

THE INFLUENCE OF DIGITAL FINANCIAL LITERACY TOWARDS FINANCIAL INCLUSION FOR B40 GROUP IN MALAYSIA

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ABSTRACT

The development of digital financial services (DFS) plays a significant role in enhancing financial inclusion and improving personal financial management. Indeed, the development has brought to light a new challenge on financial outcomes. The evolution of DFS provides immense opportunities to deepen financial inclusion and expand access to the financial system for underserved which includes B40 income group. In order to patronize the digital services, the users must have knowledge on it known as digital financial literacy. As such, the purpose of this research is to measure the level of digital financial literacy amongst the B40 income group in Malaysia. The influence of demographic factors are also been examined which includes of gender, age, monthly income level, education level, job specification and area of living as the independent variables. In addition, this research focuses on determining the relationship between the level of digital financial literacy and monthly spending behaviour of the B40 group. This research is based on quantitative method of which the data collection is obtained through a questionnaire using survey instrument to 100 respondents by the B40 income group. From the result, it shows that the level of digital financial literacy amongst the B40 income group in Malaysia is considered good with the percentage of 81%. Subsequently, a multiple linear regression analysis has been used to investigate the influence factors which the result shows that two demographic factors; which are age and monthly income are significantly influence towards the level of digital financial literacy. Besides, there is a significant relationship between the level of digital financial literacy and monthly spending behaviour of the B40 income group using correlation analysis. The outcomes of this study would provide an insight and references to the related parties for instant Malaysian government in developing new policy to support the awareness on the digital financial services amongst the society, Bank Negara Malaysia in providing solution on the constraints faced pertaining to this service and digital financial industry in creating the reachable service towards financial inclusion. However there still a few limitations found in this research which may need further analysis particularly on the influence factors that affect the level of literacy.

Keywords: (digital financial literacy, financial inclusion and B40 income group)

1. INTRODUCTION

1.1 BACKGROUND OF THE STUDY

According to the theory of product life cycle, every business enters into four stages of situation which comprises of introduction, growth, maturity and decline. One of the strategies to strengthen the maturity stage is through innovation. In a financial service business, the innovation can be in the form of digital finance. Digital finance provides easy access for business and it has given a new shape to the financial industry.

Recently, Malaysia finds itself on the precipice of another financial industry revolution with Bank Negara Malaysia (BNM) set to issue up to five digital banking licenses. As stated by BNM, the objective of leveraging digital financial services is to drive financial inclusion and to target micro-segments of the communities in Malaysia particularly the underserved and the unbanked.

Other than that, with the current situation of Covid-19 which has been impacted the society lifestyle especially Bottom 40 (B40) and small-medium enterprises, the financial services sector will be a key driver of economic recovery and growth which brings more traction and potential for digital financial services to thrive in Malaysia. Thus, to understand how to achieve financial inclusion in an economy, the financial institution needs to understand the demographic, customer needs and strategic direction from an economic and social development perspective. In this regard, it is pertinent to measure the level of digital financial literacy towards financial inclusion particularly for the B40 income group to determine their awareness of digital financial services which is likely to become an increasingly important aspect of their financial planning and livelihood.

1.2 STATEMENT OF PROBLEM

In Malaysia, the population of the unbanked stood at 8% or two million of the country's 24 million adults in accordance to Bank Negara Malaysia (BNM) in its Financial Stability and Payment Systems Report 2017. Other than that, based on Credit Counselling and Debt Management Agency's Financial Behavior Survey 2018, two out of ten Malaysian working adults did not save for the last six months of the year and more than half of individuals earning less than RM2,000 a month cannot afford RM1,000 in the emergency expenses. This problem tends to be more pronounced with the segment whose income is among the B40 income group in Malaysia. It shows a signal for the need for digital financial literacy improvement inculcate good financial behaviour. The unprecedented growth in financial inclusion means of digital initiatives is expected to resolve the issue.

According to the Financial Stability and Payment Systems Report by Bank Negara Malaysia (2015), the Bank is targeting to reduce 8% of the underserved and unbanked population in Malaysia to 5% by 2020 by encouraging the application of digital financial services. Most importantly, BNM requires all digital banks to focus on financial inclusion towards the unserved and underserved market segments which includes of B40 income group in an effort to boost sustainable economic growth. Not only that, the United Nations Capital Development Fund (UNCDF) has been working with Malaysian Digital Economy Corporation (MDEC) to develop digital solutions that reinforce MDEC's focus areas which are empowering digitally-skilled Malaysians, enabling digitally-powered businesses and attracting digital investment towards B40 group including rural population.

Moreover, according to The World Bank in Malaysia (2021), the Covid-19 pandemic has had a major economic impact on Malaysia, especially on vulnerable households. Having

revised the national poverty line in July 2020, 5.6% of Malaysian households are currently living in absolute poverty which then the government is focused on addressing the well-being of the poorest 40% of the population. This low-income group remains particularly vulnerable to economic shocks which leads to an increase in the cost of living and mounting financial obligations.

In addition, the Covid-19 pandemic has put a bright spotlight on how digital financial inclusion can be harnessed to respond to the crisis and how the crisis in turn would accelerate digital financial services. Therefore, it is important to highlight the mechanism of digital financial service and the readiness of comprehensive financial technology in supporting the economic outcomes of financial inclusion in Malaysia especially the B40 income group. Pursuant to that, the B40 group shall be acknowledged on the application and assessment of the digital financial services for their uses accordingly.

1.3 RESEARCH OBJECTIVES

The study aimed to achieve the following objectives:

- i. To examine the level of digital financial literacy amongst the B40 income groups in Malaysia towards digital financial services.
- ii. To investigate the influence of demographic factors in terms of gender, age, monthly income level, education level, job specification and area of living of the B40 group towards the level of digital financial literacy.
- iii. To determine the relationship between the level of digital financial literacy and monthly spending behaviour of the B40 income group.

1.4 RESEARCH QUESTIONS

- i. What is the level of digital financial literacy amongst the B40 income group in Malaysia towards digital financial services?
- ii. Does the demographic factors in terms of gender, age, monthly income level, education level, job specification and area of living influence the level of digital financial literacy amongst the B40 income group?
- iii. What is the relationship between the level of digital financial literacy and the monthly spending behaviour of the B40 income group?

1.5 SIGNIFICANCE OF THE STUDY

This study assists the decision-makers to make any intervention based on the findings derived from this study to disseminate the influence of digital financial literacy towards financial inclusion in Malaysia particularly the B40 income group. Thus, this study is useful for the Malaysian government, Bank Negara Malaysia and the digital financial industry including a financial institution or fintech provider to foresee the insight in providing financial service digitally to the users which subsequently could enhance their ideas in expanding the digital financial industry to all the citizen including the financial inclusion. Also, this research would be beneficial to the community particularly the B40 income group to increase their literacy on digital financial services.

2. LITERATURE REVIEW

2.1 CONCEPT OF DIGITAL FINANCIAL LITERACY

Digital financial literacy has become an increasingly vital aspect of education in this era of globalisation. The users will need to have a higher level of financial sophistication to make effective and efficient use of financial technology products and services which essentially assist in avoiding fraud and costly mistakes. In order to understand the concept of digital financial literacy, it is pertinent to first conduct a general review on financial literacy and digital literacy. Financial literacy can be generally defined as a person's ability to understand, analyse, manage and communicate personal finance matters. Meanwhile, the digital financial services are referring to the broad range of financial services accessed which delivered through digital channels including payments, saving, remittance and financial information.

