at the same time, allowing more location for housing developments near satellite towns that are closer to job opportunities.

This study also found that perceived lifestyle fit has a positive and significant relationship with house purchase decision, and perceived lifestyle fit partially mediated the relationship between property stimuli and house purchase decision. Understanding lifestyle concept in housing studies will allow planners, designers and builders to have better understanding in consumer's cognition, needs and demands (Zarrabi et al., 2022). For instance, some people living in urban area are looking for the urban lifestyle which provides convenience and modern living (Mehta, 2024). There are also people who prefer to stay in sub-urban with larger house size and less hectic lifestyle. Houses should be designed to have features able to provide a living lifestyle suited to the homeowner.

Through understanding the current trend of housing consumer behaviour, local authorities and town planner should develop a more targeted housing policy (Soon & Tan,

2020) to be followed by housing developers. This is to ensure housing needs and demand by consumers are truly met and not just by merely approving housing projects by developers that differ from consumer's expectations and may end up as vacant houses.

5.3.3 Managerial Implication

The findings of this study showed that among cognitive stimuli, developer brand has the highest influence on subjective knowledge comparing to social influence and superstitious belief. Meanwhile, subjective knowledge has a positive and significant relationship with house purchase decision, and subjective knowledge partially mediated the relationship between cognitive stimuli and house purchase decision. This hinted that a successful developer brand does influence and increase the subjective knowledge of consumer that the branded developer builds better quality house (Yap et al., 2019). Therefore, developer could improve marketing strategy by boosting the brand image as a trustable developer through showcasing high quality and on time delivery of finished property (Yap et al., 2019). The marketing strategy can be direct and indirect informational advertisement that could increase consumer's awareness on the developer's existence since low marketing activities are associated with unrecognised developer brand (Chia et al., 2016). Therefore, it is important to create and improve brand image of developer to increase the subjective knowledge and good impression of the developer.

The study also found that among property stimuli, house features have the highest influence on perceived lifestyle fit followed up by neighbourhood comparing to facilities, security and environment. This hinted that house buyers prioritise house features such as house type, design, size, quality and number of rooms (Lamsali et al., 2020). Developer could leverage on this finding by studying and improving the current house designs to accommodate the needs of young consumers that differ from previous generation. This is because there is generational gap between different generation among Generation X, Y and Z (Kaya et al., 2020; Abdullah et al., 2024). Besides, under the influence of modern society, homeowner would want to rest in a private space and comfortable atmosphere after a hectic and tiring day (Bui & Nguyen, 2023). In line with shrinking house size, the minimalist lifestyle design concept (Gandhi & Sutaria, 2025) with custom-made furniture would suit and accommodate young homeowner needs. The new houses built could integrate new element such as design customization on space optimisation that provide open space design instead of fixed room that allow homeowner to make use of the space into small office,

bedroom, or storage room. The open space design can be a marketing selling point which will attract customers as they can freely utilise the space through own creativity and needs.

Meanwhile, this study found that perceived lifestyle fit has a positive and significant relationship with house purchase decision, and perceived lifestyle fit partially mediated the relationship between property stimuli and house purchase decision. New approach on property marketing strategies should focused on showcasing a desired lifestyle living (Sarip & Lee, 2015) especially for customers from young adults. Depending on the customer's preference, there has been increasing trend of urban living, sub-urban living and even smart living. Smart living with technology drives the increasing acceptance and demand of smart home (Hong et al., 2020) which are often depicted as modern lifestyle attracting house buyers from younger generation. Showcasing the ability of a house in providing different lifestyle will allow the customer to imagine themselves living in the desired lifestyle thus increasing their desire to purchase the house. This can be enhanced by decorating show houses with lifestyle living with appealing designs such as modern and contemporary designs for urban lifestyle, warm and environment friendly for sub-urban lifestyle and houses installed with smart technologies for smart homes. With correct colours and house design, visual and atmospheric stimuli can greatly invoke customer's inner desire to imagine themselves living in the desired lifestyle (Gou et al., 2025).

Customer segmentation is important in identifying the potential customers with their preferences (Pavithra & Prashar, 2022). In order to understand the latest trend, more comprehensive market research focusing on house features and lifestyle living should be conducted on young adults. Gathering the feedback on definition of lifestyle living among customers can provide a clearer guidance on different preferred lifestyle by customers in terms of demographic profiles. By gathering the feedback, collected data allowed for market analysis such as latest trend according to customer segmentation. Through customer segmentation, targeted marketing on customers from specific demographics and financial background will provide higher chance of sales rather than broad and general marketing (Pavithra & Prashar, 2022).

5.4 Limitations of Study

This study had its own limitation acknowledged that had led to the findings which may contrast with previous and future research.

Firstly, the constructs for financing stimuli used in this study were price, financing facilities and location. The R^2 values for perceived affordability was 0.037, which had fall below the 0.25 threshold for weak explanatory power (Hair et al., 2017) that indicated financing stimuli (price, financing facilities and location) failed to explain variance of perceived affordability. This may be due to missing key determinants such as income (Azmi & Bujang, 2021), government subsidy (Lai et al., 2023) and expenditure (Ismail et al., 2023b) that drive the small effect size of financing stimuli towards perceived affordability ($f^2 = 0.039$).

Secondly, gender as marker variable was only used as post-hoc statistical analysis for common method bias detection. The marker variable should be prepared earlier and included in questionnaire during data collection to detect common method bias (Lindell & Whitney, 2001).

Thirdly, the highest ethnics participated in this study is Chinese (34.54%). This could alter the result on superstitious belief influence on knowledge where superstitious belief of *feng shui* on housing is mostly common among Chinese and lesser among other ethnicities.

Fourthly, 46.63% of respondents work in public sector where there could be different perception on housing. Public sector is considered a more stable job where civil servants can focus on long term plan without worrying on financial instability. In contrast, private sector employees are constantly alert on their financial status and would delay house purchase due to job and market instability. Besides, civil servants have special housing loans and subsidies which is not applicable to private sector employees.

Lastly, this study was conducted in cross sectional timeline where the data was collected once only from the respondents. Therefore, this study was unable to monitor, track and compare changes over time on factors influencing house purchasing decision among young adults aged between 20 to 40 years. This is because as time passed, newer generations will have different perceptions on homeownership and be influenced by different factors on house purchase decision.

5.5 Recommendation for Future Studies

Based on the limitations of this study, a few recommendations were suggested for future related research on house purchase decision factors.

First, suitable constructs should be selected for financing stimuli where income, expenditure and government subsidies could be included to ensure the constructs truly represent factors that influence house purchase decision.

Secondly, it is vital to include marker variable irrelevant to context of study in questionnaire during data collection to detect common method bias (Lindell & Whitney, 2001).

Thirdly, the ethnicity of respondents should be more evenly distributed among all ethnicities in Sabah to prevent the effect on certain variables, for instance the superstitious belief variable in this study.

Fourthly, the occupation type of respondents should be more evenly distributed towards private sector employees as they made up the most of job holders in Sabah.

Lastly, if possible, it is recommended for future study to be conducted in longitudinal study to compare the changes or shifting of trends on consumer behaviours toward house purchasing decision. This is due to the definition of young adults depends on age criteria. In this study, young adults are from Generation Y and Generation Z. For a similar study to be conducted ten years later, the young adults aged between 20 to 40 years old would be from Generation Z and Generation Alpha. This means under longitudinal study, a cleared trend comparation can be achieved among different generation cohorts.

5.6 Conclusion

This study had explored the factors influencing house purchase decision among young adults in Sabah through applying S-O-R framework. Nine hypotheses were created to test the relationships between stimuli and organisms, organisms and response, and organisms as mediators between stimuli and response. Among the nine hypotheses, six hypotheses were found supported while three hypotheses not supported.

In Stage 1 LOC, positive and significant relationships were found between location (S) and perceived affordability (O), social influence (S) and subjective knowledge (O), developer brand (S) and subjective knowledge (O), superstitious belief (S) and subjective knowledge (O), house features (S) and perceived lifestyle fit (O), facilities (S) and perceived lifestyle fit (O), neighbourhood (S) and perceived lifestyle fit (O), and environment (S) and perceived lifestyle fit (O).

In stage 2 HOC, positive and significant relationships were found between financing stimuli (price, financing facilities, location) and perceived affordability (O), cognitive stimuli (social influence, developer brand, superstitious belief) and subjective knowledge (O), and property stimuli (house features, facilities, security, neighbourhood, environment) and perceived lifestyle fit (O). As for relationship between organism and response, positive and significant relationship were found between subjective knowledge (O) and house purchase decision (R), and perceived lifestyle fit (O) and house purchase decision (R).

This study found that developer brand was the strongest predictor of subjective knowledge compared to social influence and superstitious belief while house features was the strongest predictor of perceived lifestyle fit compared to facilities, security, neighbourhood and environment. Meanwhile, subjective knowledge was found to partially mediate the relationship between cognitive stimuli and house purchase decision, and perceived lifestyle fit was found to partially mediate the relationship between property stimuli and house purchase decision.

The theoretical implication of this study was proven that the model of this S-O-R framework study was robust and not biased by gender of respondents. This indicated that S-O-R framework is also effectively used as theory in housing related studies that focus on house purchasing factors involving consumer psychology with utilising organism as mediators.

Besides, practical implication also provided suggestion for property industry stakeholders especially local authorities and government agencies to escalate the PR1MA program in providing more houses in urban area to accommodate the needs of house buyers who are willing to compensate better location with higher house price and to develop a more targeted housing policy.

As for managerial implication, this study showed that developer brand has high influence on consumer's subjective knowledge that played significant role in house purchase decision therefore developers should build a strong and reputable brand to leave a good impression among consumers. It is also suggested for property developers to improve the existing house design to accommodate modern lifestyle of young adults. Marketing strategies should capture the desired lifestyle of young home buyers through focusing customer segmentation.

The findings and implications of this study were expected provide new information in identifying main factors contributing to house purchase decisions among young adults. Through understanding young adult's housing needs, it serves as a guideline in helping them to achieve homeownership in preventing homelessness including their future generation.

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APPENDICES

Appendix 1:
Questionnaire

Factors Influencing House Purchase Decision among Young adults in Sabah

Greetings.

I am Ku Siu Weng, a Doctorate of Business Administration (DBA) candidate from Faculty of Economics and Business (FEB), Universiti Malaysia Sarawak (UNIMAS). This is a questionnaire of my dissertation titled Factors Influencing House Purchase Decisions among Young adults in Sabah. The objective of this study is to identify the influence of external and internal factors on house purchase decision.

Your kind responses in answering all questions in this questionnaire will provide a valuable insights into the housing preferences, challenges, and considerations faced by young adults in Sabah. It will take approximately 5 to 10 minutes to complete. Your honest responses are greatly appreciated.

All information collected will be used solely for research purposes. Please be assured that your confidentiality and privacy are guaranteed and no source of personal data will be identified during data aggregation.

If you have any questions, feel free to contact me at siuweng.ku@gmail.com.

Thank you for your valuable time and kind co-operation to participate in this survey.

Ku Siu Weng
Candidate of DBA
Faculty of Economics and Business (FEB)
Universiti Malaysia Sarawak (UNIMAS)
siuweng.ku@gmail.com

Section A: Demographic

Please answer all questions in this section and tick the relevant box for answer.

1	Age		20 to 25 years old
			26 to 30 years old
			31 to 35 years old
			36 to 40 years old
			41 years old and above

2	Gender		Male
			Female

3	Citizenship		Malaysian
			Non-Malaysian

4	Ethnicity		Kadazan Dusun
			Sino Kadazan Dusun
			Bajau
			Murut
			Bisaya
			Melayu Brunei
			Bugis
			Kedayan
			Lotud
			Ludayeh
			Rungus
			Suluk
			Minokok
			Bonggi
			Ida’an
			Other Bumiputra Sabah
			Malay
			Chinese
			India
			Others

5	Highest level of education		SPM
			STPM/Diploma
			Bachelor Degree

			Master Degree
			Doctorate Degree
			Professional Certificate
			Others

6	Current occupation status		Private sector
			Public sector/Government
			Self-employed
			Unemployed/Housewife
			Retired
			Student
			Others

7	Marital status		Single
			Married
			Divorced
			Widow

8	Number of children		0
			1
			2
			3
			4
			5
			6
			7
			8
			9
			10
			More than 10

9	Monthly household income		Less than RM2,000
			RM2,001 – RM4,000
			RM4,001 – RM6,000
			RM6,001 – RM8,000
			RM8,001 – RM10,000
			RM10,001 – RM12,000
			RM12,001 and above

10	I am currently residing in		Kota Kinabalu
			Sandakan
			Tawau
			Others

11	I owned house(s)	Yes (Go to 16)
		No (Continue to 12)

12	Current house status	Rented
		Parent's house
		Others (Please specify)

13	Do you intend to purchase in future?	Yes (Go to 14)
		No (Go to Section B)

Section B: Variables

Please indicate how strongly you agree or disagree with each statement by ticking the relevant box.

