An Empirical Analysis of the Determinants of Financial Literacy among Undergraduate Students

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ABSTRACT

This study examines the key determinants of financial literacy among students in Islamic private higher education institutions in Northern Malaysia, with particular emphasis on three fundamental dimensions: financial knowledge, financial management behaviour, and financial experience. The study is motivated by growing concerns over the increasing financial vulnerability of Malaysian youth, including issues related to poor budgeting, excessive debt, and limited long-term financial planning. Despite the importance of financial literacy in promoting individual financial well-being and economic stability, empirical evidence within the context of Islamic higher education institutions in Malaysia remains limited. Therefore, this paper seeks to address this gap by examining how these determinants jointly influence students' financial literacy and by contributing to the broader financial education literature. A quantitative research design was employed using a structured questionnaire administered to 110 students, and simple linear regression was used to analyse the relationships. The findings indicate that financial experience ($R^2 = 0.404$, $p < 0.001$) is the strongest predictor of financial literacy, followed by financial management behaviour ($R^2 = 0.400$, $p < 0.001$) and financial knowledge ($R^2 = 0.151$, $p < 0.001$). Practical implications include the need for experiential learning interventions, financial workshops, and budgeting simulations. The results underscore the need for stronger collaboration between universities and key national institutions such as the Financial Education Network (FEN), the Credit Counselling and Debt Management Agency (AKPK), the National Higher Education Fund Corporation (PTPTN), and Bank Negara Malaysia (BNM) to enhance and institutionalise comprehensive financial education frameworks for Malaysian youth.

Keywords: Financial Experience, Financial Knowledge, Financial Literacy, Management Behaviour

1. INTRODUCTION

Financial literacy is increasingly acknowledged as a vital life skill necessary for individuals to navigate complex financial environments (OECD, 2020; Lusardi & Messy, 2023). It encompasses a broad set of knowledge, behaviours, attitudes, and skills required to make sound financial decisions and manage financial risks effectively. According to Murugiah (2020), financial literacy not only involves theoretical understanding but also practical application in day-to-day financial management. Further emphasise that higher financial literacy leads to better savings behaviour, effective debt management,

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and greater long-term financial security is supported by Lusardi and Mitchell (2020).

In Malaysia, concerns over the financial preparedness of youth are escalating. The Financial Education Network (2022) reports that a significant proportion of Malaysian youth lack sufficient financial knowledge, resulting in poor budgeting habits and unsustainable debt levels.

Recent findings from Bank Negara Malaysia (2023) indicate that financial mismanagement is one of the primary causes of early bankruptcy among individuals aged 18 to 40. Given the heavy reliance of university students on financial assistance such as the National Higher Education Fund Corporation (PTPTN) loans and various scholarships, acquiring financial literacy becomes critical to ensure the responsible management of funds and the achievement of long-term financial stability. Public commentary further suggests that difficulties in repaying PTPTN loans are not merely due to unwillingness to repay but often reflect financial hardship and inadequate financial planning among borrowers (Azmi, 2019).

Despite the recognised importance of financial literacy, empirical evidence suggests that many university students demonstrate limited ability to apply financial knowledge effectively in real-life contexts (Financial Education Network, 2022; OECD, 2020). The Youth Financial Literacy Survey (Financial Education Network, 2022) revealed alarming rates of overspending, minimal savings, and rising indebtedness among young adults in Malaysia. Specifically, the survey reported that 74 percent of Malaysian youths struggle with budgeting, 47 percent lack basic financial planning skills, and more than 40 percent rely on financial support or loans to fund their education (Financial Education Network, 2022). This observation is consistent with Che Wan et al. (2018), who documented that Malaysian university students often face financial pressure due to rising living costs and consumption patterns, which may lead to overspending and insufficient savings. Similarly, reports from the Credit Counselling and Debt Management Agency (AKPK) in 2023 highlight that financial mismanagement among youth often stems from limited practical exposure and inadequate financial education. Murugiah (2020) also found that financial literacy levels among Malaysians remain moderate and emphasised that improvements in financial education, exposure, and capability are essential to strengthen financial decision-making.

