Keynote Paper

FINANCIAL VULNERABILITY AMONG MALAYSIANS AMID COVID19[1]

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INTRODUCTION

Studying consumer behaviour is important to comprehend the factors of consumers' buying decision. Consumer buying behaviour is said to be largely influenced by economic factors (Ramya and Ali, 2016). One of the economic factors is financial status. Consumer often relate and evaluate their financial status whenever they make decision to purchase. Owning monies can be a safety net, and without monies, one tends to feel anxiety and panic. The feeling of anxious and lack of confidence in financial may be one of the symptoms of financially vulnerable. One is said to be financial vulnerable when he/she is uncertain about what will happen in the future due to financial instability.

Self-consciousness, on the other hand, appears to influence consumer decision-making when it comes to product or brand choosing. Individual personalities, as well as variances in consumer behaviour and decision-making, have gotten a lot of attention from studies. Previous studies have found that there is a link between people's personalities and their buying behaviour. This influence however varies depending upon the person's susceptibility to interpersonal influence (or SUSCEP) (Franck et al., 1999). According to Lertwannawit and Mandhachiatra (2012), those who have high SUSCEP are expected to prefer brands that manifest desirable traits for others to see and have a strong

Furthermore, customer purchase behaviour appears to be influenced by easy/online payment. This is backed up by Egor K. (2020), who claimed that there is a link between the adoption of financial innovations and the frequency of cashless transactions. Consumers should have a reason for preferring online payment over traditional payment

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methods. Switching behaviour is positively correlated with both privacy concerns and monetary benefits of alternatives (Le Wang et al., 2019).

Since the 2008 financial crisis, the Covid-19 pandemic has posed the greatest challenge to the global financial system. Consumers and small companies have been put under financial strain as a result of the Covid-19 epidemic. Financial vulnerability is becoming a growing problem for a variety of parties, as they must be more cautious in their expenditures. Financial vulnerability refers to a state of financial insecurity as a result of exposure to financial risk and shock (Poh and Sabri, 2017).

People with a high level of financial vulnerability are more likely to suffer financial difficulties, such as being unable to pay their living expenses, having insufficient savings, or being unable to deal with an emergency. These individuals are more likely to alter their existing spending habits in order to keep their financial situation as secure as feasible. As a result, consumer behaviour plays an important part in causing financial fragility. Sri Noerhidajati et al. (2020), who argued that financial vulnerability is substantially influenced by finance-related behavioural characteristics, back this up.

RESEARCH OBJECTIVES

The main objective of this research is to provide insights pertaining to consumer behaviour and financial vulnerability among Malaysians particularly during the current health crisis, the Covid-19 pandemic.

MOTIVATION FOR RESEARCH

The Covid-19 has had a negative impact on the world, including Malaysia, and the government's following mobility limitations to flatten the pandemic's curve indicate a worsening not only in health but also in people's economic and financial situations. Since the outbreak began over a year ago, Malaysia has been through three iterations of the Covid-19 limitations. Malaysia reported roughly 345,500 confirmed cases and 1,482 deaths from the virus as of the end of March 2021. As a result, from the recent pandemic situation, a growing number of Malaysians are suffering from economic hardship, financial loss, and diminished prospects.

According to Lin (2021) of The Edge Markets, Malaysia's gross domestic product (GDP) dropped by 5.6 percent in 2020 as a result of many months of movement restrictions and business closures, the largest recession since the Asian Financial Crisis in 1998. The household debt-to-GDP ratio in the country has reached 93.35 percent. According to Chua (2021) of Free Malaysia Today, the figure is deemed high, but economists say it is not cause for concern because most households are able to repay their loans.

Nonetheless, the authorities' main concern is the vulnerability of lower-income households, which are already financially squeezed and are at risk of defaulting on loans if the pandemic continues and another economic shock occurs in the future. Household debt can impede private consumer spending, especially during a recession (Loke, 2017). Nonetheless, the authorities' main concern is the vulnerability of lower-income households, which are already financially squeezed and are at risk of defaulting on loans if the pandemic continues and another economic shock occurs in the future. Household debt can impede private consumer spending, especially during a recession (Loke, 2017).

In addition, the country's jobless rate increased to 4.9 percent in January 2021, the highest level since 1993, according to the Department of Statistics Malaysia (DOSM). Many Malaysians are facing serious financial difficulties as a result of increased household debts and rising unemployment.