No.	Questionnaire Item	1 - Strongly Disagree	2 - Disagree	3 - Neither Agree or Disagree	4 - Agree	5 - Strongly Agree
Price						
1	House price offered in market is an important factor to consider when purchasing a house.					
2	House price offered in my desired location is expensive.					
3	Price of houses is increasing every year.					
4	Price of houses nowadays are very expensive.					
5	Taxes of house are costly.					
Financing Facilities						
1	Interest rate of mortgage loan is important as it affects the overall loan amount.					
2	Mortgage loan tenure is an important factor considering my retirement age.					
3	Mortgage loan processing fee is important because it involves additional expenses.					
4	Monthly mortgage loan repayment amount is an important factor as it affects my monthly household expenses.					

5	I would only consider purchasing a house if I am able to secure a mortgage loan.					
Location						
1	I prefer a house close to my workplace.					
2	I prefer a house close to school (e.g. for my children or investment purpose).					
3	I prefer a house close to shopping mall/shops.					
4	I prefer a house close to city centre/Central Business District (CBD).					
5	I prefer a house close to health facilities (e.g. hospital and clinic)					
Social Influence						
1	I ask opinions and experience from my parents or other elders regarding house purchasing.					
2	I discuss my house purchase plan with my spouse/partner or someone I am especially close to.					
3	I ask opinions and experience on house purchasing from my social networks (friends or colleague).					
4	I look for house purchase comments and experience sharing from social media postings (Facebook, Instagram, etc).					
5	I ask opinion from property agents regarding house purchase process.					
Developer Brand						
1	Well-known developers produce higher-quality houses, thus are more expensive.					
2	Not all developers produce properties of the same quality.					
3	I am willing to pay a higher price for purchasing house from well-known developer.					
4	Well-known developers provide a better quality-assurance.					
5	I prefer to purchase house from well-known developer.					
Superstitious Belief						
1	I avoid houses rumoured with ghost or haunted.					
2	I avoid houses built on old sites of hospitals or religious locations.					
3	I avoid houses with views considered unfavourable due to cultural or personal beliefs (e.g. cemeteries or hospital).					
4	I avoid unfavourable direction of house according to certain religious belief.					
5	I avoid house number 4, and prefer number 3 and 8.					
House Features						
1	I prefer a specific suitable housing type (e.g. terrace, semi-detached, bungalow, apartment, flat) that caters to my family needs.					
2	I prefer the house size that can meet my family's needs.					

3	I prefer the house with enough bedrooms to fulfil my family's needs.					
4	I prefer a house built with quality materials.					
5	I prefer a house's layout design that is comfortable to me.					
Facilities						
1	I prefer to have recreational park in my housing area.					
2	Every house should have access to stable supply of water and electricity.					
3	I prefer to have sport facilities (e.g. gym, swimming pool) in my housing area.					
4	I prefer to have public transportation nearby my housing area.					
5	I prefer to have adequate parking bay at my housing area.					
Security						
1	Housing area with low crime rate is safe.					
2	High security and protection system (i.e. CCTV) can reduce housing crime rate.					
3	I prefer gated and guarded housing.					
4	Having security guards patrolling in housing area is safer.					
5	I prefer to stay in a safe housing area.					
Neighbourhood						
1	Demographic profiles of my neighbours are important.					
2	Social status/prestige of my neighbourhood is important.					
3	I prefer harmonious social relationship among my neighbours.					
4	I prefer having neighbours from the same races.					
5	I prefer to stay in a neighbourhood that suits my preference.					
Environment						
1	I prefer beautiful housing environment and clean surrounding.					
2	I avoid living in flood-prone area.					
3	I prefer pleasant landscaping in my housing area.					
4	I avoid living in polluted area.					
5	I avoid living nearby heavy traffic area.					
Perceived Affordability						
1	I do not have any trouble saving money for downpayment for a house that I intend to purchase.					
2	I believe I can afford to purchase a house with my income.					
3	I believe I can afford to purchase house in my desired location.					
4	I believe I bcan afford to pay the monthly mortgage repayment.					
5	I believe I can afford to purchase a house despite high cost of living.					
Subjective Knowledge						

1	I prefer to undergo the house purchase process on my own rather than hiring an agent to help me.					
2	I am aware on how the process of buying a house goes.					
3	I know that properties information is available online.					
4	I know about the mortgage loan process.					
5	I know how to compare the price value of house (e.g. location, facilities, environment etc).					
Perceived Lifestyle Fit						
1	I prefer a house that offers lifestyle-enhancing features such as a clubhouse for recreational activities.					
2	I prefer a house that can provide privacy to me.					
3	I prefer a fully furnished house for my convenience.					
4	I prefer a house that suits my lifestyle.					
5	I rather buy a car than a house.					
House Purchase Decision						
1	I purchase a house to fit my basic needs.					
2	I only consider purchase a house that is suitable with my preference.					
3	I purchase a house to meet my long-term needs.					
4	I purchase a house for investment purpose.					
5	I only consider purchasing a house that offers overall satisfaction.					

Appendix 2:
Questionnaire Expert Validation

Code	Original Questions	Comments/Suggestions from Experts				Amended Questions
		Expert 1	Expert 2	Expert 3	Expert 4	
P1	I think the house price offered in market is an important factor to consider when purchasing a house.	Accepted.	Suggest using "I believe that …" instead of "I think	OK	Since the statement 'I think the house price...' is repeated for each item, you might consider removing the repetition and instead guiding respondents directly to the questions.	House price offered in market is an important factor to consider when purchasing a house.
P2	I think the house price offered in my desired location is expensive.	Accepted.	Suggest using "I believe that …" instead of "I think	OK	-	House price offered in my desired location is expensive.
P3	I think the price of houses is increasing every year.	Accepted.	Suggest using "I believe that …" instead of "I think	OK	-	Price of houses is increasing every year.
P4	I think the price range of houses nowadays are very expensive.	Accepted.	Suggest using "I believe that …" instead of "I think	OK	-	Price range of houses nowadays are very expensive.
P5	I think the legal fees and taxes and assessment fees of house is costly.	Accepted.	Suggest using "I believe that …" instead of "I think	OK	This may result in a double-barrelled question, where respondents might perceive legal and tax fees as expensive but consider assessment fees acceptable or vice versa. As a result, they may struggle to provide an accurate answer. I recommend splitting these into separate items for clarity and better response accuracy.	Taxes of house are costly.
FF1	I think interest rate of mortgage loan is	Accepted.	-	OK	-	Interest rate of mortgage loan is important as it

	important as it affects the overall loan amount.					affects the overall loan amount.
FF2	I think mortgage loan tenure is an important factor considering my retirement age.	Accepted.	-	OK	-	Mortgage loan tenure is an important factor considering my retirement age.
FF3	I think mortgage loan processing fee is important as it require extra expenses.	I think the mortgage loan processing fee is important because it involves additional expenses.	-	OK	-	Mortgage loan processing fee is important because it involves additional expenses.
FF4	I think monthly mortgage loan repayment amount is an important factor as it affects my monthly household expenses.	Accepted.	-	OK	-	Monthly mortgage loan repayment amount is an important factor as it affects my monthly household expenses.
FF5	I only consider purchasing a house if I am able to secure a mortgage loan.	I would only consider purchasing a house if I am able to secure a mortgage loan.	-	OK	-	I would only consider purchasing a house if I am able to secure a mortgage loan.
L1	I prefer a house close to my workplace.	Accepted.	-	OK	As mentioned earlier, you may consider avoiding the repetition of 'I prefer a house…' for each question. Instead, you could place this phrase directly under the 'Location' heading to serve as a common introductory statement for the related items.	I prefer a house close to my workplace.

L2	I prefer a house close to school.	Accepted.	-	OK	-	I prefer a house close to school.
L3	I prefer a house close to shopping mall/shop.	Accepted.	-	OK	-	I prefer a house close to shopping mall/shops.
L4	I prefer a house close to city centre/Central Business District (CBD).	Accepted.	-	OK	-	I prefer a house close to city centre/Central Business District (CBD).
L5	I prefer a house close to health facilities.	Accepted.	-	OK	-	I prefer a house close to health facilities.
SI1	I ask my parents' opinions and experience regarding house purchasing.	Accepted	What if the respondent has no parents? Suggest revising it to "I ask others' opinions and experience regarding house purchasing."	OK	-	I ask opinions and experience from my parents or other elders regarding house purchasing.
SI2	I discuss my house purchase plan with my spouse/partner.	Accepted.	What if the respondent has no spouse/partner? Suggest revising it to "I discuss my house purchase plan with other people."	OK	-	I discuss my house purchase plan with my spouse/partner or someone I am especially close to.
SI3	I ask opinions and experience on house purchasing from my social networks.	Accepted.	-	OK	Rephrase the sentence	I ask opinions and experience on house purchasing from my social networks.
SI4	I look for house purchase comments and	I seek comments and experiences	-	OK	-	I look for house purchase comments and

	experience sharing from social media postings.	about house purchasing from my social networks				experience sharing from social media postings.
SI5	I ask opinion from property agents regarding house purchase process.	Accepted.	-	OK	-	I ask opinion from property agents regarding house purchase process.
DB1	I think well-known developer produce better quality house thus are more expensive	I think well-known developers produce higher-quality houses, thus are more expensive.	-	OK	-	Well-known developers produce higher-quality houses, thus are more expensive.
DB2	I think that not all developers produce properties of about the same quality.	I think that not all developers produce properties of the same quality.	-	OK	-	Not all developers produce properties of the same quality.
DB3	I am willing to pay a higher price for purchasing house from well-known developer	Accepted.	-	OK	-	I am willing to pay a higher price for purchasing house from well-known developer.
DB4	I think well-known developers provide a better quality-assurance.	Accepted.	Suggest using “I believe that …” instead of “I think …”.	OK	-	Well-known developers provide a better quality-assurance.
DB5	I only purchase house from well-known developer.	Accepted.	-	OK	-	I only purchase house from well-known developer.
SB1	I avoid houses rumoured with ghost.	Accepted.	-	OK	-	I avoid houses rumoured with ghost.

SB2	I avoid houses built on old sites of hospitals or religious locations.	Accepted.	-	OK	-	I avoid houses built on old sites of hospitals or religious locations.
SB3	I avoid house view with cemeteries, hospital or facing curved highway (which resembles a sickle).	I avoid houses with the views of cemeteries, hospitals, or those facing curved highways that resemble a sickle.	-	OK	-	I avoid houses with the views of cemeteries, hospital, or those facing curved highway that resembles a sickle.
SB4	I avoid unfavourable direction of house according to certain belief (such as *feng shui* or other religious belief).	Accepted.	-	OK	-	I avoid unfavourable direction of house according to certain belief (such as *feng shui* or other religious belief).
SB5	I prefer house number 3 and 8 while avoiding number 4.	Accepted.	-	OK	I will suggest you put: And/or	I avoid house number 4, and prefer number 3 and 8.
HF1	I prefer suitable housing type (terrace/ semi-detached, bungalow, apartment/flat) to cater my family needs.	Accepted.	I prefer a specific suitable housing type (e.g. terrace/ semi-detached, bungalow, apartment/flat) that caters to my family needs.	OK	-	I prefer a specific suitable housing type (e.g. terrace, semi-detached, bungalow, apartment,flat) that caters to my family needs.
HF2	I prefer the house size able to cater to my family needs.	I prefer the house size that can meet my family's needs.	I prefer a specific house size that caters to my family needs.	OK	-	I prefer the house size that can meet my family's needs.
HF3	I prefer the number of bedrooms able to cater my family needs.	I prefer the house with the enough bedrooms to fulfil	I prefer a specific number of bedrooms that can cater to my family needs.	OK	-	I prefer the house with enough bedrooms to fulfil my family's needs.

		my family's needs.				
HF4	I prefer a house made from quality materials.	Accepted.	-	OK	-	I prefer a house built with quality materials.
HF5	I think a house's layout design should be comfortable for homeowners.	Accepted.	I prefer a house's layout design that is comfortable to me.	OK	-	I prefer a house's layout design that is comfortable to me.
F1	I prefer to have of parks and open space in my housing.	I prefer to have parks and open spaces in my housing area.	I prefer to have of parks and open space in my housing area.	OK	Again, the question with "and" is not encouraged.	I prefer to have parks in my housing area.
F2	I think every house should have adequate water and electricity supply.	Accepted.	Suggest using "I believe that …" instead of "I think	OK	This question is somewhat vague, as it is unclear how respondents are expected to determine what constitutes 'adequate' water and electricity supply.	Every house should have sufficient access to water and electricity.
F3	I prefer to have gym and swimming pool facilities in my housing.	I prefer to have gym and swimming pool facilities in my housing area.	I prefer to have gym and swimming pool facilities in my housing area.	OK	Gym and swimming pool can be grouped as sport facilities?	I prefer to have sport facilities (e.g. gym and swimming pool) in my housing area.
F4	I prefer to have public transportation nearby my housing.	I prefer to have public transportation nearby my housing area.	I prefer to have public transportation nearby my housing area.	OK	-	I prefer to have public transportation nearby my housing area.
F5	I prefer to have parking bay at my housing.	I prefer to have parking bay at my housing area.	I prefer to have parking bay at my housing area.	OK	-	I prefer to have parking bay at my housing area.

