UNIVERSITI PUTRA MALAYSIA

DETERMINANTS OF FINANCIAL VULNERABILITY AMONG CREDIT COUNSELLING AND DEBT MANAGEMENT AGENCY CUSTOMERS

CHONG KOK FEI

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DETERMINANTS OF FINANCIAL VULNERABILITY AMONG CREDIT COUNSELLING AND DEBT MANAGEMENT AGENCY CUSTOMERS

By

CHONG KOK FEI

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Doctor Philosophy

January 2021

DEDICATION

This thesis is dedicated to my Late Mother, Madam Lee Yeon Moy
She always remind to be the better person to contribute to the society and that is the reason for my existence.

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

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January 2021

Chairman : Professor Mohamad Fazli bin Sabri, PhD
Faculty : Human Ecology

During the turbulent time where financial and economic are being unstable, a growing number of households are facing difficulties in making ends meet and not resilient to cope with unexpected expenses. These households are deemed to be financially vulnerable, and the financial vulnerability of households can exert undesired impacts on economic growth and societal problems. In order to curb the financial vulnerability issue, the primary objective of this study is to investigate the factors influencing financial vulnerability among Malaysian households. Two theories, namely family resource management model and self-efficacy theory were employed to serve as the basis of the research fieldwork. Four factors were proposed as relevant elements in the process of reducing financial vulnerability. This study proposes the input (i.e., self-efficacy, financial literacy, gender, and age), throughput (i.e., financial behavior) and output (financial vulnerability) mechanism. In addition, this study further examines the moderating effect of self-efficacy in the relationship between financial literacy and financial behavior.

In terms of data collection, a multi-stage random sampling technique was used to sample a total of 640 usable responses from AKPK centers in Malaysia. After discarding unusable responses, the collected data was analyzed using Partial Least Square Structural Equation Modeling (PLS-SEM). The study followed standard of PLS-SEM guideline by examining measurement model before proceeding to structural model. The results indicated all the measurements were satisfactory in terms of reliability and validity. The model explained sufficient variance of financial vulnerability (R^2= 0.292). Results indicated that gender (β= -0.07, $p \leq 0.05$) and self-efficacy (β= 0.44, $p \leq 0.05$) significantly influences financial behavior. Financial behavior negatively influences financial vulnerability (β= -0.54, $p \leq 0.05$). The mediating effect of financial behavior in the relationship between self-efficacy and financial vulnerability was identified (β= -0.24, $p \leq 0.05$). The finding supports the

moderating effect of self-efficacy in the relationship between financial literacy and financial behavior ($\beta= 0.12$, $p\leq 0.05$), indicating that the relationship between financial literacy and financial behavior is stronger when self-efficacy of Malaysian households is high. Other than that, the relationship between financial literacy and financial vulnerability was not significant ($p\geq0.05$).

The findings obtained from the analysis were in good agreement with relevant theories, and adds to the findings of previous studies. Besides offering some important implications to the scholarly works, this study also provides a predictive model that presents insightful implications for households and policy makers, particularly regarding the important yet overlooked role of self-efficacy and overrated role of financial literacy. Lastly, limitations of the study and recommendations for further research were outlined.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

PENENTU KERENTANAN KEWANGAN DALAM PELANGGAN AGENSI KAUNSELING DAN PENGURUSAN KREDIT PELANGGAN

Oleh

CHONG KOK FEI

Januari 2021

Pengerusi : Profesor Mohamad Fazli bin Sabri, PhD
Fakulti : Ekologi Manusia

Dalam masa bergolak di mana kewangan dan ekonomi tidak stabil, semakin ramai isi rumah menghadapi kesukaran untuk memenuhi keperluan dan tidak berdaya tahan untuk menanggung perbelanjaan luar jangka. Isi rumah ini dianggap terdedah kepada kerentanan kewangan dan isu kerentanan kewangan boleh menyebabkan kesan negatif terhadap pertumbuhan ekonomi dan masalah sosial. Untuk mengatasi masalah kerentanan kewangan, objektif utama kajian ini adalah untuk mengkaji faktor yang mempengaruhi kerentanan kewangan dalam kalangan isi rumah di Malaysia. Dua teori, iaitu Model Pengurusan Sumber Keluarga dan Teori Efikasi Kendiri digunakan sebagai asas kepada keranga kajian. Empat faktor telah dicadangkan sebagai unsur relevan dalam proses mengurangkan kerentanan kewangan. Kajian ini mencadangkan input (efikasi kendiri, literasi kewangan, jantina, dan umur), truput (tingkah laku kewangan) dan output (kerentanan kewangan) mekanisma. Di samping itu, kajian ini mengaji kesan moderasi dalam hubungan antara literasi kewangan dan tingkah laku kewangan.