Consumers faced increased self-responsibility for making financial decisions that affected their present as well as future financial well-being prior to the Covid-19 epidemic. Nothing much has changed in Malaysians' financial behaviour, according to the RinggitPlus Malaysian Financial Literacy Survey 2020 (or RMFLS 2020). Given that Malaysians' overall financial literacy remains poor, and nearly 70% of Malaysians require financial assistance (RMFLS 2020), many consumers appear ill-prepared or unable to assume more financial responsibility, particularly in the face of the Covid-19 pandemic. Understanding financial vulnerability among Malaysians in the aftermath of the Covid-19 outbreak is becoming increasingly important in this context.

LITERATURE REVIEW

Financial Vulnerability

In the academic literature, financial vulnerability is a subjective phrase with no clear definition or comprehensive metric (Hoffmann and McNair, 2019). Incapacity to maintain spending, inability to handle unforeseen expenses, debts, or a deteriorating real family net asset to disposable income ratio are all signs of financial vulnerability (Anderloni, Bacchoicchi, and Vandone, 2012; Clercq, van Tonder, and van Aardt, 2015 as cited in Loke, 2017).

Vulnerable consumers, according to Hoffmann and McNair (2019), are particularly vulnerable to financial harm due to a lack of financial literacy or numeracy, excessive debt, poor income, or significant changes in personal circumstances (such as death of a spouse).

The Genworth Financial Vulnerability Index 2013 identified four expected classes of households in terms of future financial position (Hayes and Finney, 2013). The first class is a financial susceptible group is defined as a group of persons who have had financial difficulties in the previous 12 months and do not expect their situation to improve. The second class is strivers group, which are those who have had a financial problem in the last 12 months but are more confident in their ability to solve it. The third class is circumspect group, where a group of people who rarely have financial problems and expect to maintain their current situation. The fourth class is financially secure group, which is a bundle of people who have not had financial difficulties in the previous 12 months and are expecting their financial situation to improve.

Previous studies have found that people in financial distress might have detrimental psychological consequences, such as a reduction in cognitive capacities and an increase in stress levels (Gathergood, 2012; Mullainathan and Shafir, 2013). According to Schwabe and Wolf (2009), stress is known to cause a shift from goal-directed to habitual behaviour, such as saving and managing one's finances. In conclusion, the above research suggests that consumers in difficult financial situations may suffer psychological as well as financial consequences.

A number of previous studies have used two variables to assess financial vulnerability: debt-to-income ratio and emergency funds to buffer income shocks (Hoffmann and McNair, 2019; Loke, 2017; Sri Noerhidajati et al., 2021). The debt-to-income ratio indicates the magnitude of credit exposure and thus the level of vulnerability. The level of emergency savings, on the other hand, reflects the ability to withstand an income shock and thus the potential vulnerability. Although much research has been done on the general rise in debt, there has been less work done on examining individual debt patterns during pandemics and how this aspect predicts Malaysians' financial susceptibility.

Psychological Characteristics

Together with a grouped of industrialised economies, Malaysia is among the top 15 countries with the highest household debt in line with increasing of the cost of living and implementation of taxes in goods and services (Daud et al., 2018). It stocked a hot debate in Malaysia related to determine of financial vulnerability factors and there have been an increasing number of studies showing that financial vulnerability is influenced not only by socioeconomic factors, but also by psychological factors (Anderloni et al., 2012; Daud et al., 2018). Individuals may be influenced by psychological variables to act in ways that are incompatible with traditional nations' economic reasoning (Meier and Sprenger, 2010).

Individuals' financial behaviour is influenced by a variety of internal and external influences. Self-consciousness is one of the internal aspects that can impact a person's purchasing behaviour. Consumer behaviour is influenced by a variety of factors, including self-consciousness and impulsivity. A research conducted by Johan (2020) reported that older people and people with health problems are more likely to behave cautiously than others.

Mcrea and John (1992) define internal psychology characteristic relatively as a permanent form of individual thoughts, emotions, motives and behaviour. Specifically, the study will investigate the social norms, materialism, instant gratification and locus of control as the determinants of psychological factors. This key finding promotes more study on psychological factors and characteristics towards individual choice and behaviour which mainly related to four major elements which are social norms, instant gratification, locus control and materialism.

Social norms are view as both collective representation of acceptable group behaviour and individual views of specific group behaviour. It can be viewed as cultural products such as values, customs and traditions that reflects individuals' fundamental understanding of what others do and believe that what they should do. A study was conducted by Khorrami et al (2015) to see if social norms have any impact on impulsive buying and compulsive buying. There is however no effect of SN towards impulsive buying, but impulsive buying shows a significant effect towards compulsive buying.

