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Beyond Ai Awareness: Digital Financial Literacy, Technology Trust, and Financial Decision-Making Quality among University Students

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Abstract

The increasing integration of artificial intelligence (AI) and digital technologies into financial services has transformed how university students access financial information and make financial decisions. However, awareness of emerging technologies may not necessarily translate into better financial decision-making. This study examines the associations of AI awareness, digital financial literacy, and trust in technology with financial decision-making quality among university students. A quantitative cross-sectional design was employed, and data were collected from 101 university students using a structured questionnaire through convenience sampling. The measurement instrument comprised four constructs: AI awareness, digital financial literacy, trust in technology, and financial decision-making quality. Data were analyzed using descriptive statistics, reliability analysis, exploratory factor analysis, Pearson correlation, and multiple linear regression. The regression model was statistically significant and explained 37.3% of the variance in financial decision-making quality ($R^2 = .373$, adjusted $R^2 = .354$). Digital financial literacy was significantly and positively associated with financial decision-making quality ($\beta = .240$, $p = .024$), while trust in technology also demonstrated a significant positive association ($\beta = .475$, $p < .001$). In contrast, AI awareness did not demonstrate a significant unique association with financial decision-making quality after the other predictors were considered ($\beta = -.086$, $p = .364$), despite its positive bivariate correlation with the outcome. The findings highlight the distinction between technological awareness and the competencies required for informed financial decision-making. The study suggests that financial education for university students should extend beyond increasing AI awareness by strengthening digital financial literacy and promoting appropriately calibrated trust in financial technologies.

Keywords: Ai Awareness, Digital Financial Literacy, Trust In Technology, Financial Decision-Making Quality, University Students, Financial Technology

Introduction

The rapid digitalisation of financial services has transformed the way individuals access financial information, conduct transactions, manage money, and make financial decisions. Mobile banking, e-wallets, digital investment platforms, and other technology-enabled financial services have become increasingly embedded in everyday financial activities. This transformation has increased the importance of digital financial literacy, particularly among young adults who frequently interact with digital financial products and services. In Malaysia, digital financial literacy has emerged as an important area of concern as young adults increasingly participate in digitally mediated financial activities (Wan Nawang & Abdul Shukor, 2023).

University students represent a particularly relevant population in this changing financial environment. As they transition towards greater financial independence, students are increasingly required to make decisions concerning expenditure, saving, budgeting, and the use of financial services while simultaneously navigating digital financial platforms. Previous research suggests that digital financial literacy is associated with various aspects of financial capability, behaviour, and decision-making. Kusuma et al. (2024), for instance, demonstrated that digital financial literacy was significantly associated with financial capability and financial decision-making among students. Similarly, Ali, Alamgir, and Nawaz (2024) examined digital financial literacy in relation to students' saving, spending, and investment behaviors, further demonstrating its relevance to financial management in digitally mediated environments.

Investigating financial decision-making quality among university students is important because this population is navigating increasing financial independence while engaging with digital financial services that require the evaluation of financial information, potential risks, and available alternatives. Although digital technologies provide convenient access to financial resources and services, their availability does not necessarily ensure that users possess the competencies required to make informed financial decisions. This raises an important research concern: whether students' familiarity with emerging technologies, particularly AI, is independently associated with better financial decision-making, or whether digital financial literacy and confidence in technological systems are more closely related to their perceived decision-making quality. Addressing this concern is relevant to understanding the capabilities associated with responsible financial decision-making in digitally mediated environments.

Nevertheless, evidence concerning the financial consequences of digital financial literacy is not entirely consistent. In the Malaysian context, Ali et al. (2024) reported that digital financial literacy negatively affected sound financial behavior among university students, contrary to the expected positive relationship. More recent evidence from Malaysian university students indicates that digital financial literacy significantly influences financial behavior but does not necessarily exert a direct influence on financial well-being when other financial and psychological factors are considered (Wan Nawang et al., 2025). These findings suggest that possessing digital financial knowledge and skills does not automatically translate into uniformly positive financial outcomes. Rather, the role of digital financial literacy may depend on the particular financial outcome examined and the other individual or technological factors operating alongside it.