Thus, digital financial literacy refers to a multi-dimensional concept which integrates between the financial literacy and digital literacy. It is directly link or knowledge of online purchasing, online payment through different modes and online banking system. Lyons and Kass-Hanna (2021) has been among the first to formally lay out a conceptual framework to show the linkages between financial literacy and digital literacy and ultimately the digital financial literacy. The framework highlights on five core dimensions that are common to the literacy concepts which outlines the specific criteria of competency under each. These dimensions comprise of basic knowledge and skills, awareness (knowing about available financial and digital products and services), practical know-how (knowing how to practically access and use them), decision making (including financial attitudes and behaviour) and self-protection (including user protection and data privacy).

2.2 CONCEPT OF FINANCIAL INCLUSION

According to a United Nations Report (2016), financial inclusion is the sustainable provision of affordable financial services that bring the poor into the formal economy. It also may be defined as the process of ensuring access to financial services and adequate credit which are needed by vulnerable groups such as low income at an affordable cost.

Looking at the financial inclusion progress in Malaysia, it can be perceived that there is a positive improvement of financial inclusion in 2015 as based on the Financial Stability and Payment Systems Report (2015) by BNM, Malaysia recorded a higher financial inclusion index of 0.9 out of 1 compared to the year 2011 with 0.77 out of 1 respectively. Nevertheless, the remaining segment of the society in Malaysia who still have limited access to financial institutions such as the B40 income group which includes poor people and people living in the rural areas shall be helped extensively to support their livelihood and step out from the scarcity condition.

As such, financial inclusion has several benefits of which it provides low-income individuals with the possibility to save for the future to foster stability in personal finance. Other than that, financial inclusion enables the individual to handle income shocks over any unforeseen circumstances and emergencies. It also can be viewed as a business opportunity and social responsibility when the microfinance institutions and self-help groups participate in the inclusion programs since these two segments are significant in improving financial inclusion. In short, the conversation on financial inclusion in Malaysia revolves around the unserved and underserved segments whereby achieving financial inclusion involves the need for improvement in financial literacy.

2.3 THE B40 INCOME GROUP IN MALAYSIA

B40 income group literally means the bottom 40% of the income group in Malaysia which determine by the household monthly income. Prior to July 2020, the household would have to earn between RM3,000 to RM6,275 in order to qualify as part of the B40 group. However, the government realised that the figure was unrealistic as the sufficiency of income is depending on the environmental factor including where the person lives. Therefore, in July 2020 after surveying a total of 2.91 million B40 households, the Department of Statistics Malaysia (DOSM) through the Household Income and Basic Amenities Survey Report (2019) further broke down the B40 income levels by categories to recognise those who are truly in need as below:

Table 1: B40 Income Level by Categories

Income classification	Income Bracket
B1	Below RM2,500
B2	RM2,501 – RM3,169
B3	RM3,170 – RM3,969
B4	RM3,970 – RM4,849

The values of the income categories may increase or decrease year-to-year depending on the country's gross domestic product (GDP) by referring to the median household income. Based on the aforementioned report, the income threshold for Malaysia's B40 group of the total households was RM4,849 in 2019. The B40 income classification has been categorized into four group (from B1 to B4) to be more impactful and precise in reflecting the escalating cost of living, living wages, inflation and household size amongst other factors.

2.4 DIGITAL FINANCIAL LITERACY TO SUPPORT FINANCIAL INCLUSION FOR THE B40 GROUP

As reported by The World Bank (2015), Malaysia has one of the highest financial inclusion rates in the world since 92% of Malaysian adults have a deposit account, withdraw money, access automated teller machines (ATMs) and carry out payments through electronic means nationwide. Despite this massive achievement, Malaysia still faces challenges with regard to financial inclusion in reaching out to the remaining unserved population which is considered as the B40 income group. As such, one of the mechanisms to promote financial inclusion as identified by BNM is through the establishment of digital financial services through digital banks.

The implementation of digital banking will raise financial awareness and literacy which will bring economic growth to various sectors in Malaysia. In addition to that, the B40 income group which is typically experiences high servicing costs and low revenue potentially faces extreme challenges in obtaining traditional credit facilities. This situation is due to the limited track record and low credit scores which result in high financing rejection rates besides the lengthy and intricate approval process. Therefore, the implementation of the digital bank could provide a solution for the raised issues to assist in credit assessment and lowering the servicing costs to them.

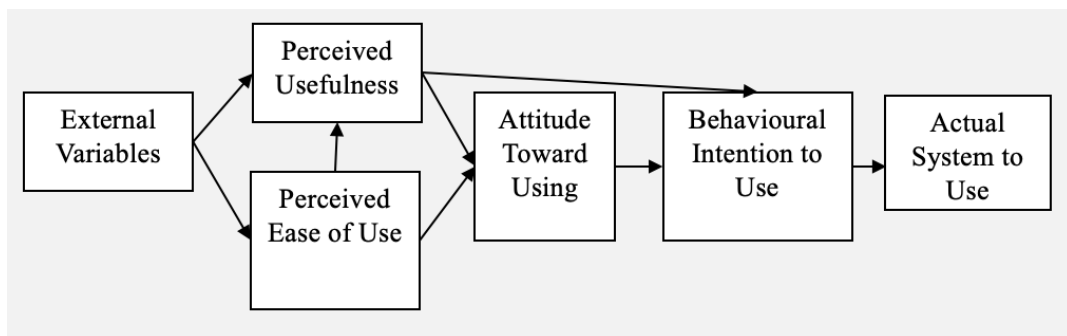
The digital banking service has various positive effects on financial inclusion as compared to normal banking operations since the practices and procedures are slightly different especially in terms of credit assessment to the underserved segment as they shall also obtain quality access to digital financial services.

2.5 THEORETICAL FRAMEWORK

2.5.1 Critical review of Theories and Models

This study focusses on the influence of digital financial literacy towards financial inclusion in Malaysia of which the Technology Acceptance Model (“TAM”) is applied to carry out this study. TAM which was originally proposed by Davis (1989) become one of the common theoretical frameworks that is used to predict the acceptance and usage of new technology as described in figure 1.1 below:

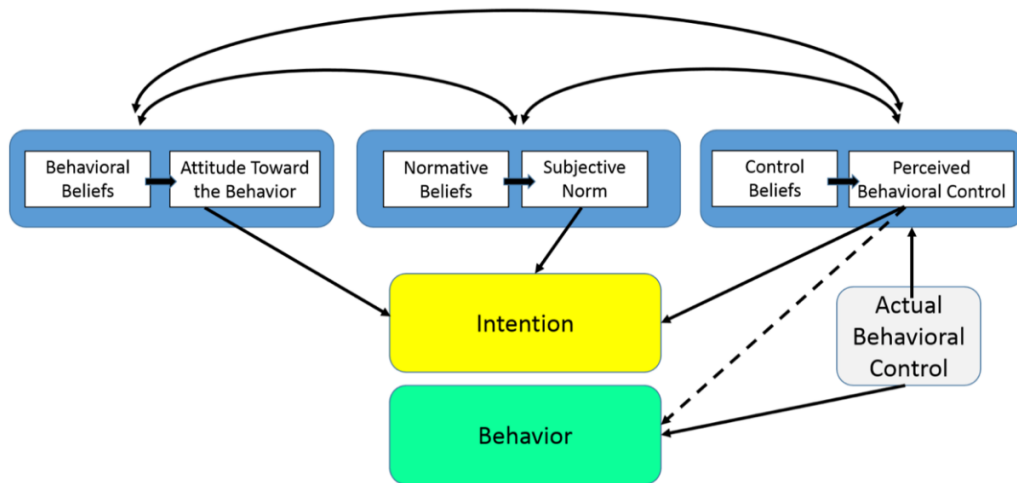
Figure 1: The Technology Acceptance Model (TAM)
Source: Davis, Bagozzi & Warshaw (1989)



This model is widely accepted as it allows for the predictability of acceptability of a solution and the required refinements to make the solution much more attractive and appealing to users.