Besides, instant gratification is the desire to experience pleasure or fulfilment without delay or deferment. Basically, it's when you want it; and you want it now (Dawd, 2017). This is a classic study in psychology referring to the experimental of giving the choice to children of having 1 marshmallow now or getting 2 marshmallows after an hour (Luo and Pattanakul, 2020). Instant gratification or delay gratification affect the decision making of consumers and will have positive and negative consequences.

Another element refers to locus control. The locus control is a psychological concept that relates to the degree to which individuals believe they have control over the circumstances and experiences that affects their life (MacCormark and Cotter, 2013). Individuals have an internal locus control when they believe they can control when it necessary, change workplace events and environment. Besides, they believe that what occur to them as a result of their own action, behaviour or attitudes and they have ability to c feel that what happens to them is the result of their own actions, behaviour or attitudes, and that it is within their power to make changes. According to Hennesy (2011), individuals with an external locus of control, on the other hand, think that forces or powers outside or beyond themselves influence their destiny and environment.

Materialism is about values and desire for money, possessions, and the like (Kasser, 2014). Materialism is a post-modern culture which perceived that consumption status is power and an indicator of life success. Materialistic people are less happy, more likely to spend money, more likely to show a favourable outlook about borrowing money for luxury purchases, and more likely to be compulsive buyers. Materialism culture in Malaysia is found to be significant in younger generations nowadays whereby people have been competing to be trendsetters resulting them falling in debts trap should the maladaptive behaviours gone uncontrolled (Ong at al., 2021).

Financial Literacy

It has been acknowledged worldwide that financial literacy is becoming a serious issue. A survey conducted by Standard and Poor's Ratings Services Global Financial Literacy Survey found that individuals around the world do not understand basic financial concepts, even in countries with advanced economies and well-developed financial markets. The result was indeed shocking. Thus, it brought the need for increased financial literacy to the world's attention.

Financial literacy according to The Organization for Economic Cooperation and Development (OECD, 2017) is the knowledge and understanding of financial concepts and risks and also the skills, motivation, and confidence to apply such knowledge and understanding to make improved decisions across a wide range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life. Thus, financial ignorant and financially illiterate individuals can lead to a number of pitfalls such as high indebtedness and incur higher interest rates on loans

(Lusardi and Tufano, 2015). What worse is that poor financial literacy does not affect only for the decisions they make for themselves but also for society at large. Interestingly, Lusardi (2019) reported that more educated and high-income consumers are of same level as less-educated and lower-income consumers about financial issues, although, in general, the former is supposed to be more financially literate (Lusardi, 2019).

The Covid-19 pandemic has hit individuals around the globe severely. Suddenly there are more jobless individuals caused by a surge in layoffs than during the Great Recession or in the aftermath of major natural disasters such as floods. The situation is the same in Malaysia, thus further emphasis on the seriousness for people to safeguard their finances in the middle of the pandemic. According to National Strategy for Financial Literacy 2019-2023, the financial literacy level among Malaysians was low, and regrettably with the pandemic, Malaysians financial level remains the same and their financial habits are unchanged (RMFLS, 2020). As such, the need for financial literacy in lifestyle and everyday affairs is now becoming increasingly important particularly in the Covid-19 pandemic era. Although there is evident financial literacy has significantly influence financial vulnerability, but to what extend it has an impact during Covid-19 pandemic is still unknown. Therefore, this gap gives room to the researchers to investigate on this matter.

Issues regarding financial literacy has gained interest and highly debated topics both from academics and practitioners. In order to examine individuals' level of financial literacy, researchers have come up with a number of dimensions or indicators (see for example Atkinson and Messy, 2012; Kempson, 2009; Lusardi, Oggero, and Yakoboski, 2017; Orton, 2007; Robson, 2013; Widdowson and Hailwood, 2007). The most widely used dimensions and have the greatest impact on the level of financial literacy are financial knowledge, financial behaviour, and financial attitude. Those three dimensions are discussed in the paragraphs that follow.

The first dimension of financial literacy is financial knowledge. In the research area however, the term financial knowledge is sometimes used interchangeably with financial literacy. Broadly financial knowledge is defined as individuals’ understanding of financial matters. According to Kadoya and Khan (2020) financial knowledge measures the ability to understand financial calculations, particularly the consequences of interest rates, inflation, and the risk and return on financial instruments and assets. Financially knowledgeable individuals are expected to make informed financial decisions throughout their life stages. Therefore, individuals with high financial knowledge will increase financial literacy and will lessen financial vulnerability and, in the end, contribute to their financial well-being.