The increasing integration of artificial intelligence (AI) into digital environments adds another dimension to this issue. AI-related technologies are increasingly relevant to how individuals obtain information and interact with technology-enabled services. Consequently, the ability to understand and engage with AI has attracted growing attention within higher education and digital literacy research. Among Malaysian undergraduates, AI literacy has been conceptualised as encompassing the knowledge, skills, and competencies required to understand and manage AI effectively (Yusnilzahri et al., 2025). Recent Malaysian evidence further suggests that AI awareness is an important antecedent of AI literacy, reinforcing the conceptual distinction between being aware of AI and possessing the broader competencies required to understand and use it effectively (Yusnilzahri et al., 2025). Emerging research has also begun to connect AI-related capabilities with financial decision-making. Rehan et al. (2026), for example, found significant relationships between AI literacy, digital self-efficacy, and financial decision-making among university students, with digital self-efficacy acting as a mediating mechanism.

However, AI literacy and AI awareness should not be treated as interchangeable concepts. AI literacy generally encompasses broader knowledge, competencies, and critical capabilities related to understanding and using AI, whereas awareness represents a more basic recognition and understanding of AI and its applications. In the present study, AI awareness refers specifically to students' awareness that AI is used in financial applications, their understanding of its functions, their experience with AI-enabled financial features, their recognition of AI's potential role in financial decisions, and their interest in learning about AI for financial purposes. Accordingly, awareness of AI does not necessarily imply that an individual possesses the broader competencies associated with AI literacy. This distinction is important when evaluating whether familiarity with AI-enabled financial technology is independently associated with the quality of financial decision-making.

Alongside digital financial literacy and AI awareness, trust in technology represents another important consideration in digital financial environments. Financial services require individuals to rely on systems and service providers in situations involving sensitive personal information, financial resources, uncertainty, and risk. Devlin et al. (2025) argue that trust remains particularly important in FinTech because technologically mediated financial services involve issues such as data use, system reliability, complexity, information asymmetry, and technological uncertainty. In the Malaysian Generation Z context, trust in technology has also been found to significantly influence university students' intentions to adopt decentralised FinTech platforms (Hassan et al., 2025). These findings indicate that users' willingness to rely on technology may represent an important component of their interaction with digital financial systems. Recent evidence further suggests that trust may operate alongside digital financial literacy in shaping how digitally engaged individuals approach financial decisions, indicating that technological confidence and financial capability may represent complementary rather than isolated influences (Goso et al., 2025).

Despite growing research on digital financial literacy, AI-related capabilities, and technological trust, their respective roles in financial decision-making remain insufficiently integrated. Existing studies have frequently examined digital financial literacy in relation to financial behaviour, capability, or well-being (Ali et al., 2024; Kusuma et al., 2024; Wan Nawang et al., 2025), while emerging AI research has largely focused on broader AI literacy

and related digital capabilities (Rehan et al., 2026; Yusnilzahri et al., 2025). Similarly, much of the technology-trust literature has concentrated on FinTech adoption and behavioural intention rather than the quality of personal financial decisions (Devlin et al., 2025; Hassan et al., 2025). Consequently, it remains unclear whether basic awareness of AI contributes independently to financial decision-making quality when students' digital financial literacy and trust in technology are considered simultaneously.

To address this gap, the present study examines the associations of AI awareness, digital financial literacy, and trust in technology with financial decision-making quality among university students. Specifically, the study aims to: (1) examine the association between AI awareness and financial decision-making quality; (2) examine the association between digital financial literacy and financial decision-making quality; and (3) examine the association between trust in technology and financial decision-making quality. The originality of this study lies in its simultaneous examination of AI awareness, digital financial literacy, and trust in technology as distinct correlates of financial decision-making quality among university students. Unlike studies that primarily focus on broader AI literacy, digital financial behaviour, or FinTech adoption intentions, this study specifically distinguishes basic AI awareness from digital financial competencies and technology trust within a common analytical framework. Its scholarly contribution lies in clarifying whether awareness of emerging AI technologies provides a unique association with perceived financial decision-making quality after accounting for these related financial and technological factors. This distinction contributes to a more differentiated understanding of technology-related financial capabilities in an increasingly AI-enabled financial environment.

The significance of this study extends to several stakeholders. For universities and financial educators, the findings may inform the development of financial education initiatives that emphasis digital financial competencies, critical evaluation of technology-mediated information, and responsible financial decision-making rather than technological awareness alone. For financial technology providers, the study offers insights into the relevance of users' confidence in digital financial systems, highlighting the importance of transparency, data protection, and appropriately calibrated technology trust. University students may also benefit from a greater understanding of the financial and technological competencies associated with informed financial choices. From a scholarly perspective, the study contributes to the literature by distinguishing technological awareness from digital financial capability and technology trust, while extending the examination of these factors to perceived financial decision-making quality rather than focusing exclusively on technology adoption or general financial behaviour.

