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ENHANCING FINANCIAL WELL-BEING THROUGH DIGITAL FINANCIAL LITERACY: ACCELERATING THE ACHIEVEMENT OF SDGS

Ani Asmaa Asli[1*], Siti Syamira Mohd Ramli[2], Wan Nurashikin Mahmood[3] Mohd Samsuri Ghazali[4], Anusuyah A/P Subbarao[5]

[1] Fakulti Pengurusan Perniagaan, Universiti Teknologi MARA Terengganu, Malaysia
Email: aniasmaa@uitm.edu.my
[2] Fakulti Pengurusan Perniagaan, Universiti Teknologi MARA Pahang, Malaysia
Email: sitsyamira@uitm.edu.my
[3] Fakulti Pengurusan Perniagaan, Universiti Teknologi MARA Pahang, Malaysia
Email: wnurashikin@uitm.edu.my
[4] Fakulti Pengurusan Perniagaan, Universiti Teknologi MARA Pahang, Malaysia
Email: mohdsamsuri@uitm.edu.my
[5] Fakulti Pengurusan, Universiti Multimedia, Malaysia
Email: anusuyah.subbarao@mmu.edu.my
[*] Corresponding Author

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Abstract:

This paper, which is conceptual in nature, discusses the moderating effects of the relationship between several factors that may affect the intention towards indebtedness among Malaysians. The proposed variables under examination are attitude towards indebtedness, perceived behavioural control, and subjective norms, while digital financial literacy serves as a moderator variable. The issue of rising household debt in Malaysia, coupled with inadequate financial literacy in the digital era, highlights the urgency to understand behavioural determinants of indebtedness, particularly among younger generations who are more exposed to online financial products. The main objective of this study is to investigate whether digital financial literacy can weaken or strengthen the relationship between factors and the intention towards indebtedness. Methodologically, the study proposes a quantitative approach using simple random and stratified sampling, with Structural Equation Modelling–Partial Least Squares (SEM-PLS) employed to test the relationships. If validated, the findings would provide valuable references for the regulators, practitioners, and other stakeholders in curbing the digital financial illiteracy in Malaysia, while contributing towards the achievement of Sustainable Development Goals (SDGs).

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Keywords:

Digital Financial Literacy; Financial Literacy; Indebtedness; Malaysian Household; SDG;

Introduction

Household indebtedness has emerged as a critical global economic issue, with many countries experiencing rising levels of debt relative to disposable income (Che Yahya et al., 2023). Factors such as prolonged periods of low interest rates, easy access to credit, and increasing costs of living have fuelled the trend (International Monetary Fund, 2023). In advanced economies such as the United States, Canada, Australia, and South Korea, household debt has surpassed 100% of annual disposable income, raising concerns over long-term financial sustainability (Zainuddin, 2024; OECD, 2023). Similarly, in emerging markets, rapid financial inclusion, rising consumerism, and digital financial services have accelerated borrowing (World Bank, 2023).

In Malaysia, household debt has reached a critical level, posing risks to both macroeconomic stability and individual financial well-being. According to CEIC Data (2025), Malaysia's household debt-to-GDP ratio has remained high at approximately 85%, one of the highest in Southeast Asia. By the end of 2023, household debt surged to RM1.53 trillion, placing Malaysia among the most indebted nations in the region (Arfa, 2024). Housing loans dominate total household debt, followed by personal financing and vehicle loans (Bank Negara Malaysia, 2024). This reliance on debt to sustain household consumption highlights the urgent issue of escalating indebtedness.

The COVID-19 pandemic has further intensified financial pressures, leading many households to depend on alternative credit channels. The proliferation of digital lending platforms and *Buy Now, Pay Later* (BNPL) schemes has made borrowing more convenient but also riskier (Yong et al., 2024). While such innovations expand financial access, they also expose vulnerable households to over-indebtedness, particularly when digital financial literacy is lacking (Business today, 2024).

Table 1 presents an overview of recent household debt statistics in Malaysia, highlighting the severity of the issue.