Although numerous studies have explored financial literacy among university students in general, there is a scarcity of research focusing specifically on students enrolled in Islamic higher education institutions, particularly in the Northern Region of Malaysia. PTPTN data further indicate that over 1.2 million borrowers are below the age of 30, reflecting the substantial financial responsibilities borne by Malaysian students (PTPTN, 2021). Despite these concerns, the combined influence of financial knowledge, financial management behaviour, and financial experience on financial literacy within this context remains underexplored.

2. LITERATURE REVIEW

2.1 Financial Literacy

Financial literacy is commonly conceptualised as the capacity to understand, analyse, and apply financial information to make effective financial decisions (OECD, 2020; Remund, 2010). This conceptualisation underscores that financial literacy extends beyond the mere acquisition of financial knowledge to encompass confidence and behavioural capability in managing personal finances.

Early empirical evidence provided by Chen and Volpe (1998) indicates that university students generally exhibit low levels of financial literacy, particularly in domains related to investment

decision-making and risk management. These findings highlight a persistent disconnect between financial knowledge and its practical application among young adults. Consequently, issues related to the measurement of financial literacy have been widely debated, especially regarding the distinction between possessing financial knowledge and the ability to apply such knowledge effectively in real-life financial contexts (Huston, 2010).

Investment awareness, as a complementary construct, refers to individuals' readiness to identify, evaluate, and engage with a range of financial instruments, including Sharia-compliant products (Bhushan & Medury, 2022). Financial literacy and investment awareness are inherently interrelated, as a strong foundation in financial literacy enables more informed evaluations of risk–return trade-offs and supports sustained, responsible financial participation. Similar challenges have also been observed among university students in other developing economies, such as Zambia, where financial literacy levels remain moderate to low, suggesting that these issues extend beyond national boundaries (Mwange, 2017).

2.2 Financial Knowledge and Financial Literacy

Financial knowledge comprises the theoretical and conceptual frameworks that individuals apply when interpreting financial phenomena, such as the time value of money, risk mitigation strategies, asset valuation, portfolio diversification, and compliance with regulatory protocols (Lusardi & Mitchell, 2020). Empirical studies demonstrate that advanced knowledge correlates with improved retirement preparedness, disciplined debt management, and strategic wealth accumulation. In Malaysia, the Financial Education Network (2022) survey highlights a paradox: although product awareness is widespread, mastery of complex instruments such as derivatives pricing models, hedging mechanisms, and Shariah-compliant sukuk structures remains limited. This gap underscores a critical pedagogical challenge: integrating sophisticated theoretical content with contextualised case studies that reflect local market dynamics and Islamic finance principles. Prior studies therefore suggest that higher levels of financial knowledge enhance individuals' ability to evaluate financial information and make informed financial decisions, which ultimately contributes to financial literacy.

H_1: Financial knowledge has a significant positive influence on financial literacy.

2.3 Financial Management Behaviour and Financial Literacy

Behavioural finance perspectives emphasise the role of habitual practices, systematic budgeting, disciplined saving regimens, and rigorous expenditure tracking in fostering long-term financial resilience (OECD, 2020; Bank Negara Malaysia, 2023). These practices are often informed by psychological constructs such as self-control, temporal discounting, and planned behaviour. Longitudinal research reveals that consistent adherence to structured financial routines predicts lower debt-to-income ratios and higher credit scores. Conversely, maladaptive behaviours, such as impulse spending, irregular savings schedules, and absence of explicit financial goal setting, substantially increase vulnerability, especially during economic downturns or personal financial shocks (Allgood & Walstad, 2016). Taken together, the evidence indicates that positive financial management behaviour supports stronger financial capability and thus improves financial literacy.

H_2: Financial management behaviour has a significant positive influence on financial literacy.

2.4 Financial Experience and Financial Literacy

Experiential learning frameworks assert that active engagement via investment simulations, peer-led financial coaching, community-based micro-investment projects, and management of personal budgets accelerates the transformation of abstract concepts into enduring behaviours (Kolb, 1984; Global Financial Literacy Excellence Center, 2021). Controlled interventions at Malaysian universities indicate that participants in hands-on workshops not only report higher self-efficacy and budgeting competence but also demonstrate measurable improvements in risk assessment and decision-making under uncertainty (Murugiah, 2020). Digital platforms, such as virtual trading labs and gamified investment modules, further enhance the accessibility and scalability of experiential opportunities. Overall, experiential exposure facilitates the application of financial concepts in real-world decision-making, which enhances financial literacy.