Dari segi pengumpulan data, persampelan rawak berlapis digunakan untuk memperolehi seramai 640 responden dari cawangan Agensi Kaunseling dan Pengurusan Kredit (AKPK) di Malaysia. Data dianalisis dengan menggunakan *Partial Least Square Structural Equation Modeling (PLS-SEM)*. Kajian ini mengikuti standard tertinggi PLS-SEM dengan memeriksa model pengukuran sebelum meneruskan ke model struktur. Hasil kajian menunjukkan semua pengukuran memuaskan dari segi keboleh percayaan dan kesahan. Model kajian menjelaskan varians yang mencukupi terhadap kerentanan kewangan (R2= 0.292). Hasil kajian menunjukkan bahawa jantina (β= -0.07, $p \leq 0.05$) dan efikasi kendiri (β= 0.440, $p \leq 0.05$) mempengaruhi tingkah laku kewangan secara signifikan. Tingkah laku kewangan mempengaruhi kerentanan kewangan secara negatif (β= -0.54, $p \leq$ 0.05). Kesan mediasi tingkah laku kewangan dalam hubungan antara efikasi kendiri

and kerentanan kewangan telah dikenalpasti (β= -0.24, $p \leq 0.05$). Hasil kajian menyokong kesan moderasi efikasi kendiri dalam hubungan antara literasi kewangan dan tingkah laku kewangan (β= 0.12, $p \leq 0.05$), menunjukkan bahawa hubungan antara literasi kewangan dan tingkah laku kewangan lebih kukuh apabila efikasi kendiri isi rumah Malaysia tinggi. Selain itu, hubungan antara literasi kewangan dan kerentanan kewangan didapati tidak signifikan. ($p \geq 0.05$)

Hasil kajian yang diperolehi daripada analisis menyokong teori berkaitan, dan menambah ilmu baru kepada kajian lepas. Selain menawarkan implikasi penting terhadap karya ilmiah, kajian ini juga menyediakan sebuah model ramalan yang mempunyai implikasi kepada isi rumah dan pihak penggubal polisi, terutama mengenai peranan keberkesanan diri yang penting namun diabaikan dan peranan literasi kewangan yang diberi perhatian berlebihan. Akhir sekali, batasan kajian dan cadangan untuk penyelidikan masa depan turut dibincangkan

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To my family and friends, especially to my wife, Tan Seok Peng, my father Chong Sen Foo for the trust they have bestowed onto me.

Finally, the respondents who provided valuable information essential for the completion of this study.

This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirements for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

According to the recent report released in year 2019 by International Monetary Fund (IMF), global economic growth remains suppressed, due to the trade war between two economic entity in the world, the United States and China (International Monetary Fund, 2019). More specifically, the downside forecast further indicates the financial vulnerabilities piled up after years of low interest rates, disinflationary pressures that heighten debt service difficulties, and constrain monetary policy. All of these have rendered households to be more vulnerable to adverse financial shock. More importantly, the emerging market and developing economy group have received downward revision of growth forecast, they are expected to grow at 0.3 and 0.1 percentage point lower in year 2019 and 2020, respectively (International Monetary Fund, 2019).

Although not being the absolute measure of economic well-being and people welfare, GDP is adequately useful to indicate a great deal of information related to welfare (Dynan and Sheiner, 2018). As illustrated in Figure 1.1, GDP growth rate of Malaysia has been on a declining trend since 2018. The third quarter of 2019 shows the weakest GDP growth due to the heightening global uncertainty and ongoing trade tensions. The unfavourable global economic outlook and rather weak GDP pose further threat to households' financial stability and life satisfaction, rendering them vulnerable than ever (Arampatzi, Burger, and Veenhoven, 2015)