The other theoretical model applied is the Theory of Planned behaviour (TPB). TPB was developed by Icek Ajzen as an attempt to predict human behaviour (Ajzen, 1991). The TPB posits that attitude toward the behaviour, subjective norm, and perceived behavioural control influence behavioural intention. The TPB is comprised of six constructs that collectively represent a person’s actual control over the behaviour which has been illustrated by using the figure below:

Figure 2: Theory of Planned behaviour (TPB)
 Source: Wayne W. LaMorte, Boston University School of Public Health (2019)



This study adopts the TPB in digital financial behaviour which affect the financial planning. According to Lajuni et al. (2018), TPB is described as an essential determinant of intention to change financial behaviour.

2.6 INFLUENCE FACTOR OF DIGITAL FINANCIAL LITERACY

A significant aspect related to digital financial literacy is the identification of its influence factors based on demographic elements which include gender, age, income level, education level, job specification and area of living as several studies and evidence have sought to determine the implication.

2.7 HYPOTHESIS OF THE STUDY

Based on the study from previous researchers and the above evidence, the hypothesis in this study is assumed as follows:

Hypothesis 1 (H1):

Gender differences have a positive influence on digital financial literacy amongst the B40 income group.

Hypothesis 2 (H2):

Age factor has a positive influence on digital financial literacy amongst the B40 income group.

Hypothesis 3 (H3):

Income level has a positive influence on digital financial literacy amongst the B40 income group.

Hypothesis 4 (H4):

Education level has a positive influence on digital financial literacy amongst the B40 income group.

Hypothesis 5 (H5):

Job specification has a positive influence on digital financial literacy amongst the B40 income group.

Hypothesis 6 (H6):

Area of living has a positive influence on digital financial literacy amongst the B40 income group.

Hypothesis 7 (H7):

The level of digital financial literacy has a positive relationship with the monthly spending behaviour of the B40 income group.

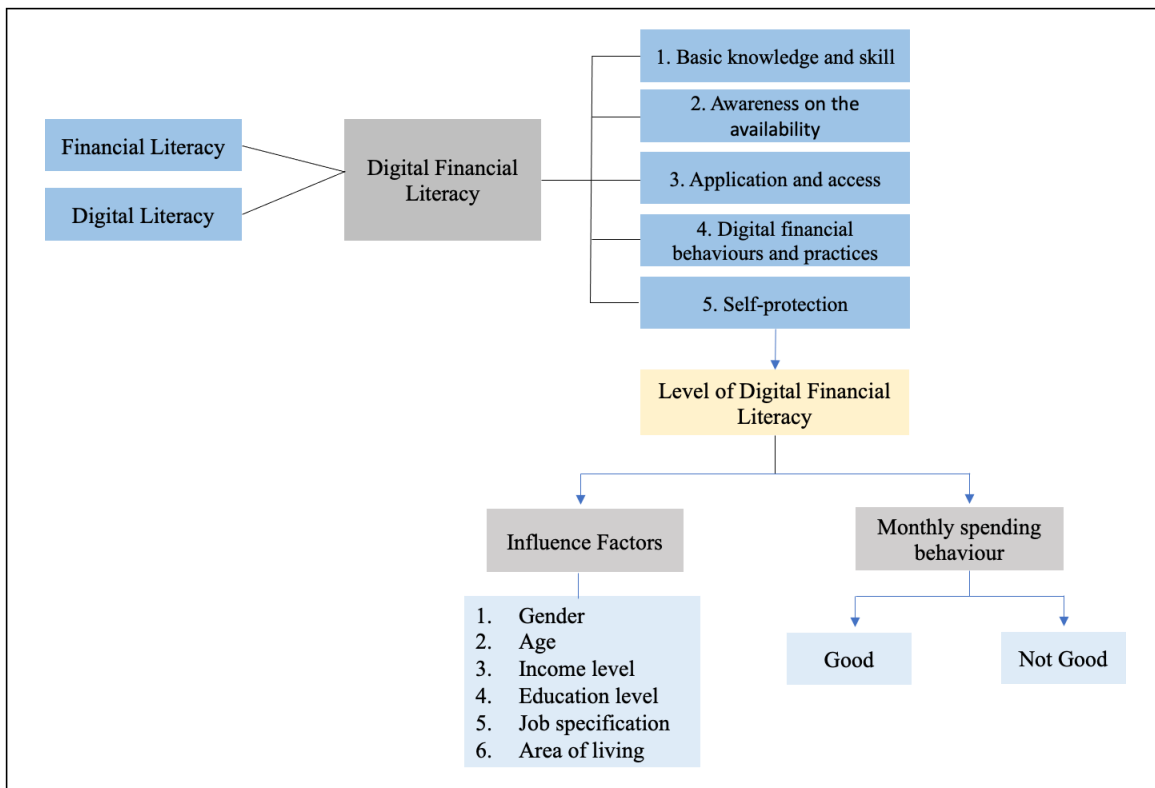
3. METHODOLOGY

This study is based on quantitative approach of which to measure the influence of digital financial literacy towards financial inclusion in Malaysia particularly B40 income group.

3.1 CONCEPTUAL FRAMEWORK

The conceptual framework has been constructed to show the significant relationship that is targeted to be determined in this study which is related to the level of digital financial literacy amongst the B40 income group towards digital financial services. The model of conceptual framework has been illustrated as follows:

Figure 3: Conceptual Framework



3.2 RESEARCH DESIGN

The purpose of this study is based on descriptive study whereby it has been carried out as a way to determine and describe the characteristics of the variables of interest in a situation. This study applies survey method whereby the main instrument for the data collection is based on the execution of structured questionnaires which comprises of a series questions to be answered by the targeted respondents. The measurement model used for the questionnaires is adopted based on the reference and idea from previous research i.e Lyons, A.C., & Kass-Hanna, J. (2021) which subsequently paraphrase to suit the research objective and to assess the variables.

3.3 POPULATION AND SAMPLING

The target population in this research is the whole B40 income group in Malaysia. The sampling technique used in this research is purposive sampling whereby the mechanism of the sampling is setting based on specific characteristic that reflect the objective of the study. In purposive sampling, the author relies on her own judgement when choosing the population to participate in the study. It is used most often when a difficult-to-reach population needs to be measured. As such, 100 respondents around Malaysia who represent the B40 income group population have provided their responses to the survey. In order to ensure that the respondents are the B40 income group, the author has requested them to choose their range of monthly income. Thus, an individual who obtain monthly income above than RM4,849 has been excluded in this study since they are not considered as B40 income group.

3.4 VARIABLES

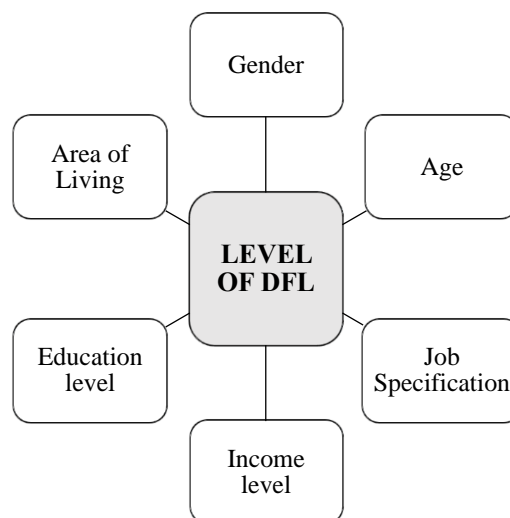
3.4.1 The variables used in this study

Table 2: Dependent and Independent Variables

No	Variable	Description
First Research Objective		
-	-	These are not dependent and independent variables as the objective is to determine the level of digital financial literacy by grouping the respondents result based on the frequency of the score range.
Second Research Objective		
1	Dependent variable	The level of digital financial literacy
2	Independent variable	1) Gender 2) Age 3) Income level 4) Education Level 5) Job specification 6) Area of living
Third Research Objective		
1	Dependent variable	The level of digital financial literacy
2	Independent variable	Monthly spending behaviour