The second dimension of financial literacy is financial behaviour, which assesses how people respond and behave in financial situations. In other way it measures if individuals are making better financial decisions as a result of their financial skills. Individuals who practice responsible financial behaviour are more efficient at making money, managing and controlling their finances, spending, investing, and paying their bills on time (Hasibuan, Lubis, and HR, 2017). As a result, people who have healthy and positive financial behavior will enhance their financial literacy and lower their financial vulnerability.

The third dimension of financial literacy is financial attitude. Financial attitude according to Pankow (2003), is a state of mind, opinion, and judgment regarding financial matters. Financial attitude plays a significant role in determining whether financial aspects succeed or fail. As a result, in order to improve financial literacy across generations, the focus should be on cultivating positive financial attitudes among the individuals (Bhushan and Medury, 2014). Then only, the true benefits of any financial education programme can be realised. A good and proper financial attitude will increase financial literacy of the individuals. Therefore, positive financial attitudes will encourage individuals to be more cautious with their spending, which may be accomplished through budgeting and planning for future financial needs (Sabri, Wijekoon, and Rahim, 2020).

Compulsive Online Shopping Behaviour

Due to the conveniences of online shopping platforms and the attractiveness of social media ads, some online purchasers may not think twice about acquiring unanticipated things. This is known as impulsive buying, although those who make these purchases may not face major financial issues in repaying their purchases.

Another segment of customers, on the other hand, develops an intense purchasing behaviour that becomes compulsive over time. Compulsive buying is characterised as a consumer's inclination to be preoccupied with purchasing on a regular basis and a lack of impulse control when purchasing (Ridgway, Kukar-Kinney, & Monroe, 2018).

Compulsive buying has been linked to credit card holders in previous studies (Nga et al., 2011; Spinella et al., 2014), although Khare (2013) found no significant impact of usage debt facility like credit card on consumer compulsive buying behaviour, which is what this study would investigate. Numerous studies have also revealed that compulsive consumers are prone to debt as a result of a lack of self-control in their urge to spend more and more to relieve stress and anxiety (Spinella et al., 2014), which have been recognised as pathological diseases.

Scholars have been developing compulsive buying scales such as the Clinical Screener for Compulsive Buying (CS, Faber, and O'guinn, 1992) and the Richmond Compulsive Buying Scale (RCBS, Ridgway et al., 2008). However, Manchiraju et al. (2017) have taken one step further by developing The Compulsive Online Shopping Scale (COSS) with seven constructs namely salience, mood modification, tolerance, withdrawal symptoms, conflict relapse and problems, which scale has been tested using panel data. The COSS was developed based on the Internet addiction Scale developed by Morahan and Schumacher (2000) and the Bergen Shopping Addiction Scale (BSAS; Andreassen et al. 2015).

Salience refers to an individual's preoccupation with the activity in issue in the context of obsessive internet purchasing (i.e., online shopping). Online shopping as a coping method is referred to as mood modulation. Tolerance suggests that larger amounts of internet shopping are required in order to perceive mood changes over time.

When one stops or drastically reduces online purchasing, withdrawal symptoms include unpleasant sentiments or bad bodily effects. Conflict refers to disagreements that emerge in other aspects of life as a result of excessive internet shopping (e.g., interpersonal conflict). The tendency to revert to prior patterns of online buying is referred to as relapse.

Resulting problems refers to broader online shopping withdrawal symptoms (e.g., well-being).

Socio-Economic Factors

Socio-economic refers to the social standing or class of an individual or group. Socio economic factors are measured based on individual combination of age, gender, ethnicity, education level, household income, marital status, and number of dependents. These factors are significant to explain differences of financial vulnerability among individuals. Prior research has discussed consistently that individuals holding low socio-economic status positively affected emotionally by undesirable life events compared to higher status (Mcleod and Kessler, 1990).

Several studies have argued that socio-economic factors significantly explain the varying level of financial vulnerability among individuals. Collivignarelli et al. (2020) mentioned that Covid-19 pandemic does not affect everyone in the same way. For example, the pandemic has significant impact on the poor areas compared to the wealthy areas (Messner, 2020). The Covid-19 pandemic literatures indicate that residential areas that have lower income are positively to be at a greater danger of getting infected (Bashir et al., 2020). Moreover, resident area with lower socio-economic condition state at the higher risk of infection due to lack of healthcare service (Singh and Chauchan, 2020).

