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IDENTIFICATION OF FACTORS AND RISK ASSESSMENTS ON FINANCIAL LITERACY: A CASE STUDY ON HOME PURCHASES

[1]Hasimah Sapiri, [2]Zahayu Md Yusof, [3]Masnita Misiran & [4]Nur Najihah Ashaari

[1, 2, 3 & 4]School of Quantitative Sciences,
Universiti Utara Malaysia
[2&3]Center for Testing, Measurement and Appraisal,
Universiti Utara Malaysia

[1]Corresponding author: hasimah@uum.edu.my

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ABSTRACT

Owning a house is among the significant aspects of a productive lifestyle. However, the persistent rise in house prices has affected homeownership for low-income young adults. Due to the poor financial literacy among employed young adults in Malaysia, it is more difficult for them to own a home due to financial constraints. Therefore, this study intends to investigate the factors contributing to financial literacy and the potential risk associated with its absence among working young adults. The methodologies used in this study were the factor analysis approach and decision tree analysis. Note that this study investigates financial literacy among young adults. A questionnaire was utilized for gathering the data, and a convenient sampling technique was adopted for data collection. According to the findings, four variables influence financial literacy among working youths: financial knowledge, financial behavior, financial education, and financial attitude. Consequently, the factors listed in exploratory data analysis in these four variables have been summarized to examine the perceived risk of financial literacy among adolescents in terms of purchasing a home. Finally, this study contributes as a guideline for policymakers in offering structured awareness programmes to improve financial literacy as well as homeownership knowledge among working youths for their future financial resilience.

Keywords: Quantitative risk assessment, financial literacy, young adults, home ownership

INTRODUCTION

The financial crisis in 2008, also acknowledged as the Global Financial Crisis (GFC), shocked the financial world at all levels, with financial literacy as a primary factor. The ability to understand finance and apply financial management skills, such as budgeting, interest calculation, and debt management, is referred to as financial literacy (Álvarez & González, 2017; Klapper, Lusardi, & Panos, 2013). Even in developed economies, there is a lack of financial literacy, potentially causing a prominent impact on the national and international economies. According to the Centre for Strategic and International Studies, financial literacy rates range from 13% to 71%, with a tenuous correlation between improved economic performance and higher literacy rates.

The Programme for International Student Assessment (PISA) was completed by more than 500,000 15-year-old students from 65 different nations in 2014. Results revealed that students from higher socioeconomic classes outperformed those from lower socioeconomic classes on basic financial literacy tests. There some countries listed with the highest rates of financial literacy, such as Australia, Canada, Denmark, Germany, Norway, Sweden, and the United Kingdom, where at least 65% of citizens in these countries are financially literate

(Klappper, Lusardi & Oudheusden, 2015). Previous studies, such as those conducted in Japan, suggest that females, adolescents, and people with low incomes and education levels are financially illiterate (Lusardi & Mitchell, 2014; Sekita, 2011).

On the other hand, the study on employed Malaysian youths revealed limited financial literacy knowledge (Idris et al., 2016). These youths were also burdened by debt, as major components of the loan portfolio included a house loan, a car loan, a personal loan, and an education loan, with the house loan being the most dominant component of all the loans. In addition, Malaysian young adults have been advised to focus on improving their financial literacy, especially when planning to purchase their first house. A house is one of the most important components of life, providing protection, safety and warmth, as well as providing a place to relax. One of the major goals for a Malaysian is to be able to own a house (Tan, 2008). Moreover, purchasing a property is a significant decision since it involves a significant financial commitment and long-term investment. Price is recognized as the most accurate indicator of the real estate market since house prices significantly impact real estate affordability. Furthermore, the cost of real estate in Malaysia has been rising quickly in recent years. From October 2015 to March 2018, statistics on Malaysian home prices exhibited an average annual growth in home prices. The data was reported at RM 408,774.00 in Jun 2018, where it records a decrease from the previous number of RM 412,449.00 for March 2018 (Stutz & Kartman, 1982; Ganeson & Abdul Muin, 2015).