3.4.2 The influence of variables for the second research objective

Figure 4: The influence of variables towards Level of Digital Financial Literacy



The above independent variables will be examined to determine their influence towards the level of digital financial literacy of the B40 group as the dependent variable. The equation for the model can be written as the followings:

$$Y = a + X_1 + X_2 + X_3 + X_4 + X_5 + X_6$$

Whereby;

Y = The level of digital financial literacy as the dependent variable

a = Constant

X₁= Gender as independent variable

X₂ = Age as independent variable

X₃ = Income level as independent variable

X₄ = Education level as independent variable

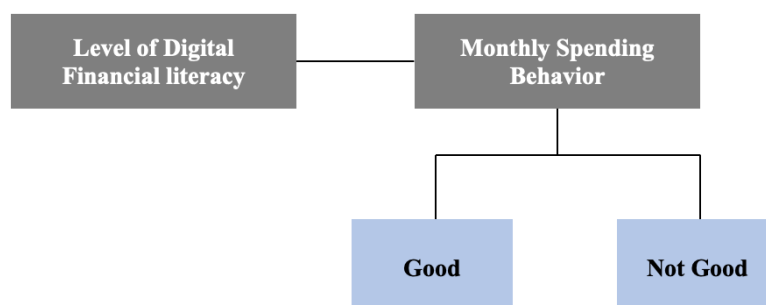
X₅ = Job Specification as independents variable

X₆ = Area of living ad independent variable

3.4.3 The relationship of variables for the third research objective

The author will determine the relationship between the level of digital financial literacy and the monthly spending behaviour of the B40 group and the illustration is as follows:

Figure 5: Relationship between Level of Digital Financial Literacy and Monthly Spending Behaviour



3.5 DATA ANALYSIS

The data received has been verified and cross validated with questionnaires accordingly to ensure that the information required is synchronised with the questions. The information provided by the respondents will become the raw data for the financial literacy measure. This data will need to be held in a software package such as Excel or SPSS in order to facilitate the analysis. After receiving the data, the author will execute the data cleaning in order to check the mission of data. After that, the data will be analysed using multiple linear regression which is a statistical technique using two or more independent variables to predict the outcome of a dependent variable as well as correlation analysis to determine the related relationship as mentioned above. The equation of regression for the variable relationship is as follows:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6$$

Whereby;

Y = The level of digital financial literacy as the dependent variable

a = Constant

X₁ = Gender

X₂ = Age

X₃ = Income level

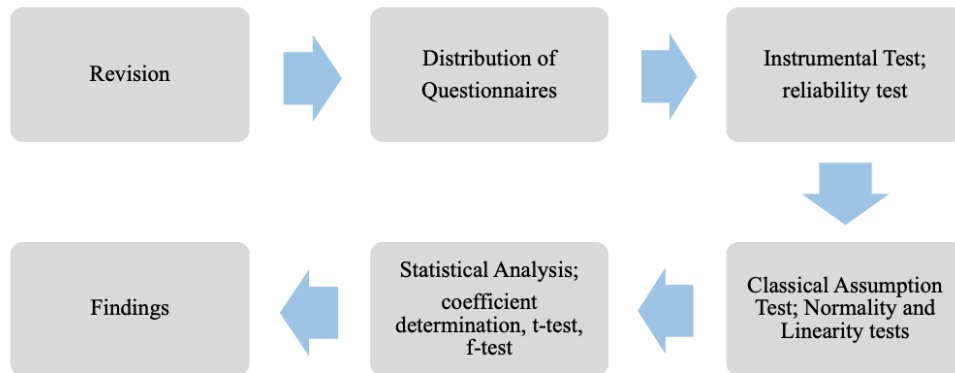
X₄ = Education level

X₅ = Job Specification

X₆ = Area of living

For this data analysis, the author will proceed based on the following steps:

Figure 6: Data Processing Step



In order to ensure the accuracy of the outcome towards the research objective, an instrument test of a survey is pertinent to be carried out to truly measure the issue and hypothesis based on the questionnaires. Thus, the reliability test shall be executed which aims to investigate whether the analysis is reliable or not. Subsequently, the next test is the classical assumption test through normality and linearity test. Normality test aims to identify whether the data is normally distributed or not while the linearity test examines whether the model is suited for this study or not. The next step is the statistical test through coefficient determination, T-test and F-test in order to find the result of this study. Last but not least, the conclusion of the findings will be made by matching them with the hypotheses that have been setup earlier.

4. MAIN RESULTS

4.1 DEMOGRAPHIC VARIABLE

Table 3: Group of Respondents for Demographic

Number of Respondent: 100		
Demographic Factor	Frequency (f)	Percentage (%)
1. Gender		
Male	45	45%
Female	55	55%
2. Occupation		
Government	32	32%
Private	39	39%
Self-Service	14	14%
None	15	15%
3. Income level		
Below than RM2,500	40	40%
Between RM2,501 – RM3,169	17	17%
Between RM3,170 – RM3,969	23	23%
Between RM3,970 – RM4,849	20	20%
4. Education level		
Primary school	5	5%
Secondary school	26	26%
Diploma	18	18%
Bachelor degree	44	44%
Master	7	7%
PHD	-	-
5. Living area		
Rural	74	74%
Urban	26	26%
Age		
20 - 29	43	43%
30 - 39	38	38%
40 - 49	5	5%
50 - 59	11	11%
60 - 69	3	3%

4.2 RESULT AND ANALYSIS

4.2.1 The Level of Digital Financial Literacy (DFL) amongst the B40 Income Group

The variable has been computed based on descriptive statistics in order to know the frequency and percentage of the digital financial literacy level amongst the B40 income group in Malaysia. Thus, the level of digital financial literacy (LDFL) amongst the B40 income group in Malaysia is as follows:

Table 4: Level of Digital Financial Literacy Result

Score Range	Frequency of Respondent	Percentage	Level of DFL
0 - 8	5	5%	Low
9 - 16	14	14%	Moderate
17 - 25	81	81%	High

The total number of respondents who received the score range between 17 to 25 is 81 which stipulated 81% of the total respondents have a high level of digital financial literacy which indicated that most of them have a good understanding of digital financial services. Meanwhile, there are 14% of respondents obtained the score between 9 to 16 which indicate moderate level of digital financial literacy amongst them. There are only 5% of respondents have a low level of digital financial literacy with a total score between 0 to 8. Other than that, the author has also prescribed the mean and standard deviation for the level of digital financial literacy as follows:

Table 5: Mean, Median and Standard Deviation for Level of Digital Financial Literacy

Item	Value
Number of Respondent (N)	100
Mean (M)	18.77
Median (MD)	20.00
Standard Deviation (SD)	4.104

The standard deviation is used to tell how measurement for a group is spread out from the mean. According to Kaufmann, J. (2014), referring to rule of thumb which is generally accepted guideline, policy or method of doing something based on practice rather than facts, if the standard deviation is greater than one, then it indicates a relatively high variation while if the standard deviation is less than one, then it can be considered as a low variation. A low standard deviation means the data is clustered around the mean and a high standard deviation shows that the data is more spread out. As for this study, since the standard deviation is high, thus it interpreted that the data points are spread out over a large range of values.

4.2.2 The Influence of Demographic Factors towards the Level of Digital Financial Literacy (DFL)

4.2.2.1 Instrument Test

An instrument test has been conducted in this study to analyse the accuracy of data collection as it is essential to maintain the integrity and reduce errors occurring in research. The execution of the instruments test in this study includes reliability tests on the distributed questionnaires.