Literature Review and Hypotheses Development

Financial Decision-Making Quality in a Digital Financial Environment

Financial decision-making involves the evaluation of available information, potential risks, alternatives, and expected consequences before selecting a financial course of action. In increasingly digital financial environments, this process extends beyond conventional financial knowledge because individuals must also interact with digital platforms, interpret digitally presented financial information, and determine whether technology-mediated information can be relied upon. Digital financial literacy has consequently become increasingly relevant as financial products and services become more technology dependent.

Among Malaysian young adults, Wan Nawang and Abdul Shukor (2023) conceptualised digital financial literacy through several dimensions, including knowledge of digital financial products and services, awareness of digital financial risks, knowledge of risk-control mechanisms, and knowledge of consumer rights and redress procedures. Their findings indicated generally medium-high to high levels of digital financial literacy among Malaysian young adults. Such competencies are relevant to financial decision-making because individuals operating in digital environments must understand not only financial information but also the risks and characteristics of the platforms through which that information is accessed.

The present study conceptualises financial decision-making quality in terms of students' ability to make rational financial decisions, assess financial risks before acting, consider relevant financial information, make decisions that contribute to financial stability, and remain satisfied with their financial decisions. Within this framework, financial decision-making quality may be associated not only with students' financial competencies but also with their awareness of emerging technologies and their confidence in using technology for financial purposes.

AI Awareness and Financial Decision-Making Quality

Artificial intelligence is becoming increasingly relevant to digital learning and technology-mediated decision-making. Consequently, researchers have begun to examine whether individuals' knowledge and understanding of AI are associated with their capacity to make decisions in increasingly technology-intensive environments. Recent studies have generally approached this issue through the broader construct of AI literacy.

Rehan et al. (2026), for example, examined AI literacy, digital self-efficacy, and financial decision-making among university students. Their findings indicated a significant relationship between AI literacy and financial decision-making and further showed that digital self-efficacy mediated this relationship. Recent evidence also supports the need to distinguish AI awareness from broader AI literacy. Among Malaysian undergraduates, AI awareness has been identified as an antecedent of AI literacy, suggesting that awareness may represent an earlier stage of AI-related capability rather than a comprehensive competence in itself (Yusnilzahri et al., 2025). Similarly, recent research among Generation Z finance students has examined AI literacy alongside other capabilities, including self-directed learning and innovative thinking, in explaining FinTech-related capability, further suggesting that effective engagement with financial technology involves a broader set of competencies than AI familiarity alone (Visedsun et al., 2026).

However, AI literacy represents a broader construct than AI awareness. AI literacy typically incorporates knowledge, competencies, and the capacity to understand or critically engage with AI, whereas awareness reflects more fundamental recognition and familiarity. In the present study, AI awareness captures students' knowledge that AI is used in financial applications, their understanding of AI functions in financial management, previous use of AI-related financial features, awareness that AI can assist financial decisions, and interest in learning about financial applications of AI.

This distinction has important implications. Greater awareness may expose students to AI-enabled tools and increase their recognition of technology-assisted financial possibilities, potentially improving their access to information relevant to financial decisions. At the same time, awareness alone may not guarantee the competencies required to evaluate financial information critically. Nevertheless, students with greater AI awareness may be better positioned to recognise and utilise AI-supported resources when considering financial choices. Based on this reasoning and the emerging empirical association between AI-related capabilities and financial decision-making, the following hypothesis is proposed:

H_1: AI awareness is significantly associated with financial decision-making quality among university students.

Digital Financial Literacy and Financial Decision-Making Quality

Digital financial literacy refers to the knowledge and capabilities required to engage effectively with digital financial products, information, risks, and services. Unlike conventional financial literacy, it incorporates competencies that are specifically relevant to digitally mediated financial activities. Wan Nawang and Abdul Shukor (2023) emphasised knowledge of digital financial products, awareness of digital financial risks, risk-control knowledge, and consumer protection as important dimensions of digital financial literacy among Malaysian young adults.

The relationship between digital financial literacy and financial decision-making can be explained by the informational and evaluative demands involved in financial choices. Individuals who can understand digitally presented financial information, recognise potential risks, use financial applications effectively, and protect their financial information should be better equipped to evaluate alternatives before making financial decisions. Thus, digital financial literacy may provide the practical capability required to convert access to digital financial services into more informed decision-making.

Empirical evidence provides support for this proposition. Kusuma et al. (2024), in a study involving 251 students, examined digital financial literacy, financial capability, and financial decision-making. Their results demonstrated significant relationships within this framework and highlighted the role of financial capability in linking digital financial literacy with financial decision-making. Evidence from Malaysia also indicates that young adults generally interact with digital financial products and possess varying levels of knowledge concerning digital financial services and risks (Wan Nawang & Abdul Shukor, 2023).