Malaysia's economic developments have significantly increased residential housing demand in urban areas (Mariadas et al., 2016). The housing price in Malaysia is very high, especially in major cities, depending on the locations. According to Mariadas et al. (2016), this situation has been happening throughout Malaysia since 1996. Malaysians have been complaining about high house prices in recent years due to the rise in income levels since 2012 (Ling & Almeida, 2016). The exorbitantly high house prices in Malaysia have caused a lack of affordable housing for the medium-class and lower-class income groups (Osmadi et al., 2015). Other than that, house prices for the last five years have been indicated to be higher than the actual market price in Malaysia (Tang & Tan, 2015). Sean and Hong (2014) established the three key players involved in a purchase decision; The first is investors, who focus on generating returns from the property. Secondly, speculators who enter the market suddenly gain profit significantly. Finally, homeowners can be described as people who buy real estate to meet their needs.

Besides that, Malaysia's government needs to provide a settlement policy related to housing issues to keep pace with Malaysia's rapid economic growth (Zairul, 2013). The macro-control policy is a key tool the government uses to regulate and control the commodities housing market and maintain price variation within a tolerable range (Guo et al., 2021). Hence, research on the macro-control policy subsystem is crucial for examining the variations in housing prices. According to Nasir, Yusof and Mazlan (2022), the interest rate and loan demand will change when the central bank changes the long-term benchmark bank lending rate, influencing the real estate market situation.

From the economic perspective, four major factors affect house prices: population, inflation, gross domestic product, and unemployment (Ganeson & Abdul Muin, 2015). Other factors have been highlighted: location, house size, and geographical factors (Olanrewaju, Lim, Tan et al., 2018). There are two main reasons a person cannot afford a house nowadays: the house is expensive, and insufficient housing supplies. Other than that, the rising income disparity in rising housing prices is significant, and this indirectly undermines one's dream of having a comfortable home for future needs. Therefore, the Malaysian government has introduced the My First Home Scheme (MFHS), assisting youths under 35 years old to own a house. The MFHS seeks to relieve working young adults from RM 100,000 to RM 400,000 in terms of housing loans for house prices. It is also subject to applicants' eligibility criteria and requires them to reside in a house purchased via MFHS. There are various home initiatives have been undertaken by the government, such as the 1 Malaysia People Housing Scheme (PR1MA) and *Skim Perumahan Mampu Milik Swasta* (MyHOME). Even though the state government has implemented various housing schemes to assist working youths in purchasing a home, housing policies and schemes are insufficient to address the issue of housing affordability among working youths.

Young adults are classified as the most vulnerable to house prices and interest rates, with their monthly revenue portions expended on monthly home debt payments (Zairul, 2013). This is because most of them are employees earning less than RM 3,000, considering that they have just graduated from higher education institutions and have no work experience. In addition, they are also tied to existing debt, such as vehicle purchase, study, and credit card debt. Therefore, the dream of owning a decent home can only be achieved if it is affordable to them. It means housing prices should not create an excessive financial burden on their monthly obligations (Zairul, 2013).

According to Malaysian National News Agency (BERNAMA, 2019), a young adult is defined as someone with a low level of financial literacy when they are already in debt at a young age. It is also approved by a study conducted by the Consumer Research and Resource Center (CRRC), with 43% of young workers discovered to have low levels of financial literacy. They also established that it is difficult to have their own house since their existing debt records make it difficult for them to get approval for a bank loan. Therefore, this study was designed to determine the factor of financial literacy among working young adults using Exploratory Factor Analysis (EFA). Based on these factors, it will be summarized to investigate the perceived risk of financial literacy among working young adults in terms of purchasing a home through a decision tree analysis approach.