Table 1
Key Household Debt Indicators in Malaysia

Indicator	Value/Description
Household debt (2023)	RM1.53 trillion (84.2% of GDP) (Arfa, 2024; CEIC Data, 2025)
Household debt (Mar 2025)	RM1.65 trillion (84.3% of GDP) (The Edge Malaysia, 2025)
Main debt components	Housing loans, 60%, vehicle loans, 13%, personal financing, 12% (BNM, 2024)
Debt service ratios (median)	Outstanding loans: 34%; New loans: 41% (BNM, 2024)
Financial asset buffer	Household financial assets at 2.1 more than debt levels (The Star, 2025)

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Therefore, in order to address this growing concern, digital financial literacy (DFL) is proposed as a viable solution. By equipping individuals with the knowledge and skills to manage their finances effectively in a digital environment, DFL can help them make informed borrowing decisions, understand the risks associated with digital lending platforms such as BNPL schemes, and avoid falling into unnecessary debt. Strengthening digital financial literacy among Malaysian households not only enhances personal financial well-being but also aligns with several Sustainable Development Goals (SDGs) Number 4 which is quality education (Yong et al, 2024).

This paper is structured into four sections. The first section provides an introduction, followed by a review of relevant literature in the second section. The third section outlines the proposed framework and research methodology. Finally, the paper concludes with a discussion of key findings and their implications.

Literature Review

Table 2
Recent Findings on Household Indebtedness, Digital Financial Literacy, and BNPL (2020–2025)

Context	Method	Finding
Bank Negara Malaysia, *Financial Stability Review* (H1 & H2 2024)	Descriptive analytics on household sector	Household debt-to-GDP ≈ 84.2%; BNPL users and usage rising; resilience uneven across groups.
World Bank, *Malaysia Economic Monitor* (Apr 2024)	Country diagnostics	Household debt-to-GDP 84.2% (Dec 2023); pockets of borrowers with DSR > 60%.
GBMR Journal (2025) – Young working Malays	Survey; SEM	Attitudes and consumption patterns significantly shape propensity to indebtedness.
Digital Financial Literacy & Debt Management" (2024)	Survey; PLS-SEM	DFL positively affects debt management; SmartPLS used.
Determinants of Intention to Use BNPL" (2024)	TPB-type factors	Materialism, social influence, usability ↑ intention to use BNPL.
Reviews/Studies on BNPL (2024–2025)	Integrative/ empirical	BNPL boosts access but can nudge over-indebtedness; calls for literacy & regulation.
Regulatory updates: CCA & CCOB (2025)	Policy note	BNPL now formally regulated under the Consumer Credit Act, overseen by CCOB.
TPB applications (2022–2025, various)	Theory of Planned Behavior	Attitudes, subjective norms, PBC predict intention across financial/consumption contexts.
Financial wellbeing among lower-income Malaysians (2021)	Survey; SEM	Financial literacy & behavior predict financial wellbeing among B40.

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Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (TPB), developed by Ajzen (1991) and illustrated in Figure 1, serves as a valuable framework for understanding behavioural intentions and actions related to indebtedness among the public. According to TPB, behaviour is influenced by three primary factors: attitude toward the behaviour, subjective norms, and perceived behavioural control. This theory has been widely applied to predict financial behaviours, including spending habits and debt accumulation.

Recent research has further reinforced TPB's relevance in this field. For instance, Ajzen (2020) revisited the theory, reaffirming its applicability in explaining financial behaviours such as credit card misuse and loan defaults. Additionally, Ali et al. (2020) investigated the impact of subjective norms and perceived behavioural control on youth debt behaviour, emphasizing the role of peer influence. Wang et al. (2021) applied TPB to consumer spending patterns during economic downturns, concluding that financial anxiety intensifies the relationship between attitudes and financial behaviour. Similarly, Batool and Anwar (2023) explored the connection between TPB constructs and excessive spending, particularly in the context of online shopping. Meanwhile, Hassan et al. (2023) examined how financial literacy affects the intention to avoid debt, demonstrating that perceived behavioural control plays a mediating role in this relationship.