4.2.2.1.1 Reliability Test

The reliability test in this study is carried out by using Cronbach's Alpha which is the most common measure to assess the reliability of a set of items and how well the set accurately measures the concept of interest. The general rule of thumb highlighted that if the Cronbach's Alpha values are between 0.60 – 0.70, then it indicates an acceptable level of the reliability. Below is the result of the reliability test.

Table 6: Reliability Test Result for Second Objective

Reliability Statistics	
Cronbach's Alpha	N of Items
0.814	25

It can be seen that the Cronbach's Alpha exceeds the values of between 0.60 – 0.70 which is 0.814 that indicate the questionnaires are reliable. In conclusion, the instrument test for this study shows positive results and prescribed that the questionnaires are reliable which can proceed with the analysis accordingly.

4.2.2.2 Classical Assumption Test

Classical Assumption Test is a statistical test used to determine the relationship between the variables which includes of normality test and linearity test. These tests have been carried out in this study to analyse whether the data of dependent and independent variables of the multiple linear regression model have a normal distribution or not and also to observe the existence of a relation between the variables.

4.2.2.2.1 Normality Test

Normality test is used to determine whether or not the normal distribution of data (Santoso, 2010). The good research data would have a normal distribution (bell-shaped) so-called symmetrical which means the data has been spread evenly so that it can represent the population. The normality test in this study used the Kolmogorov Smirnov method, histogram diagram and normality plot. In this method, the significant level is used as a rule of thumb to interpret the data whether it is normally distributed or otherwise. As such, the test concludes that if the significant value is more than 0.05, then the data is normally distributed. The table below shows the result obtained for this study:

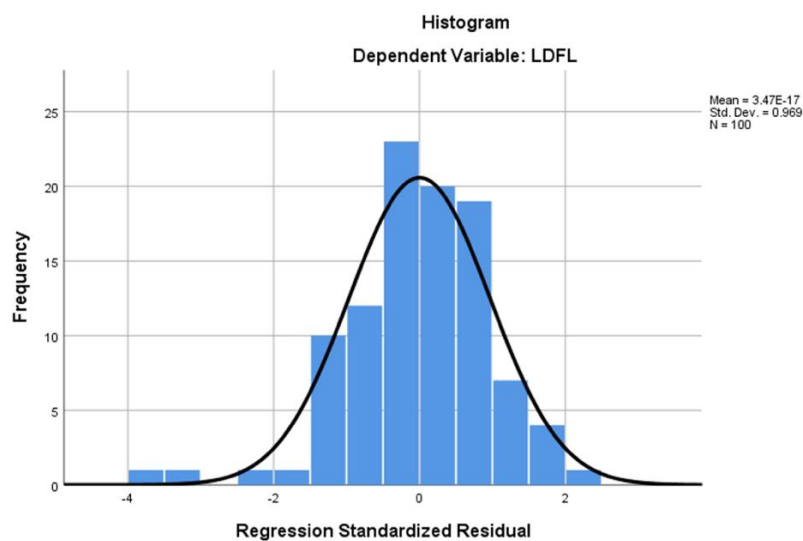
Table 7: One-Sample Kolmogorov-Smirnov test Result for Second Objective

One-sample Kolmogorov-Smirnov Test		Unstandardized Residual
N		100
Normal Parameters	Mean	.0000000
	Std. Deviation	3.34735447
Most Extreme Differences	Absolute	.074
	Positive	.047
	Negative	-.074
Test Statistic		.074
Asymp. Sig.		.002

- a. Test Distribution is Normal.
- b. Calculated from data.
- c. Lilliefors Significance Correction.

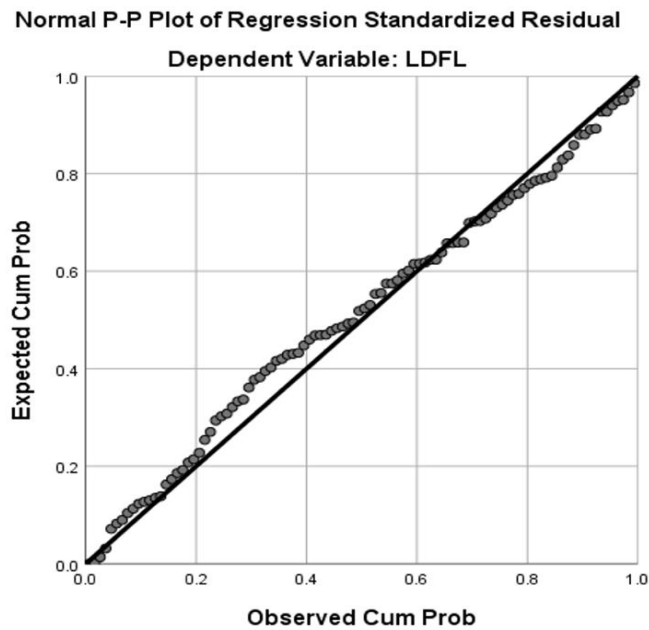
Based on the result of Kolmogorov-Smirnov test above, the significant value is more than 0.05 which is the test statistics showing the value of 0.074. As such, the data in this study shall be concluded as a normal distribution. Other than that, the author has also supported the results by using histogram and plot diagrams to strengthen the evidence for the data normality as below.

Figure 7: Histogram Diagram Result for Second Objective



The histogram graph above is bell-shaped and symmetric about the mean and it shows the comparison between the observational data and distribution line which is very close to the normal distribution.

Figure 8: Plot Diagram Result for Second Objective



The plot diagram above shows the comparison between the cumulative distribution of actual data and the cumulative distribution of normal data. The plot diagram prescribed that the points are spread around the diagonal line and its distribution follows the direction of the diagonal line. Both graphs above support the conclusion that the regression model of the instruments fulfils the normality assumption.

4.2.2.2.2 Linearity Test

Linearity test is used to determine whether the dependent and independent variables have a significant linear relationship or not. Linearity testing can be done by the Sig. linearity from linearity in table ANOVA. The value Sig. linearity indicates the extent to which the

independent variable value is just in a straight line. As such, if the value of Sig. linearity less than the significant level of 0.05, then the linear regression can be used to explain the influence of variables that exist. Nevertheless, it is essential to note that, the linearity measures for gender (X_1) and area of living (X_6) could not be computed since both independent variables have fewer than three groups which are two categories respectively.

1. Linearity test between the level of digital financial literacy (dependent variable; Y) and age (independent variable; X_2)

Table 8: Linearity Test Result for Age

		ANOVA				
		Sum of	df	Mean Square	F	Sig.
		Squares				
Between	(Combined)	987.363	24	41.140	4.535	.000
Groups	Linearity	422.637	1	422.637	46.591	.000
	Deviation from Linearity	564.726	23	24.553	2.707	.001
Within		680.347				
Groups						
Total		1667.710				

Based on the table above, it is shown that the significant value of linearity between Y which is the level of digital financial literacy (LDFL) and X_2 which is the age is less than 0.05 with the value of 0.000. Therefore, it can be concluded that the LDFL and age variables have a linear relationship.

2. Linearity test between the level of digital financial literacy (dependent variable; Y) and monthly income (independent variable; X₃)

Table 9: Linearity Test Result for Monthly Income

		ANOVA				
		Sum of				
		Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)	135.012	3	45.004	2.819	.043
	Linearity	113.990	1	113.990	7.140	.009
	Deviation from Linearity	21.022	2	10.511	.658	.520
Within Groups		1532.698	96	15.966		
Total		1667.710	99			

The table above shows that the significant value of linearity between Y, which is the level of digital financial literacy (LDFL) and X₃, which is the monthly income, is less than 0.05 with the value of 0.009. Thus, it can be concluded that the LDFL and monthly income variables have a linear relationship.