S1	I think housing area with low crime rate is safer and more secured.	Accepted.	Suggest using "I believe that …" instead of "I think	Can delete more secured "with low crime rate is safe"	-	Housing area with low crime rate is safe.
S2	I think high security and protection system (i.e. CCTV) can lower housing crime rate.	Accepted.	Suggest using "I believe that …" instead of "I think	Can delete lower housing crime rate.	-	High security and protection system (i.e. CCTV) can reduce housing crime rate.
S3	I think gated and guarded housing is safer and more secured than open and unguarded housing.	Accepted.	Suggest using "I believe that …" instead of "I think …".	Same MEANING as S4. Need direct statement avoid compare	-	I prefer gated and guarded housing.
S4	I think having private housing security is more safe and secured.	Accepted.	I believe that having private housing security is safer and secured.	Same MEANING as S3	-	Having private housing security is safer and more secured.
S5	I think housing should have a sound security system to ensure safety of homeowners.	Accepted.	Suggest using "I believe that …" instead of "I think	This has same meaning with S2	-	I prefer to stay in a safe housing area.
N1	I consider the demographic profiles of my neighbours are important.	Accepted.	I consider that the demographic profiles of my neighbours are important.	OK	-	Demographic profiles of my neighbours are important.
N2	I consider the social status/prestige of my neighbourhood as important.	Accepted.	I consider that the social status/prestige of my neighbourhood is important.	OK	-	Social status/prestige of my neighbourhood is important.
N3	I prefer harmonious social relationship among my neighbours.	Accepted.	-	OK	-	I prefer harmonious social relationship among my neighbours.

N4	I prefer having neighbours from same race.	Accepted.	-	From the same races	-	I prefer having neighbours from the same races.
N5	I prefer a house with suitable neighbourhood.	Accepted.	-	OK	-	I prefer a house with suitable neighbourhood.
E1	I prefer beautiful and clean surrounding housing environment.	Accepted.	-	OK	Remove Clean	I prefer beautiful housing environment and clean surrounding.
E2	I avoid living in flood-area.	Accepted.	-	OK	-	I avoid living in flood-area.
E3	I prefer pleasant landscaping in my housing area.	Accepted.	-	OK	-	I prefer pleasant landscaping in my housing area.
E4	I avoid living in polluted area.	Accepted.	-	OK	Since this already provides a sufficient description of 'clean' as addressed in E1, I suggest removing the word 'clean' from E1.	I avoid living in polluted area.
E5	I avoid living nearby heavy traffic area.	Accepted.	-	OK	-	I avoid living nearby heavy traffic area.
PA1	I do not have trouble saving money for downpayment.	My suggestion: I do not have any trouble saving money for down payment.	I do not have trouble to make downpayment for a house that I intend to buy.	OK	-	I do not have any trouble saving money for downpayment for a house that I intend to purchase.
PA2	I afford to purchase a house with my income.	My suggestion: I can afford to purchase a house with my income.	-	OK	-	I believe I can afford to purchase a house with my income.
PA3	I afford to purchase house in urban areas.	Accepted.	-	OK	-	I believe I can afford to purchase house in urban areas.

PA4	I afford to pay the monthly mortgage repayment.	Accepted.	-	OK	-	I believe I can afford to pay the monthly mortgage repayment.
PA5	I afford to purchase a house despite high cost of living.	Accepted.	-	OK	Rephrase the sentence	I believe I can afford to purchase a house despite high cost of living.
SK1	I prefer to undergo house purchase process on my own rather than hiring an agent to help me buy a house.	I prefer to undergo the house purchase process on my own rather than hiring an agent to help me.	-	OK conflict with influence by others	-	I prefer to undergo the house purchase process on my own rather than hiring an agent to help me.
SK2	I am aware on how the process of buying a house goes.	Accepted.	-	OK	-	I am aware on how the process of buying a house goes.
SK3	I knew there are information about properties online.	I know that properties information is available online.	-	OK	-	I know that properties information is available online.
SK4	I know about the mortgage loan process.	Accepted.	-	OK	-	I know about the mortgage loan process.
SK5	I know how to compare the price value of house (location, facilities, environment etc).	I know how to compare the price value of house (such as the factors of location, facilities, environment etc).	I know how to compare the price value of house (e.g. location, facilities, environment etc).	OK	-	I know how to compare the price value of house (e.g. location, facilities, environment etc).

PLF1	I prefer a house that includes facilities clubhouse, swimming pool, etc to improve my lifestyle.	Accepted.	I prefer a house that includes clubhouse, swimming pool, etc to improve my lifestyle.	Redundant with facilities	-	I prefer a house that offers lifestyle-enhancing features such as a clubhouse for recreational activities.
PLF2	I prefer a house that can provide privacy for me.	Accepted.	I prefer a house that can provide privacy to me.	OK	-	I prefer a house that can provide privacy to me.
PLF3	I prefer a fully furnished house for my convenience.	Accepted.	-	Redundant with facilities	-	I prefer a fully furnished house for my convenience.
PLF4	I prefer a house that suits my lifestyle.	Accepted.	-	OK	-	I prefer a house that suits my lifestyle.
PLF5	I rather buy a car than a house.	I would rather buy a car than a house.	-	OK	-	I would rather buy a car than a house.
HPD1	I purchase a house to fit my basic needs.	Accepted.	-	More fit with lifestyle or redundant	-	I purchase a house to fit my basic needs.
HPD2	I only consider purchase a house that is suitable with my preference.	Accepted.	-	More fit with lifestyle or redundant	-	I only consider purchase a house that is suitable with my preference.
HPD3	I purchase a house for long-term need.	I purchase a house to meet my long-term needs.	-	OK	-	I purchase a house to meet my long-term needs.
HPD4	I purchase a house for investment.	I purchase a house as an investment.	I purchase a house for investment purpose.	OK	-	I purchase a house for investment purpose.
HPD5	I only consider purchasing a house that	Accepted.	-	OK	-	I only consider purchasing a house that

offers overall satisfaction.	offers overall satisfaction.

Appendix 3:
Latent Variable Scores from Stage 1 LOC

	DB	E	F	FF	HF	HPD	L	N	P	PA	PLF	S	SB	SI	SK
1	0.435	0.795	0.580	0.294	-0.255	0.463	0.235	-0.156	0.527	0.278	0.266	-2.405	-0.910	0.189	0.814
2	-1.433	0.427	0.003	0.995	0.338	0.322	-1.094	-0.838	-0.092	0.677	-0.430	-0.745	-0.835	0.065	0.123
3	0.358	-0.314	0.098	-0.081	-0.255	-0.079	0.437	-0.565	-0.246	0.885	0.266	0.540	0.542	0.189	0.584
4	-0.824	-0.679	-0.505	-1.157	-0.528	-0.495	0.235	-0.558	-2.567	-0.308	-0.919	-0.777	-0.876	-0.482	0.353
5	-0.553	0.418	0.237	0.287	0.896	-0.222	-0.075	0.080	0.701	-1.686	-0.201	0.792	-1.979	-0.633	-1.726
6	0.358	-0.314	-0.098	-0.081	-0.255	-0.079	0.235	0.179	0.069	0.885	0.266	-0.274	0.542	0.189	0.584
7	-0.547	0.050	0.166	0.619	-0.255	0.597	0.527	-0.444	0.842	-0.687	-0.171	-0.274	0.166	0.418	0.370
8	-0.320	-2.158	1.051	-0.456	0.896	-0.360	0.545	1.326	0.103	0.499	-0.095	-1.340	-0.244	-0.019	-0.392
9	-1.096	-0.694	-0.713	0.995	0.618	0.601	-0.238	-0.727	-0.864	-1.871	0.578	-0.494	-0.601	1.349	1.345
10	1.534	-0.314	0.628	-0.081	-0.255	-0.360	1.089	-0.362	0.533	-0.486	0.266	-0.274	-0.805	0.189	0.584
11	0.659	0.795	0.660	-1.157	0.338	-1.555	0.752	1.326	-0.246	-0.486	-0.919	0.010	1.325	-0.448	-0.606
12	0.453	0.795	0.644	-1.525	0.896	0.466	0.099	0.589	0.842	0.506	1.015	0.792	0.359	-1.438	-0.132
13	0.721	0.795	1.051	-1.157	0.896	-0.738	1.362	1.326	0.842	-2.113	0.578	0.792	-0.434	1.349	-0.606
14	0.201	0.050	0.644	-0.449	0.338	-0.213	0.953	-0.193	-0.246	0.492	0.266	0.526	0.179	-0.708	-0.629
15	0.333	0.418	-0.505	-0.081	-0.255	-0.079	0.034	0.179	-0.374	0.706	-0.171	-0.571	0.359	0.189	0.072
16	0.358	-0.314	-0.098	-0.456	-0.255	0.860	0.235	0.179	-0.246	-1.114	-2.105	-0.274	0.542	0.189	0.584
17	-0.326	0.795	1.051	0.995	0.896	1.138	1.362	1.326	0.842	-2.113	0.349	0.792	-1.449	1.349	0.069
18	-2.939	-3.642	-3.544	-2.933	-3.706	-3.207	-3.144	-3.263	-2.424	-1.742	-3.291	-3.471	-2.355	-2.802	-2.756
19	-0.166	-0.314	-0.098	-0.081	-0.255	-0.079	0.235	-0.186	-0.246	-1.114	0.266	-0.274	0.542	0.189	0.163
20	-0.396	0.795	1.051	-0.081	0.338	-0.754	0.344	-0.133	0.533	-0.743	-0.171	0.540	-0.423	0.037	-0.507
21	-0.547	-0.314	-0.098	-0.081	-0.255	-0.079	-0.418	-0.186	-0.246	-0.073	-0.171	-0.525	-0.019	-0.028	0.584

22	0.358	-0.314	-0.098	-0.081	-0.255	-0.079	0.235	0.179	-0.246	0.885	0.266	-0.571	0.542	0.189	0.584
23	-1.763	-2.165	-1.202	-0.413	-1.405	-0.492	-0.690	-1.135	-0.879	-0.121	-1.280	-1.605	-0.423	-0.906	-1.663
24	0.358	-0.314	1.051	-0.789	0.896	-0.079	1.362	-0.156	-0.562	-0.115	-0.919	-0.274	0.542	-0.971	-0.606
25	-1.206	-0.314	-2.395	-0.081	-0.255	-1.296	0.235	-1.812	-0.246	-1.293	-0.919	-1.340	0.542	-0.971	-0.606
26	-0.095	0.795	0.840	-0.081	0.896	-0.213	0.818	-0.004	0.392	-0.935	0.266	0.792	-1.163	0.189	-0.078
27	-0.608	0.050	-0.200	-0.081	0.023	-0.597	-0.488	-0.916	0.224	-0.558	-1.331	0.274	0.409	-0.473	0.155
28	-0.818	-1.423	-1.458	-1.157	-2.556	-1.296	-0.891	-1.865	-1.335	-0.115	-0.919	-3.471	-1.374	-0.971	-0.606
29	1.358	0.060	-0.241	0.995	0.896	-0.348	0.686	1.075	0.533	-1.122	0.349	0.792	0.156	-0.461	0.798
30	0.758	0.418	0.166	0.294	0.622	0.725	0.235	0.482	-0.071	0.513	1.015	0.036	0.161	0.189	-0.376
31	0.121	0.053	0.832	0.627	0.345	-1.147	0.051	-0.155	0.082	1.698	0.882	0.792	-0.337	-1.216	0.269
32	-0.070	-0.314	-0.309	-0.081	-0.255	-0.472	0.461	0.179	0.392	0.306	0.266	-0.274	0.542	0.189	0.584
33	-3.170	-3.642	-3.544	-2.608	-3.706	-3.729	-3.144	-3.263	-3.513	-1.935	-2.105	-3.471	-2.355	-3.291	-0.606
34	0.358	-1.044	-0.098	-1.900	-0.255	-0.079	1.362	-0.492	0.842	0.885	0.266	-0.274	-1.022	0.189	0.584
35	-1.994	-2.533	-2.395	-2.233	-2.556	-2.512	-2.018	-2.116	-2.424	-1.114	-2.105	-2.405	-1.389	-2.344	-1.797
36	-0.282	0.050	-0.264	-0.081	-0.255	0.050	0.526	-0.528	0.076	-0.115	-0.303	-0.228	-1.949	0.248	-0.392
37	0.358	-0.314	-1.247	-0.081	-1.405	-0.079	0.235	0.179	-0.246	0.885	0.266	-1.340	0.542	0.189	0.584
38	0.358	-0.314	-0.098	-0.081	-0.255	-0.079	0.235	0.179	0.063	0.885	0.266	-0.274	0.542	0.189	0.584
39	-0.818	-0.314	0.114	-1.157	-0.250	-1.296	-0.037	-0.747	-0.703	0.271	-2.105	0.792	-0.650	-2.131	-1.797
40	0.358	-0.314	0.840	-1.157	-0.255	-0.079	0.235	0.179	0.386	0.885	0.266	0.792	-0.423	0.189	0.584
41	-0.166	-0.314	-0.501	-0.081	-0.255	-0.616	-0.483	0.065	0.842	-1.114	0.038	-0.274	-0.019	0.189	-0.078
42	0.182	0.795	0.433	-0.781	0.896	0.184	0.371	0.286	0.071	-0.500	0.236	0.036	-0.315	-0.334	1.246
43	0.182	-0.314	-0.030	-0.081	-0.255	-0.079	0.461	0.065	-0.246	0.885	-0.323	-0.274	-0.017	0.189	0.136
44	0.875	0.418	0.433	-0.406	0.896	1.138	0.592	0.149	0.533	0.506	0.058	0.540	0.919	1.132	0.798
45	0.160	0.795	0.368	0.995	0.349	0.092	0.545	-0.104	0.842	-0.059	-0.950	0.792	-1.376	0.275	0.661
46	-0.227	-0.307	0.840	0.294	-1.148	-0.887	0.681	-1.541	0.842	0.348	-3.291	0.036	-0.367	0.433	-1.586