Several studies have specifically examined indebtedness among Malaysian government servants. Research by Zamri et al. (2023), Rashid and Nor (2022), and Aziz and Mokhtar (2021) highlights the significance of TPB in understanding financial decision-making in this group. Past studies have consistently shown that TPB contributes to understanding monetary management and debt behaviour among the public. For example, Kidwell and Turrisi (2004) utilized TPB to analyze how attitudes and perceived control influence responsible credit card usage among college students, showcasing the model's relevance in financial decision-making. Xiao and Wu (2008) expanded TPB's application by demonstrating that financial education can improve attitudes and perceived control, thereby reducing financial risks among young individuals. Similarly, research by Fernandes et al. (2014) and Dew and Xiao (2011) further underscores the utility of TPB in analyzing and addressing public debt behaviour.

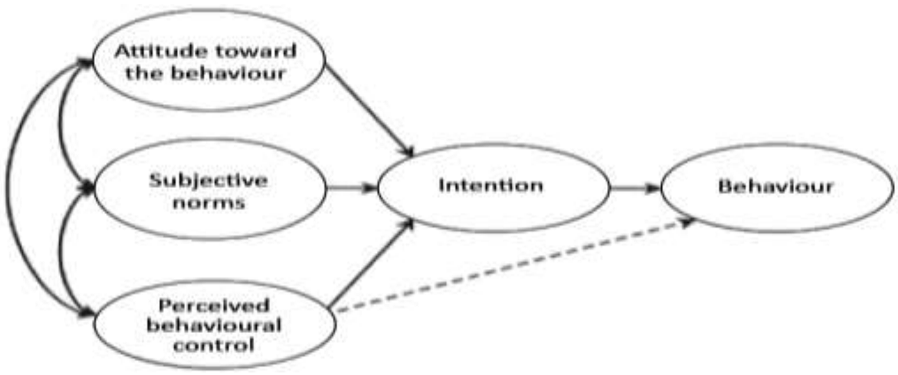

Figure 1. Theory of Planned Behaviour

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Determinants of Theory of Planned Behaviour

The first key determinant is attitude toward indebtedness, which reflects an individual's perception of whether the behavior is good or bad (Denan et al., 2015). Attitude positively influences a person's intention to engage in indebtedness, playing a crucial role in determining whether an individual perceives borrowing as beneficial.

For instance, a recent study by Majeed et al. (2022) found that public sector employees generally hold stronger negative attitudes toward indebtedness compared to their private-sector counterparts, largely due to differences in organizational culture. Liu et al. (2023) highlighted financial literacy as a moderating factor in shaping attitudes toward debt, noting that greater financial knowledge fosters more positive attitudes across both sectors.

In a comparative analysis, Tan and Low (2024) reported that private-sector employees are more susceptible to peer influence, which significantly affects their attitudes toward borrowing, whereas public-sector employees are less influenced by such external opinions. Bakar et al. (2022) suggested that economic factors, such as job stability, play a major role in shaping attitudes toward debt—public sector employees, enjoying greater job security, tend to be less inclined to take on debt. In contrast, Chen and Li (2023) argued that economic uncertainty in the private sector enhances perceived behavioral control over financial decisions, leading to a more positive attitude toward responsible borrowing.

P1: Attitude towards indebtedness will influence intention towards indebtedness.

The second key determinant is subjective norm, which refers to the influence of peers on an individual's decision to behave in a certain way. This factor has been widely studied in human behavior research, particularly in examining how social contexts shape individual intentions. Previous studies on indebtedness have highlighted the significant role of subjective norms in shaping a person’s likelihood of taking on debt.

For example, Wang et al. (2023) found that perceived norms within workplace settings strongly influence employees' attitudes toward borrowing and repayment behaviors. In the public sector, research by Mendez et al. (2023) indicated that social norms significantly affect debt management practices among government employees, particularly in relation to compliance with financial policies. Similarly, Lee and Chen (2023) examined the impact of social influences on private-sector employees, revealing a strong correlation between peer behavior and individual financial decisions.

Additionally, Norvilitis and Merwin (2006) explored the role of subjective norms in college students' credit card usage, demonstrating that social pressure to spend influenced their financial choices. This finding suggests that the influence of subjective norms extends beyond professional settings and applies across different demographics. Ultimately, the impact of subjective norms on an individual’s intention toward indebtedness may vary based on personal and contextual factors.

P2: Subjective norm will influence intention towards indebtedness.