METHODOLOGY

This study assessed the attribute of working youths' financial literacy and scrutinized the perceived risk of financial literacy among employed young adults in terms of purchasing a house. The primary data were gathered through a self-administered questionnaire distributed to 50 working young adults chosen via convenient random sampling. De Winter, Dodou and Wieringa (2009) stated that the sample size of 50 is a reasonable absolute minimum number. The semantic differential scale was applied to create the questionnaire. Note that the questionnaire contained 25 financial literacy items and 10 home purchase financial literacy items (Ashaari & Md Yusof, 2019). Consequently, the statement was graded on a five-point scale from 1 (strongly disagree) to 5 (strongly agree) with the aim that the young adults could express their level of agreement. Working young adults and those between the ages of 20 and 30 are the selection criteria (NST, July 2019). The data were collected using convenient random sampling and analyzed using the Statistical Package for Social Science (SPSS) version 25.0. Here, the methodologies used were descriptive analysis, reliability analysis, Kaiser-Meyer-Olkin (KMO) and Bartlett Test, scree plot, factor analysis, and Pearson coefficient correlation. The risk of financial literacy when purchasing a home was investigated using a decision tree analysis.

Data Analysis

The first section of data analysis consists of demographic information followed by an analysis of financial literacy and financial literacy in terms of purchasing a house.

Demographic Information

The demographics of the respondents in this study are provided in Table 1. This study included 14 male participants and 36 female participants. Note that 58% of the selected respondents (n = 29) were between the ages of 24 and 26 years old, with 32% (n = 16) being between the ages of 27 and 30 years old and 10% (n = 5) being between the ages of 20 and 23 years old. According to the results, 82% of the 50 respondents are single (n = 41) and 18% are married (n = 9). Table 1 also lists that 80% of respondents (n = 40) are Malay, with 12% (n = 6) being Chinese and 8% (n = 4) being Indian. Working in the private sector accounts for 94% (n = 47) of respondents, while working in the government sector accounts for 6% (n = 3). Furthermore, 20 respondents have 1 to 2 years of work experience, then 3 to 4 years (n = 18), more than 5 years (n = 6), and less than a year (n = 6). Finally, respondents were polled on their spending habits. 50% (n = 25) of respondents spend more than their income at times, 42% (n = 21) spend less than their income, and 8% (n = 4) always spend more than their income.

Financial Literacy

This section employed factor analysis to identify factors influencing financial literacy among working youths. This section includes the reliability statistics, KMO and Bartlett Tests, the scree plot, and the EFA.

Reliability Statistics Overall

The internal consistency of the data will be evaluated using Cronbach's Alpha (Altman & Bland, 2002). Generally, Cronbach's Alpha values range from 0 to 1. Values of Cronbach's Alpha greater than 0.7 are observed as promising going forward (Gliem & Gliem, 2003). Due to the created questionnaire's Cronbach's Alpha score is more than 0.7 and 0.937, so it is believed to be reliable. The total number of items was N, which included 25 things related to financial literacy.

Table 1

Demographic of Respondents

Element	Status	Frequency	Percentage (%)
Age	20 – 23 years old	5	10
	24 – 26 years old	29	58
	27 – 30 years old	16	32
Gender	Male	14	28
	Female	36	72
Status	Single	41	82
	Married	9	18
Race	Malay	40	80
	Chinese	6	12
	Indian	4	8
Occupation	Private	47	94
	Government	3	6
Years of Working	Less than 1 year	6	12
	1 - 2 years	20	40
	3 – 4 years	18	36
	More than 5 years	6	12
Spend More Than Income	Yes	4	8
	No	21	42
	Sometimes	25	50

KMO and Bartlett's Test

Some assumptions must be met before proceeding with the factor analysis. KMO and Bartlett's Tests are two assumptions required to fulfil the factor analysis assumption. The KMO test is used to assess the sampling adequacy of data for factor analysis. Meanwhile, another indicator of the variable relationship's strength is Bartlett's sphericity test.

Table 2 provides the result of the KMO and Bartlett Tests. The KMO statistics must be between 0 and 1. A value that is closer to 1 is better. The result reveals that the value of KMO is 0.734, and Bartlett Test is less than 0.05. Therefore, factor analysis can be performed to identify factors influencing today's young adults' financial literacy.

