



# Students' Financial Literacy: Digital Financial Literacy Perspective

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## ABSTRACT

**Objective** – This study aims to assess students' financial literacy levels using digital financial literacy (DFL), the most recent element.

**Methodology** – Students who are based in Selangor, Malaysia, were chosen for this study as they recorded a high rate of youth bankruptcy. Convenience sampling was used to distribute the questionnaires among the students between March and August of 2021, where a total of 184 responses were retrieved.

**Findings and Novelty** – The results indicated that students possessed advanced financial knowledge and confidence. Despite the extensive experience in completing online financial transactions, the students lack digital financial knowledge and an understanding of the risks associated with digital financial services. Therefore, including DFL in financial education is essential to ensuring future generations' financial well-being. This study also adds to the limited literature on financial digital literacy and serves as an eye-opener to policymakers on its importance in financial education.

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## 1. Introduction

Financial instability and a lack of financial literacy are perceived as common factors leading to the rise in bankruptcy and social concerns among the younger generation. Between 2017 and October 2021, a total of 36,173 Malaysians aged 18 to 44 were declared bankrupt, according to the Malaysian Department of Insolvency. Of which, Selangor state recorded the highest number of instances (25%) (Mdi, 2021). This rate impairs the achievement of the Sustainable Development Goals (SDGs), which are aimed at reducing inequality and promoting social and economic inclusion for all citizens. Due to the recent outbreak of the COVID-19 pandemic, financial transactions have shifted from physical to electronic. Electronic transactions create additional risks as it results in the ease of conducting financial transactions. Hence, students should have a good understanding and awareness of online transactions to practise sound financial management, commonly referred to as digital financial literacy (DFL). Financial literacy deficiencies (both basic and digital) pose a substantial threat to individual financial management.

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It is crucial to assess financial literacy among current university students as they will have to budget their expenses for living and study-related costs using the scholarship or pocket money. The existing literature on financial literacy mainly focuses on the measurement and assessment of determinants of basic financial literacy. Hence, this study aims to determine the degree of financial literacy (both basic and digital) among university students in Selangor. This study could potentially advance the field of financial literacy in Malaysia because past literature tended to focus on financial literacy, whereas DFL is yet to be fully understood.

This paper is structured as follows. The second section provides a synopsis of important literature. While the third section describes the study design, including the research instrument and data analysis process. Section four provides the results and discussion, whereas section five concludes the study findings.

## 2. Literature Review

Past literature on financial literacy addressed a wide variety of subjects, including the definition, measurement, and assessment of financial literacy levels. Financial literacy can be defined differently. The first definition involves the possession of pertinent financial information, commonly referred to as knowledge and skills (Bawre & Kar, 2019) (Henager & Cude, 2016) (OECD, 2020) (PIDM, 2020) (Thomas & Subhashree, 2020). (PIDM, 2020) and (Thomas & Subhashree, 2020) added another aspect as part of their definition of financial literacy, which is “confidence”. Meanwhile, the second definition refers to an individual’s capacity to apply financial knowledge, skills, and confidence to make sound financial decisions (Bawre & Kar, 2019) (Henager & Cude, 2016) (Lusardi & Mitchell, 2014) (PIDM, 2020).

Recent developments in digital financial goods and services demand digital literacy as a necessary component of financial information. The current COVID-19 outbreak necessitates a change toward online transactions instead of traditional financial transactions. Consequently, digital literacy skills are required to perform online financial transactions, where the idea of DFL comes to attention. According to previous studies (AFI, 2021) (Lyons & Kass-Hanna, 2021) (Morgan et al., 2019) (Tony & Desai, 2020), DFL is a multi-faceted notion that encompasses both financial and digital literacy. Meanwhile, (Setiawan et al., 2020) described DFL as “financial literacy in digital financial technology” (p.3).

