

CORRELATION FACTORS AND DEMOGRAPHIC CHARACTERISTICS ON
HOMEBUYER'S PURCHASE DECISION AMID COVID-19 PANDEMIC AT PASIR
GUDANG, JOHOR.

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DEDICATION

Every challenging work, needs efforts as well as guidance of elders especially who were very close to my heart. I especially dedicated this thesis to:

My beloved mother,

LIM SWEE KIOW

*Thank you for the unconditional love, supports, encouragement
and make me able to get such success and honour.*

My respected supervisor,

PROF. MADYA SR. DR. ROZILAH BINTI KASIM

Thank you for the constructive guidance, supports and inspiration.

My dearest brothers,

LEE WEE CHONG & LEE WEE LEONG

Thank you for the unlimited supports and encouragement.

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Thank you for the supports and inspiration.

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ABSTRACT

Property residential market occurs the property overhang and property project delay issues amid the Covid-19 pandemic. In this research, the aim is to determine the correlation between the homebuying factors and demographic characteristics on the homebuyer's purchase decision amid the Covid-19 pandemic. Hence, there are three research objective which are to determine the homebuying factors that influence homebuyer's purchase decision during the Covid-19 pandemic, to investigate the demographic characteristics of residential homebuyers that influence their purchase decisions during period of Covid-19 pandemic and to evaluate the relationships between the homebuying factors and the demographic characteristics of residential property during period of Covid-19 pandemic. The method of data collection used is questionnaire distribution, the result had been composed and analyses the feedback and opinions from the residents who are the house owners and the potential buyers who are planning to purchase houses at Pasir Gudang, Johor. Then, the data analysis method are using linear logistic regression and multivariate analysis of variance. The results findings shows that homebuyer's purchase decision are influenced by all homebuying purchase factors amid Covid-19 pandemic which are the significant variables are hospital & clinics workplace, schools, down payment, monthly payment EPF Withdrawal , quality of property, build-up area, security & safety and air quality. The findings illustrate that homebuyer's purchase decision are influenced by gender, education level, occupation, family income and family size amid Covid-19 pandemic. The findings of this research have implications for the academic literature as they specifically extend on homebuying factors of homebuyers and demographic characteristics of residential homebuyers for the broader exploration of the efforts to develop housing development in Malaysia.

ABSTRAK

Situasi badai pandemik Covid-19 menjadi faktor terbesar dan masalah terhadap kelewatan status projek perumahan serta lambakan hartanah tidak terjual seperti yang telah dijadualkan. Di dalam penyelidikan ini, tujuan utama adalah untuk menentukan hubungan serta kaji selidik antara faktor-faktor utama keputusan pembelian perumahan dan ciri demografi terhadap situasi pandemik Covid-19 yang berlarutan. Oleh itu, terdapat tiga objektif utama yang telah dikenal pasti yang menjadi faktor utama iaitu untuk menentukan faktor utama keputusan pembelian perumahan semasa situasi pandemik Covid-19, seterusnya untuk menyiasat ciri-ciri demografik yang mempengaruhi keputusan pembelian perumahan sewaktu situasi pandemik Covid-19 dan terakhir sekali adalah untuk menilai hubungan faktor pembelian perumahan dan ciri demografik terhadap jenis pemasaran perumahan. Kaedah pengumpulan data yang telah dilaksanakan di dalam penyelidikan ini ialah soal selidik, hasil kajian telah dikumpul dan dianalisa dariapa penduduk setempat daripada golongan pembeli perumahan, pemilik perumahan tetap, serta bakal pembeli yang berpotensi tinggi di sekitar Pasir Gudang, Johor. Selain itu, kaedah analisis data yang telah digunakan ialah regresi logistik linear serta analisi varian multivariate. Hasil dapatan menunjukkan bahawa keputusan pembelian perumahan sewaktu situasi pandemik Covid-19 dipengaruhi oleh semua faktor yang telah disenaraikan iaitu jarak tempat kerja sedia ada, keberadaan hospital serta klinik, pusat persekolah yang berhampiran, bayaran deposit muka awalan, bayaran perumahan secara bulanan, pengeluaran KWSP, kualiti hartanah, keluasan kawasan binaan perumahan, keselamatan dan kualiti udara persekitaran. Penemuan didalam kaji selidik ini mendapati ia juga dipengaruhi oleh jenis jantina, tahap pendidikan, pekerjaan, pendapatan keluarga serta saiz keluarga. Oleh itu, dengan adanya kajian menyeluruh ini, ia memahami fakto-faktor dititik beratkan oleh pihak pembelian perumahan serta penerokaan yang lebih meluas mengenai pambangunan perumahan di Malaysia.

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LIST OF SYMBOLS AND ABBREVIATIONS

MCO -	Movement Control Order
EPF -	Employees' Provident Fund
Covid-19 -	Coronavirus Disease 2019
RPGT -	Real Property Gains Tax
DOSM -	Department of Statistics Malaysia
NAPIC -	National Property Information Centre
JPN -	Jabatan Pendaftaran Negara
NHP -	National Housing Policy
JPPH -	Jabatan Penilaian dan Perkhidmatan Harta
BLR -	Base Lending Rate
ERP -	Economic Recovery Plan
HOC -	Home Ownership Campaign
WHO -	World Health Organization
IRB -	Inland Revenue Department
RTS -	Rapid Transit System
HSR -	High Speed Rail
SPSS -	Statistical Package for the Social Science
MANOVA -	Multivariate Analysis of Variance