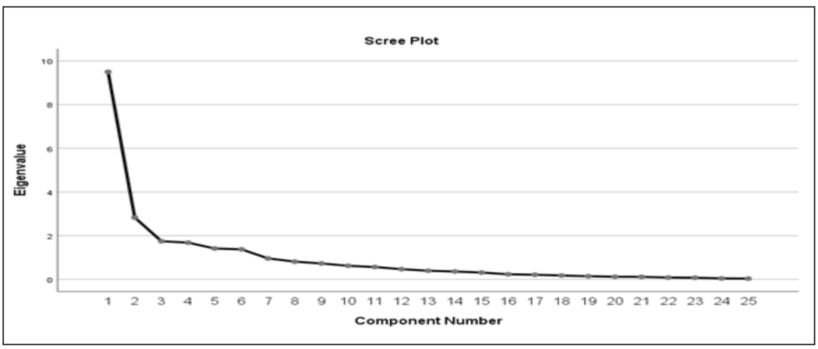
Table 2

Demographic of Respondents

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.734	
Bartlett's Test of Sphericity	Approx. Chi-Square	914.293
	df	300
	Sig.	.000

Figure 1

Scree Plot of Factor Analysis
Scree Plot



The scree plot is a graph that illustrates the eigenvalues in relation to all the factors. The number of factors that can be retained in factor analysis is determined by this graph.

The scree plot inspection displayed in Figure 1 suggests the gradual trailing off (scree) that stops at component four. After component

5 and onwards, the plot curve starts to become constant. This scree plot graph reveals that from 25 items of financial literacy, it has been classified into four factors of financial literacy.

Exploratory Data Analysis

The underlying structure of numerous items is estimated using the EFA technique. The EFA method created an innovative factor impacting financial literacy among young adults in the workforce. For this study, there are 25 evaluation items towards investigating the financial literacy among working young adults and have been divided into four main groups of factors for financial literacy. Table 3 provides the result of factor analysis conducted on financial literacy among working young adults.

This analysis for 25 items had been classified into four group factors of financial literacy using an EFA approach. In this analysis, factor group 1 consists of 9 related items, followed by factor group 3, consisting of 5 items, while factor groups 2 and 4 consist of 4 items. Three items, item number 3, 10 and 25, have been given that their factor loading is less than 0.32. Meanwhile, items with a factor loading less than 0.32 need to be ignored (Tabachnick & Fidell, 2014). When the decision has been made regarding appropriate factors to achieve, each factor would be named accordingly by interpreting the related items, which accurately represent the item within the factor. Based on the analysis of the dataset, factor 1 is named financial knowledge, factor 2 is financial behavior, factor 3 is financial attitude, and factor 4 is financial education.

Table 3

Exploratory Factor Analysis

Factor Group	Factor-related Marker	Item No	Factor Loading
	I have made investments with trusted parties	4	0.461
	I spend less than my income.	7	0.431
	I have knowledge of interest rates, finance charges and credit terms.	16	0.752

(continued)

Factor Group	Factor-related Marker	Item No	Factor Loading
	I was informed about the pension scheme.	17	0.813
	I know how to differentiate between a current account and a fixed deposit.	18	0.779
	I know the different commercial banks and rural banks.	19	0.881
	I always check my credit at least once a year.	22	0.694
	I have my own emergency fund.	23	0.802
	I have my own limit for my debt.	24	0.57
2	I will record all my spending.	5	0.769
	I put money aside for savings, future purchases, or emergencies.	13	0.624
	I have a financial plan for future living expenses to avoid excess spending more than income.	14	0.819
	I like to record all my expenses in my own financial record.	15	0.843
3	I know how to differentiate between needs and desires when spending.	6	0.421
	Before I buy something, I carefully consider whether I can afford it or not.	11	0.691
	I will pay my bills on time each month and am almost never later.	12	0.644
	I know the importance of saving for my future.	20	0.835
	My spending may change from time to time according to economic conditions.	21	0.566
4	I have been practicing saving since childhood.	1	0.68
	I have my own financial plan.	2	0.526
	I budgeted my spending	8	0.435
	I have too much debt right now.	9	0.669

Reliability Statistics for Each Factor

This reliability test checks the validity and reliability of all the factors of financial literacy among working young adults. Table 4 reports the reliability statistic for each factor. The Cronbach's Alpha value for financial knowledge, financial behavior, financial attitude and financial education is more than 0.7. Hence, it demonstrates that every factor can be considered reliable.