3. Linearity test between the level of digital financial literacy (dependent variable; Y) and education level (independent variable; X₄)

Table 10: Linearity Test Result for Education Level

		ANOVA				
		Sum of				
		Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)	373.011	4	93.253	6.843	.000
	Linearity	277.044	1	277.044	20.328	.000
	Deviation from Linearity	95.967	3	31.989	2.347	.078
Within Groups		1294.699	95	13.628		
Total		1667.710	99			

Based on the table above, it shows that the significant value of linearity between Y, which is the level of digital financial literacy (LDFL), and X_4 , which is the education level, is less than 0.05 with the value of 0.000. Therefore, it can be concluded that the LDFL and education level variables have a linear relationship.

4. Linearity test between the level of digital financial literacy (dependent variable; Y) and job specification (independent variable; X_5)

Table 11: Linearity Test Result for Job Specification

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)	114.304	3	38.101	2.355	.077
	Linearity	74.467	1	74.467	4.602	.034
	Deviation from Linearity	39.836	2	19.918	1.231	.297
Within Groups		1553.406	96	16.181		
Total		1667.710	99			

The table above indicated that the significant value of linearity between Y, which is the level of digital financial literacy (LDFL), and X_5 , which is the job specification, is less than 0.05 with the value of 0.034. As such, it can be concluded that the LDFL and job specification variables have a linear relationship.

4.2.2.3 Statistical Analysis

Statistical analysis has been conducted in this study to obtain the result which is essential for decision making whether to accept or reject the hypothesis. There are three results in this statistical analysis in determining the influence of demographic factors towards the level of digital financial literacy as the followings:

4.2.2.3.1 Coefficient Determination

The coefficient determination which is commonly known as R Square is a statistical measure in regression model that determines the proportion of variance. It has been conducted in this study to examine the relationship between the dependent and independent variables and to investigate the affection between the two variables. Thus, the influence of demographic factors towards the level of digital financial literacy based on coefficient determination has been prescribed as follows:

Table 12: R Square Result for Second Objective

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.579 ^a	.335	.292	3.454

- a. Predictors: (Constant), Gender, Age, Monthly Income, Job specification, Education Level, Area of Living

Based on the result above, the value of the correlation (R) is 0.579 which means there is a relationship between the dependent variable (level of digital financial literacy) and the independent variable (demographic factor) since the value is between 0-1. Should the value of R not equal to the range, thus the dependent and independent variables have no relationship. The value of coefficient determination (R Square) which is 0.335 indicates that the influence of independent variable towards the dependent variable is 33%.

4.2.2.3.2 T-test

T-test is a statistical test that is used to find out how much the independent variable may affect the dependent variable. The decision making in this test would be based on the significant value whereby if the Sig. value is greater than 0.05, then it indicates that there is a significant influence of the independent variable towards the dependent variable. In

this regard, the hypothesis will be accepted. In contrast, if the Sig. value is less than 0.05, then it describes that there is no significant influence of the independent variable on the dependent variable. Therefore, the hypothesis will be rejected. By using Y which is the level of digital financial literacy (LDFL) as the dependent variable and X_1, X_2, X_3, X_4, X_5 and X_6 as the independent variable, the results of T-test for this study are as follows:

Table 13: T-test Result for Second Objective

Model		Coefficients			t	Sig.
		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta		
1	(Constant)	23.470	3.343		7.020	.000
	Gender	.312	.735	.038	.424	.673
	Age	-.180	.045	-.440	-4.000	.000
	Monthly income Level	.720	.340	.207	2.122	.037
	Education Level	.337	.431	.088	.782	.436
	Job Specification	-.670	.801	-.072	-.836	.405
	Area of Living	-.335	.380	-.084	-.879	.382

a. Dependent Variable: LDFL

Based on the above table, it is clearly seen that the significant value of the independent variable for X_1 which gender is greater than 0.05 with the value of 0.673. Hence, this result shows that there is no significant influence of gender on the LDFL. As for X_2 which is age, the significant value is 0.000 of which is less than 0.05. Therefore, it shall be highlighted that age has a significant influence towards the LDFL. Next, the significant value for X_3 which is monthly income is also less than 0.05 with the value of 0.037. Thus, it indicates that there is a significant influence of the monthly income on the LDFL. Subsequently, the independent variable of X_4 which is education level has a greater significant value which is

0.436. Thus, education level has no significant influence on the LDFL. For X_5 which is a job specification, the significant value is also greater than 0.05 with the value of 0.405. Therefore, job specification also has no significant influence on the LDFL. Similar to X_6 which is the area of living, the significant value is also greater than 0.05 with the value of 0.382. Hence, the area of living has no significant influence on the LDFL.

4.2.2.3.3 F-Test

F-Test is a statistical test designed to determine whether the two variables which commonly known as dependent and independent variables have an effect on each other significantly or not. The result can be obtained by comparing the value of F arithmetic and the F table. Should the F arithmetic be greater than F table, then the independent variable is simultaneously influencing the dependent variable. In contrast, if the F arithmetic is less than the F table, then it indicates that the independent variable does not affect the dependent variable. The mechanism in obtaining the F table has been specified as follows:

$$F \text{ table} = k ; (n-k)$$

$$F \text{ table} = 6; (100 - 6)$$

$$F \text{ table} = 6; 94$$

$$= 2.25$$

Whereby; k = the total of independent variables

n = total sample

Therefore, the value of the F table is 2.25 which was obtained by using the F distribution table with the significant value of 0.05. Through the F distribution table which can be found via desktop research, the author has received the value of 2.25 from the column 6 and row 94 as shown in the formula above. In addition to that, the influences between the two

variables can be found by determining the significant value of these variables. If the significant value is less than 0.05, then it can be concluded that the independent variable has an affect or significantly influence the dependent variable. Conversely, if the significant value is greater than 0.05, thus it means the independent variable does not affect or significantly influence the dependent variable. Under this study, the analysis of F-Table has been executed of which the result has been specified as below:

Table 14: F-test Result for Second Objective

ANOVA						
Model		Sum of Square	df	Mean Square	F	Sig
1	Regression	558.437	6	93.073	7.803	.000 ^b
	Residual	1109.273	93	11.928		
	Total	1667.710	99			

a. Dependent Variable: LDFL

b. Predictors: (Constant), Gender, Age, Monthly Income, Job specification, Education Level, Area of Living

Based on the ANOVA table above, the value of F arithmetic is 7.803 which is greater than the F table with the value of 2.25. This means that the independent variable can significantly influence the dependent variable simultaneously. Also, it can be seen that the significant value is 0.000 which is less than 0.05. Thus, it indicates that the independent variables have significant influence on the dependent variable.

4.2.3 Relationship between the Level of Digital Financial Literacy and the Monthly Spending Behaviour

The variable has been computed based on descriptive statistic in order to know the frequency and percentage of the behaviour whereby the frequency of scoring has been divided into score range and calculated using SPSS as follows:

Table 15: Level of Monthly Spending Behaviour

Score Range	Frequency	Percentage	Monthly spending behaviour
0 – 1	20	20%	Not Good
2 – 3	80	80%	Good

Based on the table above, it has been highlighted that the total number or frequency of respondents who obtain the score range between 0 – 1 is 20 which indicates 20% of the population sampling. Other than that, there are 80 respondents or 80% of the population who obtained the score range between 2 – 3. Thus, it can be concluded that 80% of the B40 income group is good in monthly spending behaviour whereas there are only 20% of them who are not good in monthly spending behaviour. After receiving the level of monthly spending behaviour amongst the B40 income group, the author has determined the relationship between the level of digital financial literacy and monthly spending behaviour. As such, the Pearson Correlation has been used to measure this objective of which the result has been obtained as below:

Table 16: Correlations between Level of Digital Financial Literacy and Monthly Spending Behaviour Result

Correlations			
		Literacy_Level	Spending_Behaviour
Literacy_Level	Pearson Correlation	1	.527**
	Sig.		.000
Spending_Behaviour	Pearson Correlation	.527**	
	Sig.	.000	

**Correlation is significant at the 0.01 level.

Based on the above result, it shows that, there is a relationship between the level of digital financial literacy and monthly spending behaviour of the B40 income group with the Pearson Correlation or r-value of 0.527 and significant at 0.00. This means, when the level

of digital financial literacy increases, the monthly spending behaviour also increases. The statistical analysis for this research objective comprises of coefficient determination, T-Test and F-Test. The method used is similar to the research objective number two. Thus, the author has repeated the instrumental test as well as the classical assumption test. The result for the testing has been prescribed as follows:

4.2.3.1 Instrumental Test

4.2.3.1.1 Reliability Test

Table 17: Reliability Test Result for Third Objective

Reliability Statistics	
Cronbach's Alpha	N of Items
0.812	3

Based on the reliability result above, it can be seen that the Cronbach's Alpha exceeds the values of 0.60 – 0.70 which is 0.812. Thus, it can be concluded that the instrument test for this study shows a positive result and indicates that the questionnaires are reliable and consistent with the analysis accordingly.