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PTTA UTHM
PERPUSTAKAAN TUNKU TUN AMINAH

CHAPTER 1

INTRODUCTION

1.1 Background of the Research

Data from the National Property Information Centre (2019), the annual property performance market report shows there would be a slightly improvement with a marginal increase in the property market performance report. A total of 209,295 units of transactions residential property worth RM72.42 billion were recorded, showing an increase of 6.03% in volume units and 5.34% in value compared to 2018, which recorded 197,385 units of transactions residential property worth RM68.75 billion. With supplying the sufficient affordable housing to meet the needs and requirement of residential homebuyers has become the government's goal. Since March, 2020, the Covid-19 pandemic has further delayed the progress of construction and has severely affected many economic sectors as well as the property market as most non-essential business activities literally slowed during the prolonged Movement Control Order (MCO) period (Tanrivermis, 2020). Data from National Property Information Centre (2020), a total of 191,354 units of transaction residential property worth RM 65.87 billion were recorded in year 2020 and showing a decrease of 8.57% in volume units and 9.04% in value compared to year 2019 as show on above.

Besides that, data from the National Property Information Centre (2020), there would be a slightly decrease in the property market performance in residential new launches project. A total of 47,178 units of new launches project were recorded in year 2020 and showing a decrease of 12,790 units which is 21.32 % when compared to year

2019 which is recorded 59,968 units. The decrease in number of new launch project will directly influence on homebuyer purchase decision due to the potential homebuyers mostly prefer to compare different design and features from different new launch project when they are making purchase decision. The lack of new launch project will directly influence on homebuyer's homebuying factors which is features factors and location factors (Chin, 2016).

According to Shiller & Thimpson (2012), homebuyers' choices in the housing market are not only limited by affordability, but also in term of geographic location and regulations. Potential residential homebuyers looking for a new home will have to do the survey about somewhere a house within a narrow range that can meet their preferred price, location, design, service and other conditions. Therefore, because their choices are limited by their preferences, they may choose less than ideal houses. There is no doubt that housing developers need to understand the importance of making changes and providing diverse products to meet the needs of the housing market (Samuels, 2005).

Residential homebuyers often make purchase decisions, but people do not realize the purchase factors behind the decision. Buying a house requires sufficient information survey. There are characteristics and reasons behind of all purchase decisions, and these decisions and reasons may stem from social, cultural or personal factors (Lautiainen, 2015). In the purchase decision of potential buyers, the quality of the housing area is the priority. When it comes to purchasing decisions, they pay more attention to services, facilities, safety and security (Bryant & Eves, 2011).

In this research, a brief implementation of residential homebuying factor and preference on making purchase housing decision in Malaysia and the suggestions that could shed light on its future have outlined and need for detailed fieldwork have emphasized in the real estate markets during and after the first wave of Covid-19 had occurred in 2020 year. Their purchase decisions are influence by factors such as structure, finance, location, government policy and environment. Housing developers have started to differentiate their products to fulfil the homebuyers' demands and requirements.

1.2 Problem Statement

According to Foo (2020), the fear of the Covid-19 outbreak will definitely lead to fewer people seeking housing, and the listing of some houses will be delayed. In addition, because financial institutions have reduced the scale of operations in accordance with MCO regulations, buyers are unable to fulfil their obligations regarding the completion of documents and progress payments. Because the entire supply chain is interrupted, developers and builders are unlikely to complete their work on time.

According to Khandelwal (2018), the previous study's results shows the global market related to homebuying factor which is financial factors related to price range and availability of home loan were found to be most important by homebuyers. The financial factors were followed by features factors which is related to construction quality, developer's reputations, ventilation and proximity to amenities on the basis of importance for the home buyers. In others situation, homebuyer will concern a lot of homebuying factors such as financial, features, location and neighbourhood. During Covid-19 pandemic, the developer unable to complete the construction work on time and hand in the housing key to potential homebuyers. Besides that, homebuyer's financial concern also will be influence by jobless, reduced salary. Hence, its situation will directly to influence the residential property market in Malaysia during Covid-19 pandemic. As disclosed in previous researches, the problem of dissatisfaction among the homebuyers is generally caused by the features homebuying factors such as quality of product and service. Product (houses) quality and service quality are both considerable factors which dedicate to the accomplishment of the housing project will directly influences the homebuyer's purchase decision in the residential property market in Malaysia.

According to the research by Bhoj, (2020), the implication of Covid-19 and the "Motion Control Order" on various real estate participant buyers, labourers and builders would be influence the potential homebuyer's purchase decision. Due to the lack of possible salaries, participants' buyers face threats such as delivery delays, reduced property, salary cuts, and reduced purchasing power. The impact of MCO on the labour force will include unemployment, lack of jobs compared to before, possible wage cuts and vacancy rates are considered low (Bhoj, 2020). Hence, the demographic

characteristics of homebuyer which is related to income level of family will be affected. The knowledge of differentiate demographic is beneficial to be applied in the housing market because the relationship between the purchase decision and a household needs to be investigated. According to Hulse & McPherson (2014), the changing of housing comes with population change.