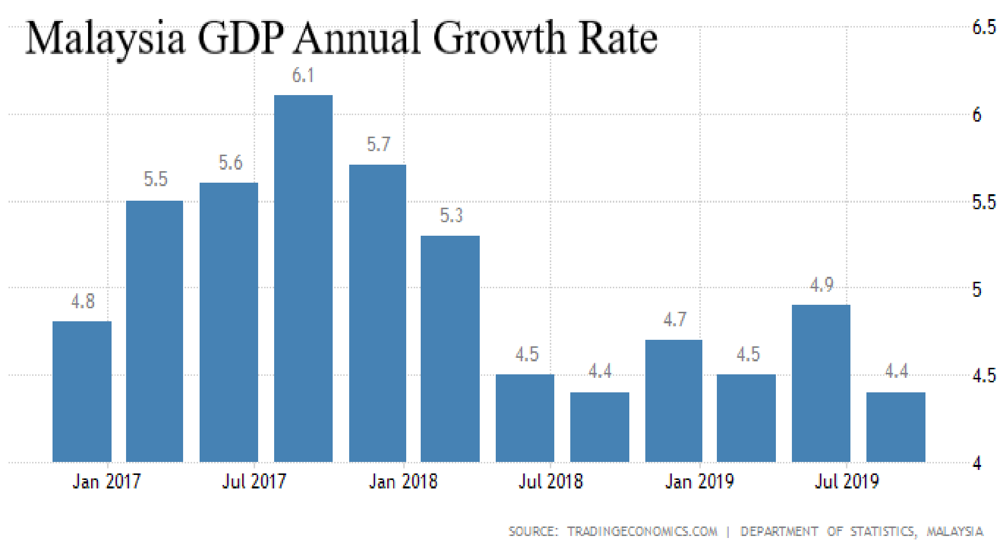

Figure 1.1 : Malaysia GDP Annual Growth Rate
(Adopted from Department of Statistics, Malaysia)

As shown in Figure 1.2, in Malaysia, household debt to the country's gross domestic product (GDP) has been kept in the moderate level in the past few years, economists and analysts cautioned this phenomenon should still be given attention. It is important to note that Malaysia's household debt reached 82.2% of GDP in 2019, which tops in Asia and surpassed few high-income countries such as United States (75.0%) and Japan (58.2%) (Dhesi, 2019).

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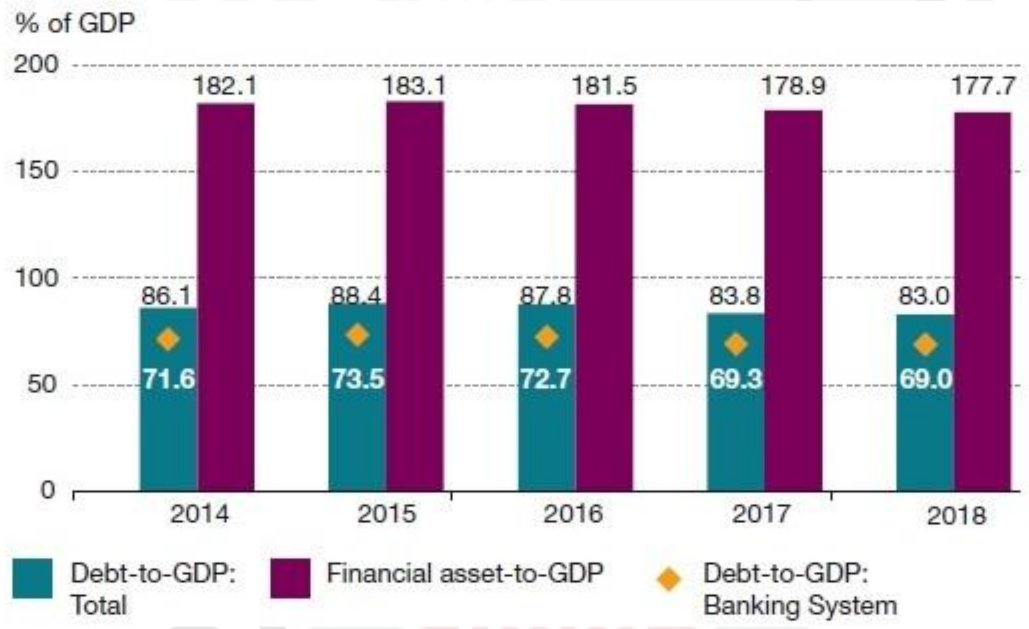


Figure 1.2 : Household Sector Key Ratios
(Adopted from Tan 2019)

Poverty and financial vulnerability in developing countries are among the top topics of focal among Millenium Development Goals (MDGs) of the United Nations due to their impacts on well-being (Mamun et al., 2018). According to the World Bank, the rising cost of living remains a primary concern for Malaysian public and the government. The main reasons behind included inadequate of affordable housing, the worrying level of household debt, lagging salary in some sectors and food price inflation (Loke, 2017b). In dealing with the issue of poor personal finance management among Malaysian households, several agencies have been set up by the government. For instance, online portals, such as www.bankinginfo.com.my, www. insuranceinfo.com.my and www.duitsaku.com have been introduced by Bank Negara Malaysia (BNM) as personal financial information sources accessible to Malaysia public. Besides, in year 2006, a credit counselling agency, known as

Agensi Kaunseling dan Pengurusan Kredit (AKPK) has been established to offer financial information and debt rescheduling plan for the public as well as individuals who face financial problems (Ali, Rahman and Bakar, 2015).