The study conducted by Loke (2017) argued that ethnicity positively effect on the varying disparities of financial vulnerability among Malaysians. The Chinese is reported to likely have a low financial vulnerability compared to the Malays and Indians. Since the Covid-19 pandemic has affected significant most people, it is interesting to see if financial vulnerability is now having the same influence on all the races or otherwise.

Having discussed all the dimensions that may influence financial vulnerability, it can be concluded at this point that it is important to examine psychological characteristics, financial literacy, compulsive online shopping behaviour, and socio-economic factors when measuring financial vulnerability. Furthermore, Covid-19 is predicted to stay for a couple of years, hence the government as a policy maker and the interested parties on financial vulnerability of Malaysians should act quickly and effectively in overcoming the financial crisis.

RESEARCH METHODOLOGY

This is a conceptual paper that reviews literature on consumer behaviour and financial vulnerability. The study focuses on dimensions affecting financial vulnerability of individuals. The secondary data was used in this study. The collection of data was from research journals articles, published papers, reports, and newspapers.

SIGNIFICANCE OF RESEARCH

Impactful

In the aftermath of the global financial crisis, and now the Covid-19 issue, the evolution of changes in consumer behaviour and their foundations have been at the forefront of economic debate. This is a macro trend that occurs when Malaysians' nature and consumer behaviour begin to navigate far ahead in keeping with their existing financial status in the aftermath of the pandemic.

Furthermore, this study will have a significant impact on developing a better knowledge of consumer behaviour and financial vulnerability when they are laid off, unable to service loans, or face financial difficulties (Van Aardt et al., 2009). Individuals may suffer severe effects as a result of these layoffs, which may lead to a shift in consumption behaviour as they try to stay afloat in this perilous scenario. In fact, under the current economic realities, individuals have little control over their immediate financial problems. These vulnerable people require assistance during these trying times.

Furthermore, this study project will have a substantial impact on the government as a policymaker, for example, through the implementation of the Malaysia National Strategy for Financial Literacy 2019-2023, whose objective is to improve Malaysians' financial well-being. Financial inclusion has become a policy focus in many nations to ensure that residents are not financially vulnerable and are assisted in times of financial hardship. Though susceptibility can be temporary or permanent, gradual or sudden, and sometimes multi-layered, it is critical to notice potential changes in consumer behaviour as a result of a person's financial situation (Mogaji, 2020).

The Malaysia National Strategy for Financial Literacy 2019-2023 is a five-year strategy aiming at enhancing Malaysians' financial well-being by increasing financial literacy and encouraging responsible behaviour and rational thinking. Consumption is also vital in boosting a country's economic growth. As a result, the study is in line with the current plan, the Eleventh Malaysia Plan (11MP), which is based on the three New Economic Model aims (NEM). The 11MP theme is "Anchoring Growth on People," in which people are at the heart of all development initiatives, and no segment of society is left behind in participating in and benefiting from the country's progress.

Most of the worldwide Sustainable Development Goals are connected with the 11MP (SDGs). People may become financially vulnerable as a result of changes in their personal circumstances, such as being laid off, which may cause them to shift their spending behaviour and engage in any consuming activity. Researchers, policymakers, and community groups will need this to document the distribution of financial well-being across different segments of society, track trends in financial well-being, and determine the nature of the relationship between consumer behaviour and financial vulnerability based on different cohorts of demographic and other related factors.

During Covid-19, the Malaysian Institute of Economic Research predicted that Malaysia's real GDP growth in 2020 would plummet from 4.0 percent to -2.9 percent, with up to 2.4 million job losses, with 67 percent of those coming from the unskilled workers category. The DOSM study, which took place between March 23 and March 31, during the second week of MCO phase one, found that half of the self-employed were unemployed, and up to a third indicated their income had decreased by 90 percent, out of a total of 170,000 people polled. The data raise worrisome worries about the financial fragility of vulnerable households.

Furthermore, according to the DOSM poll 2020, half of the respondents only have enough money to last two weeks, while only 28 percent have enough to last two months. Another alarming figure has piqued policymakers' interest. Following these worries, Bank Negara

Malaysia (BNM) emphasises that stimulus measures, policy rate decreases, ongoing progress on public projects, and increasing public sector expenditure should all help to sustain GDP growth in 2020. The Malaysian government announced an Economic Stimulus Package worth RM250 billion to “cushion” the effects of the Covid-19 outbreak and “reinvigorate” the Malaysian economy through one of three strategies: increasing household spending, increasing government spending, and increasing foreign direct investment.