According to Ahmad (2010), the relationship between demographic characteristics and homebuying factors is important, in the context of such need, since there is an increasing volume of literatures detailing the relationship between affordable housing needs and populations in Malaysia. Demographic characteristics such as age, gender, marital status, occupation level, income level and family size may influence demand in the residential property market in Malaysia. According to Mar Iman (2006), has highlighted several types of demographic trends that drive real estate market and point out that housing needs and preferences are also influenced by the characteristics of individuals in a population, particularly by age, ethnicity, and family status. Due to the potential homebuyers normally comes from high income level and high occupation level group. Amidst Covid-19 pandemic, the problem of affordability level especially for lower and middle-class households is due to the low levels of job skills and education that they had. It is clearly stated that the level of education will determine the income earned among the people and in turn, it will differentiate the affordability level in owning a house amid Covid-19 pandemic (Linneman & Megbolugbe, 2012).

This research was applied a quantitative study in which data were collected through structured and non-disguised questionnaire. During the literature review, the factors were identified which were frequently found significant in the residential property buying in the previous studies. Method of data collection used was mail questionnaire form. Respondents were selected through judgement sampling. The data collected through the questionnaire survey were statically analysed with SPSS software. The respondents were the home owners and the potential buyers who were planning to purchase houses at Pasir Gudang, Johor. This research area was selected because there are many housing projects are under development and delayed to the construction progress amid Covid-19 pandemic.

Therefore, to overcome the mentioned issues about the problems of property overhang and low transaction volume in residential property market during Covid-19

pandemic. The research aim to investigate the correlation between the homebuying factors and demographic characteristics on the homebuyer's purchase decision of residential property market in Malaysia during Covid-19 pandemic. And also examining the relationship between homebuyer's demography and property purchase decision during Covid-19 pandemic.

1.3 Research Question

Three research questions are developed and raised to guide this research:

- i. What are the homebuying factors influence homebuyer's purchase decision during Covid-19 pandemic?
- ii. How the demographic characteristics of homebuyers affect their purchase decision during period of Covid-19 pandemic?
- iii. What is the correlation between the homebuying factors and the demographic characteristics during period of Covid-19 pandemic?

1.4 Research Aim

The major aim of this research is to determine the correlation between the homebuying factors and demographic characteristics on the homebuyer's purchase decision of residential property market in Malaysia amid Covid-19 pandemic.

1.5 Research Objective

To achieve the following research objectives are formulated:

- i. To determine the homebuying factors that influence homebuyer's purchase decision during Covid-19 pandemic.
- ii. To investigate the demographic characteristics of homebuyers that influence their purchase decisions during period of Covid-19 pandemic.
- iii. To evaluate the correlation between the homebuying factors and the demographic characteristics that influence homebuyer's purchase decision during period of Covid-19 pandemic.

1.6 Research Hypotheses

This research focuses on the homebuyer's purchase decision to examine the hypotheses.

The three hypotheses are as follows:

- H₁: Homebuyer's purchase decisions are affected by homebuying factors (location, finance, features and neighbourhood).
- H₂: Homebuyer's purchase decisions are influenced by their demographic characteristics (gender, age, educational level, family size, marital status, income, occupation).
- H₃: There are correlations between homebuyer's purchase factors of residential property and demographic characteristics during Covid-19 pandemic.

1.7 Research Scope

This research has explored how homebuyers evaluate among homebuying factors on their purchase decision in the property market in Malaysia during the period of Covid-19 pandemic which started from year 2020 to the current situation. The purpose of this research has focused on investigating how residential property homebuyers evaluate among their demographic characteristics on the purchase decision. Finally, the identification of the relationship between the homebuying factors and the demographic characteristics of residential homebuyers during the period of Covid-19 pandemic in Pasir Gudang, Johor.

The population of Pasir Gudang, Johor is estimated around 145 thousand (DOSM, 2020). Pasir Gudang is a city in Johor Bahru District, Johor, Malaysia. The main industries are transportation and logistics, shipbuilding, petrochemicals and other heavy industries, and oil palm storage and distribution, which is located in Johor Port and Tanjung Langsat. This research investigates the issue that ensures the multiple

homebuying factors to bring out the effect on the homebuyer's purchase of the residential property market in Pasir Gudang, Johor during Covid-19 pandemic. This research was conducted using quantitative approach.

The respondents are the house owners (to investigate the effect of homebuying factors on their housing purchase decision during Covid-19 pandemic) and the potential buyers (to investigate purchase decision among their demographic characteristics during Covid-19 pandemic) who are planning to purchase houses at Pasir Gudang, Johor. This area is selected because it is densely populated. Besides, there are many housing projects are under construction development and facing the problem of slowdown the construction site work or construction shutdown during Covid-19 pandemic. Pasir gudang area majority housing development are under development if compare with township area. House types investigated in this research are semi-detached, detached house and terraced house.

1.8 The Significant of The Research

This research is significant to the several parties and to the following stakeholders which mention as below:

1.8.1 Government

The findings of this research might assist the government in formulating related the homebuying factors on the homebuyer final decision in residential property market. The government could also recommend housing developer companies to ameliorate some homebuying factors that have a significant influence on homebuyers' final purchase-decisions. These improvements might bring advantages to homebuyers and increase economic growth in Pasir Gudang, Johor.

1.8.2 Housing Developers

For housing developers, this research have to help solve the problems caused by the lack of rigorous market studies on the homebuyer's purchase decision for residential

property market. This research study provides preferable house features of potential Malaysian homebuyers and housing developers so that they can build the supply according to the demand. This helps them obtain competitive merit, ensure high consumer satisfaction levels and increase sales.

1.8.3 Potential Residential Homebuyers

As for potential homebuyers, this research have to assist them make decisions concerning their selection of residential houses during Covid-19 pandemic period. When housing developers are able to provide these features with better quality, the benefits go to the homebuyers. Therefore, they will be satisfied with this market change; this directly increases the chances of purchase by homebuyers. If marketers use the results of this research study and focus on providing better features to attract new buyers, the existing homeowners will gain benefits too.