More recent evidence has further reinforced the relevance of digital financial literacy to financial decision-making. Goso et al. (2025) demonstrated that digital financial literacy forms part of a broader behavioural framework for financial decision-making among digital natives, while also highlighting the relevance of trust within digitally mediated financial environments. Evidence from university students outside the Southeast Asian context also demonstrates the continuing importance of digital financial literacy. Mbatane and Kekana (2025), in a quantitative study of university students in South Africa, highlighted the relevance of digital financial literacy to students' engagement with increasingly technology-based financial services.

However, the consequences of digital financial literacy are not necessarily uniform across all financial outcomes. Existing studies have examined outcomes ranging from financial behaviour and capability to financial well-being, and the strength and direction of relationships can vary according to the outcome and population studied. This reinforces the need to examine financial decision-making quality specifically rather than assuming that digital financial literacy produces identical effects across all dimensions of financial behaviour.

In the present study, digital financial literacy reflects students' ability to use financial applications effectively, understand digitally presented financial information, evaluate risks on digital platforms, manage finances using digital technology, and protect financial information. These competencies are expected to facilitate more systematic evaluation of financial choices. Therefore:
H_2: Digital financial literacy is significantly associated with financial decision-making quality among university students.

Trust in Technology and Financial Decision-Making Quality
Trust becomes particularly important when individuals depend on technology in situations characterised by uncertainty, risk, and limited ability to directly evaluate how a system operates. These conditions are highly relevant to digital financial services because users may rely on technological systems to process transactions, store sensitive information, provide financial information, or support financial choices.

Trust has therefore received substantial attention in FinTech research. The literature indicates that technological uncertainty, data use, system reliability, information asymmetry, and perceived security can shape users' willingness to rely on technology in financial settings. More broadly, trust can reduce perceived uncertainty and facilitate reliance on technological systems when individuals cannot independently verify every aspect of system performance.

Recent Malaysian evidence further demonstrates the relevance of technology trust among young users of financial technology. A study of 391 Generation Z university students in the Klang Valley found that trust in technology significantly affected their intention to adopt decentralised FinTech platforms in a cyber-risk environment (Hassan et al., 2025). Although technology adoption is conceptually distinct from financial decision-making quality, this evidence demonstrates that trust influences how university students respond to financial technologies when uncertainty and technological risk are present.

Beyond technology adoption, recent evidence suggests that trust may also be relevant within broader models of digital financial decision-making. Goso et al. (2025) incorporated trust alongside digital financial literacy in examining financial decision-making among digital natives, suggesting that individuals' confidence in digital financial systems may operate together with their financial capabilities when navigating technology-mediated financial environments.

In the present study, trust in technology encompasses students' perceptions of the safety of digital financial applications, confidence that their financial data are adequately protected, trust in financial recommendations generated through digital systems, comfort in using technology for financial activities, and belief that technology can improve financial

management. Greater trust may facilitate students' willingness to engage with and rely on digital financial resources when evaluating financial choices. Conversely, insufficient trust may limit the extent to which potentially useful digital information and tools are incorporated into financial decision-making.

Accordingly, the following hypothesis is proposed:
H_3: Trust in technology is significantly associated with financial decision-making quality among university students.

Conceptual Framework
Based on the preceding literature, the study proposes that AI awareness, digital financial literacy, and trust in technology are independently associated with financial decision-making quality. Rather than treating technological familiarity as a single capability, the framework distinguishes between awareness of emerging AI applications, competence in navigating digital financial environments, and willingness to rely on technological systems.

Accordingly, the conceptual model specifies three direct relationships:

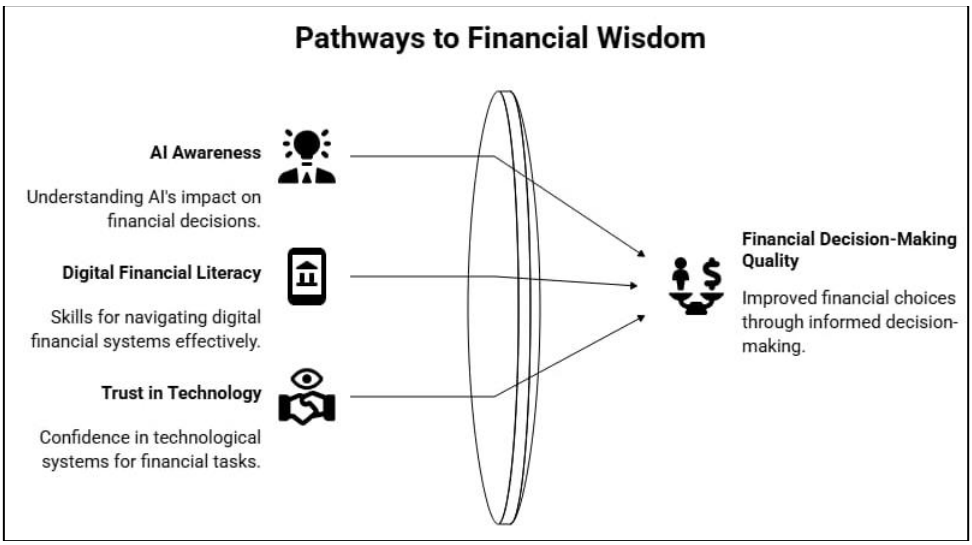


Figure 1. Conceptual Framework

The model allows the unique association of each predictor with financial decision-making quality to be assessed while accounting for the other predictors simultaneously.

Methodology

Research Design and Participants
This study employed a quantitative cross-sectional research design to examine the associations of AI awareness, digital financial literacy, and trust in technology with financial decision-making quality among university students. A non-probability convenience sampling technique was employed, whereby respondents were recruited based on their accessibility and willingness to participate. Data were collected through a self-administered online questionnaire distributed using Google Forms. A total of 101 university students participated in the study. A cross-sectional survey design was considered appropriate because the study sought to examine the relationships among the study variables based on responses collected at a single point in time.

The sample consisted of students from foundation, diploma, and bachelor's degree programmes. Of the 101 respondents, 33 (32.7%) were male and 68 (67.3%) were female. Most respondents were aged between 18 and 20 years (70.3%), followed by 21–23 years (17.8%), 24–26 years (10.9%), and 27 years or above (1.0%). In terms of level of study, 60 respondents (59.4%) were diploma students, 28 (27.7%) were foundation students, and 13 (12.9%) were bachelor's degree students.

The respondents also demonstrated substantial exposure to digital financial applications. Approximately 40.6% reported a high level of exposure and 23.8% reported a very high level of exposure to digital financial applications. In terms of usage frequency, 46.5% reported using financial applications frequently, while 33.7% reported using them very frequently. These characteristics provided a relevant setting for examining financial decision-making within a digitally oriented student population.

Research Instrument

Data were collected using a structured questionnaire consisting of five sections. Section A collected respondents' demographic and digital financial usage information, including gender, age, level of study, semester, exposure to digital financial applications, frequency of financial application use, and types of financial applications used.

Sections B to E measured the four principal constructs of the study: AI awareness, digital financial literacy, trust in technology, and financial decision-making quality. Each construct was measured using five items, resulting in a total of 20 measurement items. Responses were recorded using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

AI awareness was assessed through items addressing respondents' awareness of AI use in financial applications, understanding of AI functions in financial management, experience with AI-enabled financial features, awareness of the potential role of AI in financial decisions, and interest in learning about financial applications of AI.

Digital financial literacy measured respondents' perceived ability to use financial applications effectively, understand financial information presented digitally, evaluate financial risks on digital platforms, manage finances using digital technologies, and protect financial information in digital environments.

Trust in technology assessed perceptions concerning the safety of digital financial applications, protection of financial data, trust in recommendations provided through digital systems, comfort in using technology for financial activities, and the perceived contribution of technology to financial management.

Financial decision-making quality was measured through respondents' perceptions of their ability to make rational financial decisions, evaluate financial risks before making decisions, consider financial information before taking action, make decisions that contribute to financial stability, and remain satisfied with their financial decisions.

Data Analysis

The data were analysed using statistical procedures appropriate for examining measurement quality and relationships among the study variables. The analysis was conducted in several stages.

First, data screening was performed to identify missing responses and potential data-quality issues. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were then used to summarise respondents' demographic characteristics and the distributions of the principal constructs.

Second, the internal consistency of each multi-item construct was evaluated using Cronbach's alpha. Item-level diagnostics, including corrected item-total correlations, were also examined to determine whether individual items were consistent with their respective constructs.

Third, exploratory factor analysis (EFA) was conducted to assess the underlying factor structure of the 20 measurement items. Sampling adequacy and the suitability of the correlation matrix for factor analysis were assessed using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's Test of Sphericity (Hair et al., 2019).