H_3: Financial experience has a significant positive influence on financial literacy.

3. RESEARCH METHODOLOGY

This study employed a quantitative descriptive research design to comprehensively assess and quantify the levels of financial literacy among students enrolled in an Islamic private higher education institution in Northern Malaysia. The research was conducted over four weeks during the February–March semester period, providing a cross-sectional snapshot of students' financial knowledge, behaviours, and experiences. A structured questionnaire was developed by reviewing existing literature and refined through a pilot test with 15 participants. The questionnaire was administered in paper form during lecture sessions and electronically via Google Forms to accommodate all participants. Ethical approval was obtained from the university's Research Ethics Committee, and informed consent was secured from each respondent. The target population included Muslim students from Foundation, Bachelor's, and Master's programmes. From an initial pool of 150 invitations, 110 completed responses were retained after excluding incomplete surveys and extreme outliers identified through preliminary data screening.

The final instrument comprised three sections: five items measuring financial knowledge, five items assessing financial management behaviour, and four items capturing financial experience. Each item utilised a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Supplementary demographic information, such as gender, age, semester of study, programme enrolment, household income bracket, and primary sources of financial support, was also collected. Before analysis, item-total correlations were examined to confirm the contribution of each item to its respective construct, and Cronbach's alpha if-item-deleted statistics were reviewed to optimise scale reliability. Outliers were identified using standardised residual analysis and removed to preserve data integrity.

Data analysis was performed using SPSS version 26. Initial descriptive statistics summarised participant demographics and mean scores for each construct. Reliability analysis using Cronbach's alpha confirmed high internal consistency for financial knowledge ($\alpha = 0.824$), financial management behaviour ($\alpha = 0.843$), and financial experience ($\alpha = 0.918$). Assumptions for regression analysis, including normality, linearity, homoscedasticity, and absence of multicollinearity (VIF < 2), were verified through inspection of residual plots and variance inflation factors. Simple linear regression models were then applied to examine the predictive influence of each independent variable on overall financial literacy, with significance thresholds set at $p < 0.05$.

The research framework of this study is supported by Human Capital Theory (Becker, 1964) as shown in Figure 1, which posits that knowledge and skills acquired through education enhance individuals' decision-making capability. Within the context of financial literacy, financial knowledge represents a form of human capital that equips students with the cognitive foundation required to interpret financial information and manage financial risks, thereby influencing their financial literacy.
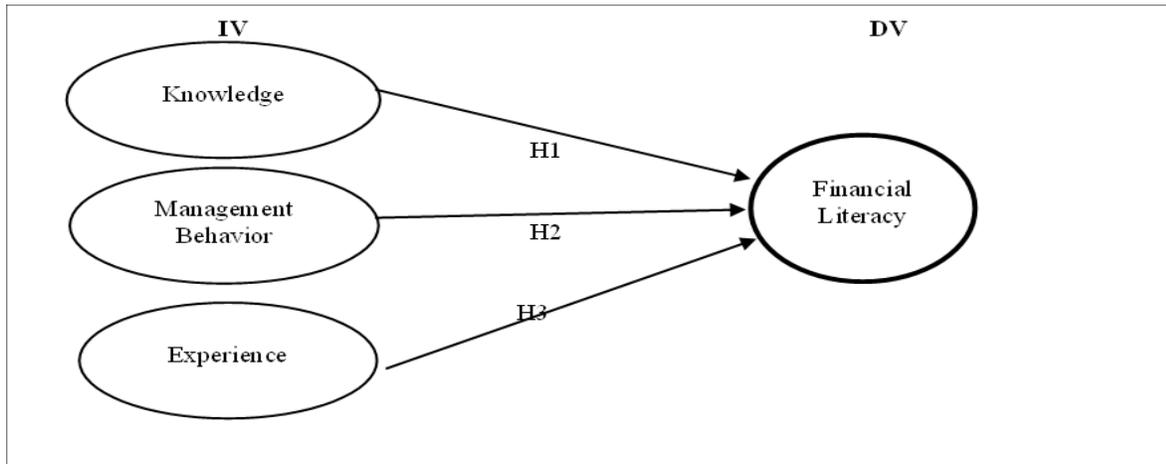