1.8.4 Academics

This research would serve as references for the academics in real estate studies for future research. Undergraduates, lecturers and researchers would be able to understand the homebuyer's behaviour can be influence by multiple homebuying factors and also demographic characteristics on the real estate sector especially residential property market in Malaysia.

1.9 Organizational Structure of Study

Basically, there are five chapters included in this research. Therefore, due to the nature of study, it is imperative to explore and discuss in details the width and length of the subject area. The chapter are outlined as follows:

1.9.1 Chapter 1: Introduction

This chapter outlines basic ideas and intentions of the researcher based on the title chosen. It combines aim of the research backgrounds, problem statement, research questions, research objectives, research scope, the significant and limitation of this research.

1.9.2 Chapter 2: Literature Review

A comprehensive and critical writing about the topic will be written in this **Chapter 2**. This chapter have to discuss the published report, journal, thesis or other secondary materials written by the eminent academics. This chapter describes about a basic theory and previous literature which is related to homebuying factors and demographic characteristics. Subsequently, this chapter also discusses the theory and result of previous studies that has been carried out which is related to this research.

1.9.3 Chapter 3: Research Methodology

Methodology is the overall approach to facilitate the research. This **Chapter 3** explains what the credible methods employed by the researcher as well as how the methods are designed. Research methodology can be defined as a technique or process of guidelines used by a researcher to find and analyse data which comprises of procedures, step and methodology. Methodology for this research is a method to discover results that are consistent to the objective and answered to the research questions.

In this research would be selected of conducting with quantitative methods due to the homebuyers' purchase decisions have been investigated in past researches for several years and the results are available from different cases. All the variables in this research are quantifiable and measurable and general statements could be made. The subtopics that will be explained are research process, flowchart, population and sample, data processing and data analysis. The questionnaire includes a list of questions with responses to be filled by respondents who intend to purchase a house in Pasir Gudang, Malaysia. There are two sections in the questionnaire: homebuyers' background

REFERENCES

- Adair, A., Berry, J. & McGreal, S. (2015). Valuation of residential property: Analysis of participant behaviour, *Journal of property valuation and investment*, 1(4), 20-35.
- Adegoke. O. (2014). Critical factors determining rental value of residential property in Ibadan metropolis, Nigeria. *Property Management*, 32(3), 224-240.
- Adom, Dickson, and Emad Kamil Hussein. (2018). Theoretical and conceptual framework: Mandatory Ingredients. *The International Journal of Theory Framework* 63(10; 1120-1156
- Aguirre-Rodriguez, A., Bosnjak, M., & Sirgy, M. J. (2012). Moderators of the selfcongruity effect on consumer decision-making: A meta-analysis. *Journal of Business Research*, 65(8), 1179–1188
- Ahmad S. N. B. (2010). Organic Food: A Study on Demographic Characteristics and Factors Influencing Purchase Intentions among Consumers in Klang Valley, Malaysia. *International Journal of Business and Management*. 5(2)
- Ajzen, I. (2005). *Attitudes, personality and behavior*, Open University Press, England.
- Altan, H. (2015). *'Redesigning Terraced Social Housing in the UK for Flexibility Using Building Energy Simulation with Consideration of Passive Design'*, Retrieved on July 13, 2015 from <https://doi.org/10.3390/su7055488>.
- Amy, S, & Consilz, T. (2019). *'An Analysis on Housing Affordability in Malaysian Housing Markets and the Home Buyers' Preference'*. *International Journal of Housing Markets and Analysis*. 2019. 13 (3): 375–92.

- Andrew, M. (2011). The Changing Route to Owner-occupation: The Impact of Borrowing Constraints on Young Adult Homeownership Transitions in Britain in the 1990s. *Urban Studies*, 49(8), 1659–1678.
- Arab, Yasser, and Ahmad Sanusi Hassan. (2015). ‘The Improvement of the Ventilation System in the Existing Terraced Houses in Malaysia’ 4.
- Ashraf, N. (2009). "Spousal Control and Intra-household Decision Making: An Experimental Study in the Philippines" *American Economic Review*, 99 (4) 1245-77.
- Azad & Roshan. (2014). Assessing the performance of residential purchase decision in Malaysia. Master, University Teknologi Mara.
- Aziz and Kasim. (2011). Assessing the relationship between house type and residential purchase decision in Tabriz, Iran. *International Journal of Urban Sciences*, 21(2), 150-180.
- Babbie, E. R. (1990). *Survey Research Methods*. Wadsworth Pub. Co Belmont, Calif, 78-82.
- Balfour, D. L., & Smith, J. L. (2003). Transforming Lease-Purchase Housing Programs for Low Income Families: Towards Empowerment and Engagement. *Journal of Urban Affairs*, 18(2), 173–188
- Barber, B. M., & Odean, T. (2001). Boys will be boys: Gender, overconfidence and common stock investment. *Quarterly Journal of Economics*, 116(1), 261-292
- Barlow et al., (2003). *Marketing Letters*, 10(1), 75–86.
- Battaglia, M. P. (2008). *Nonprobability Sampling*. *Encyclopedia of Survey research methods*, 523-526.
- Bhoj, J. Impact of COVID-19 on Real Estate Industry with Referene to India. *International Journal of Management and Humanities (IJMH)*. (2020). 4(9): 2-5.
- Birdsall, Nancy. (1976). “Women and Population Studies.” *Signs* 1:699–711.