Fourth, Pearson's correlation analysis was conducted to examine the bivariate associations among AI awareness, digital financial literacy, trust in technology, and financial decision-making quality.

Finally, multiple linear regression analysis was performed to estimate the unique associations of AI awareness, digital financial literacy, and trust in technology with financial decision-making quality. Financial decision-making quality was specified as the dependent variable, while the three remaining constructs were entered simultaneously as predictors. Multiple regression is commonly applied in student financial research when the objective is to estimate the relationships between several explanatory factors and a financial outcome while accounting for the other predictors in the model.

Prior to interpreting the regression coefficients, relevant diagnostic statistics were examined. Variance inflation factors (VIFs) were used to assess multicollinearity among the predictors, while the distribution of regression residuals was examined as part of the assessment of model assumptions. Statistical significance was evaluated at the 5% level ($p < .05$).

Results

Respondent Profile

A total of 101 valid responses were included in the analysis. As shown in Table 1, the sample comprised 33 male respondents (32.7%) and 68 female respondents (67.3%). Most respondents were aged between 18 and 20 years (70.3%), followed by those aged 21–23 years (17.8%) and 24–26 years (10.9%). Only one respondent (1.0%) was aged 27 years or above. In terms of level of study, diploma students represented the largest proportion of the sample (59.4%), followed by foundation students (27.7%) and bachelor's degree students (12.9%).

Table 1
Demographic Profile of Respondents

Characteristic	Category	Frequency (n)	Percentage (%)
Gender	Male	33	32.7
	Female	68	67.3
Age	18–20 years	71	70.3
	21–23 years	18	17.8
	24–26 years	11	10.9
	≥27 years	1	1.0
Level of study	Foundation	28	27.7
	Diploma	60	59.4
	Bachelor's degree	13	12.9

Respondents also reported substantial exposure to digital financial applications. A total of 40.6% indicated a high level of exposure and 23.8% reported a very high level of exposure. Regarding usage frequency, 46.5% reported using financial applications frequently, while 33.7% reported using them very frequently.

Descriptive Statistics and Reliability

Table 2 presents the descriptive statistics and internal consistency estimates for the four constructs. Digital financial literacy recorded the highest mean (M = 3.930, SD = 0.642), followed by financial decision-making quality (M = 3.867, SD = 0.629), trust in technology (M = 3.840, SD = 0.605), and AI awareness (M = 3.558, SD = 0.765).

All four constructs demonstrated satisfactory internal consistency, with Cronbach's alpha coefficients ranging from .832 to .862. The corrected item-total correlations for the 20 measurement items ranged approximately from .579 to .741, indicating adequate consistency between individual items and their respective constructs. Therefore, all measurement items were retained for subsequent analyses.

Table 2
Descriptive Statistics and Reliability of the Constructs

Construct	No. of Items	Mean	SD	Cronbach's α
AI Awareness	5	3.558	0.765	.860
Digital Financial Literacy	5	3.930	0.642	.856
Trust in Technology	5	3.840	0.605	.832
Financial Decision-Making Quality	5	3.867	0.629	.862

The questionnaire measured each of the four constructs using five items on a five-point agreement scale.

Exploratory Factor Analysis

Exploratory factor analysis was performed on the 20 measurement items to examine their underlying factor structure. The Kaiser–Meyer–Olkin measure of sampling adequacy was 0.842, indicating that the correlation matrix was suitable for factor analysis. Bartlett's Test of Sphericity was also statistically significant, $\chi^2(190) = 1160.85$, $p < .001$, confirming that sufficient correlations existed among the measurement items.

The four-factor solution accounted for approximately 65.8% of the total variance. The five AI awareness items loaded clearly on their intended factor, with loadings ranging approximately from 0.666 to 0.820. Items measuring digital financial literacy and financial decision-making quality also predominantly loaded on their respective factors.

Some cross-loading was observed for items within the trust in technology construct, particularly the items concerning comfort in using technology for financial activities and the belief that technology improves financial management. Nevertheless, these items were retained because the construct demonstrated satisfactory internal consistency (α = .832), and their substantive content remained relevant to the conceptualisation of technology trust.

Table 3
Summary of Exploratory Factor Analysis

Indicator	Result
KMO Measure of Sampling Adequacy	.842
Bartlett's χ^2	1160.85
df	190
p-value	<.001
Number of factors examined	4
Total variance explained	65.8%

Correlation Analysis

Pearson's correlation analysis was conducted to examine the bivariate relationships among the four constructs. As presented in Table 4, all three predictor variables were positively correlated with financial decision-making quality.