Households will get RM500 to RM1,600 for two consecutive months, depending on which group they belong to: the bottom 40 (B40) or the middle 40 (M40). Nonetheless, the cash generated by this "pakej prihatin" appears insufficient for the next few months following the Covid-19 issue, as the money is barely enough to cover current governmental expenditures. Individuals, particularly in developing countries and emerging markets like Malaysia, require financial assistance and proper policies from the government. While admitting that people will emerge stronger from this pandemic, it is critical that we support ourselves throughout this time.

Actionable

This study will assist financial institutions in identifying consumer behaviour among Malaysians, particularly in the event of future shocks or outbreaks. In reality, the pattern of consumer purchasing in a panic buying situation, as well as herd mentality, may influence their behaviour (Loxton et al., 2020). Concerned about the fact that consumers with a poor understanding of their own finances would have a detrimental impact on their long-term financial situation. The behaviour needs an urgent action to protect his/her financial crisis. In addition, this research will provide the full understanding of evolving of consumer behaviour especially during pandemic.

The findings could serve as a reference for academic practitioners looking to understand the link between financial fragility and consumer behaviour. Furthermore, this study is likely to add to the marketing literature, particularly in the field of customer behaviour.

Measurable

The research is expected to produce these measurable outcomes:

a) To raise awareness on the issue of consumer's behaviour and financial vulnerability.

b) To formulate policies pertaining to consumers' financial literacy.

This study could serve as a basis for future research on financial vulnerability. These outcomes can be determined if a continuous study is conducted to determine the level of financial vulnerability awareness among customers and the depth of their vulnerability to a secure financial situation. Future research could be conducted in a longitudinal format to assess if customers have learned from their previous experiences. To ensure measurability, this study will create a financial vulnerabilities index that will be able to determine the level of financial security among Malaysians.

If Malaysians are financially secure, if every adult consumer is financially knowledgeable and capable of properly managing their financial concerns. The reality that many Malaysians are still enslaved to their opulent lifestyles and are only now realising that their spending habits are jeopardising their financial well-being. This financial vulnerability index is not intended for commercial use, but it can be used as a predictor of consumer financial vulnerability and as a foundation for developing policy related to consumer financial literacy.

REFERENCES

Anderloni, L., Bacchiocchi, E., & Vandone, D. (2012). Household financial vulnerability: An empirical analysis. *Research in Economics, 66*(3), 284-296.

Astakhova, M., Swimberghe, K. R., & Wooldridge, B. R. (2017). Actual and ideal-self congruence and dual brand passion. *Journal Consumer Marketing, 34*, 664-672.

Atkinson, A., & Messy, F. A. (2012). Measuring financial literacy: Results of the OECD/International Network on Financial Education (INFE) pilot study. *OECD Working Papers on Finance, Insurance, and Private Pensions.* No.15, OECD Publishing.

Bashir, M. F., Ma, B., Komal, B., Bashir, M. A., Tan, D., & Bashir, M. (2020). Correlation between climate indicators and COVID-19 pandemic in New York, USA. *Science of The Total Environment*, *728*, 138835.

Bhushan, P., & Medury, Y. (2014). An empirical analysis of inter linkages between financial attitudes, financial behaviour and financial knowledge of salaried individuals. *Indian Journal of Commerce and Management Studies, 5*(3), 58-64.

Black, D. W. (2007). A review of compulsive buying disorder. *World Psychiatry*, *6*(1), 14-18.

Brunetti, M., Giarda, E., & Torricelli, C. (2016). Is financial fragility a matter of illiquidity? An appraisal for Italian households. *Review of Income and Wealth*, *62*(4), 628-649.

Chua, S. (2021, April 9). High debt-to-GDP ratio not a major concern, says economist. *Free Malaysia Today.* Available at https://www.freemalaysiatoday.com/category/nation/2021/04/09/high-debt-to-gdp-ratio-not-a-major-concern-says-economist/.

Clercq, B., van Tonder, J. A., & van Aardt, C. J. (2015). Consumer financial vulnerability: Identifying transmission linkages that could give rise to higher levels of consumer financial vulnerability. *Southern African Business Review, 19*(1), 112-136.

Collivignarelli, M. C., Abbà, A., Bertanza, G., Pedrazzani, R., Ricciardi, P., & Miino, M. C. (2020). Lockdown for CoViD-2019 in Milan: What are the effects on air quality?. *Science of the Total Environment*, *732*, 139280.