- Bleier, Ruth. 1987. "Science and Belief: A Polemic on Sex Differences Research." Pp. 111–130. *The Impact of Feminist Research in the Academy*.
- Botma, Y. (2010). *Research in Health Sciences*. Pearson Holding Southern Africa.
- Bryant, L., & Eves, C. (2011). Sustainability and mandatory disclosure in Queensland: an assessment of the impact on home buyer patterns.
- Bryman, A. (2006). *Mixed Methods*. London, SAGE.
- Bryman, A. (2016). *Social Research Methods*. Oxford University Press.
- Bujang, A. A., Hasmah, A. Z., & Norhaslina, J. (2010). 'The relationship between demographic factors and purchase decision.' 5 (1); 46-59.
- Castles, F. G., & Ferrera, M. (1996). Home Ownership and the Welfare State: Is Southern Europe Different? *South European Society and Politics*, 1(2), 163–185.
- Cavana, C. R. (2004). Purchasing and Social Responsibility: A Replication and Extension. *Journal of Supply Chain Management*, 40(4).
- Chan, Chia-wen. 2020. 'Impact of Covid-19 : Evidence from Malaysian Stock Market Impact of Covid-19 : Evidence from Malaysian'.
- Cheah Y. Y., & Tan, T. H. (2012). 'Locational, neighbourhood, structural and socio-cultural attributes of housing in homeownership decisions.' Proceeding for 6th International Real estate Research Symposium (IRERS) 2012, Globalization of Real Estate: Transformation and Opportunities, National Institute of Valuation (INSPEN). Selangor, Malaysia: Ministry of Finance.
- Chia, J., Harun, A., Wahid, A., Kassim, M., Martin, D., & Kepal, N. (2016). Understanding Factors That Influence House Purchase Intention Among Consumers in Kota Kinabalu : an Application of Buyer Behavior Model Theory. *Journal of Technology Management and Business*, 03(02), 2289–7224.
- Chilisa, B. (2005). Educational research within postcolonial Africa: A critique of HIV/AIDS research in Botswana. *International Journal of Qualitative Studies in Education*, 18(6), 659-684.

- Chilisa, B & Preece, J. (2005). *Research Methods for Adult Educators in Africa*. Pearson South Africa.
- Chin, H & Noraliah. I. (2015). Research Housing Policy System from Government.
- Chin, K. S. (2016). "Attributes Influencing Home Buyers' Purchase Decision"
- Chiuri, M. C., & Jappelli, T. (2003). Financial market imperfections and home ownership: A comparative study. *European Economic Review*, 47(5), 857–875.
- Chua, Y. P. (2008). *Research Methodology: Methods and Statistics Research*. Kuala Lumpur: McGraw-Hill (Malaysia) Sdn. Bhd.
- Clara, W. (2006). "Residential Preferences and Residential Choices in a Multiethnic Context Demography. 29(3), 451.
- Collis, J. & Hussey, R. (2013). Business research: A Practical Guide for undergraduate and postgraduate students. *Palgrave Macmillan*.
- Cooper, R. W. & Schindler, P.S. (2003). *Business Research Methods* (8 th edition) McGraw-Hill, New York.
- Cresswell, J. W. & Plano-Clark, V. L. (2007). Choosing a mixed methods study design. *Designing and conducting mixed methods research*, 58-88.
- Dahlan, Z. (2011). Business research: A Residential Housing Industry Structure, 6(3) 50-55.
- Denzin, N. K & Lincoln, Y. S. (2005). *Qualitative Research*. Denzin, NK, Lincoln YS, 2.
- Department of Statistics Malaysia. (2020). "Age Profile of Malaysia's Population". Retrieved on October 2020 from <https://www.dosm.gov.my/v1/>.
- Doling, J., & Ronald, R. (2010). Home ownership and asset-based welfare. *Journal of Housing and the Built Environment*, 25(2), 165–173.
- Edelstein, R. H., & Lum, S. K. (2004). House prices, wealth effects, and the Singapore

- macroeconomy. *Journal of Housing Economics*, 13(4), 342–367.
- Ezeanya, A. C (2014). Malaysian housing policy: Prospects and obstacles of National Vision 2020. International Conference on Adequate & Affordable Housing.
- Faqih, M. (2016). '*Consumer's Decision Making to Invest on Residential Property at East Sarabaya*. 2016. 11(2) 37-45.
- Findsen (2005). "*Standard Property Management of demographic*". 2005. 13(5) 565-588.
- Fischer, P. A., & Malmberg, G. (2011). Settled People Don't Move: On Life Course and Immobility in Sweden. *International Journal of Population Geography*, 7(5), 357-371.
- Fontenla & Gonzalez. (2009) "*Educational level of demographic characteristics*." 2009. 16(4); 52-63.
- Foo, C. H. (2020). '*How Housing Market Perform in COVID-19*'. Retrieved on January 15, 2020 from <http://www.un.org.com>.
- Foxman, E. R., Tansuhaj, P. S., & Ekstrom, K. M. (1989). Family Members' Perceptions of Adolescents' Influence in Family Decision Making. *Journal of Consumer Research*, 15(4), 482.
- George, D. & Mallery, P. (2002). *SPSS for Windows Step by Step: A Simple Guide and Reference* (4 th edition). Boston: Allyn & Bacon.
- Ginsberg. (2010). The relationship between house prices and house purchase loans: The Spanish case. *Journal of Banking & Finance*, 34(8), 1849–1855.
- Giuliodori, M. (2005). The Role of House Prices ion the Monetary Transmission Mechanism Across European Countries. *Scottish Journal of Political Economy*, 52(4), 519–543.
- Gong, W., Stump, R. L. & Maddox, L. M. (2013). *Factors Influencing Consumers' Online Shopping in China*. *Journal of Asia Business Studies*., 7(3).