It is important for Malaysia to curb the issue of financial vulnerability on the path of progression towards high income nation (Loke, 2017a). It has been reported that 76% of Malaysians are not able to raise immediate cash of RM1000 when facing emergency (Financial Stability and Payment Systems Report, 2015), suggesting poor financial resiliency among Malaysian households. In many instances, Malaysians tend to rely on suboptimal practices such as reduce spending, borrow from friends and family members, and depend on credit cards and instalment plans (Ruxyn, 2017). Ideally, Malaysian households should possess adequate financial buffer to cover living expenses of at least three to six months in case of loss of income. Also, it has been shown that Malaysians are vulnerable group prone to financial frauds and scams due to unsound financial practices (Ruxyn, 2017). In a similar vein, Malaysian working households are claimed to be finally vulnerable and needed immediate attention from pertinent authorities. A report by AKPK indicated that considerable number of Malaysian working households are unable to make ends meet, stressing with financial matters, and lacking of financial resilience (AKPK Financial Behaviour Survey, 2018).

The financial astuteness of households is vital to make welfare-reducing decisions. Therefore, the roles of financial literacy and personal financial management becomes remarkably vital among households in today economics. Individuals need to make numerous financial decisions across their lifetime, with longer life expectancy and introduction of wide range of new financial products (Lusardi, 2019). Such trend coupling with the low financial literacy level at globe, particularly among the vulnerable groups, has driven the importance of improving individuals' financial literacy and financial behaviour (Lusardi, 2019). Participating and accessing to financial market and other related financial products is risky, especially when households are not equipped with appropriate level of financial literacy and skill (Chu, Wang, Xiao, and Zhang, 2017). This is because financial decisions at any phase in life can exert lasting impacts on individual and the household (Henager and Cude, 2016).

The economic downturn, which known as the Great Recession, has magnified overall awareness of financial illiteracy and its impact on our economy. The problem appears to be a global phenomenon, of which studies have indicated that low level of financial preparedness is widespread across age groups and geographical areas (Mandell and Klein, 2009; OECD, 2019). The issue of low financial literacy affects both developed countries and developing countries, although the situation is deemed worse in the latter. For example, a recent study found that respondents in developed countries lack basic financial literacy, of which many of them cannot answer simple questions on basic finance-related questions, such as interest rates and inflation (Mitchell and Lusardi, 2015). The problem is widespread among average households in the United States and Europe (Lusardi and Mitchell, 2014; Tang and Baker, 2016).

Besides that, it has been reported that financial literacy level is considerably lower in developing countries with lower-income economies and in the progression of economic transitions compared to industrial economies (Klapper and Lusardi, 2019; Stolper and Walter 2017). Making sound financial decision is particularly important to households in the emerging economies, such as Asia, of which these economies are undergoing heavy economical structural transition (Grohmann, 2018). This is also unsurprising that financial literacy among Malaysians is considered lower compared to many other countries in the world (Yong, Yew, and Wee, 2018). For instance, Ali et al. (2015) found that in general, Malaysians have poor understanding on compound interest, which explain their failure in managing credit card loans.

1.2 Problem Statement

Inefficiency in managing loan results in bad financial outcome such as bankrupt. Particularly in Malaysia, the rate of non-performing loans credit card uses and personal loans have turned worse from year to year, threatening the financial condition of many households (Ali et al., 2015). The number of bankrupt Malaysians is alarming. From year 2015 to 2019, a total number of 80,625 Malaysians have declared bankrupt (Carvalho, Sivanandam, Rahim and Tan, 2019). The bankruptcy rate of Malaysia, 0.36% is higher compared to that of developed countries such as Singapore with 0.31% and the United Kingdom, with 0.23% (Gazi, 2018). Excessive household debts have been a concern in Malaysia for the past few years. The issue is particularly worrying, given that the debt level sits top among other neighbouring countries such as Indonesia, Thailand, and Singapore (Loke, 2017b). Besides, debt service ratio of 44.2% has been reported, suggesting that nearly half of the households' monthly income is used to settle debt payments (Loke, 2017b). This can be understood based on OCED report in 2019, showing the sharp rise in debit card ownership in Malaysia from 41% to 74% (Abdul Hamid, Ho and Ismail, 2019).

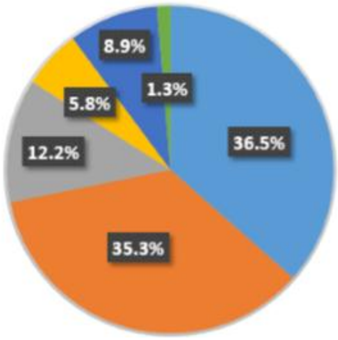
Aside from the household financial issue mentioned above, country's economic issue contributes to the financial vulnerability of Malaysian households as well. For example, Malaysia is still facing significant inflationary pressures with the lower global oil prices and as well as weaker demand (Bank Negara Malaysia, 2020). Accodring to AKPK survey conduct for Malaysian working adults there are 3 out of 10 persons responded that they have to borrow to buy essential goods (AKPK, AFBeS'18, 2019). The rising cost of living has further burdening Malaysian working adult to support their daily living expenses and it becomes essential to monitor their expenses with appropriate money management and spending habit to keep track with the challenges.