Daud, S. N. M., Marzuki, A., Ahmad, N., & Kefeli, Z. (2019). Financial vulnerability and its determinants: Survey evidence from Malaysian households. *Emerging Markets Finance and Trade*, 55(9), 1-10.

Dawd, A. M. (2017). Delay of gratification: Predictors and measurement issues. *Acta Psychopathol*, *3*(S2), 81.

Department of Statistics Malaysia (DOSM) (2021).

Faber, R. J., & O'guinn, T. C. (1992). A clinical screener for compulsive buying. *Journal of consumer Research*, *19*(3), 459-469.

Fei, C. K., Sabri, M. F., Mohamed, N. A., Wijekoon, R., & Majid, A. Z. A. (2020). Determinants of financial vulnerability among young employees in Malaysia. *Journal of Critical Reviews*, *7*(15), 3097-3107.

Gathergood, J. (2012). Debt and depression: Causal links and social norm effects. *Economic Journal, 122*(563), 1094-1114.

Hasibuan, B. K., Lubis, Y. M., & HR, W. A. (2018, January). Financial literacy and financial behavior as a measure of financial satisfaction. In *1st Economics and Business International Conference 2017 (EBIC 2017)* (pp. 503-507). Atlantis Press.

Hayes, D. A., & Finney, A. D. (2013). The Genworth Index (volume 5): Measuring consumer financial security and vulnerability. Available at https://research-information.bris.ac.uk/en/publications/the-genworth-index-volume-5-measuring-consumer-financial-security

He, H., Kukar-Kinney, M., & Ridgway, N. M. (2018). Compulsive buying in China: Measurement, prevalence, and online drivers. *Journal of Business Research*, *91*, 28-39.

Hennessy, D. (2011). Social, personality, and affective constructs in driving. In *Handbook of traffic psychology* (pp. 149-163). Academic press.

Hoffmann, A. O., & McNair, S. J. (2019). How does consumers' financial vulnerability relate to positive and negative financial outcomes? The mediating role of individual psychological characteristics. *Journal of Consumer Affairs*, *53*(4), 1630-1673.

Kadoya, Y., & Khan, M. S. R. (2020). Financial literacy in Japan: New evidence using financial knowledge, behavior, and attitude. *Sustainability*, *12*(9), 3683.

Kempson, E. (2009). Framework for the development of financial literacy baseline surveys: A first international comparative analysis. In *OECD Working Papers on Finance, Insurance and Private Pensions. No. 1; OECD Publishing: Paris, France.*

Khare, A. (2013). Credit card use and compulsive buying behavior. *Journal of Global Marketing, 26*(1), 28-40.

Khorrami, M. S., Esfidani, M. R., & Delavari, S. (2015). The effect of situational factors on impulse buying and compulsive buying: Clothing. *International Journal of Management, Accounting and Economics*, *2*(8), 823-837.

Lertwannawit, A., & Mandhachitara, R. (2012). Interpersonal effects on fashion consciousness and status consumption moderated by materialism in metropolitan men. *Journal Business Research, 65*, 1408-1416.

Lin, W. E. (2021, March 31). Malaysia's 2021 GDP growth projected at between 6% and 7.5%. *The Edge Markets.* Available at https://www.theedgemarkets.com/article/malaysias-economy-rebound-between-6-and-75-year-supported-both-external-and-domestic-demand-.

Loke, Y. J. (2017). Financial vulnerability of working adults in Malaysia. *Contemporary Economics*, *11*(2), 205-219.

Luo, Y., & Pattanakul, D. (2020). Infant expectations of instant or delayed gratification. *Scientific Reports*, *10*(1), 1-7.

Lusardi, A. (2019). Financial literacy and the need for financial education: Evidence and implications. *Swiss Journal of Economics and Statistics*, *155*(1), 1-8.

Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature, 52*(1), 5-44.

Lusardi, A., Oggero, N., & Yakoboski, P. (2017). The TIAA Institute-GFLEC personal finance index: A new measure of financial literacy. In *The George Washington University of Business and Global Financial Literacy Excellence Center*. The TIAA Institute: New York.

Lusardi, A., & Tufano, P. (2015). Debt literacy, financial experiences, and over indebtedness. *Journal of Pension Economics & Finance*, *14*(4), 332–368.

Manchiraju, S., Sadachar, A., & Ridgway, J. L. (2017). The compulsive online shopping scale (COSS): development and validation using panel data. *International Journal of Mental Health and Addiction*, *15*(1), 209-223.