- Goodhart, C., & Hofmann, B. (2008). House prices, money, credit, and the macroeconomy. *Oxford Review of Economic Policy*, 24(1), 180–205.
- Guba, E.G. & Lincoln, Y. S. (1994). *Competing Paradigms in Qualitative Research*. *Handbook of qualitative research*, 2(105), 163-194.
- Hair, J. F. & Tatham, R. L. (2006). *Multivariate Data Analysis* (Vol. 6). Upper Saddle River, NJ: Pearson Prentice Hall.
- Haurin, D., Hendershott, P., & Wachter, S. (2006). Borrowing Constraints and the Tenure Choice of Young Households
- Heekwak, D., & Kang, J. (2009). Symbolic purchase in sport: the roles of self-image congruence and perceived quality. *Management Decision*, 67(1), 85-99.
- Heller, J. A. (2013). *Supply Chain Management Perspectives, Practices and Strategies: A Private and Public Sector Comparative Study*. Doctoral Dissertation. Arizona State University.
- Hofman. E., Halman. J., and Ion. R. (2013). Variation in housing design: Identifying customer preferences. *Housing Studies*, 21(6), 929-943.
- Hulse & McPherson (2014). The Population of Housing Market and Knowledge of Residential Demographic. *Housing Studies*, 18 (3), 520-526.
- Hung, K., & Petrick, J. F. (2010). The Role of Self- and Functional Congruity in Cruising Intentions. *Journal of Travel Research*, 50(1), 100–112.
- Hurtubia, et. (2010). Exploring Dual Housing Tenure Status as a Household Response to Demographic, Social and Economic Change. *Housing Studies*, 29(8), 1028–1044.
- Iman, M. (2006). *Performance Residential Property market*. Doctoral Dissertation. University Teknologi Malaysia (UTM).
- Izati, Kepili, & Tajul Ariffin Masron. (2016). '*Malaysia Property Sector Diversification Benefits within Sub-Sector*', Retrieved on November 12, 2015. from <https://doi.org/10.1108/IJHMA-08-2015-0043>.

- Jabareen, Y. (2005). Culture and housing preferences in a developing city. *Environment and Behavior*, 37(1), 134–146.
- Jain, D., & Mandot, N. (2012). Impact of demographic factors on investment decision of investors in Rajasthan. *Journal of Arts, Science and Commerce*, 3(23), 81-92
- Jenkin & Waveney. (2007) *"The Structure of Detached House in General"*. Retrived on October 13, 2007.
- Ju, Seo Ryeung. 2015. *'A Typology of Modern Housing in Malaysia'*, Master. Thesis Kyung Hee University; January 2010.
- Kandace, J. (2008). Sampling Strategies. Organisation for Transplant Professionals.
- Kang, J., Tang, L., & Lee, J. Y. (2013). Self-Congruity and Functional Congruity in Brand Loyalty. *Journal of Hospitality & Tourism Research*, 39(1), 105–131.
- Karsten, L. (2007). Housing as a way of life: Towards an understanding of middle class families' preference for an urban residential location. *Housing Studies*, 22(1), 83–98.
- Kauko, T. (2014). Analysis of housing location attributes in the inner city of Budapest using expert's judgement, *International Journal of Strategic property management*, 11, 209 – 222.
- Khandelwal (2018), Analysis of housing price in the residential property market, *International Journal of Statistic Property Market*, 11, 18-202.
- Knight, Frank. Real Estate Highlights, *Real Estate Performance*. 2020. 7(4): 1–28.
- Koklic, M. K., & Vida, I. (2011). Consumer strategic decision making and choice process: prefabricated house purchase. *International Journal of Consumer Studies*, 35(6), 634–643
- Kothari C. R. (1985). *Research Methodology: Methods and Techniques* (2 nd Revised Version). New Age International Publisher.
- Kraska, M. (2010). *Quantitative Research*, Encyclopedia of Research Design.

- Kressmann, F., Sirgy, M. J., Herrmann, A., Huber, F., Huber, S., & Lee, D.-J. (2006). Direct and indirect effects of self-image congruence on brand loyalty. *Journal of Business Research*, 59(9), 955–964
- Lautiainen, T. (2015). Factors affecting consumers' buying decision in the selection of a coffee brand, 1–33.
- Lee, H., Goss R. C., & Beamish J. O.(2005). Influence of Lifestyle on Housing Preferences of Multifamily Housing Residents. Thesis Submitted to Virginia University, 2746(April).
- Lim, P, I. (2019). 'Preference of Residential Typologies of Urban Malaysians'. Retrieved on June 13, 2019 from <https://doi.org/10.21837/pmjournal.v16.i7.509>.
- Linneman & Megbolugbe (2012), Level of Occupation and Housing Affordability of Urban Malaysia. Retrieved on February 10, 2012 from <https://doi.org/pmjournal>.
- Ling, H. L. (2013). The physical environment and a sense of neighbourhood in residential communities in Malaysia. *Property management*, 26(1), pp. 7-24. N, A., 2013. Full loan for first-time house buyers. *The Star Newspaper*.
- Lufit (2010). Effectively Maintained Inequality: Education Transitions, Track Mobility, and Social Background Effects. *American Journal of Sociology*. 106:6; 1642-1690
- Lyon, D. W., Lumpkin, G. T., & Dess, G. G. (2000). Enhancing Entrepreneurial Orientation Research: Operationalizing and Measuring a Key Strategic Decision Making Process. *Journal of Management*, 26(5), 1055–1085
- Majid, R. B, & Rosli S. (2012). *'The Impact Of Buyers ' Demography On Property Purchasing'*. 2012 3 (December) from <https://doi.org/10.22452/jscp.vol3no2.1>.
- Mar Iman (2002). Introduction to Property Marketing, Johor: Penerbit Universiti Teknologi Malaysia.
- Masrh, M. H., Gibb, S. (2009). Review of Building, Locational, Neighbourhood Qualities Affecting House Prices in Malaysia. *Procedia - Social and Behavioral*