Moreover, the rise in property prices continue to exert extra pressure to Malaysian households, especially those in the lower income group, where high mortgages rate put them into a notably undesirable position in dealing to potential financial shocks (Loke, 2017b). This is partly due to the fact that housing loans have been made easier to access given the wide availability of various loan assistance schemes (Loke, 2017b). In Asian culture, people have high intention to buy rather to rent the house and desire to have ownership of a property as an asset, (Justin 2007). Most oftern, Asian see housing ownership is an important indicator for social sustainability (Xiao et al. 2016) and therefore will grap opportunity to buy the houses without clearly understand their financial capability. High accessibility compels households to misjudge their financial ability and thus easily fall in the trap of debt.

Furthermore, household financial vulnerability can be exacerbated due to macro environment issues, such as weaker global economic growth prospects (Bank Negara Malaysa, 2020). Particularly, according to the latest report in 2020 released by Bank Negara Malaysia, Malaysian households need to be prepared to embrace the impact of sharp contraction in economic activities in 2020 and the year after due to weak global demand and domestic containment for Covid-19 pandemic. Apparently, this will add further risk and burden to the already fragile financial situation of the country as well as Malaysian households. The statistics above clearly hinting that Malaysia households are facing potential financial vulnerability.

Leaving the financial vulnerability issue unsolved can have considerable negative impacts on households, society, and country (He, Derfler-Rozin and Pitesa, 2019; Loke, 2016). At individual level, French and McKillop (2017) and Richardson, Elliot, Roberts, and Jansen (2016) found that one placed in financial vulnerability can have serious mental and physical health implications, such as depression and likelihood of having body pain problems. Financial vulnerability can affect the normal function of a society. Carrying excessive household debt weaken the private consumption, this is even truer and serious during an economic downturn. In addition, difficulty in servicing debt repayment can impacts the performance and functional system of financial institutions (Loke, 2017a). Besides that, potential consequences at the country level included exacerbated business cycles, inequality in the distribution of income and wealth, and inflation (Mandell and Klein, 2009).

In curbing the threat of weak household financial stability, an agency has been established by the Bank Negara Malaysia (BNM), namely Agensi Kaunseling dan Pengurusan Kredit (AKPK). Another government agency is Malaysian Department of Insolvency (MDI) under supervision of Ministry (Legal) Under Prime Minister Office. According to the report by the Malaysian National Credit Counselling and Debt Management (CCDM) or better known as Agensi Kaunseling dan Pengurusan Kredit (AKPK), 1,002,660 persons (as at 31 October 2019) have attended the service by AKPK, and 298,710 have enrolled into the debt management program as a way to restructure and manage current personal debt issue. Debt Management Programme (DMP) is a customised programme for public who facing financial difficulty to repay their instalment to the financial institution. Once AKPK credit counsellors had work with their customer to develop a personalised debt repayment plan in consultation, then AKPK will seek for an agreement with financial service providers. The main reasons for people enrolment into debt management programme is poor financial planning and high cost of living (AKPK, DMP Media Fact Sheet, 2019).



Description	%
Poor financial planning	36.5
High Cost of Living	35.3
Failure/ slowdown in Business	12.2
High medical expenses	5.8
Lost job/ retrenched/lost of breadwinner	8.9
Others	1.3
TOTAL	100.0

However, the continuous growth of number of bankruptcies cases and various personal finance problems indicating there are more works waiting to be done. What are the important factors leading or preventing households' financial vulnerability?

The demographic profiles of households, namely gender and age have been the most prominent factors that influence financial behaviour. Although inconclusive results have been evidenced for their effects in studies based in different context, the literature generally acknowledge the role of demographic profiles in studying personal finance. Gender differences have been identified in several forms of financial behaviour, such as trading behaviour, saving behaviour, spending behaviour, budgeting and henceforth (Aw, Cheah, Ng and Sambasivan, 2018; Lind et al., 2020; Sabri, Wijekoon, and Rahim, 2020; Yusof and Sabri, 2017). In the context of Malaysia, some studies indicated males are more financially vulnerable than females (Loke, 2016). Thus, a question arises: Do males and females engage differently in financial behaviour? In line with Nitani, Riding and Orser (2019), this study seeks to address the question by examining gender differences in financial behaviour. In a similar vein, the report by AKPK Financial Behaviour Survey (2018) revealed that Malaysian households in different age groups tend to exhibit dissimilar financial behaviour, which could lead to different financial-related outcomes. For example, in a Malaysia context, Aw and Sabri (2020) found that age impacts how a household handle finance-related matter. Therefore, the inclusion of age in studying financial behaviour is warranted and potentially present useful implications for managerial practices.