47	1.534	0.795	1.051	0.995	0.896	1.138	1.362	1.326	-0.059	1.127	0.767	0.792	-2.128	0.848	0.584
48	-0.316	-0.314	-0.098	-0.081	-0.528	-1.036	-0.037	0.179	-0.556	-0.929	-0.919	-0.274	-1.328	-0.028	-1.582
49	-0.719	0.427	0.230	0.995	0.065	0.065	-0.440	0.983	0.842	-0.672	0.648	0.540	1.145	-0.722	-1.713
50	-0.316	-0.314	0.166	-0.081	-0.255	-0.079	0.437	0.179	-0.246	-1.114	-0.761	0.243	0.161	-0.028	-0.523
51	0.438	0.040	0.237	0.995	0.345	1.138	0.142	-1.304	0.842	0.692	-0.145	0.792	1.508	1.349	1.774
52	-0.045	0.063	0.230	0.251	0.622	0.047	0.235	0.139	0.842	-1.486	0.120	0.023	-0.245	0.461	-0.987
53	1.534	0.795	1.051	0.995	0.896	1.138	0.953	1.326	0.842	0.256	0.578	0.792	1.508	0.501	1.774
54	0.666	0.795	-0.004	0.627	0.345	1.138	0.527	1.326	0.842	-2.113	-0.741	-0.022	-1.031	1.349	-0.496
55	0.182	0.053	-1.247	-0.456	-0.230	-0.079	1.362	0.065	0.527	0.699	-0.151	0.792	0.176	-0.878	0.370
56	0.358	-0.314	-2.395	-0.081	-0.255	-0.079	0.235	0.179	-0.246	0.885	0.266	-0.274	0.542	0.189	0.584
57	0.358	0.795	-0.463	-0.038	0.612	0.735	-0.891	-0.188	0.392	1.691	0.216	0.792	1.508	-0.758	0.139
58	0.358	-0.314	-0.098	-0.081	-0.255	-0.079	-0.690	0.179	-0.246	0.885	0.266	-0.274	0.542	0.189	0.584
59	0.358	0.795	1.051	-0.081	0.622	0.601	-0.398	0.869	-0.246	1.884	0.104	0.792	-2.355	0.727	0.584
60	-3.170	-0.314	-0.098	-3.308	-0.255	-0.079	-3.144	0.179	-3.513	0.885	0.266	-0.274	-2.355	-3.291	0.584
61	0.453	0.427	0.426	0.995	0.338	-0.209	0.643	0.254	0.533	-1.265	0.445	0.540	-0.231	0.661	-0.821
62	1.534	0.795	-0.200	0.294	-0.255	-0.735	-0.173	0.065	0.392	-0.743	0.078	0.243	-0.019	0.211	-1.586
63	-0.045	0.418	0.410	0.995	0.896	0.869	1.090	-0.665	0.842	-0.115	0.648	0.792	-0.423	0.669	1.476
64	0.186	0.795	0.614	0.995	0.896	0.869	0.415	-0.968	0.533	-0.929	0.312	0.792	0.029	1.349	0.370
65	0.167	-1.423	-1.490	-0.081	0.076	1.138	0.545	0.179	-1.335	1.328	-2.105	-0.242	-1.389	1.132	0.584
66	0.087	0.795	-0.004	0.995	0.896	-0.495	0.344	0.603	0.842	-0.052	-1.198	0.792	-0.432	1.098	-0.078
67	0.336	0.795	-0.023	0.995	0.580	0.588	-0.891	0.877	-0.072	1.884	0.806	-0.242	-0.047	-0.426	0.817
68	0.882	0.050	-0.241	0.627	-1.088	-0.482	-0.976	0.293	0.842	-0.057	0.445	0.792	1.325	-0.899	-0.117
69	-0.587	-0.317	0.637	-0.124	-0.570	-0.888	-0.375	-0.665	0.533	0.142	0.038	-0.526	-0.047	-0.219	-0.072
70	-0.316	-0.682	-0.528	-0.081	-0.255	-0.754	-0.690	-0.444	-0.246	-1.114	-0.171	-1.043	0.359	-0.721	-0.519
71	0.131	0.795	0.230	0.287	0.896	-0.079	0.414	0.065	0.842	0.706	0.578	0.792	1.508	-0.247	0.908

72	0.112	-0.691	0.230	-0.081	0.338	0.069	0.752	-0.050	0.533	0.506	0.425	0.792	-1.930	-0.482	0.370
73	-0.092	0.795	1.051	0.662	0.896	1.138	1.362	1.326	-0.751	-0.600	-2.376	0.792	1.508	1.349	1.774
74	-0.566	0.795	0.621	0.251	0.338	-0.079	0.235	-0.156	0.533	-0.115	0.266	0.792	0.183	0.405	0.584
75	1.534	-1.423	0.856	0.294	0.622	1.138	0.146	0.877	0.076	0.121	1.015	0.792	0.542	0.189	0.584
76	1.534	0.795	1.051	0.995	0.896	1.138	1.362	1.326	0.701	1.884	1.452	0.792	1.508	0.882	1.774
77	-0.320	-0.314	-0.098	-0.081	-0.255	-0.079	0.235	-0.050	-0.246	0.527	0.266	-0.274	-0.962	-0.955	-0.606
78	0.358	-0.314	-0.309	-0.081	-0.255	-0.079	-0.666	-0.968	-0.246	-0.115	-0.919	-0.274	-0.423	0.189	-0.606
79	1.534	0.795	1.051	0.995	0.896	1.138	-0.600	0.811	-0.245	1.884	0.995	-1.340	0.784	-0.312	1.115
80	-0.664	0.795	1.051	0.995	0.896	1.138	1.362	0.589	0.842	-1.114	0.578	0.792	0.958	0.286	1.774
81	-0.994	-0.314	-1.247	-1.489	-1.405	-0.079	-0.891	0.179	-2.101	-0.115	-0.919	-0.525	-0.423	-1.674	-0.309
82	0.475	0.795	0.660	0.995	0.896	0.343	0.142	-1.099	0.842	0.748	1.452	0.288	0.426	1.349	1.774
83	1.534	-1.423	0.660	0.619	0.622	1.004	-0.601	0.762	0.842	0.085	0.786	0.792	-0.197	-0.009	-0.574
84	1.534	0.795	-0.241	-0.081	0.345	-0.348	-0.037	0.368	0.386	0.885	0.210	0.274	-1.148	0.189	-0.392
85	-0.390	-0.314	-0.788	0.294	-0.844	-1.296	0.235	-0.968	-3.231	-0.464	-0.919	-0.791	0.138	-0.062	-0.606
86	0.405	0.060	-0.030	0.995	-0.255	0.337	-1.389	-0.080	-0.401	-0.679	0.190	-0.494	-0.334	-0.899	-1.797
87	0.358	0.795	1.051	-0.081	0.896	1.138	0.235	1.326	-0.246	1.884	1.452	0.792	1.508	1.349	1.774
88	0.629	0.418	-0.004	-0.074	0.061	-0.213	1.160	0.368	0.533	-0.929	-0.171	0.275	0.179	0.189	0.370
89	1.534	0.795	1.051	0.995	0.896	1.138	1.362	-0.590	0.842	1.513	1.452	0.792	-1.150	1.349	1.345
90	0.509	0.795	0.840	0.662	0.896	0.869	0.817	0.368	-0.388	0.671	1.035	0.288	1.141	0.717	0.159
91	0.127	0.795	0.621	0.995	0.896	0.453	0.752	0.065	0.701	-0.914	-0.323	0.792	0.359	0.461	-0.987
92	0.875	0.795	-0.200	-0.081	-0.255	0.869	-1.300	0.589	-0.374	1.884	0.648	0.792	0.769	0.185	1.774
93	0.358	-0.314	-0.309	-0.081	-0.570	-0.079	0.034	0.065	-0.246	0.706	-0.171	-0.274	-0.891	-1.171	0.584
94	0.860	0.795	0.207	-0.406	0.896	0.050	0.709	-0.104	0.520	-0.115	-0.171	0.792	0.166	-0.002	1.048
95	0.413	0.795	0.237	0.995	0.896	1.004	0.170	1.326	0.842	0.514	1.452	0.792	1.508	0.885	1.096
96	-0.658	0.795	0.410	0.995	0.896	1.138	0.189	0.869	0.842	1.642	0.120	0.792	-1.930	0.433	0.932

97	-0.818	-1.423	-1.247	-1.157	-1.405	-1.296	-0.891	-0.968	-1.020	-0.115	-0.919	-1.340	-0.423	-0.971	-0.606
98	0.629	-0.327	-0.161	-0.074	-0.255	-1.024	-2.018	0.437	0.533	-0.115	-0.419	0.792	-0.001	0.245	0.584
99	0.358	0.795	0.166	-1.193	0.338	0.466	-0.445	0.961	-0.388	0.464	0.806	0.275	1.328	0.146	-0.098
100	1.182	0.795	0.191	0.995	0.896	0.869	0.959	0.824	0.842	1.513	1.452	0.792	0.782	0.422	0.871
101	0.629	-0.327	0.207	-0.081	-1.090	-0.348	-0.601	0.368	0.392	-1.244	0.266	0.288	0.364	0.248	0.821
102	0.358	0.418	0.142	-0.081	0.029	-0.079	0.953	0.179	0.386	0.885	0.266	-0.274	0.118	0.189	0.584
103	-0.609	0.040	-0.200	0.995	-0.850	-0.065	0.142	-1.639	0.842	0.770	-2.701	0.289	-1.386	0.501	0.661
104	-1.180	-0.327	-0.720	-0.081	0.018	-1.147	-1.501	-0.444	0.386	0.127	-1.357	-1.263	0.402	-0.704	-0.309
105	0.358	-0.314	-0.098	-0.081	-0.255	-0.079	0.235	0.179	-0.246	0.885	0.266	-0.274	0.542	-0.237	0.584
106	-1.335	-0.314	-0.723	-0.081	-0.812	-0.735	-0.238	-0.968	-0.246	0.885	-0.532	-0.791	0.359	-0.024	0.584
107	-0.422	-0.314	-1.187	-0.081	-0.255	-0.482	-0.891	-0.164	-0.246	-0.250	-0.360	-0.274	-2.128	0.189	0.584
108	-0.547	0.050	0.426	0.619	-0.255	0.204	0.344	-1.206	0.533	-0.486	0.312	0.274	0.377	0.243	-0.082
109	1.534	0.795	1.051	0.259	0.896	0.869	0.545	-0.811	0.842	-0.115	0.995	0.792	-1.902	1.349	1.345
110	-0.166	-0.314	-0.049	-0.081	-0.255	-0.200	-0.038	-0.156	-0.246	-1.742	0.256	0.243	-2.355	0.189	0.584
111	1.534	0.795	1.051	0.995	0.896	1.138	1.362	1.326	0.701	1.884	1.452	0.792	1.508	1.349	1.774
112	0.186	0.795	0.191	-1.908	0.618	0.601	-0.149	0.596	0.842	0.919	0.160	0.792	-0.423	0.422	-0.178
113	1.087	0.060	0.237	0.619	0.896	0.341	-0.375	-0.476	0.527	0.885	-0.532	0.023	-0.423	0.402	0.370
114	1.534	0.795	1.051	0.995	0.896	1.138	1.362	-1.165	0.842	1.884	1.452	0.792	-2.355	-3.291	1.774
115	-0.818	-0.314	-0.765	-3.308	-0.255	-1.296	-1.342	0.179	-3.513	-2.113	-0.919	-0.274	-0.423	-0.971	-0.606
116	-0.316	0.795	-0.098	-0.081	-0.255	0.597	1.071	-0.186	0.218	0.520	0.058	0.792	0.542	0.245	-1.092
117	1.010	-1.423	-0.686	-1.157	0.018	-1.296	-1.454	-0.453	-2.115	-0.115	-0.919	-1.043	0.316	-0.097	-0.606
118	1.288	-0.314	-0.309	0.995	-0.255	0.184	0.235	0.065	0.527	0.514	-0.171	0.243	1.145	0.652	0.136
119	-0.489	0.795	1.051	0.995	-0.787	-1.948	0.546	-0.517	0.842	-0.693	-1.742	0.792	-2.157	1.349	-0.843
120	-1.994	-1.423	-2.395	-3.308	-2.556	-1.296	-2.018	-0.968	-3.513	-0.115	-0.919	-2.405	-1.389	-2.131	-0.606
121	0.383	0.795	0.173	-0.081	-0.533	-0.601	-0.375	-0.218	0.527	0.127	-0.145	-0.274	-1.572	0.461	0.798