Sciences, 234, 452–460.

Mertens, D. M. (2014). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative and mixed methods*. Sage publications.

Mertens, Donna. (2012). Transformative Mixed Methods. American Behavioral Scientist.

Miron. (2004) Intention and expectations in differential residential selection. J. Marriage Family, pp. 189- 196.

Moghimi. V., and Jusan. M. (2015). Priority of structural housing attribute preference: Identifying customer perception. International Journal of Housing Markets and Analysis, 8(1), 36-52.

Mohammad, A. M. "Residential Satisfaction: Concept, Theories and Empirical Studies. 2014. Vol 3 (13); 47-66.

Morrel. "Homebuyer Demography". 2014. Vol 6(5); 48-66.

Morrel. "Homebuyer Demography". 2001. Vol 6(13); 33-45.

Mukherjee (2007). A Modernized Family Life Cycle. Journal of Consumer Research, Volume 6, Issue 1, 1 June 1979, Pages 12–22.

NAPIC (2019). *National Property Information Centre: Property Residential Transaction Volume*. Retrieved on October 20, 2019 from <https://napic.jp-ph.gov.my/portal>

NAPIC (2020). *National Property Information Centre: Malaysian Real Estate Market*. Retrieved on November 14, 2020, from <https://napic.jp-ph.gov.my/portal>

Neuman, W. L. (2012). *Understanding Research*. Boston, MA: Pearson Education, Inc.

Ngai, L. (2016), The decision to move house and aggregate housing-market dynamics. CFM discussion paper series, CFM-DP2016-21. Centre For Macroeconomics,

London, UK.

- Olaimat, Amin N, and Iman Aolymat. 2020. "Knowledge and Information Sources About COVID-19 Among University Students in Jordan : A Cross-Sectional Study', Retreived on January 13, 2020 from <https://doi.org/10.3389/fpubh.2020.00254>.
- Oliva, T. a, Oliver, R. L., & Macmillan, I. C. (1992). Model for Catastrophe Service Satisfaction Developing Strategies. *Journal of Marketing*, 56(3), 83–95
- Oloke, O., Ayedun, C., and Ignatus, O. (2013). An Examination of Estate Surveyors and Valuers' Perception of Flood Risk on Residential Property Value in Lagos State, Nigeria. *Ethiopian Journal of Environmental Studies and Management*, 6(6), 784.
- Omkar, D. "*Considerations of Residential Property Consumers in Malaysia*" 2017. 5(9); 35-48.
- Opoku, Robert A., & Abdul-Muhmin, Alhassan G. (2010). Housing preferences and attribute importance among low-income consumers in Saudi Arabia. *Habitat International*, 34(2), 219-227.
- Perry, C., Alizadeh, Y. & Riege, A. (1997). Qualitative methods in entrepreneurship research. *Proceedings of the annual conference of the small enterprise association* (pp. 547-567).
- Plabdaeng C. (2010). Gender Influence on Purchase Intention: The Case Study of Thailand. The Degree of Master in Business Administration - University Sains Malaysia, 1(1), 1–34
- Polit, D. F & Beck, C. T. (2012) *Nursing Research: Generating and Assessing Evidence for Nursing Practice*. 9 th Edition, Lippincott, Williams & Wilkins, Philadelphia.
- Robert, G., James, M. & Roger, T. (2010). *Survey Methodology*. Second edition. *John Wiley & Sons Inc*. Hoboken, New Jersey.

- Rohe, W. M., & Stewart, L. S. (1996). Homeownership and neighborhood stability. *Housing Policy Debate*, 7(1), 37–81.
- Rubio, W. H., & Thomas, L. T. (2011) Nature of Self-Concept on the Making Decision. *Habitat International*, 28 (1), 433-439.
- Reynolds, S. J. (2006). A neurocognitive model of the ethical decision-making process: Implications for study and practice. *Journal of Applied Psychology*, 91(4), 737–748.
- Salkind, N. J. (2012). *Exploring Research Eight Edition*. University of Kansas, Pearson.
- Salleh, A. G. (2008). "*Neighbourhood Factors in Private low-cost housing in Malaysia*." *Habitat International*, 32(4), 485-493.
- Salleh. N., Zoher. S., Mahayuddin. S., and Abdul. Y. (2014). Influencing factors of property buyer in Hillside Residential Development. *Social and Behavioral Sciences*, 170(2015), 586-595.
- Samuels, I. (2005). What home buyers want: Attitudes and decision making among consumers. London, CABA
- San. C. (2016). Attributes influencing home buyers' purchase decision: A study of residential property in Setia Alam (Master's thesis, University Tunku Abdul Rahman, Kuala Lumpur).
- Saunders, M. & Lewis, P. (2012). *Doing research in business & management: An essential guide to planning your project*. Pearson.
- Sekaran, U. (2003). Research methods for business: A skill building approach. NY: *John Wiley & Sons Inc*.
- Sengul, H., Yasemin, O., & Eda, P. (2010). The assessment of the housing in the theory of Maslow's hierarchy of needs. *European Journal of Social Sciences*, 16(2), 214-219