Adhering to the suggestion of Yong et al. (2018), a comprehensive model encompassing literacy and behaviour and outcomes is needed to better understand the causal mechanism on how financial literacy curb financial vulnerability. Upholding the notion of "knowledge is wealth", it make senses to elevate literacy as way to help households breaking away from poverty or financial vulnerability. According to the 2019 report by Khazanah Research Institute, households in lower wealth stratum is are typically those who attained lower educational level (Abdul Hamid et al., 2019), and Malaysia government is trying to solve this through elevate their education level, aiming at increase literacy. Interestingly, in Malaysia, it has been found that people with higher financial literacy can still fall into the trap of financial difficulties (Loke, 2015), further indicating that the inter-relationships between financial literacy and financial vulnerability has yet to be fully understood.

Ali et al. (2015) suggested to incorporate financial literacy and financial behaviour simultaneously in a single model in examining related outcomes. Sabri and MacDonald (2010) stressed that the understanding of financial literacy is paramount because it will be useful in preparing Malaysians in effectively dealing with financial problems.

Current academic literature and policy implementation largely focused on the impartment of financial education as mean to improve financial well-being and resolve financial vulnerability. Along this stream of idea and practices, many researchers have extensively sought to understand way to increase financial literacy rates (Huston, 2010). However, in many instances, financial literacy is sufficient but not necessary condition to sound financial behaviour that desired by scholars, policymakers or educators. Researchers have started to questioning the decisive role of financial literacy, and argued that financial literacy is one of the human capitals that possibly facilitate appropriate financial behaviour but does not ensure its occurrence (Huston, 2010). Recently, financial behaviour has been advocated as an area deserving more attention from the personal finance literature, probably more so than financial literacy. Based on the report by AKPK in 2018, only a quarter (24%) Malaysian working adults score good and exemplary score range in terms of financial behaviour. In addition, the report also showed that poor financial behaviour (i.e., poor financial planning) is the top factor why people have to enrol in debt management program. Correspondingly, a recent study by Kimiyagahlam, Safari, and Mansori (2019) outlined that financial behavioural factor is important in determining success of transition to retirement of Malaysian adult workers. Therefore, the present study is to examine the mediating effect of financial behaviour to understand the impact between financial literacy and the outcome of financial vulnerability stated in the research model .

Apart from the role of financial literacy, individual differences have not been given ample attention despite their relevance to the financial behaviour and related financial outcomes. For instance, lack of confidence within an individual is related to higher debt burdens, defaults and delinquency (Disney and Gathergood, 2013). According to a Malaysia context study by Sabri et al. (2020), financial self-efficacy manifests capability belief and self-control with finance, determine the financial well-being of employees. Also, self-efficacy helps to encounter negative financial behaviour (Hadar, Sood, and Fox, 2013). These studies indicate the important yet insufficiently attended role of self-efficacy in the personal finance literature, and therefore useful and necessary to be included in the research model.

Besides investigating the direct effect of self-efficacy on financial behaviour, the present study aims to examine the potential moderating role of self-efficacy. According to Baron and Kenny (1986), a moderator is a variable that determines the direction or strength of the relationship between an independent variable and a dependent variable. As asserted by Cohen, Cohen, West, and Aiken (2003), identifying relevant moderating effects is at the heart of theory in social science because human behaviours are complex, and often insufficiently explained by simple direct effect. Due to the reason that self-efficacy determines how an individual approaches financial literacy and financial management (Farrell, Fry and Risse, 2016; Lim, Heckman, Montalto and Letkiewicz, 2014; Postmus, Plummer, McMahon and Zurlo, 2013), it is reasonable to examine whether self-efficacy as an intra-personal variable could affect how one can leverage and utilize their financial literacy to foster financial behaviour.

On top of that, there is a need for the existing literature to go beyond often assumed simplistic direct effects of financial literacy and self-efficacy on individual financial-related outcomes (Perry and Morris, 2005). To clarify, mediation effects are evidenced when an independent variable leads to the dependent through the effects of a mediator variable (Baron and Kenny, 1986). Understanding mediation, the causal mechanism of how financial literacy and self-efficacy works is a paramount research gaps present in the personal finance literature (Carpena and Zia, 2020). Often time, omitting the importance of mediation has led researcher in reaching erroneous conclusion (Kim et al., 2018). For example, in the personal finance literature, mixed findings have been evidenced with regards to the effect of financial literacy on financial-related outcomes (e.g., well-being and retirement planning) (Adam, Frimpong, and Boadu, 2017; Pandey, Ashta, Spiegelman, and Sutan, 2020). Therefore, investigating the mediation mechanism potentially yields insightful evidences and a more comprehensive view pertaining to the effects of financial literacy and self-efficacy.