122	1.534	0.795	1.051	0.995	0.896	1.138	1.362	0.429	0.392	-0.115	0.578	0.792	-0.790	1.349	1.774
123	-0.990	-0.314	-0.553	-0.081	-0.255	-0.874	0.099	-0.968	-0.246	0.692	0.266	-0.274	0.176	-0.491	-0.161
124	-0.048	0.795	-0.098	0.662	0.622	-0.079	0.235	0.179	0.842	0.885	0.266	0.288	0.542	0.189	0.584
125	-0.316	0.427	-0.053	-0.081	-0.528	-0.213	0.235	0.065	0.076	-0.115	0.266	0.792	0.962	0.189	-0.817
126	0.358	-0.314	0.166	-0.456	-0.255	-0.213	-0.262	-0.779	-0.548	-0.115	-0.171	-0.746	0.133	0.189	0.347
127	-2.819	-3.642	-3.121	-2.644	-2.507	-2.897	-2.871	-3.263	-3.513	-0.929	-1.902	-2.940	-0.423	-1.995	-0.606
128	-2.819	-3.642	-3.544	-0.081	-3.706	-3.211	-3.144	-3.263	-0.246	-1.928	-3.291	-3.471	-1.639	-3.291	-2.987
129	0.835	0.795	0.621	0.995	0.612	0.332	0.389	-0.673	0.224	0.756	0.038	0.792	-1.930	0.402	0.155
130	0.182	0.418	0.019	0.251	0.896	0.869	-0.825	1.075	-3.513	0.149	0.216	0.289	0.943	0.461	1.112
131	0.930	0.427	0.191	0.995	0.896	0.082	0.274	-1.304	-0.723	-1.928	-0.145	-0.745	-2.355	1.349	-2.475
132	0.358	-0.314	-0.098	-0.413	-0.255	-0.079	0.235	0.179	-0.246	0.885	0.495	-0.274	0.542	0.189	0.584
133	-0.371	0.053	0.832	-2.233	0.054	0.466	-0.239	-0.717	-0.233	-0.108	0.058	-0.273	0.962	-0.222	-0.526
134	0.358	-0.314	-0.098	-0.081	-0.255	-0.079	0.235	0.179	-0.246	0.885	0.266	-0.274	0.542	-0.024	0.584
135	1.534	0.795	0.840	0.995	0.896	1.138	1.362	0.179	0.842	1.085	1.015	0.792	1.508	0.189	0.584
136	0.204	0.795	1.051	0.294	-0.255	0.601	1.362	1.326	-0.092	1.884	0.826	0.792	1.508	-0.028	1.774
137	0.358	-0.314	-0.098	-0.081	-0.255	-1.296	0.235	0.179	-0.246	-0.115	-0.919	-0.274	0.542	0.189	-0.606
138	1.534	0.795	1.051	0.995	0.896	-1.296	0.620	1.326	0.842	-0.115	1.452	0.792	0.029	0.482	0.892
139	0.515	0.795	0.358	-1.157	0.896	-0.079	0.546	0.179	0.842	-1.114	0.236	0.792	-1.217	0.248	-0.967
140	-0.719	0.795	1.051	0.662	0.896	0.735	-1.145	0.400	0.842	0.328	1.452	0.792	0.028	-0.153	0.223
141	-0.045	0.430	-0.351	0.662	-0.528	0.200	-0.155	-0.042	0.520	0.527	0.058	-0.512	-0.964	0.202	-0.139
142	0.589	-0.679	0.832	-2.940	0.338	1.138	0.235	0.352	-3.372	1.498	1.065	-0.243	0.161	-1.563	0.884
143	-0.184	-0.314	-0.309	-0.081	-0.255	-0.597	0.235	-1.887	-0.388	-1.114	0.266	-0.274	0.542	-0.084	-0.740
144	-1.994	-2.533	-2.395	-2.233	-2.556	-2.512	-2.018	-2.116	-2.424	-1.114	-0.969	-2.405	-1.389	-2.131	-1.582
145	-1.492	-1.801	-2.177	-2.233	-1.967	-1.708	-2.018	-1.477	-2.424	-0.679	-0.919	-1.560	-0.833	-1.451	-0.821
146	-0.547	0.795	0.426	0.995	0.618	1.138	-0.037	-0.444	0.842	-0.294	0.058	0.540	0.344	0.885	0.821

147	1.112	0.795	-0.004	-0.081	0.612	1.138	1.362	1.212	0.842	-0.929	0.369	0.792	-0.008	0.489	-0.078
148	0.432	0.795	0.150	0.995	0.622	0.069	0.344	0.003	0.842	-0.480	-0.721	0.792	-0.790	0.028	0.584
149	0.358	0.795	1.051	0.294	0.896	1.138	0.527	1.326	0.527	-0.300	1.243	0.792	0.659	0.461	-1.502
150	-0.547	0.795	0.840	0.995	0.896	0.610	0.953	-0.444	0.842	-1.742	1.015	0.792	-0.019	1.349	-0.306
151	-0.818	-0.691	0.150	-0.081	0.349	1.138	0.545	-0.968	-0.246	-0.115	-0.919	-0.274	-0.580	0.461	0.143
152	0.087	-0.691	-0.791	-0.081	-0.255	-0.213	0.235	-0.968	-0.246	-0.115	-0.919	-0.274	-0.197	0.189	-0.606
153	-0.070	-0.327	-0.460	0.995	-0.255	-0.213	-0.056	0.179	0.842	-1.486	0.058	-0.274	0.179	0.189	-0.964
154	0.358	0.795	-0.098	-0.081	-0.255	0.203	-0.581	0.179	0.842	0.885	1.035	0.792	1.141	0.461	0.139
155	-0.990	-0.314	-0.098	-0.081	-0.255	-0.213	0.235	-0.385	-0.246	-0.514	-0.151	-0.274	-1.081	0.885	-0.584
156	1.534	-0.314	1.051	0.995	0.896	1.138	1.225	1.326	0.842	-1.121	1.243	-0.274	-0.713	0.032	-1.716
157	0.358	-0.314	-0.098	-0.081	-0.255	-0.079	0.235	0.179	-0.246	0.885	0.266	-0.274	0.542	-0.237	0.584
158	-3.170	-3.642	-3.544	-3.308	-3.706	-3.729	-3.144	-3.263	-3.513	-0.687	-3.291	-3.471	-2.355	-3.291	-2.321
159	-0.316	0.050	0.644	0.619	0.622	-0.066	-0.600	0.514	0.520	-1.093	1.015	-0.242	0.406	0.211	-0.584
160	0.358	0.795	1.051	-0.081	0.622	-0.079	0.235	1.326	-0.246	-0.115	-0.919	0.792	0.542	0.189	-0.606
161	1.534	-1.423	1.051	0.995	0.896	1.138	1.225	1.326	0.527	1.298	1.452	-1.340	1.508	-0.119	-0.606
162	-0.818	0.795	-0.521	-1.157	-0.255	-0.079	-0.690	-0.407	-0.105	0.885	0.216	-0.274	-0.197	0.189	0.373
163	0.025	0.795	0.832	0.259	0.896	0.869	0.301	0.854	0.533	-0.929	1.452	0.526	0.387	0.211	-0.078
164	-1.624	0.795	0.191	0.995	0.896	0.620	-0.891	0.179	0.560	-2.113	-1.020	0.261	1.141	-0.971	0.270
165	-1.994	-2.533	-2.151	-1.865	-2.556	-3.057	-1.881	-2.116	-2.424	-1.307	-2.492	-2.657	-1.567	-2.344	-2.007
166	0.805	0.427	1.051	0.995	0.896	1.138	-0.646	0.877	0.842	-0.107	0.425	0.792	1.325	-0.237	0.347
167	-0.276	0.418	0.791	-0.492	-0.219	0.329	-0.666	-0.954	0.082	-2.113	-0.018	0.288	-0.380	1.136	-0.513
168	-0.547	0.418	1.051	-1.157	0.338	-0.623	0.320	-0.665	0.218	0.706	0.419	0.274	0.606	0.424	-0.139
169	0.358	-0.314	-0.098	-0.081	-0.255	-0.079	0.235	0.179	-0.246	0.885	0.266	-0.274	0.542	-0.237	0.584
170	0.358	-0.314	-0.098	-0.081	-0.255	-0.079	0.235	1.326	-0.246	1.884	0.266	0.792	0.542	1.349	1.774
171	-0.009	0.050	-0.069	0.995	0.896	0.588	0.682	0.039	0.701	-0.687	-1.337	-1.088	-0.414	0.445	0.607

172	0.453	0.418	-0.087	-0.081	0.580	1.004	0.953	-0.528	-0.388	0.513	0.190	0.540	0.207	1.132	-0.165
173	-0.316	0.418	0.433	-0.449	0.896	-0.213	-0.375	-0.522	0.842	0.698	-0.919	0.243	0.001	0.656	-0.606
174	1.534	0.050	1.051	0.995	0.622	-0.079	0.437	1.326	0.701	-1.114	-0.095	0.792	-0.008	0.502	-0.392
175	0.182	-1.059	-0.460	0.259	-0.255	-0.213	-0.126	-0.444	-0.556	-0.872	-0.171	-0.525	0.357	-0.006	0.370
176	0.326	0.040	0.191	0.662	0.338	-0.453	-0.440	-1.541	0.842	1.526	-0.943	0.289	-2.355	-0.912	1.139
177	-1.023	-0.312	-0.720	-0.449	-0.244	0.869	-0.308	0.338	-0.388	-1.542	-0.360	-0.274	0.490	0.239	-0.309
178	-3.170	-3.642	-3.544	-3.308	-3.706	-3.729	-3.144	-3.263	-3.513	-2.113	-3.291	-3.471	-2.355	-3.078	-2.987
179	-0.818	-1.423	-1.247	-0.413	-1.405	-1.296	-1.294	-0.968	-1.026	-0.115	-0.919	-1.340	-0.423	-0.971	-0.606
180	0.189	0.427	-0.264	0.294	-0.255	-0.213	-0.891	-0.050	-0.550	0.320	0.266	0.540	-0.423	-0.278	0.155
181	0.358	0.795	0.832	-0.081	-0.801	-1.430	-0.130	0.320	0.204	0.064	0.826	0.792	-0.710	-0.226	0.584
182	-0.774	0.040	0.856	-0.456	-0.261	-0.879	-0.601	-0.743	0.251	-1.300	-2.129	0.540	-0.365	-0.245	-0.312
183	0.358	0.795	-0.098	0.244	-0.255	-0.616	-0.375	-0.665	-0.374	-1.114	-1.376	-0.274	-0.564	-0.482	0.072
184	0.358	-0.314	-0.098	-0.081	-0.255	-0.754	0.235	0.179	-0.246	-1.114	0.266	-0.274	0.542	0.189	0.584
185	-0.297	-0.314	-0.098	-1.114	-0.255	-0.472	0.235	0.179	-0.556	-0.115	0.058	-0.274	0.179	0.189	-0.606
186	0.607	0.418	-0.053	0.294	0.580	0.745	0.390	0.651	0.842	-0.858	0.806	0.540	-0.564	0.646	0.203
187	-0.994	0.050	-0.098	0.251	-0.255	-0.495	0.888	-0.266	0.386	-0.115	-0.329	0.792	0.426	0.245	-0.078
188	-0.119	-0.679	0.840	-0.413	0.302	0.180	1.225	0.147	-0.556	1.319	0.058	0.540	-0.173	0.885	0.139
189	-1.818	-0.689	-1.661	-2.608	-0.781	0.031	-1.163	1.098	-1.477	0.514	0.578	-2.360	-0.801	-1.711	1.774
190	-2.819	-3.642	-3.544	-3.308	-3.706	-2.646	-3.144	-3.263	-3.513	-1.742	-3.291	-3.471	-1.958	-3.291	-2.097
191	-0.045	0.795	1.051	0.995	0.896	0.869	0.437	0.656	0.842	-0.115	1.452	0.792	-0.423	-0.219	-0.078
192	0.835	0.795	0.426	0.995	0.896	0.879	0.320	0.703	0.527	-2.113	0.786	0.540	1.310	0.669	-0.894
193	0.534	0.418	-0.046	0.251	-0.208	-0.348	-0.642	-1.030	-0.227	0.885	-1.122	-0.274	-0.580	-0.028	0.584
194	0.358	-0.314	-0.309	-1.157	-1.128	-0.079	0.235	0.065	-0.246	-0.115	-0.919	-0.274	0.359	-0.232	0.072
195	1.358	0.795	0.596	0.995	0.896	1.004	0.644	1.212	0.842	-1.486	1.452	0.792	1.325	1.132	0.798
196	0.453	0.050	0.019	0.662	-0.255	-0.213	-0.102	0.179	0.842	0.885	-0.171	-0.022	0.958	-0.278	0.798