(Morgan et al., 2019), (Tony & Desai, 2020), and (Lyons & Kass-Hanna, 2021) defined DFL using five (5) dimensions. Meanwhile, (AFI, 2021) conceptualized DFL using only three (3) dimensions. Nevertheless, there are commonalities between the dimensions outlined previously. Each study considered the dimensions of knowledge, practical know-how, and self-defense. Knowledge was defined as the possession of information regarding digital financial goods and services that are readily accessible (AFI, 2021) (Lyons & Kass-Hanna, 2021) (Morgan et al., 2019) (Setiawan et al., 2020). It includes digital wallets and online banking (Lyons & Kass-Hanna, 2021). Practical know-how is defined as possessing the necessary abilities or expertise to use a digital financial product or service. While self-protection refers to the capacity of detecting risks associated with digital financial transactions and being aware of self-protection mechanisms against such risks. The other two dimensions are basic digital knowledge (Lyons & Kass-Hanna, 2021) and decision making related to financial digital activities (Lyons & Kass-Hanna, 2021) (Setiawan et al., 2020).

Based on the numerous studies on financial literacy worldwide, different methods to assess financial literacy were developed. Financial literacy can be measured using one of three (3) approaches namely (1) objective measurements, (2) subjective measures, or (3) a combination of objective and subjective measures. One of the most popular objective measures was proposed by (Lusardi & Mitchell, 2008), where three questions covering fundamental economic concepts (interest rate and inflation), basic numeracy, and risk diversification were used to evaluate financial literacy. These questions are widely known as the “Big Three”

financial literacy questions. The second approach assessed financial literacy through self-assessment, where respondents were required to assess their financial knowledge (Kenayathulla et al., 2020) (Mien & Thao, 2015) (Perry & Morris, 2005). Whereas, the third approach combined both the objective and subjective measures (Allgood & Walstad, 2013) (Ameer & Khan, 2020) (Tokar Asaad, 2015) (Nye & Hillyard, 2013). The objective measures were referred to as actual literacy (Allgood & Walstad, 2013) or financial knowledge (Tokar Asaad, 2015), meanwhile, the subjective measures denoted the perceived literacy (Allgood & Walstad, 2013) or financial confidence (Ameer & Khan, 2020) (Tokar Asaad, 2015).

Despite the presence of established measures of financial literacy, DFL is still in its infancy as there are limited studies on DFL and its measurement (Setiawan et al., 2020) (Tony & Desai, 2020). (Tony & Desai, 2020) evaluated the influence of DFL on India's financial inclusion, whereas, (Setiawan et al., 2020) assessed the association between DFL and financial management behaviors including saving and spending. (Setiawan et al., 2020) used subjective measures of DFL based on the multi-dimensions as suggested by (Morgan et al., 2019). (Lyons & Kass-Hanna, 2021) proposed multidimensional indicators that could be used as a basis to devise the questionnaires to measure DFL.

A great deal of studies has been conducted worldwide to identify the level of financial literacy among students. A study by (Akben-Selcuk, 2015) indicated that the financial literacy level among students in Turkey was average, as they possessed a financial knowledge score of 42.87%. The study required students to answer questions related to general money management, saving and borrowing, investment, and insurance. Another study in Indonesia that used similar measurement items (Lantara & Kartini, 2015) also reported an average score for financial literacy level with a mean percentage of correct scores of 45.39%. (Lantara & Kartini, 2015) claimed that the level of Indonesia's financial literacy was much lower than that of developed countries like the US and Australia. They argued that Indonesian university curricula focus on corporate finance and financial markets, lacking a solid personal finance education.

(Ergün, 2017) reported that students from 5 European countries (the Czech Republic, Estonia, France, Spain, and Turkey) were more knowledgeable on insurance related questions compared to the time value of money. Hence, they concluded that students do not have sufficient knowledge of the potential earning capacity of money in the future. Meanwhile, (Oseifuah et al., 2018) who used similar instruments as (Ergün, 2017), demonstrated that more than half (53.5%) of the African students were financially literate. (Philippas & Avdoulas, 2020) also reported that the Greek students' level of financial literacy was 50%. Whereas, (Swiecka et al., 2020) reported that only 43.8% of the school students recorded a high-level score in financial knowledge.