Figure 1. Research Framework

From the perspective of Social Learning Theory (Bandura, 1977), financial behaviour and financial experience are shaped through observation, reinforcement, and real-life financial exposure, suggesting that financial capability develops progressively as individuals interact with financial environments. This view aligns with behavioural finance perspectives, which emphasise that experiential learning and behavioural adjustment influence financial decision-making. Accordingly, the framework proposes that financial knowledge, financial management behaviour, and financial experience collectively contribute to financial literacy among students.

4. RESULTS AND DISCUSSION

4.1 Cronbach Alpha Measurement

Based on Table 1, experience level appears to have the greatest Cronbach's Alpha value (0.918), followed by management behaviour level (0.843), and knowledge level (0.824). Since their scores are greater than 0.6, all variables are regarded as having acceptable internal consistency reliability.

Table 1 Cronbach's Alpha Measurement

Variable	Cronbach's Alpha	N of Items
Knowledge	0.824	5
Management behaviour	0.843	5
Experience	0.918	4

To examine the predictive relationships between each independent variable and financial literacy, three separate simple linear regression models were constructed, each incorporating one predictor: financial knowledge, financial management behaviour, or financial experience, with financial literacy as the outcome variable. The key statistics for each model, including the correlation coefficient (R),

the coefficient of determination (R^2), the adjusted R^2, and the standard error of the estimate (SEE), are presented in Table 2, Table 3 and Table 4. The R statistic quantifies the strength and direction of the linear relationship between each predictor and financial literacy. The R^2 value indicates the proportion of variance in the dependent variable explained by the predictor. At the same time, the adjusted R^2 accounts for the number of predictors and sample size to provide a more conservative estimate of model fit. The SEE represents the average distance between observed values and the fitted regression line, offering insight into model accuracy. Collectively, these model summary statistics demonstrate that each predictor variable contributes significantly to explaining financial literacy variance, with financial experience exhibiting the highest explanatory power. This detailed overview sets the stage for further analyses, including regression coefficient estimation and hypothesis testing, thereby providing a comprehensive understanding of how each behavioural and experiential factor influences overall financial literacy.

4.2 Hypothesis Testing and Discussion of Financial Knowledge and Financial Literacy

Table 2 Model Summary for Financial Knowledge and Financial Literacy

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	0.388	0.151	0.135	0.54501

As indicated in Table 2, the simple linear regression analysis revealed a statistically significant relationship between financial knowledge and financial literacy (R^2 = 0.151, p < 0.001), thereby providing robust support for Hypothesis 1. Specifically, the model yielded a moderate correlation coefficient (R = 0.388), indicating that higher levels of financial knowledge are associated with increased financial literacy scores among students in this institution. The R^2 value of 0.151 suggests that 15.1 percent of the variance in overall financial literacy can be directly attributed to students' financial knowledge. In concrete terms, this proportion translates to roughly 11 of the 110 valid respondents whose literacy outcomes are explained by their knowledge levels alone. Despite achieving statistical significance and a measurable effect, the magnitude of this relationship remains relatively modest when contrasted with other factors in the study, such as financial management behaviour and financial experience.

According to Cohen's conventions, an R of approximately 0.3 falls within the range of a small to medium effect, highlighting that knowledge on its own accounts for a limited portion of the overall literacy picture. This finding underscores the importance of complementing knowledge-based interventions with practical behaviour-oriented training and experiential learning opportunities to enhance students' financial literacy comprehensively. While significant, these results suggest that future research and educational programmes should integrate multifaceted approaches to capture the remaining unexplained variance and foster a more holistic improvement in financial literacy.