In conclusion, many Malaysian households are doubtlessly facing financial vulnerability, in view of the threat from macro-environment, inadequate level of personal financial literacy, as well as questionable financial behaviour upheld. However, little has been made known about households' financial status (Kabadayi and O'Connor, 2019). In order to grasp a better understanding to this matter, this study seeks to understand the inter-relationships between financial literacy, financial behaviour, and financial vulnerability. Moreover, this study aims to incorporate the potential role of psychological variable, such as self-efficacy in the model to offer an in-depth understanding to the issue and body of knowledge.

1.3 Research Questions

The research questions to be answered in present study are as follow:

i) Does demographic factors (gender and age) influence financial behaviour?
ii) Do financial literacy and self-efficacy influence financial behaviour?
iii) Does financial behaviour influence financial vulnerability?
iv) Does financial behaviour mediate the relationships between financial literacy and financial vulnerability?
v) Does financial behaviour mediate the relationships between self efficacy and financial vulnerability?
vi) Does self-efficacy moderate the relationship between financial literacy and financial behaviour?

Hypothesis	Description
H1	Being male is positively associated with better financial behavior.
H2	Age positively influences financial behavior.
H3	Financial literacy positively influences financial behavior.
H4	Self-efficacy positively influences financial behavior.
H5	Financial behavior negatively influences financial vulnerability.
H6	Financial behavior mediates the relationship between financial literacy and financial vulnerability.
H7	Financial behavior mediates the relationship between self-efficacy and financial vulnerability.
H8	Self-efficacy moderates the relationship between financial literacy and financial behavior.

1.4 Research Objectives

The main objective of this study is to determine the factors influencing financial vulnerability among Malaysian households. Several specific research objectives are listed as below:

i) To determine the impact of demographic factors (gender and age) on financial behaviour.
ii) To examine the impact of financial literacy and self-efficacy on financial behaviour.
iii) To identify the impact of financial behaviour on financial vulnerability.
iv) To investigate the mediating effect of financial behaviour in the relationship between financial literacy and financial vulnerability.
v) To determine the mediating effect of financial behaviour in the relationship between self-efficacy and financial vulnerability.
vi) To explore the moderating effect of self-efficacy in the relationship between financial literacy and financial behaviour.

1.5 Scope of Study and Delimitation

Firstly, although there are other different financial-related outcomes, such as financial well-being and financial satisfaction, the present study focuses only on financial vulnerability because the construct has received less attention in the literature despite of its importance and relevance to Malaysian households. Secondly, the respondents of this study are limited to people who attend to AKPK services, which restrict the ability to generalize the findings. However, the approach in selecting respondents are valid and aligned with the objective of this study because the respondents who attend to AKPK service are likely to face financial related problems, which reflect the dependent variable of this study, financial vulnerability

1.6 Significance of Study

The findings of this study are expected to contribute in terms of theoretical and practical aspects. First and foremost, the findings are expected to advance the theoretical understanding of factors influencing financial vulnerability. In particular, scant studies have been done in the related area. This study answers questions raised by prior literature: "Does financial literacy necessary results in financial behaviour?". In addition, this study contributes my adding the self-efficacy construct in the model, which has yet to be explored extensively in the literature. Inclusion of the self-efficacy construct verify the effect of psychological individual differences on households' financial behaviour and financial vulnerability. On top of that, few studies have examined the effect of financial behaviour on financial vulnerability, which present a theoretical gap this study seek to addressed.

Moving forward, this study potentially contributes to the theoretical knowledge by examining the mediating effect of financial behaviour in the relationship between financial literacy, self-efficacy, and financial vulnerability. Thus far, very little studies have explored the mediating role of financial behaviour. Through the examination of mediation effect, this study can provide more in-depth understanding on how financial literacy and self-efficacy help to curb financial vulnerability.

As asserted by Cohen et al. (2003), identifying relevant interaction effects is at the heart of theory in social science. In order to advance theory, there is a need for understanding on relationships between variables which go beyond the simplistic argument of "it depends" (Anderson et al., 2014). Therefore, this study seeks to offer theoretical contribution by examining the moderating role of self-efficacy in the relationship between financial literacy and financial behaviour. If the results turn out to be significant, the present study can provide empirical evidence regarding the complex inter-relationships between financial literacy, self-efficacy, financial behaviour, and financial vulnerability, uncovering more advance knowledge beyond simple direct effects.

In terms of practical significance, relevant authorities such as *Bank Negara Malaysia* and *Agensi Kaunseling and Pengurusan Kredit* (AKPK) can make use of the findings from present study in order to provide the most effective interventions or services to general public and those in needs. More specifically, the authorities can obtain a clearer picture of what cause and how to prevent household financial vulnerability, thus they are enabled to develop better programs and policies. Moreover, if the results are significant, the current financial-related interventions and programs should probably direct their focus not only on increasing households' financial literacy but also developing households' self-efficacy, which have been overlooked in the past.