A recent study by (Kenayathulla et al., 2020) revealed that Malaysian students possessed a high level of financial knowledge based on all questions asked. However, the score was lower for questions pertaining to the interest on borrowing, a better source of financing, the link between credit card ownership and purchasing power, and expenditure to meet the budget. These findings contradicted the previous studies which reported a low financial literacy among Malaysian students. For instance, (Ibrahim, D., Harun, R., & Mohamed Isa, 2009) examined the financial literacy level of degree students and reported a lack of financial knowledge which was reflected in weak money management skills. While (Sabri et al., 2010) also reported that less than half of the respondents were able to answer the 25 questions related to financial knowledge correctly. (Yew et al., 2017) revealed a low financial literacy among college and university students in Malaysia, where only 23.8% managed to answer 10 or more questions correctly.

### 3. Research Methodology

The primary goal of this study is to determine the degree of financial literacy among Malaysian youth. Due to the high percentage of youth bankruptcy in Selangor, Malaysia, students from Selangor were selected for this study. The electronic survey was distributed from March to August 2021 to students in Selangor by convenience sampling. A total of 184 responses were received.

The questionnaire consisted of three (3) sections. The first section captures respondents' demographic information, such as gender and education level. The second section consists of questions related to financial literacy. This study used the third approach to measure financial literacy. It used a combination of objective financial literacy questions and subjective perceptions of students on financial literacy. A total of 5 questions were used to measure the objective financial literacy level of the students based on (Philippas & Avdoulas, 2020) work which covered questions related to basic economic concepts (interest rate and inflation), basic numeracy, and risk diversification. According to (Lyons & Kass-Hanna, 2021), Financial Literacy-Actual (FLA) scores can range from 0 (i.e., zero correct responses) to 5 (the maximum number of correct responses). This study measured students' subjective perceptions of financial literacy (Financial Literacy-Confidence or FLC) using a questionnaire adapted from (Perry & Morris, 2005). The respondents were required to rate the level of agreement with the statement related to financial knowledge (1- strongly disagree, 5-strongly agree).

The third section consisted of questions that measure the students' DFL. The questions are adapted from (Setiawan et al., 2020). The 5 questions covered three common dimensions suggested in previous studies (Lyons & Kass-Hanna, 2021) (Morgan et al., 2019) (Tony & Desai, 2020). They are (1) knowledge related to digital financial goods and services, (2) skills or experience using digital financial goods and services, and (3) awareness of potential risk and self-protection mechanisms against the risk.

### 4. Results and Discussion

Table 1 summarises the descriptive statistic of the respondents. A majority of the respondents were female students (77.2%). Also, 67.4% of the respondents were pursuing their bachelor's degrees.

Table 1 Descriptive Statistics

Variables	Descriptions	N	%
Gender	Male	42	22.8
	Female	142	77.2
Programme Level	Diploma	29	15.8
	Bachelor's degree	124	67.4
	Master's degree	16	8.7
	Doctoral	2	1.1
	Professional	13	7.0

Table 2 presents the distribution of FLA scores of the students. Almost one-third of students (31%) answered all financial literacy questions correctly. The mean score was also high (3.8913), indicating that the

student's financial literacy level was good, measured based on the actual knowledge. The high mean score could be due to the respondents' accounting background. A previous study (Yew et al., 2017) claimed that their respondents had a good foundation in financial literacy from being exposed to finance-related courses.

Table 2 – FLA Scores

Score	0	1	2	3	4	5
N	1	5	12	34	74	57
%	0.5	2.7	6.5	18.5	40.8	31.0
Mean						3.8913
Std. deviation						1.03972

Table 3 illustrates the subjective perceptions of students on financial literacy. Overall, the actual (FLA) and financial confidence (FLC) scores are almost similar. Most of the students achieved the highest score for the ability to make a priority list for consumption needs, while the ability to invest in stocks, bonds, and other securities scored the lowest among the students. The priority was on budgeting daily consumption compared to getting involved in capital market investment.