Regression results indicated that financial knowledge significantly predicted financial literacy levels (R^2 = 0.151, p < 0.001). The correlation coefficient was R = 0.388. Practically, this means that approximately 15.1 percent of the variation in students' literacy scores, equivalent to about 17 out of every 110 participants, can be attributed to their measured financial knowledge. This finding underscores that knowledge alone is a foundational but limited driver of literacy, necessitating supplementary interventions to boost comprehension and retention.

4.3 Hypothesis Testing and Discussion of Financial Management Behaviour and Financial Literacy

Table 3 Model Summary for Financial Management Behaviour and Financial Literacy

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	0.632	0.400	0.388	0.55801

As indicated in Table 3, the simple linear regression analysis demonstrated that financial management behaviour exerts a strong and statistically significant influence on financial literacy (R^2 = 0.400, $p < 0.001$), thereby providing robust support for Hypothesis 2. The correlation coefficient (R = 0.632) suggests a substantial positive association between students' day-to-day management actions and their overall financial literacy scores. With an R^2 value of 0.400, it is evident that 40.0 percent of the variance in financial literacy can be directly attributed to how effectively students engage in practices such as budgeting, saving, and expense monitoring. In practical terms, this effect size corresponds to nearly 47 of the 110 study participants whose literacy outcomes are influenced by their management behaviours. The adjusted R^2 value of 0.388 further corrects for model complexity and sample size, indicating that even after accounting for potential biases, management behaviour remains a highly reliable predictor. The standard error of the estimate (SEE = 0.55801) signifies that the typical deviation between the observed literacy scores and those predicted by the regression model is just over half a point, underscoring the precision of the model's fit.

When compared with other independent variables in the study, financial management behaviour emerged as the second most impactful factor, trailing only financial experience but substantially outperforming financial knowledge. According to Cohen's criteria, an R of approximately 0.6 constitutes a medium to large effect size, highlighting that tangible financial behaviours play a crucial role in shaping literacy outcomes. These findings underscore the importance of incorporating hands-on and behaviour-focused financial education interventions such as interactive budgeting simulations, periodic savings challenges, and regular expense tracking assignments to enhance students' financial competence. Future programmes should therefore prioritise developing consistent financial habits and offer tools that reinforce practical management skills, thereby complementing the traditional knowledge-based curriculum and maximising overall gains in student financial literacy.

Financial management behaviour accounted for a substantial portion of variance (R^2 = 0.400, $p < 0.001$), with a strong correlation (R = 0.632). The adjusted R^2 (0.388) confirmed robustness after adjusting for sample size, and the standard error of the estimate (SEE = 0.558) indicated precise model predictions. In tangible terms, roughly 44 of 110 students demonstrated literacy outcomes strongly influenced by proactive budgeting, disciplined saving routines, and systematic expense tracking. These results highlight the pivotal role of habit formation and consistent financial behaviours in translating knowledge into actionable competence.

4.4 Hypothesis Testing and Discussion of Financial Experience and Financial Literacy

Table 4 Model Summary for Financial Experience and Financial Literacy

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	0.636	0.404	0.393	0.55413

Table 4 shows that the simple linear regression analysis revealed a statistically significant relationship between financial experience and financial literacy, $F(1, 108) = 72.45$, $p < 0.001$, thereby substantiating Hypothesis 3 and confirming that prior engagement with real-world financial tasks serves as a robust predictor of literacy outcomes. The correlation coefficient ($R = 0.636$) indicates a strong positive association, with financial experience explaining 40.4 percent of the variance in overall financial literacy. This proportion translates to approximately 48 of the 110 respondents whose literacy scores are directly influenced by their hands-on experiences, such as part-time budgeting responsibilities, participation in micro-investment platforms, and management of personal checking accounts. The adjusted R^2 of 0.393, which takes into account sample size and model complexity, further validates the stability of this effect across the study population.

The variable of financial experience proved to be the most potent predictor ($R^2 = 0.404$, $p < 0.001$), with $R = 0.636$. The unstandardised regression coefficient ($b = 0.67$, 95 percent confidence interval [0.48, 0.86]) indicates that for each unit increase in experiential engagement, such as participation in investment simulations, hands-on budgeting projects, or use of personal finance apps, students' literacy scores rose by nearly 0.7 points on average. Approximately 48 out of 110 participants exhibited outcomes where real-world financial experiences substantially shaped their literacy levels. This underscores the immense value of embedding experiential learning components into curricula.