1.7 Definition of Terms

In this section, definition of important terms used in this study is categorised into two, namely conceptual definition and operational definition. The following terms are defined according to the context of the study.

Financial Literacy

Conceptual: Financial literacy refers to the knowledge of financial products and financial concept possessed by an individual which enable him or her to make effective financial decision making (Hastings, Madrian, and Skimmyhorn, 2013).

Operational: Financial literacy is measured by using questions in true-false format, which developed by Malaysian Financial Planning Council (2018) and Sabri, MacDonald, Hira, and Jariah (2010). Several aspects of financial literacy is covered, such as cash flow management, debt management, retirement planning, risk management, Islamic finance products, taxation and estate planning.

Self-efficacy

Conceptual Definition

Self-efficacy refers to a person's belief in his or her ability to carry out a particular task or behaviour (Bandura, 1997).

Operational Definition

Self-efficacy is measured through the new general self-efficacy scale developed by Chen, Gully and Eden (2001), capturing individual trait differences in terms of their belief in self-capability in meeting situation demands.

Financial Behaviour

Conceptual Definition

Financial behaviour refers to specific behaviour that is related to money management (Chen and Lemieux, 2016; Xiao, 2008). It is generally conceptualized as a multi-faceted construct covering different behaviours performed by individuals in relation to financial matter (Jorgensen et al., 2017).

Operational Definition

Financial behaviour is manifested and measured in five dimensions, namely cash management, credit management, retirement planning, estate planning, and risk management.

Financial Vulnerability

Conceptual Definition

Financial vulnerability refers to a person's inability in sustaining stable financial conditions (Anderloni, Bacchiocchi, and Vandone, 2012). According to Daud et al. (2019), the term "financial vulnerability" is applied interchangeably with other terms such as financial fragility, financial distress, as well as financial debt burden.

Operational Definition

Financial vulnerability is measured by the perceived stability financial condition in terms three dimensions, namely saving, consumption expenses, and debt services (Anderloni et al., 2012).

1.8 Organisation of Thesis

The thesis is organized in five chapters. Chapter 1 provided introduction to the background of study, concerning the global and domestic economic situations. The problem statement highlights the financial threats faced by Malaysian households and shortcoming in handling and investigating the financial vulnerability problem. Subsequently, research questions were formed, followed by respective research objectives. Finally, significance of study and definition of terms were presented.

Chapter 2 provide a thorough literature review on variables involved in the present study, namely financial literacy, self-efficacy, financial behaviour, financial vulnerability, and several demographic variables, such as gender and age. In addition, theories adopted was discussed in detail, followed by the development of research model.

Chapter 3 outline the research methodology employed to answer the research objectives of this study. The chapter encompasses discussion on research design, sampling technique, data collection method, and research instruments. Data analysis used, Partial Least Square Structural Equation Modelling (PLS-SEM) was explained subsequently.

Chapter 4 showed the analysis involved, such as descriptive analysis and PLS-SEM in accomplishing research objectives. The results were presented for descriptive analysis of respondent’s profile, descriptive analysis on level of financial literacy, self-efficacy, financial behaviour, and financial behavior. PLS-SEM analysis are generated for the purpose of direct, mediating and moderating effects.

Chapter 5 presented the overall summaries of the present study of the major findings and discusses the various perspective example of theoretical and practical implications of the present study. In this chapter, the present study also provide the insightful information by providing the limitations and recommendations for the purpose of future studies.

1.9 Summary

The first chapter explained in detail the purpose and the background of the present study which is targeted to various financial issues facing by Malaysian households typically for the customers who seeking the services of Credit Counseling and Debt Management Agency. Following later with the problem statement was presented which explained the existence of the present study and discussing the reasons why the present study is needed to be conducted. Of course, the present study conducted is aligned with the research questions and research objectives which were presented in the chapter. The scope of study was defined in order to conduct an effective study to answer the research purpose. Following by the theoretical and practical significance of study were presented for the purpose of more insightful information to answer the need of the present study. Lastly, the present study also provide the definition of terms to provide the greater clarity and perhaps to assist for better understanding to the specific terms used throughout the thesis prepared.

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LIST OF PUBLICATIONS

Chong Kok Fei, Mohamad Fazli Sabri1, Nor Aini Mohamed , Rusitha Wijekoon & Majid A.Z.A, 2020, Determinants Of Financial Vulnerability Among Young Employees In Malaysia, JOURNAL OF CRITICAL REVIEW, vol. 7, Issue 15

Kok Fei CHONG, Mohamad Fazli SABRI, Amirah Shazana MAGLI, Husniyah ABD RAHIM, Nuradibah MOKHTAR, Mohd Amim OTHMAN Article Title: “The Effects of Financial Literacy, Self-Efficacy and Self-Coping on Financial Behavior of Emerging Adults”, Journal of Asian Finance, Economics and Business Volume 8 Issue 3