AI awareness demonstrated a relatively weaker positive correlation with financial decision-making quality (r = .243). Digital financial literacy exhibited a stronger positive correlation with financial decision-making quality (r = .489), while trust in technology demonstrated the strongest bivariate correlation with financial decision-making quality (r = .582).

The correlations among the independent variables ranged from .457 to .607. These coefficients did not indicate excessively high intercorrelations among the predictors.

Table 4
Correlations among the Study Variables

Variable	1	2	3	4
1. AI Awareness	1			
2. Digital Financial Literacy	.466	1		
3. Trust in Technology	.457	.607	1	
4. Financial Decision-Making Quality	.243	.489	.582	1

Note. N = 101.

Multiple Regression Analysis

Multiple linear regression was performed to examine the unique associations of AI awareness, digital financial literacy, and trust in technology with financial decision-making quality.

The overall regression model was statistically significant, $F(3, 97) = 19.23$, $p < .001$, with $R^2 = .373$ and adjusted $R^2 = .354$. Thus, the three predictors collectively accounted for 37.3% of the observed variance in financial decision-making quality.

As shown in Table 5, trust in technology had a statistically significant positive association with financial decision-making quality ($\beta = .475$, $p < .001$). Digital financial literacy also demonstrated a statistically significant positive association ($\beta = .240$, $p = .024$).

In contrast, AI awareness did not demonstrate a statistically significant unique association with financial decision-making quality after digital financial literacy and trust in technology were included in the model ($\beta = -.086$, $p = .364$).

Table 5
Multiple Regression Predicting Financial Decision-Making Quality

Predictor	B	Standardized β	p	VIF
AI Awareness	−.070	−.086	.364	1.361
Digital Financial Literacy	.235	.240	.024	1.704
Trust in Technology	.494	.475	<.001	1.687

Model statistics: $R^2 = .373$; Adjusted $R^2 = .354$; $F(3,97) = 19.23$; $p < .001$.

The VIF values ranged from 1.361 to 1.704, indicating no evidence of problematic multicollinearity among the predictors. The regression residuals also did not indicate a substantial departure from normality (Shapiro–Wilk $p = .195$).

Hypothesis Testing
Based on the multiple regression results, two of the three proposed hypotheses were supported.

Table 6
Summary of Hypothesis Testing

Hypothesis	Relationship	β	p	Decision
H_1	AI Awareness → FDMQ	−.086	.364	Not supported
H_2	Digital Financial Literacy → FDMQ	.240	.024	Supported
H_3	Trust in Technology → FDMQ	.475	<.001	Supported

The results therefore indicate that digital financial literacy and trust in technology were significantly and positively associated with financial decision-making quality, whereas AI awareness did not exhibit a statistically significant unique association when the other predictors were controlled.

Discussion
This study examined the associations of AI awareness, digital financial literacy, and trust in technology with financial decision-making quality among university students. The findings revealed three distinct patterns. First, AI awareness was positively correlated with financial decision-making quality at the bivariate level but did not demonstrate a significant unique association when digital financial literacy and trust in technology were considered simultaneously. Second, digital financial literacy was significantly and positively associated with financial decision-making quality. Third, trust in technology exhibited the largest

standardized regression coefficient among the predictors included in the model. Collectively, the three predictors explained 37.3% of the variance in financial decision-making quality.

AI Awareness and Financial Decision-Making Quality

The first hypothesis proposed a significant association between AI awareness and financial decision-making quality. Although AI awareness demonstrated a positive bivariate correlation with financial decision-making quality ($r = .243$), its unique regression coefficient was not statistically significant after digital financial literacy and trust in technology were included in the model ($\beta = -.086$, $p = .364$). Therefore, H_1 was not supported.

This finding is noteworthy because emerging research has suggested that AI-related capabilities may contribute to financial decision-making. Rehan et al. (2026), for example, reported a significant relationship between AI literacy and financial decision-making among university students and further demonstrated that digital self-efficacy mediated this relationship. At first glance, the present result appears inconsistent with this evidence. However, an important conceptual distinction may explain the difference. Rehan et al. (2026) examined AI literacy, whereas the present study measured AI awareness. AI literacy represents a broader set of knowledge, skills, and capabilities, while AI awareness in the present study primarily captures recognition of AI use in financial applications, understanding of its basic functions, previous exposure to AI-enabled features, and interest in learning about financial AI.

The findings therefore suggest that awareness of AI may not, by itself, provide sufficient capability to improve the quality of financial decisions. A student may recognise that AI is incorporated into financial applications or understand that AI can support financial activities without necessarily possessing the financial and digital competencies required to evaluate information, assess risks, and make informed financial choices. In this respect, familiarity with an emerging technology should not automatically be interpreted as competence in using that technology for financial decision-making.