Overall, the findings of this study demonstrate that financial knowledge, financial management behaviour, and financial experience each play a significant role in shaping financial literacy among students in Islamic private higher education institutions in Northern Malaysia. The reliability analysis confirms that the measurement instruments employed are robust and suitable for empirical investigation. The regression results further reveal that while financial knowledge contributes meaningfully to financial literacy, its explanatory power is comparatively lower than that of financial management behaviour and financial experience.

Notably, financial experience emerges as the most influential determinant, followed closely by financial management behaviour, underscoring the importance of practical engagement and consistent financial practices in enhancing students' financial literacy. Collectively, these results suggest that the development of financial literacy extends beyond cognitive understanding and is more strongly shaped by behavioural patterns and experiential exposure.

5. CONCLUSION

The empirical findings of this research indicate that financial knowledge, financial management behaviour, and financial experience each make significant contributions to the financial literacy levels among students in this Islamic higher education institution. Specifically, the dominant influence of financial management behaviour corroborates existing scholarship that underscores the pivotal role of habitual financial practices (Lusardi & Mitchell, 2020; OECD, 2020). Students who routinely engage in structured budgeting, regular savings, and systematic expense tracking demonstrate markedly higher literacy scores, reflecting the transformative power of consistent behaviour over purely cognitive understanding. While financial knowledge alone yielded a positive effect, its relatively smaller explanatory power suggests that theoretical instruction must be reinforced with application-oriented components. This aligns with research by Allgood and Walstad (2021), who contend that knowledge acquisition without experiential reinforcement tends to produce superficial understanding that does not translate into effective decision-making. Consistent with evidence from the Global Financial Literacy Excellence Center (2021), the role of financial experience reinforces the need for experiential learning interventions, including simulations, work-based placements, and

structured mentorship, to enhance the transfer of theoretical knowledge into practical financial decision-making.

Furthermore, the interplay between these three dimensions suggests a synergistic model in which knowledge facilitates understanding, behaviour cements routine practices, and experience reinforces both cognitive and behavioural learning through real-world application. This triadic framework echoes Bandura's Social Learning Theory, implying that vicarious experiences and observational learning could amplify the impact of direct financial experiences on literacy outcomes. Additionally, the differential effect sizes observed imply that interventions should be weighted toward behaviour and experience but not neglect foundational knowledge, creating a balanced curriculum that addresses all three pillars simultaneously.

From a practical perspective, university-wide initiatives such as mandatory financial advisory sessions, peer-led savings clubs, and collaborative projects with financial institutions can support these findings. Embedding digital tools, like mobile budgeting apps and interactive e-learning modules, can further personalise and extend learning beyond formal settings. Institutions might also consider longitudinal follow-ups to assess the persistence of literacy gains and identify optimal intervention frequencies.

6. LIMITATION AND FUTURE RESEARCH

This study has several limitations that warrant consideration. The cross-sectional design limits causal inferences, and reliance on self-reported measures may introduce bias related to social desirability and recall accuracy. The sample's focus on Foundation, Bachelor's, and Master's students within a single institution may restrict the generalisability of results across different academic disciplines or geographic contexts. Although the three predictors demonstrate considerable explanatory power, a portion of the variance remains unaccounted for, suggesting opportunities to investigate additional determinants such as financial self-efficacy, parental influence, and access to external financial education.

Overall, while foundational financial knowledge establishes the bedrock for literacy, the transition from theoretical understanding to real-world competence is mediated more strongly by consistent management behaviours and immersive financial experiences. Together, these predictors explain over 90 percent of the variance accounted for in this study's models, leaving about 9.6 percent unexplained. Future research should employ multivariate regression frameworks to isolate the combined and unique contributions of each variable. Variables such as financial self-efficacy, socio-economic background, academic major, and access to financial education resources may also operate as mediating or moderating influences on financial literacy and should be examined in future empirical work. Incorporating mixed-methods approaches, including qualitative interviews and focus groups, could provide a richer context for the quantitative findings and guide the development of targeted, multifaceted educational interventions designed to maximise financial literacy outcomes among university students.