Mard, M., Majdalani, J. F., Cui, C., & Khansa, Z. E. (2020). Brand addiction in the contexts of luxury and fast-fashion brands. *Journal Retailing Consumer Services, 55*:102089.

McCormack, N., & Cotter, C. (2013). *Factors contributing to burnout. Managing Burnout in the Workplace,* 27-56.

Meier, S., & Sprenger, C. (2010). Present-biased preferences and credit card borrowing. *American Economic Journal: Applied Economics*, *2*(1), 193-210.

Messner W (2020) The institutional and cultural context of cross-national variation in COVID-19 outbreaks. medRxiv.

Mullainathan, S. & Shafir, E. (2013). *Scarcity: Why having too little means so much.* New York: New York Times Books, Henry Holt and Company.

Mogaji, E. (2020). Consumers' financial vulnerability when accessing financial services. *Research Agenda Working Papers, 2020*(3), 27-39.

Mogaji, E., Olaleye, S., & Ukpabi, D. (2020). Using AI to personalise emotionally appealing advertisement. *Digital and Social Media Marketing. Advances in Theory and Practice of Emerging Markets*. Cham: Springer.

N/a. Laporan survei khas kesan Covid-19 kepada ekonomi dan individu. (2020). *Department of Statistics Malaysia (DOSM).* Available at https://www.dosm.gov.my/v1/uploads/files/covid-19/Analisis_Survei_Khas_Kesan_COVID-19_Kepada_Ekonomi_dan_Individu-Laporan_Penuh.pdf.

N/a. RinggitPlus Malaysia Financial Literacy Survey 2020. (2020). Available at https://www.fenetwork.my/wp-content/uploads/2020/11/RinggitPlus-Financial-Literacy-Survey-Full-Report.pdf.

Noerhidajati, S., Purwoko, A. B., Werdaningtyas, H., Kamil, A. I., & Dartanto, T. (2021). Household financial vulnerability in Indonesia: Measurement and determinants. *Economic Modelling*, *96*, 433-444.

OECD. (2017). *PISA 2015 results (Volume IV): Students' financial literacy*. Paris: PISA, OECD Publishing. https://doi.org/10.1787/9789264270282-en.

Ong, Z., Lau, J., & Zainudin, N. (2021). Money attitude, materialism and compulsive buying among Malaysian young adults. *Management Science Letters*, *11*(1), 281-290.

Ophem, V.J. (2020). Covid-19 and consumer financial vulnerability. *Central European Review of Economic and Management. 4 (4), 11-132*

Orton, L. (2007). *Financial literacy: Lessons from international experience*. Canadian Policy Research Networks, Incorporated.

Pankow, D. (2003). *Financial values, attitude and goals.* North Dakota State University Fargo: North Dakota.

Poh, L. M., & Sabri, M. F. (2017). Review of financial vulnerability studies. *Archives of Business Research*, *5*(2), 127-134.

Ramya, N., & Ali, M. (2016). Factors affecting consumer buying behavior. *International Journal of Applied Research*, *2*(10), 76-80.

Robson, J. (2013). *The Case for Financial Literacy: Assessing the effects of financial literacy interventions for low income and vulnerable groups in Canada*. Social and Enterprise Development Innovations.

Sabri, M. F., Wijekoon, R., & Rahim, H. (2020). The influence of money attitude, financial practices, self-efficacy and emotion coping on employees' financial well-being. *Management Science Letters,10*(4), 889-900.

Schwabe, L., & Wolf, O. T. (2009). Stress prompts habit behavior in humans. *Journal of Neuroscience*, *29*(22), 7191-7198.

Singh, R. P., & Chauhan, A. (2020). Impact of lockdown on air quality in India during COVID-19 pandemic. *Air Quality, Atmosphere & Health*, *13*(8), 921-928.

Spinella, M., Lester, D., & Yang, B. (2014). Compulsive buying tendencies and personal finances. *Psychological Reports*, *115*(3), 670-674.

Van Aardt, C. J., Moshoeu, A., Risenga, A., Pohl, M., & Coetzee, M. C. (2009). *A consumer financial vulnerability (CFV) index for South Africa*. Pretoria: University of South Africa (Unisa), Bureau of Market Research (BMR).

Widdowson, D., & Hailwood, K. (2007). Financial literacy and its role in promoting a sound financial system. *The Reserve Bank of New Zealand Bulletin*, *70*(2), 37.

Wright, K. B. (2005). Researching Internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication*, *10*(3), JCMC1034.