4.2.3.2 Classical Assumption Test

4.2.3.2.2 Normality Test

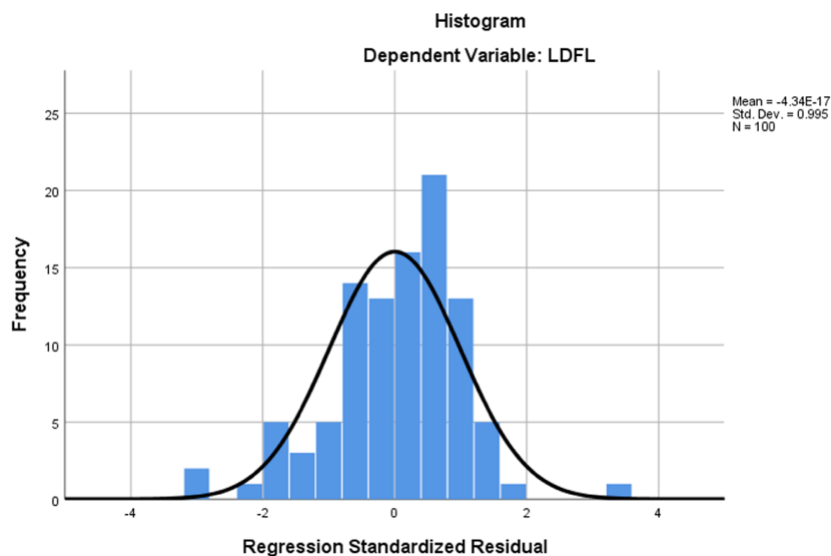
Table 18: One-sample Kolmogorov-Smirnov Test Result for Third Objective

One-sample Kolmogorov-Smirnov Test		Unstandardized Residual
N		100
Normal Parameters	Mean	.0000000
	Std. Deviation	3.08843265
Most Extreme Differences	Absolute	.134
	Positive	.083
	Negative	-.134
Test Statistic		.134
Asymp. Sig.		.000

- a. Test Distribution is Normal.
- b. Calculated from data.
- c. Lilliefors Significance Correction.

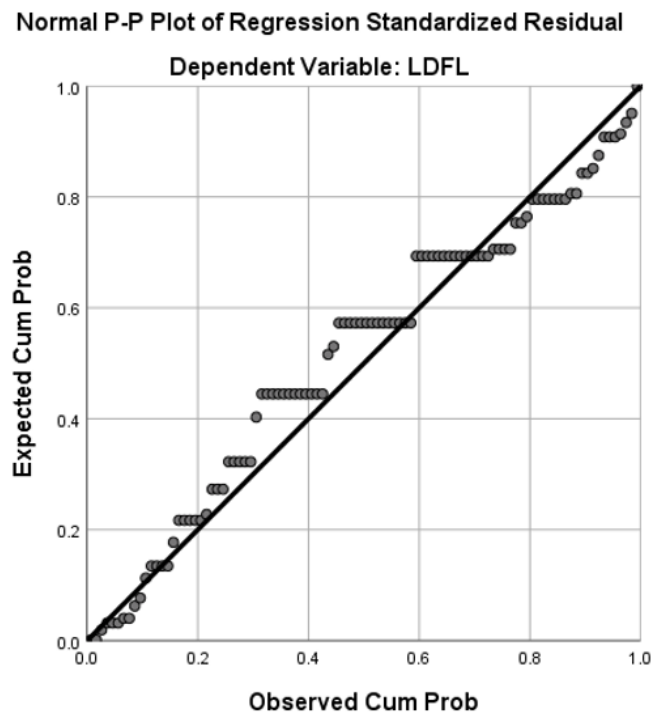
Based on the result of Kolmogorov-Smirnov test above, it shows that the significant value is more than 0.05 which is 0.134. As such, the data in this study shall be concluded as a normal distribution. Other than that, the author has also supported the result by using histogram and plot diagrams to strengthen the evidence for the data normality as follows:

Figure 9: Histogram Diagram Result for Third Objective



The histogram graph above is bell-shaped and symmetric about the mean and it shows the comparison between the observational data and distribution line which is very close to the normal distribution.

Figure 10: Plot Diagram Result for Third Objective



The plot diagram above shows the comparison between the cumulative distribution of actual data and the cumulative distribution of normal data. The plot diagram prescribes that the points are spread around the diagonal line and its distribution follows the direction of the diagonal line. Hence, it fulfils the normality assumption.

4.2.3.2.3 Linearity Test

Table 19: Linearity Test Result for Monthly Spending Behaviour

		ANOVA				
		Sum of	df	Mean	F	Sig.
		Squares		Square		
Between Groups	(Combined)	805.647	3	268.549	29.906	.000
	Linearity	723.407	1	723.407	80.559	.000
	Deviation from Linearity	82.241	2	41.120	4.579	.013
Within Groups		862.063	96	8.980		
Total		1667.710	99			

Based on the table above, it shows that the significant value of linearity between the level of digital financial literacy (LDFL) and monthly spending behaviour (SPEND) is less than 0.05 with the value of 0.000. Therefore, it can be concluded that the level of digital financial literacy and monthly spending behaviour variables have a linear relationship.

4.2.3.3 Statistical Analysis

4.2.3.3.1 Coefficient determination

Table 20: R Square Test Result for Third Objective

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.659 ^a	.434	.428	3.104

- a. Predictors: (Constant), SPENDING
- b. Dependent Variable: LDFL

Referring to the model summary, the value of the correlation (R) is 0.659 which means there is a relationship between the dependent variable (level of digital financial literacy) and the independent variable (monthly spending behaviour) since the value is between

0-1. Other than that, the value of coefficient determination (R Square) which is 0.434 indicates that the influence of independent variable on the dependent variable is 43%.

4.2.3.3.2 T-test

Table 21: T-test Result for Third Objective

Coefficients						
Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	12.764	.759		16.806	.000
	SPENDING	2.556	.295	.659	8.665	.000

a. Dependent Variable: LDFL

Based on the above table, it can be perceived that the significant value of independent variable for monthly spending behaviour is less than 0.05 with the value of 0.000. Hence, this result shows that there a significant influence of monthly spending behaviour on the level of digital financial literacy.

4.2.3.3.3 F-test

Table 22: F-test Result for Third Objective

ANOVA						
Model		Sum of Square	df	Mean Square	F	Sig
1	Regression	723.407	1	723.407	75.075	.000 ^b
	Residual	944.303	98	9.636		
	Total	1667.710	99			

a. Dependent Variable: LDFL

b. Predictors: (Constant), SPEND

Based on the table above, it can be seen that the significant value is 0.000 which is less than 0.05. Thus, it indicates that the independent variables have significant influence towards the dependent variable.