- Shaidi. N., and Lucian. C. (2016). Condominiums, gated communities and housing estates: An investigation into the factors influencing house buying decision. *The International Journal of Social Sciences and Humanities Invention*
- Shakir, R. (2008). Board Size, Executive Directors and Property Firm Performance in Malaysia, *Pacific Rim Property Research Journal*, 14(1), 66-80.
- Shuid, Syafiee. (2009). '*The Housing Provision System in Malaysia*' 54: 210–23. Retrieved on January 13, 2009 from <https://doi.org>.
- Shuid, Syafiee. (2016). '*The Housing Provision System in Malaysia*' 54: 210–23. Retrieved on January 15, 2016 from <https://doi.org>.
- Singh (2018). Using self-congruity and ideal congruity to predict purchase motivation. *Journal of Business Research*, 13(3), 195–206.
- Singleton, R. & Straits, B. (1999). *Approaches to Social Research*, New York: Oxford University Press.
- Sirgy, M. J., Johar, J. S., Samli, A. C., & Claiborne, C. B. (2012). Self-congruity versus functional congruity: Predictors of consumer behavior. *Journal of the Academy of Marketing Science*, 19(4), 363–375
- Sirgy, M. J., Grzeskowiak, S., & Su, C. (2005). Explaining housing preference and choice: The role of self-congruity and functional congruity. *Journal of Housing and the Built Environment*, 20(4), 329–347.
- Sumita. (2009). *The Structre of Terrace Link-House*. *International Journal of Housing Design*. 5(3); 69-79.
- Swan (2018). Customer experience: The new driver of buying decisions. Retrieved from: <https://www.agilecrm.com/>
- Tan. T. (2016). Neighbourhood satisfaction: responses from residents of green townships in Malaysia. *International Journal of Housing Markets and Analysis*, 9(1), 137 – 155.

- Tan, T. H. (2011). Neighborhood preferences of house buyers: The case of Klang Valley, Malaysia. *International Journal of Housing Markets and Analysis*, 4(1), 58-69.
- Tan, T. H. (2012). Meeting first-time buyers' housing needs and preferences in greater Kuala Lumpur. *Cities*, 29(6), 389-396.
- Tanrivermiş, Harun. 2020. 'Possible Impacts of COVID-19 Outbreak on Real Estate Sector and Possible Changes to Adopt: A Situation Analysis and General Assessment on Turkish Perspective'. *Journal of Urban Management* 9 (3): 263–69. <https://doi.org/10.1016/j.jum.2020.08.005>.
- Thaker. K., and Sakaran. C. (2016). Prioritisation of key attributes influencing the decision to purchase a residential property in Malaysia: an analytic hierarchy process (AHP) approach. *International Journal of Housing Markets and Analysis*, 9(4).
- Umaira, Ain, Azrie Safri, and Rathedevi Thevadas. 2020. 'International Journal of Infectious Diseases COVID-19 Outbreak in Malaysia : Actions Taken by the Malaysian Government' 97: 108–16. <https://doi.org/10.1016/j.ijid.2020.05.093>.
- Utkal Khandelwal. 2018 " International Journal on Customer Relations: Factors Affecting Buying Behavior in the Purchase of Residential Property. Vol 6, Issue 2, pp. 31.
- Waddell, P. (2000). A Behavioural Simulation Model for Metropolitan Policy Analysis and Planning: Residential Location and Housing Market Components of Urbanism. *Environment and Planning B: Urban Analytics and City Science* Vol 27, Issue 2, pp. 247 - 263.
- Wang, C. (2013). "Family House-Purchase Decision Model Based on Analytic Hierarchy Process", *Applied Mechanics and Materials*, Vols. 423-426, pp. 2973-2976.
- Wolters (2002). Consumer attitudes, knowledge and behaviour: A review of food safety issues. *Trends in Food Science and Technology*, 15(2), 56–66.

- Wretman, J. (2010). *Reflection on Probability Vs Nonprobability Sampling*. Official statistics of methodology and applications in honour of Daniel Thorburn, 29-35.
- Xiao, Q., & Tan, G. (2007). Signal extraction with kalman filter: A study of the Hong Kong property price bubbles, *Urban Studies*, 44(4), 865-888.
- Yamazaki, F (2008). *"Collective Action Problem in Japanese Residential Property."* Vol. 20, (4); 200-230.
- Zainuddin, Z. *"An Empirical Analysis of Malaysian Housing Market: Switching and Non-Switching Models"* Ph.D. Thesis. 'Lincoln University Digital; 2012.
- Zeng. R. (2013). Attributes Influencing Home Buyers' Purchase Decisions: A Quantitative Study of the Wuhan Residential Housing Market. DBA thesis, Southern Cross University, Lismore NSW.
- Zikmund, W. G. (2013). *Business research Methods*. Cengage Learning.
- Zrobek. S., Trojanek. M., Sokolnik. A., and Trojanek. R. (2015). The Influence of Environmental Factors on Property Buyers' Choice of Residential Location in Poland. *Journal of International Studies*, 8(3), 164-174.