Both the FLA and FLC scores indicated that the financial literacy level of the students was relatively good compared to the studies conducted in Malaysia in previous years (Ibrahim, D., Harun, R., & Mohamed Isa, 2009) (Sabri et al., 2010) (Yew et al., 2017). The findings in this study were also consistent with a recent study by (Kenayathulla et al., 2020). This observation could be regarded as an early indication of the effectiveness of the Malaysia National Strategy for Financial Literacy launched back in 2019.

Table 3 – FLC scores

	Mean	Std. Deviation
BK1: Making a personal financial plan.	3.6739	.93046
BK2: Making a priority list of my consumption needs.	4.0163	.89611
BK3: Evaluating the expenses that I have spent.	3.8098	1.02521
AK1: How to invest in stocks, bonds, and other securities.	2.1902	1.17892
AK2: The concept of the time value of money (present value).	3.0707	1.10162
AK3: How to invest in the capital market.	2.2228	1.14487
Overall	3.1639	.70052

Table 4 summarises the students' ratings on their DFL. The first question that was related to digital financial knowledge scored slightly lower compared to the other questions. Nevertheless, the students had a

lot of experience executing online financial transactions, as indicated by a high rating for DFL2 (4.6522) and DFL3 (4.6630). Despite having a high online transaction experience, the awareness of the potential risk of using digital financial services was rated relatively low (4.3533). Hence, more awareness campaigns related to digital financial service risk should be conducted to increase awareness. The question with the highest rating referred to self-protection when using digital financial services (4.7609) (DFL5). Hence, it indicated good experience in using mobile or laptop for internet banking which requires a personal identification number (PIN) to access the service.

Table 4 – DFL

	Mean	Std. Deviation
DFL1: I have good understanding of digital payment such as mobile or internet banking (e.g.: CIMB Click, Maybank2u) & ewallet (Touch 'n Go ewallet, Boost).	4.3370	.83995
DFL2: I have experience making digital payment using mobile or internet banking (e.g.: CIMB Click, Maybank2u) & ewallet (Touch 'n Go ewallet, Boost).	4.6522	.68449
DFL3: I have experience using mobile or internet banking to transfer funds from one account to another account.	4.6630	.71330
DFL4: I am aware about the potential risk in using digital financial service such as identity theft.	4.3533	.78245
DFL5: I am aware that I have to protect my personal identification number (PIN) and other personal information when using financial services provided through digital means.	4.7609	.58896
Overall	4.5533	.58412

The student's overall DFL was relatively high (4.5533 of 5) exceeding the FLA and FLC scores. The score recorded in this study was far higher than that of the DFL reported by Setiawan et al. (2020) in Indonesia (2.986). The high DFL among Malaysian students might be due to the COVID-19 outbreak where most stores shifted their operations online. In general, the general public including students opted to transact online to prevent direct contact. For instance, textbooks that previously were acquired from bookstores on campus were now made available online. Students were exposed to online financial transactions compared to pre-COVID-19 time, resulting in higher DFL.

## 5. Conclusion

A high rate of bankruptcy among Malaysian youth is an important indication of low financial literacy. A sound financial literacy is crucial to ensure good practice in proper financial management. The ease of conducting financial transactions online due to mushrooming online stores and cashless transactions during the Covid-19 pandemic served might negatively affect the financial management among youth. Hence, this study aimed to examine the current financial literacy (both basic and digital) among university students in Selangor. A total of 184 students were surveyed. On average, the financial literacy level of the students was good. The literacy level was measured based on all perspectives, including actual knowledge, students' confidence, and digital literacy. This study provided a comprehensive view of the students' financial literacy

by adding to the growing body of DFL. This study also highlighted the lack of digital financial knowledge and awareness of risk related to the digital financial transaction among the students compared to the other DFL elements. Hence, a financial education framework should incorporate DFL elements to uplift the financial literacy among Malaysian students. Future research could focus on examining the important drivers of DFL as they could facilitate policymakers to devise appropriate measures to enhance financial literacy among Malaysian youth.

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