Table 4

Reliability Statistics for Each Factor

	Reliability Test	
Factor	Number of Items	Cronbach's Alpha Value
Financial Knowledge	9	0.897
Financial Behavior	4	0.831
Financial Attitude	5	0.754
Financial Education	4	0.788

Pearson Correlation Coefficient

The Pearson correlation coefficient is a technique to identify the associations between two factors. Subsequently, the strength of the relationship between the two factors is to be measured.

Table 5

Pearson Correlation Coefficient of Financial Literacy

		Correlations			
		Financial Knowledge	Financial Behavior	Financial Attitude	Financial Education
Financial Knowledge	Pearson Correlation	1	.510**	.487**	.658**
	Sig. (2-tailed)		.000	.000	.000
Financial Behavior	Pearson Correlation	.510**	1	.606**	.403**
	Sig. (2-tailed)	.000		.000	.004
Financial Attitude	Pearson Correlation	.487**	.606**	1	.442**
	Sig. (2-tailed)	.000	.000		.001
Financial Education	Pearson Correlation	.658**	.403**	.442**	1
	Sig. (2-tailed)	.000	.004	.001	

The results portrayed in Table 5 provide that the relationship between financial knowledge and financial education has a higher correlation (r=0.658), followed by the relationship between financial knowledge and financial behavior (r=0.510) and the relationship between financial knowledge and financial attitude (r=0.487). Therefore, there are positive and significant associations between financial literacy factors among working young adults since the p-value is less than 0.05.

FINANCIAL LITERACY IN TERMS OF PURCHASING A HOUSE

This section discussed the financial risks of working young adults based on exploratory data analysis to examine the perceived risk of financial literacy among young adults in terms of purchasing a home.

Overview of Financial Literacy in Terms of Purchasing House

Homeownership is a significant financial decision that needs to be made. Table 6 lists the financial literacy description for purchasing a house. It suggests the percentage on the extent of young adults agreeing with the statement based on their situation. This statement is more on their preparation for financial factors to consider before buying their first house. As displayed, 28% of them did not have their own savings for purchasing a house. Most of them are observed as unprepared to increase their own debt burden. However, they are willing to use 25% of their salary to spend on monthly debt payments. Other than that, young adults know the side costs they need to bear before purchasing a house, like stamp duty, legal fees, and property agent fees. In total, three-quarters of them have sufficient cash flow or side income to cover expenses more than monthly debt and have high credit scores in good condition for them to make a home loan.

Table 6

Description of Financial Literacy in Terms of Purchasing House

Statement	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
I have my own saving specifically for purchasing a house.	4%	14%	32%	42%	8%

(continued)

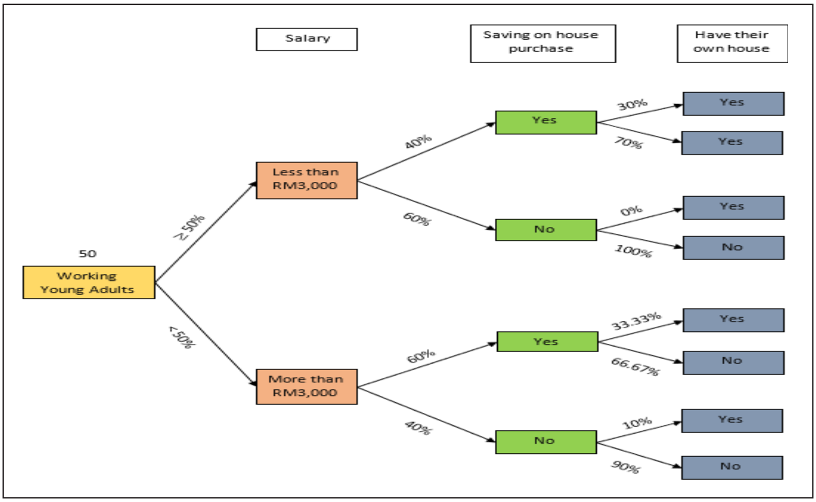
Statement	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
I am willing to increase my debt burden.	12%	18%	48%	14%	8%
I am willing that 25% of my salary will be spent on monthly debt payments.	4%	8%	30%	42%	16%
I know what mortgage interest rates are.	4%	6%	38%	30%	22%
I think I am not eligible for a mortgage loan due to my existing loan and debt.	10%	12%	30%	34%	14%
I am willing to consider my finances for managing home purchases.	4%	2%	30%	46%	18%
I have my own saving for incidental expenses like plaster cracks, pipe bursts, and the floor needs refinishing.	6%	30%	34%	26%	4%
I ensure that I have enough cash flow or other resources to cover the expenses beyond the monthly debt.	2%	10%	40%	30%	18%
I calculated my credit score before purchasing a house.	6%	4%	44%	34%	12%
I have a higher credit score.	4%	22%	58%	10%	6%