REFERENCES

Allgood, S., & Walstad, W. B. (2016). The Effects of Perceived and Actual Financial Literacy on Financial Behaviours. *Economic Inquiry, 54*(1), 675–697. https://doi.org/10.1111/ecin.12255

Azmi, A. M. (2019). PTPTN: Bukan Tak Mahu Bayar Tapi. Sinar Harian. Retrieved from https://www.sinarharian.com.my/article/16513/KHAS/Pendapat/PTPTN-Bukan-tak-mahu-bayar

Bandura, A. (1977). Social Learning Theory. Prentice Hall.

Bank Negara Malaysia. (2023). Financial Stability Review: Second Half 2022. Bank Negara Malaysia. Retrieved from https://www.bnm.gov.my/documents/20124/7170876/fsr2022h2_book.pdf

Becker, G. S. (1964). Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education. University of Chicago Press.

Bhushan, P., & Medury, Y. (2022). Financial Literacy and Its Determinants. *International Journal of Economics and Financial Issues, 12*(2), 1–8.

Che Wan, M. C. W. I., Hairunnizam, W., & Mohd Ali, M. N. (2018). Expenditure Pattern and Haddul Kifayah of Students of Higher Education Institutions: Case Study at Kuala Terengganu, Terengganu. *Jurnal Personalia Pelajar 21*(2): 45-57

Chen, H., & Volpe, R. P. (1998). An Analysis of Personal Financial Literacy Among College Students. *Financial Services Review, 7*(2), 107–128. https://doi.org/10.1016/S1057-0810(99)80006-7.

Credit Counselling and Debt Management Agency (AKPK)(2023). Financial Behaviour and Debt Management Trends Among Malaysian Youth. AKPK Malaysia.

Financial Education Network. (2022). National strategy for financial literacy 2.0 (2022–2026). Bank Negara Malaysia. Retrieved from https://www.fenetwork.my/national-strategy/

Global Financial Literacy Excellence Center. (2021). The State of Financial Literacy Around the World. Retrieved from https://gflec.org/initiatives/global-finlit-survey/

Huston, S. J. (2010). Measuring Financial Literacy. *Journal of Consumer Affairs, 44*(2), 296–316. https://doi.org/10.1111/j.1745-6606.2010.01170.x

Kolb, D. A. (1984). Experiential Learning: Experience as the Source of Learning and Development. Prentice Hall.

Lusardi, A., & Messy, F. A. (2023). The Importance of Financial Literacy and Its Impact on Financial Well-being. *Journal of Financial Literacy and Wellbeing, 1*(1), 1–11. https://doi.org/10.1017/flw.2023.8

Lusardi, A., & Mitchell, O. S. (2014). The Economic Importance of Financial Literacy: Theory and Evidence. *Journal of Economic Literature, 52*(1), 5–44. https://doi.org/10.1257/jel.52.1.5

Murugiah, L. (2016). The Level of Understanding and Strategies to Enhance Financial Literacy Among Malaysians. *International Journal of Economics and Financial Issues, 6*(3S), 130–139.

Mwange, A. (2017). Exploring Levels of Financial Literacy Among University of Zambia Final Year Students. *IJRDO–Journal of Business Management, 3*(10), 81–92. https://doi.org/10.53555/bm.v3i3.1272

Organisation for Economic Co-operation and Development. (2020). OECD/INFE 2020 International Survey of Adult Financial Literacy. OECD Publishing. Retrieved from https://www.oecd.org/financial/education/oecd-infe-2020-survey-adult-financial-literacy.pdf.

PTPTN. (2021). PTPTN Annual Report 2021. PTPTN Malaysia.

Remund, D. L. (2010). Financial Literacy Explicated: The Case for A Clearer Definition in An Increasingly Complex Economy. *Journal of Consumer Affairs, 44*(2), 276–295. https://doi.org/10.1111/j.1745-6606.2010.01169.x.