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Perceived behavioral control (PBC), within the framework of the Theory of Planned Behavior (TPB), refers to an individual's confidence in their ability to effectively manage financial debt. Previous research has established that PBC plays a crucial role in shaping an individual's intention to adopt debt management practices, such as budgeting and making timely repayments (Dew, 2011; Xiao et al., 2014).

A study by Poppy et al. (2018) examining financial decision-making among public sector employees found that higher levels of perceived behavioral control were associated with lower levels of indebtedness. Similarly, Shah et al. (2019) investigated private sector employees and discovered that strong financial self-efficacy, a component of PBC, correlated with reduced credit card debt.

Conversely, Thompson et al. (2020) reported that public sector workers who perceived themselves as having less control over their financial circumstances experienced greater stress and higher levels of debt, indicating a direct relationship between low PBC and financial distress. Furthermore, research by Lee and Choi (2022) demonstrated that employees from both public and private sectors who participated in financial education programs exhibited increased perceived behavioral control, leading to improved debt management strategies.

P3: Perceived behavioural control will influence intention towards indebtedness.

Digital Financial Literacy as a Potential Moderator

Digital financial literacy refers to the blend of knowledge, skills, attitudes, and behaviors that individuals need to understand and effectively use digital financial services and technologies in a safe manner, ultimately supporting their financial well-being (OECD, 2022). Digital financial literacy is considered a potential moderator as it may offer a solution for government servants in managing financial challenges, particularly in addressing issues related to indebtedness. In today's digital financial landscape, digital financial literacy is recognized as an essential skill that influences both short-term and long-term financial decision-making. Government servants who struggle with financial issues such as excessive credit card usage, high car loan commitments, and the need to borrow money for essential purchases are likely to exhibit a high tendency toward indebtedness. However, possessing digital financial literacy can potentially mitigate this tendency by enhancing their ability to manage debt responsibly. This argument is based on the premise that digital financial literacy enables individuals to secure their income, make informed spending decisions, and effectively navigate digital financial tools. As a moderating variable, it may shift government servants' debt intentions from engaging in harmful debt to making informed financial choices that contribute to their financial well-being. Furthermore, numerous experts highlight the positive impact of digital financial literacy on access to credit, regardless of borrowing sources (Dang et al., 2019).

P4: Digital financial literacy moderates the relationship between attitudes towards indebtedness, lifestyle, religious obligations and intention towards indebtedness.

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Methodology

This study will adopt an exploratory approach to conduct hypothesis testing. The Theory of Planned Behaviour (TPB) framework will be adapted to investigate the factors influencing the intention toward indebtedness.

This paper proposes a theoretical framework (Figure 2) that illustrates the relationship between attitude toward indebtedness, subjective norms, and perceived behavioural control (independent variables) with the intention toward indebtedness among Malaysian households (dependent variable). Additionally, the framework includes the moderating role of digital financial literacy in influencing the relationship between the independent and dependent variables.

The study employs TPB as the foundational theory to understand Malaysian households' intentions toward indebtedness. This aligns with the recommendations of Asli et al. (2021), Azma et al. (2019), Amran et al. (2019), and Ajzen et al. (1991), who suggest that TPB allows for the inclusion of additional predictor variables to explain human behaviour (Vallerand et al., 1992). A quantitative approach will be utilized to examine these relationships, with data collected through a structured questionnaire, given that the study adopts a cross-sectional research design. Figure 2 presents the proposed theoretical framework based on these principles.