197	0.358	0.795	0.449	-0.081	0.338	0.069	0.052	0.437	0.204	-0.508	-0.171	0.792	0.967	0.669	-0.821
198	-0.045	0.050	0.426	0.294	-0.528	-0.213	-0.037	-0.854	0.533	-0.115	-0.399	-0.525	0.784	0.471	-0.606
199	0.231	0.418	-0.046	0.294	0.296	0.600	-0.963	-0.333	0.204	0.885	0.160	0.792	-0.743	1.132	0.623
200	0.358	-0.679	0.354	-0.456	0.896	0.351	-0.060	-0.271	0.082	0.071	1.452	-1.016	-0.245	0.452	-0.055
201	0.358	-0.314	-1.247	-0.081	-0.255	-0.079	-0.891	-0.968	-0.246	-0.115	0.266	-0.274	-0.944	-0.971	0.584
202	-0.818	-1.423	-1.247	-1.157	-1.405	-1.296	-0.891	-0.968	-1.335	-0.115	-0.919	-1.340	-0.423	-1.184	-0.606
203	0.780	0.053	-0.098	0.619	0.023	0.184	0.727	0.482	-0.568	1.264	0.628	0.540	0.563	0.656	1.476
204	0.358	-1.059	-0.098	-0.789	-0.249	-0.079	0.034	0.179	-0.246	0.885	-0.121	-0.791	0.185	-0.019	0.072
205	0.358	-0.314	-0.098	-0.081	-0.255	-0.079	0.235	0.179	-0.246	0.885	0.266	-0.274	0.542	-0.024	0.584
206	-0.193	-0.327	-0.170	0.995	-0.234	0.879	1.362	-2.116	0.842	-1.735	0.160	-1.307	0.775	1.349	-1.128
207	-1.492	0.795	1.051	-0.081	0.338	-0.348	1.362	1.326	0.842	-0.872	0.266	0.792	0.542	0.396	0.153
208	0.358	-1.801	-0.309	-0.781	-0.255	0.184	0.235	-0.072	0.533	0.499	-0.171	-0.274	0.542	0.189	0.798
209	0.358	0.795	1.051	-1.157	0.076	0.043	0.235	1.326	-0.246	-0.300	1.035	0.792	0.775	0.189	1.774
210	-0.316	-0.691	-0.309	-0.081	-0.255	-1.296	0.235	-0.779	-0.246	-0.115	-0.919	-0.274	-0.019	0.189	-0.606
211	-0.818	0.427	1.051	-0.081	0.622	1.138	0.010	0.065	-0.556	-0.858	0.190	-0.274	-0.423	-0.024	0.296
212	1.534	0.795	1.051	0.995	0.896	1.138	0.503	1.326	0.520	-1.114	-0.919	0.792	1.508	1.349	-0.606
213	0.182	-0.314	-0.293	-0.413	-0.816	-0.492	-0.328	0.482	-1.154	1.305	0.266	-0.791	0.542	-0.269	1.029
214	1.358	-1.801	-0.200	0.995	-2.556	0.069	0.545	0.589	0.842	-0.294	-0.380	0.792	-0.337	1.141	-1.201
215	-0.265	0.795	-0.098	-0.081	-0.255	-0.079	-0.375	0.065	-0.246	0.885	0.038	-0.274	-0.607	0.461	-0.078
216	0.182	0.795	1.051	-0.081	-1.405	1.138	-0.891	0.983	-0.246	1.884	1.452	0.792	0.542	-0.971	1.537
217	-0.378	-0.682	-0.723	-0.832	-0.533	-1.013	-0.821	-0.832	-0.388	-0.315	-0.717	-0.274	-0.560	-0.814	-0.094
218	-0.144	0.795	1.051	-0.081	-0.528	0.046	-0.484	-0.717	0.527	-0.929	0.648	-0.008	-0.535	-0.773	0.370
219	0.040	0.063	0.628	0.995	-0.255	1.138	-0.831	-0.264	-0.059	0.478	-0.012	0.792	-0.394	-0.271	0.431
220	0.607	0.795	0.856	0.995	0.265	-0.059	0.953	0.290	-1.335	1.491	0.419	-0.229	0.775	0.885	-0.072
221	0.358	-0.314	-0.098	-0.081	-0.255	-0.079	0.235	0.179	-0.246	0.885	-0.171	-0.274	-0.197	0.189	0.584

222	-0.070	0.795	1.051	-0.456	-0.255	-0.213	-0.219	0.057	0.842	0.085	1.243	0.792	0.561	0.439	-0.155
223	0.444	-0.302	-0.825	-1.157	0.618	1.138	-0.891	0.983	0.560	0.885	-0.608	0.792	0.419	0.848	-0.082
224	-1.723	-2.887	-3.114	-1.525	-1.405	-2.942	-1.708	-1.940	-2.277	-0.508	-1.902	-3.471	-2.355	-0.971	-1.035
225	-0.089	-2.155	-0.309	-0.081	-0.255	-1.296	-0.464	-0.779	-0.388	0.071	-0.018	0.230	-0.423	-0.551	-1.054
226	0.399	0.795	-0.483	0.627	0.345	0.616	-2.111	0.225	0.392	0.384	1.243	0.275	0.947	-0.843	0.600
227	0.453	0.795	-0.004	0.662	-0.255	0.069	0.235	0.065	0.392	0.699	-0.171	-0.022	-0.019	1.349	0.139
228	-1.237	0.418	-1.161	0.995	0.896	0.459	-0.130	0.680	0.251	-0.093	-0.715	0.792	0.321	-0.301	-0.881
229	0.358	-0.314	-0.098	0.251	-0.255	-0.079	1.362	0.179	-0.246	0.885	0.266	-0.274	0.542	0.461	0.584
230	0.699	0.060	-0.388	0.627	0.018	0.856	-1.520	1.098	-0.059	0.885	0.369	0.792	-0.014	-1.313	0.584
231	0.420	0.795	1.051	0.995	0.896	-0.079	1.362	1.326	0.842	-0.493	-0.837	0.792	1.112	-0.225	-0.319
232	0.006	-0.314	-0.825	-0.081	-0.255	-0.079	-1.543	0.320	-0.246	0.885	-0.151	0.792	0.542	-0.745	0.584
233	-0.301	-1.069	-0.207	-0.456	-0.776	-0.348	-0.122	-0.552	0.527	-1.507	0.236	-0.525	0.043	-0.738	-0.052
234	0.754	-1.423	-1.247	0.995	0.896	1.138	1.362	1.326	0.842	-0.115	1.035	0.289	-1.636	-0.426	-0.606
235	0.278	0.418	0.091	-0.081	0.580	-0.203	0.189	-1.032	0.210	0.706	-0.127	0.288	-1.148	0.202	0.088
236	0.339	0.795	1.051	0.995	0.896	1.138	1.089	1.326	0.842	1.884	1.035	0.792	1.141	1.349	1.774
237	-0.818	0.040	-0.264	0.294	0.334	0.065	-0.666	-0.080	-0.219	-0.115	0.419	0.243	-2.177	-0.047	-0.987
238	0.358	-0.314	-0.098	-0.081	-0.255	-0.079	0.235	0.065	-0.246	-0.115	0.038	-0.274	0.542	0.189	0.143
239	1.534	0.795	0.832	0.294	0.896	0.466	0.818	0.840	0.527	-1.928	-0.177	0.792	0.965	1.136	-0.376
240	1.087	0.795	0.214	0.995	0.622	-0.094	0.662	1.326	0.842	-0.315	1.243	0.792	1.130	1.349	0.159
241	0.023	-0.689	1.051	0.330	0.896	1.138	-0.149	1.326	0.533	-0.486	1.035	0.792	1.508	0.422	0.557
242	1.534	0.795	1.051	0.995	0.896	0.869	0.545	1.098	0.842	-0.072	1.452	0.792	1.508	1.349	-0.904
243	0.358	-0.314	-0.098	-0.081	-0.255	-0.079	0.329	1.326	-0.246	0.499	1.452	-0.274	-1.090	0.189	-0.606
244	-0.067	0.418	-0.200	-0.449	0.338	-0.629	-0.149	-0.040	0.533	0.212	-0.354	0.540	1.325	0.669	0.139
245	-1.682	0.050	-0.200	0.251	-0.255	-0.360	-0.736	0.176	0.520	-0.308	-0.512	-0.009	-0.564	-0.219	0.584
246	-3.170	-2.907	-3.121	-3.308	-3.706	-3.460	-2.871	-2.205	-3.372	-0.963	-3.082	-3.471	-1.209	-2.364	-2.987

247	0.182	0.795	1.051	-0.081	-0.255	-0.079	-0.581	0.065	0.386	-0.679	0.425	0.792	1.508	-0.245	0.370
248	1.534	0.795	-0.154	0.995	0.896	1.138	-0.891	1.326	0.842	0.727	-0.919	0.792	1.508	0.291	0.610
249	0.343	0.795	0.644	0.995	0.896	1.138	1.362	1.326	0.533	0.699	-0.532	0.792	0.769	-0.508	0.370
250	-0.547	0.795	0.184	0.995	0.896	0.735	-0.577	-0.779	0.842	-0.500	1.035	0.792	0.555	-0.024	0.236
251	0.358	0.795	1.051	-0.081	0.302	-0.079	0.545	1.326	-0.246	1.029	0.266	0.792	-1.389	0.189	0.584
252	1.303	0.795	0.592	0.627	0.896	0.879	1.071	1.326	0.701	1.884	1.452	0.792	1.508	1.349	1.262
253	-0.316	0.795	1.051	0.995	0.896	1.138	0.235	0.179	0.842	0.885	1.452	0.792	-0.423	-0.006	1.774
254	1.032	0.795	1.051	-0.456	0.896	0.745	0.168	0.065	-0.388	0.313	0.856	-0.274	1.508	0.669	0.203
255	0.358	-0.314	-0.098	-0.081	-0.255	-0.079	0.235	0.179	-0.246	0.885	0.266	-0.274	0.542	-0.237	0.584
256	-0.818	-0.314	-0.046	-1.532	-0.255	-0.079	-0.690	0.179	0.527	0.885	0.266	-0.526	0.316	1.141	0.584
257	-0.723	0.418	0.426	0.662	-0.244	0.597	0.235	-0.156	0.527	0.692	0.058	0.274	0.179	0.189	0.584
258	-0.818	-2.533	-1.247	-1.157	-1.683	-1.296	-0.891	-2.116	-0.703	-0.115	-2.105	-2.405	-0.423	-1.438	-0.837
259	-1.947	-1.066	-2.395	-2.268	-3.706	-0.508	-2.022	1.326	-1.477	1.884	0.266	-2.405	-1.189	-2.103	-0.606
260	-1.939	0.795	1.051	-1.157	0.622	0.050	-1.322	-0.156	0.245	-1.051	-0.532	0.792	-0.236	-0.439	-0.606
261	1.534	-0.669	1.051	0.995	0.896	1.138	1.362	1.326	0.842	1.884	-0.919	0.792	1.508	1.349	1.774
262	-3.170	-3.642	-3.544	-3.308	-3.706	-3.729	-2.736	-3.263	-3.372	-1.713	-3.291	-3.471	-1.747	-3.291	-2.987
263	-1.994	-2.533	-1.921	-1.865	-2.556	-2.253	-2.018	-2.116	-2.115	-0.921	-2.105	-2.405	-1.163	-1.674	-1.499
264	-0.969	0.795	0.237	0.995	0.296	-0.217	-1.708	-0.392	0.386	1.134	0.369	0.540	-0.540	0.047	0.878
265	-0.172	0.040	0.361	0.619	-0.219	-0.232	0.728	-1.083	0.527	0.856	-0.436	-0.467	-1.995	-0.308	-0.606
266	-1.170	0.795	0.832	0.995	0.065	-0.473	0.818	0.035	0.842	-2.113	0.008	0.792	-0.423	-0.024	-1.582
267	0.182	0.795	1.051	0.995	0.896	-0.079	1.362	-0.186	0.701	0.706	1.243	0.792	-0.197	0.254	1.345
268	0.629	0.053	-1.442	0.294	0.622	-0.084	0.752	0.551	0.842	0.741	0.329	0.792	0.765	0.254	0.584
269	0.835	0.053	0.644	0.995	0.338	1.138	1.362	0.368	0.842	0.885	1.452	0.792	1.141	0.211	0.798
270	-1.049	-1.069	-1.221	-0.789	-1.721	-0.898	-0.262	0.065	-0.394	0.506	-1.718	-0.791	-0.362	-0.028	-0.105
271	0.186	0.795	0.237	0.995	0.896	0.601	-1.078	0.367	0.842	-1.372	-0.297	0.792	0.775	-0.505	-2.558