Risk of Financial Literacy

This section discussed the risk of financial literacy regarding home purchases based on the exploratory data analysis of the interview session. Based on the Department of Statistics Malaysia (DOSM), 2022, the average salary for young working adults is RM 2,001 for those aged between 25-34 years old and RM 3,077 for those aged between 35-44 years old. Therefore, the tree diagram developed has been classified into salaries received by the working young adults either less than or equal to RM 3,000 or more than RM 3,000.

Figure 2

Tree Diagram of Financial Literacy Risk Assessment



The tree diagram of financial literacy risk assessment is portrayed in Figure 3 and consists of participation from 50 working young adults, as highlighted in the first level. The second level reveals salaries received by the working young adults either less than or equal to RM 3,000 or more than RM 3,000. Meanwhile, at the third level of the tree diagram, working young adults were asked if they had their own savings specifically for purchasing a house. The last level demonstrates whether working young adults have their own house or not.

From the developed tree diagram, 50% of the respondents received a salary of less than RM 3,000, and only 40% have savings dedicated to house purchases. Another 60% did not have savings and did not have their own house. Meanwhile, 60% of the respondents with a salary of more than RM 3,000 have savings on purchasing a home, and 33.33% already have their own house. The other 40% did not have savings, and 10% inherited their own house from their parents.

Based on the result from Table 6 and Figure 3, working young adults still have a problem managing their own finances since they are not exposed to the importance of financial literacy and lack skills in financial management, especially when they already have their financial resources (Sinha & Zhan, 2018). This is one of the reasons why working youths fail to buy their own house. This is supported by BERNAMA, where in 2019, they interviewed working young adults and discovered that the common challenges most employed youths face to qualify to own a home are existing debt problems like credit cards, vehicle purchases, and National Higher Education Fund Corporation (PTPTN). With existing debt records, the intention of owning their own house will become more challenging as loan approval will be harder to secure with poor credit history. Therefore, working young adults need to be more aware of their financial management and responsibilities as soon as possible. The more aware they are of their financial health and responsibility, the less likely they are to be in unnecessary debt (Norvilitis, Merwin, Osberg et al., 2006).

CONCLUSION

This study successfully identified the factors of financial literacy among working young adults using a factor analysis approach, which is listed as financial knowledge, financial education, financial behavior and financial attitude. The tree diagram of financial risk assessment suggests that those who received a salary of less than RM 3,000 and did not have savings are considered to have a low level of financial literacy. The low levels of financial literacy will hinder homeownership. Furthermore, this study will help working young adults and potential home buyers to be bothered with regard to the importance of financial literacy to ensure they do not have any financial problems making monthly payments consistently. Other than that, education institutes and families must encourage young people to save and train them not to be impulsive to achieve their unnecessary unplanned purchases. Young adults must be guided to consider alternative financial products, policies, and enterprises before deciding on their financial affairs. This study was limited to only 50 respondents. Hence, more respondents should be considered in the future to get a wider view of their opinion on financial literacy matters. Furthermore, probability sampling should be used to enhance the study’s findings. Therefore, this study can be utilized as a guideline for policymakers in offering structured awareness programmes to improve financial literacy as well as homeownership knowledge among working young adults for their future financial resilience.

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