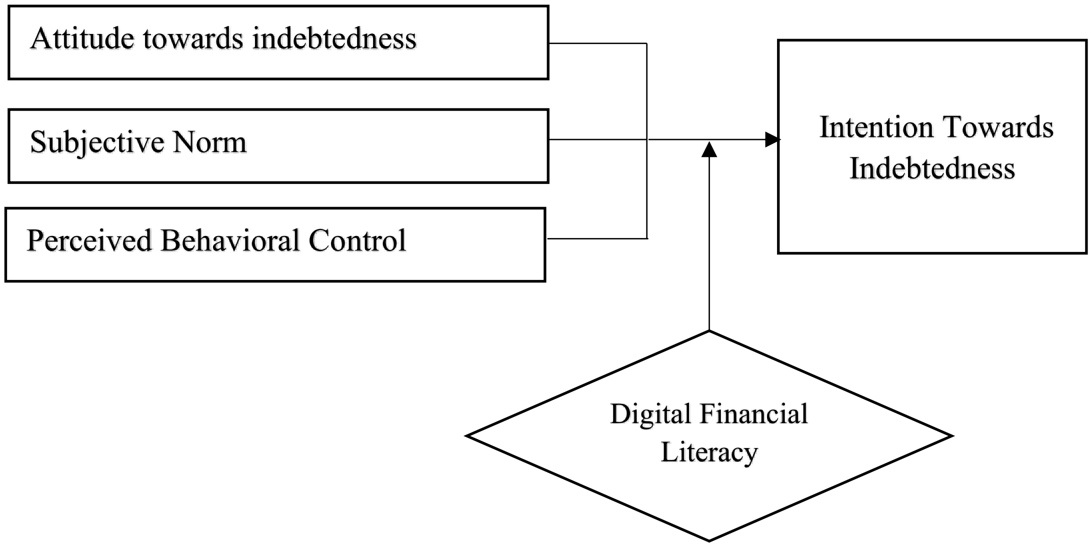

Figure 2. Proposed Research Framework

This study's survey will be conducted across Malaysia, targeting Malaysian households consisting of government servants and private-sector employees, who represent the household population. Malaysia has been identified as one of the countries with the highest bankruptcy cases, making this population ideal for studying lifestyle patterns and behaviors related to indebtedness. These individuals are selected due to their stable monthly incomes and essential financial knowledge.

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According to the Government of Malaysia (2024), there are currently 9.1 million households nationwide. Following Krejcie and Morgan's (1970) sampling guidelines, when a population exceeds 1,000,000, a sample size of 384 is considered appropriate. Therefore, the study will employ a combination of stratified and simple random sampling to select potential respondents.

Data collection will be carried out using a structured questionnaire comprising five sections. A five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), will be used to measure all variables, including attitude towards indebtedness, subjective norms, perceived behavioral control, digital financial literacy, and intention towards indebtedness. The researcher will distribute the questionnaires directly to respondents, ensuring timely responses and a high return rate.

Conclusion

Indebtedness remains one of Malaysia's most pressing challenges. While many government employees may prefer to avoid discussing the issue, it continues to be a significant concern for policymakers, researchers, and the general public. Therefore, there is an urgent need for comprehensive programs aimed at preventing financial distress, particularly amid rapid technological advancement and the proliferation of digital financial services.

This study seeks to address a critical research gap by examining the behavioral factors influencing the intention toward indebtedness in the digital era. Grounded in the Theory of Planned Behavior (TPB), the research investigates how attitude toward indebtedness, subjective norms, and perceived behavioral control predict the intention toward indebtedness among Malaysian households. The study further introduces digital financial literacy as a moderating variable that may either buffer or amplify these relationships. A conceptual framework guiding this structure is illustrated in Figure 2.

The objectives of this study are threefold. First, it aims to explore the effects of attitude, subjective norms, and perceived behavioral control on the intention toward indebtedness. Second, it investigates the moderating role of digital financial literacy in these relationships. Third, it intends to validate the applicability of TPB while extending it by incorporating digital financial literacy, a crucial element of decision-making in the digital age. These objectives are expected to be accomplished using a quantitative research design and a representative sample of households across Malaysia.

This study offers several important contributions. Theoretically, it extends TPB by embedding digital financial literacy as a moderator, reflecting recent findings that DFL influences financial behavior (Ahmad & Yaacob, 2024) and that incorporating literacy into TPB enhances model explanatory power (Yeo et al., 2024). Practically, the findings will help policymakers, regulators, and financial organizations better understand how behavioral predispositions and literacy levels shape borrowing intentions especially in relation to digital credit tools. From a policy standpoint, empirical evidence from this study could inform national strategies aimed at curbing indebtedness and enhancing financial resilience.

Although the study is designed to meet its objectives, limitations may guide future research. The cross-sectional design constrains causal inference. Future studies could employ longitudinal designs to observe how indebtedness intentions evolve under digital financial education interventions. Additionally, future research may integrate variables such as financial stress, cultural norms, or the influence of fintech tools like BNPL. Comparative studies across income strata or cross-country analyses could also expand understanding of indebtedness behaviors in varied contexts (Liew et al., 2025).

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