272	0.146	0.418	0.832	0.627	0.580	-0.075	0.728	-0.104	0.842	-0.451	0.806	0.792	0.001	0.461	0.370
273	0.610	0.795	0.856	0.995	0.307	0.463	1.362	0.179	0.842	-0.500	0.628	0.792	1.508	-0.028	0.882
274	-0.225	0.795	0.840	0.995	0.612	1.138	0.686	-1.102	0.842	0.128	-1.230	0.792	-0.656	0.019	-0.988
275	0.420	0.795	-0.450	-0.406	0.896	0.601	-0.532	-0.775	0.224	-0.272	0.617	-0.466	-1.999	1.349	-1.271
276	-0.818	-0.314	-1.247	-0.081	-1.405	1.138	0.142	-0.968	-0.246	-0.115	0.266	-0.274	-0.423	-0.971	0.584
277	0.432	0.060	1.051	0.627	0.896	0.222	1.362	-0.476	0.842	-0.115	0.445	0.792	-0.057	0.452	-0.369
278	0.127	-0.689	-0.098	-0.081	-0.528	-0.079	0.461	0.179	-0.239	0.699	1.243	-0.274	0.542	-0.019	-0.396
279	0.186	0.795	1.051	0.995	-0.255	1.138	1.362	1.326	-0.104	0.127	-0.919	0.792	1.508	1.349	1.774
280	0.182	-0.314	-0.460	-0.825	-0.255	-0.213	-0.310	-0.072	-0.246	0.464	-0.399	-0.022	0.179	-0.699	-0.072
281	-0.294	0.795	1.051	-0.081	-0.255	1.138	-0.375	1.069	-0.246	0.885	0.469	-0.215	0.363	0.727	1.560
282	-0.276	0.795	1.051	-0.081	0.896	0.745	0.953	1.326	-0.246	0.885	0.266	0.274	-0.135	0.882	0.584
283	-0.301	-1.423	0.637	0.995	0.896	-0.351	-0.554	0.740	0.527	-1.114	0.425	0.792	-0.743	0.428	-0.094
284	0.025	0.050	-0.248	-0.449	0.302	-0.482	-1.210	0.397	0.069	-0.921	-0.380	0.540	0.176	-0.999	-0.440
285	1.534	0.795	1.051	0.995	0.896	1.138	-0.149	1.326	0.842	-0.929	0.266	0.792	1.141	1.349	-1.797
286	0.358	-0.314	-0.098	0.287	-0.255	-0.079	0.752	0.179	0.386	0.699	-0.095	-0.274	0.133	0.189	0.584
287	-0.260	0.795	-1.458	0.995	0.349	0.869	1.362	1.212	0.842	-0.115	1.452	0.289	1.141	1.349	1.774
288	-1.221	0.795	1.051	-0.074	0.896	-1.281	-0.417	-0.015	0.218	-1.372	0.767	0.792	-2.355	-0.598	-0.954
289	1.534	0.795	0.433	-0.081	0.896	0.463	-0.126	1.326	0.842	0.514	1.243	0.792	1.141	0.923	1.774
290	-3.170	-3.642	-3.544	-3.308	-3.706	-3.729	-3.144	-3.035	-3.062	-1.935	-3.082	-3.471	-2.355	-3.291	-2.987
291	-3.170	-3.642	-3.544	-3.308	-3.706	-3.729	-3.144	-3.263	-3.513	-2.113	-3.291	-3.471	-2.355	-2.865	-2.987
292	-0.030	-0.327	-0.004	0.627	0.896	-0.495	-2.426	0.080	0.533	0.271	-0.171	-0.494	-0.197	-0.745	-0.727
293	-0.815	-0.691	-0.501	-0.832	-0.801	-0.619	-0.375	-2.116	-0.246	-0.451	0.058	-1.088	-0.848	0.189	-0.606
294	0.358	-0.314	-0.098	-0.081	-0.255	1.138	0.437	0.179	-0.246	0.885	0.266	-0.274	0.542	0.189	0.584
295	0.866	0.418	-0.283	0.995	-0.250	0.309	1.225	1.098	0.842	-2.113	0.008	0.289	0.567	0.467	-0.078
296	1.534	0.795	1.051	0.995	0.896	1.138	1.362	1.326	0.842	-0.052	1.243	0.792	1.508	1.349	-0.299

297	-0.390	0.795	0.166	0.995	-0.250	-0.213	0.165	1.212	0.237	-0.059	0.597	0.275	1.508	-0.219	0.370
298	0.182	-1.423	-1.247	0.251	0.061	-0.344	0.235	-2.116	0.842	0.141	0.786	-0.242	0.542	-0.721	0.798
299	0.860	0.040	0.191	-0.081	0.618	0.351	0.952	0.080	-0.556	-0.486	0.578	0.792	-1.166	0.461	0.072
300	-0.240	-0.314	0.433	-0.081	0.023	0.200	1.090	0.179	-0.246	0.885	0.266	-1.340	-1.022	-0.450	0.584
301	-2.994	-3.642	-3.544	-3.308	-3.706	-3.729	-3.144	-3.263	-3.513	-2.113	-3.291	-3.471	-2.355	-3.291	-2.987
302	1.534	0.795	1.051	0.995	0.896	1.138	1.362	1.326	0.533	1.884	1.452	0.792	1.508	1.349	1.774
303	0.182	0.795	0.596	-0.081	0.896	0.725	0.888	1.212	0.842	-1.913	0.617	0.792	1.145	1.098	-1.589
304	-0.547	0.053	-0.505	-0.825	-0.255	-0.495	-0.843	-0.407	-0.092	-0.801	-0.171	-0.791	0.359	-1.171	-0.335
305	1.032	-0.674	-0.802	-1.200	0.896	0.869	0.124	-0.731	-0.388	0.506	-0.088	0.792	0.775	-1.300	0.163
306	0.127	-0.314	-0.098	-0.081	-1.405	-0.079	0.235	-0.330	-0.388	-0.672	-0.741	-0.274	-0.197	0.189	-0.606
307	0.589	0.795	0.856	0.627	-1.090	-0.079	0.639	-0.362	0.842	-0.115	-0.919	0.792	0.179	0.712	-0.606
308	-0.500	-0.327	0.621	0.259	0.618	0.616	0.099	-1.523	0.204	1.077	-0.380	0.792	1.508	-0.725	-2.238
309	0.453	0.795	0.368	0.995	0.618	0.588	0.682	0.961	0.392	-0.115	0.826	-0.242	1.325	1.132	0.610
310	1.358	0.795	-0.004	0.995	0.338	0.860	-0.266	0.983	0.842	0.071	-0.450	0.275	-0.236	-2.094	0.825
311	0.860	0.795	-1.637	0.995	0.896	1.004	-1.276	1.326	0.842	0.520	-0.191	0.289	0.176	-1.104	0.798
312	-0.224	-0.314	-0.938	-0.456	-0.255	0.869	0.305	-0.596	0.842	-2.113	0.617	-0.791	-0.444	-1.113	-0.606
313	-1.870	0.060	0.237	-0.492	0.065	-1.296	-0.755	0.147	0.842	-0.472	-0.532	0.526	0.121	-0.426	-0.606
314	-0.821	0.040	-0.460	0.619	0.025	0.075	0.415	-0.193	-0.368	0.885	-0.787	0.023	0.029	0.052	1.774
315	-1.818	-3.642	-2.723	-2.565	-2.272	-2.378	-1.726	-2.563	-2.734	-1.114	-2.466	-3.471	-2.172	-1.435	-1.797
316	-0.184	-0.314	-0.098	-0.081	-0.255	-0.348	0.345	0.179	-0.246	-0.743	0.266	-0.274	0.542	0.189	-1.335
317	0.358	0.050	-0.030	-0.081	-0.255	-0.079	0.235	0.179	-0.246	0.699	0.038	-0.274	0.962	-0.028	0.370
318	-1.240	0.795	-0.720	0.995	-0.219	0.306	-0.666	0.983	0.842	-1.114	-0.532	0.792	1.508	0.189	-1.054
319	0.182	0.795	-0.460	0.995	0.622	0.745	0.617	0.626	0.533	-0.728	0.806	0.792	0.784	0.669	0.053
320	-0.045	0.795	0.628	0.244	-0.255	1.138	-0.783	-0.164	0.224	-0.728	0.826	0.275	0.359	0.721	-1.582
321	1.358	0.795	1.051	0.251	0.896	0.485	-0.332	0.983	0.842	0.899	0.349	0.792	0.322	0.712	-1.266

322	0.179	0.795	1.051	0.995	0.896	1.138	-0.891	1.098	0.224	1.884	0.995	0.792	-0.423	1.349	1.345
323	0.358	-0.314	-0.098	-0.081	-0.255	-0.079	0.235	0.179	-0.246	0.885	0.266	-0.274	0.542	-0.312	0.584
324	0.629	-0.684	0.840	-0.038	0.896	0.578	-0.149	-0.086	0.392	0.885	-0.419	0.792	0.598	-0.432	0.898
325	1.263	-0.682	-0.739	-0.456	-0.255	-0.079	-0.774	-0.156	-0.252	0.464	0.266	-0.525	-0.047	-0.351	-0.503
326	1.282	0.795	0.191	0.251	0.896	0.869	0.953	-0.157	0.533	-0.244	0.216	0.792	0.237	0.925	0.473
327	-0.455	0.795	1.051	-0.449	-0.255	-0.207	0.663	-0.050	-1.033	0.335	0.266	0.274	-0.177	-0.659	0.155
328	-0.451	0.060	-0.607	0.259	0.896	0.620	1.362	-0.841	0.842	-1.557	1.035	0.792	-2.355	0.923	-1.048
329	-0.045	0.795	0.449	0.627	0.896	0.735	0.818	0.033	0.218	-0.065	-0.735	0.792	-0.414	0.508	1.326
330	0.358	-0.314	-0.098	-0.081	-0.255	-0.079	0.235	0.179	-0.246	0.885	0.266	-0.274	0.542	-0.237	0.584
331	1.534	-0.314	1.051	-0.081	-0.255	1.138	1.362	0.179	0.842	-0.115	-0.919	-0.274	0.542	0.189	-0.606
332	0.358	-0.314	-0.098	-0.081	-0.255	-1.296	0.235	0.179	-0.246	-0.115	-0.919	-0.274	0.359	0.189	-0.606
333	0.358	0.795	1.051	-0.081	0.896	1.138	1.362	1.326	-0.388	1.884	1.452	0.792	1.508	-0.971	1.774
334	-1.240	0.418	-0.508	-0.449	0.071	0.203	0.028	-0.362	-0.388	0.506	1.015	-0.022	0.962	0.402	-0.142
335	0.629	0.795	0.621	-0.081	0.622	-0.079	-0.126	0.101	-0.246	0.885	0.425	0.792	0.179	0.189	-1.713
336	0.610	-0.314	-0.098	-0.081	-0.255	1.004	1.362	0.179	0.533	-0.115	-1.718	-0.274	0.359	0.189	0.370
337	-0.064	0.795	-0.046	0.627	0.896	0.869	-0.375	1.326	0.218	-0.630	-0.399	0.792	1.141	1.136	1.112
338	0.589	0.427	-0.248	0.294	0.896	0.725	1.090	-0.665	-0.388	0.320	0.628	-0.526	-0.794	0.194	0.321
339	1.358	0.795	1.051	0.995	0.896	0.869	-0.309	-0.156	0.533	0.885	0.425	0.792	0.962	1.098	-0.817
340	-3.170	-1.423	-1.247	-3.308	-1.405	-1.296	-3.144	-0.968	-3.513	-0.115	-0.919	-1.340	-2.355	-3.291	-0.606
341	0.589	-0.682	0.166	-0.074	-0.255	0.047	0.235	0.430	-0.548	-0.493	-0.919	0.274	-0.154	-0.491	0.370
342	0.406	0.795	1.051	0.995	0.896	-0.079	1.362	-1.639	0.842	0.264	1.452	0.792	0.962	-0.745	-0.606
343	1.534	0.795	1.051	0.995	0.338	0.860	-0.197	1.326	-0.252	-0.115	-0.919	0.792	0.512	1.349	-0.606
344	0.358	0.050	-2.802	-0.081	-1.405	-0.213	-0.037	0.065	0.701	-0.258	-0.171	-0.525	0.542	-0.275	0.584
345	0.629	0.795	0.230	-0.081	0.896	0.203	0.371	0.961	0.520	-0.272	1.224	0.792	1.126	1.132	0.370
346	1.358	0.795	0.660	0.995	0.896	0.869	0.526	1.098	0.520	0.120	1.243	0.792	1.508	0.669	-0.396