4.3 DISCUSSION OF RESULT

According to the outcomes received for all the research objective which was conducted based on the identified research mechanism and processes above, there are several views that the author would like to highlight which comprise of the following:

- 4.3.1 Based on the instrumental test, the questionnaire provided to the respondents is reliable for this study especially in obtaining the data for analysis.
- 4.3.2 Based on the classical assumption test, the variables used in this study are linear and normally distributed to find the solution for the research objective. It has been proven by the histogram and plot diagram. When the graph is approximately bell-shaped and symmetric about the mean, then the data is assumed as normality distributed as the result above. As for the plot diagram, the distribution followed the direction of the diagonal line which shows a normal probability plot and in-order data distribution.
- 4.3.3 Based on the first research objective, the level of digital financial literacy amongst the B40 income group is high. The population sample shows that the B40 group reached the literacy level of 81% which indicates that most of the respondents have good understanding on digital financial services. The moderate and low levels of digital financial literacy amongst the B40 group are just small with the percentage of 14% and 5% respectively. Other than that, the high standard deviation of the digital financial literacy level indicates that the data points are spread out over a large range of values which suffices. Thus, it can be concluded that the finding has answered the first research objective.

- 4.3.4 In the second research objective, there no significant influence on gender on the level of digital financial literacy since the significant value based on T-test is more than 0.05 which is 0.673. Thus, the H1 is rejected. H1 in this study stated that **“gender differences have a positive influence on digital financial literacy amongst the B40 income group”**.
- 4.3.5 Other than that, this study also examined the significant influence of age whereby it can be concluded that age has significant influence on the level of digital financial literacy with the significant value of 0.000 based on T-test. In this regard, the H2 is accepted. H2 in this study stated that, **“age factor has a positive influence on digital financial literacy amongst the B40 income group”**.
- 4.3.6 Also, this research examined the significant influence of monthly income of which it can be concluded that there is a significant influence of monthly income on the level of digital financial literacy with the value of 0.037 based on T-test. As such, the H3 is accepted. H3 in this study highlighted that **“income level has a positive influence on digital financial literacy amongst the B40 income group”**.
- 4.3.7 This study also investigated the significant influence of education level. Based on the analysis, education level has no significant influence on the level of digital financial literacy since the value is 0.436 which is greater than 0.05. Thus, the H4 is rejected. H4 in this study stated that **“education level has a positive influence on digital financial literacy amongst the B40 income group”**.
- 4.3.8 Moreover, this study examines the significant influence on job specification whereby it can be highlighted that job specification has no significant influence on the level of digital financial literacy since the significant value is 0.405 based in T-

test. Therefore, the H5 shall be rejected. H5 in this study stated that, **“job specification has a positive influence on digital financial literacy amongst the B40 income group”**.

4.3.9 Last but not least, this research investigates the significant influence on living of which the result shows that area of living has no significant influence on the level of digital financial literacy as the significant value is 0.382. As such, H6 shall be rejected. H6 in this study stated that **“area of living has a positive influence on digital financial literacy amongst the B40 income group”**.

4.3.10 Moreover, based on F-test, the outcome shows that the value of F arithmetic is greater than the F table which is 7.803 and 2.25 respectively. This means that the independent variables can significantly influence the dependent variable simultaneously.

4.3.11 Overall, for research objective two, it can be concluded that there are only two factors that influence the level of digital financial literacy amongst the B40 income group which comprises age and monthly income. This is means, the different ages and monthly incomes would affect the level of digital financial literacy. The level of digital financial literacy is not influenced by gender, education level, job specification and area of living which means these factors could not be the indicator to measure their literacy level toward the digital financial services.

4.3.12 As for the third objective, the analysis shows that there are 80% of the B40 income group have good level in monthly spending behaviour whereas only 20% of them are not good in monthly spending behaviour. When the data is further analysed, it was found that there is a positive relationship between the level of digital financial

literacy and the monthly spending behaviour since the r-value is 0.527 and significant at 0.00. Hence, H7 in this study is accepted whereby the H7 stated that **“the level of digital financial literacy has a positive relationship with the monthly spending behaviour of the B40 income group”**. Also, when coefficient determination is carried out, the result indicates that there is a relationship between the two variables whereby the independent variable can influence the dependent variable of 43%. Not only that, the T-test and F-test also show that the monthly income behaviour have significant influence towards the level of digital financial literacy with the significant value of 0.000 respectively.

5. CONCLUSION

This study shows that the B40 income group aware on the digital financial service as the finding in the first objective. Besides, some demographic factors have influenced the level of literacy amongst them which include of age and monthly income level. Meanwhile, the level of digital financial literacy does not have significant impact regardless their gender, education level, job specification and area of living which have been highlighted in the second objective of this study.

5.1 CONTRIBUTION OF THE STUDY

The emergence of financial technology coupled with the recent Covid-19 pandemic has resulted in the rapid expansion of digital financial services and products which shall be accessed and delivered through digital channels.

Fortunately, the B40 income group is still relevant in digital financial services industry. The result of this study has been supported by the investigation made by Lyons and Kass-Hanna (2021) on the methodological overview to defining and measuring digital financial literacy. Also, the result shows the consistency with Theory of Planned Behaviour (TPB) whereby the financial literacy can affect the personal financial behaviour. As a conclusion, this study shows that the B40 income group is aware of the digital financial service as the finding in the first objective.

Besides, some demographic factors have influence on the level of literacy amongst them which includes age and monthly income level. Meanwhile, the level of digital financial literacy does not have significant impact regardless of their gender, education level, job specification and area of living which have been highlighted in the second objective of this

study. Also, it is pertinent to summarize that their literacy level has affected their spending behaviour as investigated in the third objective.

From this study, the author opined that this it can be useful insight for the related parties for instant as in the following:

- 5.1.1 For Malaysian government as this study can be a reference to perceive the level of digital financial literacy amongst the B40 income group in Malaysia. As such, the government may develop new policy relating to this matter and identify the solution to support and upgrade the awareness on the digital financial services and factors that influence it. Also, the government also may give incentives or subsidy to assist them improving their livelihood in-lined with the development of financial technology.
- 5.1.2 For Bank Negara Malaysia is an important party for the financial industry in terms of safety, reliability, efficiency of payment system infrastructure and safeguard the public's interest. Thus, the Bank may provide solution to constraints faced by the unserved and underserved group included the B40 towards the digital financial service.
- 5.1.3 For digital financial industry since they are the pioneer to bring the service in the community. Therefore, they shall create the service that can be reachable to all society including the financial inclusion like the B40 income group as they also play a significant role in the country and shall not be left behind.
- 5.1.4 This study also is expected to contribute to the literature on digital financial literacy amongst the B40 group and the theory that have been referred which are Technology Acceptance Model ("TAM") and Theory of Planned Behaviour (TPB).

5.2 RECOMMENDATION FOR FUTURE STUDY

This study has been carried out based on previous research with the main intention to measure the level of digital financial literacy amongst the B40 income group in Malaysia and determine the factors that may influence their literacy level. The author really concerned on the reachable of this technology to the financial inclusion particularly B40 income group. Despite that the result shows a positive outcome on the level of digital financial literacy amongst the target group, there are still a few limitations found which may need further and deeper interrogation particularly in regards to the influencing factors that affect the level of literacy. As such, the author would like to recommend on the followings:

- 5.2.1 To conduct study by using the other different independent variables such as to measure the factors that influence the level of digital financial literacy on the B40 group.
- 5.2.2 To widen the number of respondents to thoroughly determine the effect of independent variable towards the dependent variable.
- 5.2.3 To determine which range of age contributes the higher level of digital financial literacy.
- 5.2.4 To appropriately control the sample and method use in obtaining the data to ensure that the answerable question is filled by the eligible respondents who meet the targeted criteria.

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