347	-0.547	-0.314	-0.098	-0.081	-0.255	-0.213	-0.173	-0.156	-0.246	0.706	-0.171	-0.274	0.359	0.189	0.584
348	0.069	-0.317	0.433	-0.832	0.896	0.330	-0.089	-0.194	0.842	0.698	0.349	0.792	-1.814	0.448	1.262
349	0.358	0.795	0.614	0.995	0.896	0.588	-0.600	0.991	0.842	0.699	1.035	0.792	0.179	-0.473	-1.566
350	0.875	0.795	1.051	-0.045	-0.213	-0.611	-0.891	1.326	0.386	-0.115	0.995	0.792	-0.423	-0.078	0.607
351	1.534	0.795	0.621	0.995	0.896	0.869	0.818	-0.362	0.842	0.699	-0.380	0.792	-0.697	1.349	0.684
352	-0.030	-0.327	-0.935	0.251	-0.255	0.050	-0.398	0.065	0.076	0.334	0.236	-0.242	-0.182	0.669	0.370
353	-0.221	0.795	0.426	0.995	0.065	0.735	0.545	-0.665	0.533	-0.251	0.058	0.540	0.406	-0.501	0.584
354	1.303	0.795	0.377	0.294	0.338	0.180	1.000	1.326	-0.105	1.884	0.266	0.540	0.741	0.925	0.882
355	-0.674	0.795	1.051	-0.081	0.896	0.869	0.953	0.368	0.392	-0.115	1.243	-1.340	1.141	1.136	-0.085
356	0.278	0.795	1.051	0.294	0.896	0.591	-1.276	1.326	0.533	-0.558	0.654	0.792	1.141	0.024	-2.558
357	-0.371	0.053	-0.004	0.294	0.896	-0.209	-0.666	-0.104	0.218	0.077	0.216	0.023	-0.429	0.189	-0.292
358	0.106	0.053	0.139	-0.413	-0.255	0.200	-0.529	0.293	-0.246	0.885	0.445	0.540	0.542	0.194	0.584
359	1.036	0.040	0.223	0.259	0.056	-0.213	0.461	-0.186	0.224	1.270	-0.380	0.243	0.778	0.641	-1.502
360	-1.492	-0.314	-0.098	-0.081	-0.255	-0.213	-0.173	-0.968	0.842	-0.115	0.266	-0.274	-0.848	0.189	-0.392
361	0.182	0.795	1.051	-0.081	0.896	1.138	0.437	1.326	0.533	-0.630	0.266	0.792	1.508	0.189	0.223
362	0.238	0.795	0.449	0.995	0.896	1.138	-0.169	1.098	0.842	-1.871	1.035	0.261	0.415	0.071	0.370
363	0.428	0.795	1.051	-0.081	0.334	-0.079	1.362	-0.968	-0.355	1.070	0.260	0.274	1.141	0.189	-0.178
364	0.783	0.795	0.384	0.995	0.896	1.004	1.362	0.147	0.842	0.912	-0.919	-0.229	1.508	-0.006	-0.606
365	0.361	0.795	0.644	0.995	0.896	0.306	-0.891	1.212	0.842	-0.630	1.452	0.792	-0.225	1.349	-0.633
366	0.432	0.795	0.410	0.619	0.896	1.004	0.752	1.326	0.842	0.492	1.035	-1.340	-0.027	0.669	1.333
367	-0.086	0.795	0.426	0.995	0.896	-0.213	1.225	-0.414	0.527	1.327	1.243	0.792	-0.184	0.248	0.136
368	-0.276	0.418	0.426	0.244	0.896	0.453	0.545	-0.583	0.701	-0.536	1.015	0.792	-1.389	1.349	-1.576
369	-1.405	0.795	-0.200	-1.482	-0.774	-0.764	-2.225	0.179	-0.697	-0.237	0.058	-0.242	0.943	-2.539	0.353
370	0.413	0.795	0.832	0.995	0.622	-1.296	0.888	0.179	0.842	-0.929	-0.538	0.792	0.415	0.189	-0.837
371	0.992	0.795	-0.030	-0.074	0.338	0.466	-0.285	1.326	-0.422	1.884	0.008	0.792	0.542	0.248	1.537

372	-0.969	0.427	0.840	0.995	0.896	1.138	0.953	-0.075	0.210	-1.471	1.452	0.792	-0.341	0.004	-0.005
373	0.860	0.050	0.426	0.995	0.896	1.138	1.225	0.869	0.842	-1.202	1.224	0.036	0.958	1.349	0.547
374	-0.975	0.795	-1.315	0.995	0.580	0.735	-0.421	-0.148	-0.246	-1.114	-0.297	0.792	-0.367	-0.422	1.774
375	-0.818	-0.314	-0.528	-0.081	-0.534	-0.754	-0.891	0.482	-0.569	-1.114	-0.919	0.540	1.141	-0.971	-0.606
376	0.640	0.060	0.660	0.995	0.896	0.869	-0.440	0.367	0.842	1.513	1.035	0.792	-0.517	-0.741	0.871
377	-0.048	0.795	-0.426	0.995	-0.255	0.610	-0.130	-0.102	0.842	0.885	0.654	-1.340	0.499	-1.083	-0.396
378	1.358	0.795	1.051	0.251	-0.219	0.869	0.437	-0.296	0.069	0.885	1.243	0.792	0.415	0.172	-1.035
379	-0.953	0.418	-0.851	-0.074	-0.255	-0.357	-0.264	-0.164	0.701	-1.686	-0.221	-0.571	0.001	-0.962	-1.646
380	0.127	0.418	0.237	0.995	0.061	0.184	0.617	-1.336	-0.394	-0.115	0.445	0.792	0.598	1.349	-0.756
381	-0.547	-0.314	-0.098	-0.081	-0.255	-0.079	-0.464	-0.186	0.076	-0.043	-0.171	-0.274	0.316	-0.971	-0.309
382	-0.243	0.795	-0.283	0.995	0.896	0.735	0.616	0.824	0.842	1.155	0.349	0.792	-1.097	1.349	-0.490
383	-0.963	0.795	0.832	-0.081	0.061	0.600	-0.036	-0.301	0.533	-0.486	0.786	0.792	-0.369	-0.063	-1.428
384	-0.547	-0.314	-0.528	-0.081	-0.812	-0.348	0.235	0.179	-0.246	-1.114	0.058	-0.274	0.542	-0.452	0.584
385	0.182	-0.327	-0.264	-0.081	-0.570	-0.079	-0.398	-0.042	-0.246	-0.115	-1.128	-0.822	0.552	-0.758	0.561
386	1.534	0.795	1.051	0.995	0.896	1.138	1.362	1.326	0.419	1.884	1.452	0.792	1.508	1.349	1.774
387	1.358	0.795	-0.241	-1.150	0.018	-0.213	-0.666	0.482	-0.246	0.885	-0.837	0.289	0.967	-0.708	0.584
388	-1.422	0.050	-0.098	0.294	-0.255	-0.079	0.953	0.179	-0.246	0.885	0.058	-0.274	0.769	0.669	0.139
389	-2.748	-3.642	-3.544	-3.308	-3.706	-3.729	-3.144	-3.263	-3.513	-1.114	-3.082	-3.471	-2.355	-3.291	-1.797
390	1.112	0.795	1.051	0.995	0.896	1.138	0.818	1.212	0.842	-2.113	0.399	0.792	1.508	1.132	0.370
391	0.358	0.050	0.426	0.995	0.622	0.319	-0.037	0.352	0.533	0.885	0.445	-0.022	-0.047	0.461	1.239
392	0.856	0.795	0.840	0.619	0.338	0.332	0.818	0.017	-0.246	0.085	1.243	0.792	-0.665	0.712	-0.306
393	-1.163	0.795	1.051	0.995	0.896	-2.512	0.545	0.824	0.842	-1.127	0.266	0.792	-1.572	0.415	-2.027
394	-0.865	0.418	0.191	0.619	0.061	0.309	0.799	0.847	0.842	0.141	0.806	0.792	-0.189	0.674	-0.537
395	-0.547	-0.314	-0.098	-0.081	-0.255	-0.079	-0.375	0.179	0.842	0.885	0.058	0.792	0.542	0.405	0.584
396	1.534	0.795	1.051	0.995	0.896	-1.168	1.362	0.732	0.842	-1.114	0.266	0.792	1.508	1.349	-1.201

397	-0.547	0.795	0.832	0.995	0.896	0.588	0.953	0.375	0.842	-0.500	1.452	0.792	-0.365	1.349	-0.606
398	0.358	-0.314	-0.098	-0.081	-0.255	-0.079	-0.581	-0.665	-0.246	0.335	-0.608	-0.274	0.176	0.189	0.370
399	1.534	0.795	0.840	0.627	-0.255	1.138	0.662	0.740	0.378	0.492	0.806	0.792	0.359	1.349	0.882
400	-0.276	-0.694	0.628	0.995	0.896	0.591	-0.037	0.596	0.701	1.526	1.035	0.792	-0.564	1.349	1.326
401	0.358	-0.314	-0.098	-0.081	0.896	1.138	0.010	1.326	-0.246	1.884	1.452	0.274	0.905	1.076	0.584
402	0.358	0.418	-0.030	-0.081	0.029	0.200	0.235	0.065	0.076	-1.114	0.058	0.023	0.176	0.919	-0.052
403	-0.240	0.427	0.637	-0.081	0.338	-0.079	1.225	0.482	0.842	-0.472	0.058	0.274	0.548	1.349	0.584
404	0.358	0.795	0.384	-1.900	0.896	1.138	0.869	-1.865	-0.246	1.884	-0.919	-0.274	1.508	0.669	1.774
405	0.127	-0.327	-0.046	0.294	-0.255	0.332	-1.300	0.573	0.527	0.071	0.266	0.526	-0.225	0.715	0.367
406	-2.166	0.795	0.237	-0.413	-0.776	-1.024	-0.192	-0.985	0.224	-1.114	0.236	-0.539	0.176	-1.360	0.386
407	-0.254	0.418	-0.012	0.995	0.061	-0.764	1.090	0.375	0.842	-1.050	-0.608	0.010	-0.601	-0.252	0.232
408	-0.990	0.795	-0.030	-1.157	-0.255	0.856	0.235	1.326	-0.556	-1.114	-0.151	0.792	-0.423	-2.131	-0.606
409	0.278	-1.423	1.051	-0.485	0.622	0.601	0.953	0.618	-0.092	0.684	0.826	-1.605	-0.883	0.869	-0.311
410	-0.089	0.427	0.377	-0.081	0.896	-0.213	0.668	0.065	-0.246	-0.736	-0.558	0.792	-0.047	-0.235	-0.606
411	0.453	0.418	-0.004	0.627	0.896	0.329	0.545	0.003	0.533	-0.687	0.236	-0.022	0.726	0.495	0.153

Appendix 4:
Structural Model of Preliminary Analysis of External Stimuli