The difference between the correlation and regression results further supports this interpretation. AI awareness was positively related to financial decision-making quality when examined independently. However, AI awareness was also correlated with digital financial literacy and trust in technology. Once these related factors were statistically controlled, AI awareness did not explain significant unique variance in financial decision-making quality. Thus, the finding does not indicate that AI awareness is detrimental to financial decision-making. Rather, it suggests that its independent explanatory contribution may be limited when students' digital financial competencies and technology trust are considered simultaneously.

This interpretation is also consistent with recent evidence positioning AI awareness as an antecedent of broader AI literacy among university students (Yusnilzahri et al., 2025). From this perspective, awareness may represent an initial level of engagement with AI rather than the more developed knowledge and competencies required to translate AI-related understanding into effective financial decisions. The non-significant unique association observed in the present study may therefore reflect the comparatively narrower nature of AI

awareness rather than an absence of relevance of AI-related capabilities to financial decision-making.

Digital Financial Literacy and Financial Decision-Making Quality

The second hypothesis proposed a significant association between digital financial literacy and financial decision-making quality. The findings supported this hypothesis, with digital financial literacy demonstrating a significant positive association with financial decision-making quality ($\beta = .240$, $p = .024$).

This result is consistent with the view that financial decision-making in digital environments requires competencies extending beyond access to financial technology. Students must be able to interpret digitally presented financial information, assess potential financial risks, use financial applications effectively, and manage financial information securely. These competencies may enable individuals to evaluate financial alternatives more systematically before making decisions.

The finding is broadly consistent with Kusuma et al. (2024), who examined digital financial literacy, financial capability, and financial decision-making among students. Their findings demonstrated significant relationships within this framework and highlighted the relevance of digital financial capabilities to financial decision-making. The present study extends this perspective by showing that digital financial literacy remains significantly associated with financial decision-making quality even when AI awareness and trust in technology are considered simultaneously.

The finding is also consistent with more recent evidence positioning digital financial literacy within broader models of financial decision-making among digital natives (Goso et al., 2025). Taken together, these findings suggest that the relevance of digital financial literacy extends beyond familiarity with digital financial services and involves the capacity to interpret, evaluate, and act upon financial information within technology-mediated environments.

The result is also relevant to the Malaysian context. Wan Nawang and Abdul Shukor (2023) reported that Malaysian young adults generally demonstrated medium-high to high levels across several dimensions of digital financial literacy, including knowledge of digital financial products, awareness of digital financial risks, knowledge of risk-control mechanisms, and consumer protection. The present findings complement this evidence by suggesting that digital financial literacy is not only relevant to participation in digital financial environments but is also positively associated with the perceived quality of financial decisions among university students.

More broadly, the finding reinforces the distinction between technological exposure and financial capability. Students may frequently use digital financial applications, but effective financial decision-making requires the ability to interpret information and evaluate financial risks within those platforms. Digital financial literacy may therefore represent a more substantive capability for financial decision-making than familiarity with emerging technology alone.

Trust in Technology and Financial Decision-Making Quality

The third hypothesis proposed a significant association between trust in technology and financial decision-making quality. The results supported H_3. Trust in technology demonstrated a significant positive association with financial decision-making quality ($\beta = .475$, $p < .001$) and exhibited the largest standardized coefficient among the three predictors included in the regression model.

This finding highlights the relevance of trust in digitally mediated financial environments. Digital financial activities frequently require users to rely on technological systems to store or process sensitive information, present financial information, facilitate transactions, and support financial activities. Under these circumstances, users who perceive technological systems as secure, reliable, and useful may be more willing to incorporate technology-mediated information and services into their financial decision-making processes.

The result is consistent with the broader FinTech literature. Devlin et al. (2025) emphasised that trust is particularly important in financial technology because FinTech environments involve technological uncertainty, sensitive customer data, complexity, information asymmetry, and various forms of vulnerability. Their review further identifies technological trust and security as important areas for understanding how individuals engage with FinTech systems.

This interpretation is further supported by emerging evidence that incorporates trust within models of digital financial literacy and financial decision-making (Goso et al., 2025). Thus, trust may be relevant not only to whether individuals adopt financial technologies but also to the extent to which they are willing to engage with technology-mediated information and resources when making financial choices.

However, the present result should be interpreted carefully. A positive association between technology trust and financial decision-making quality does not imply that greater trust is always beneficial or that users should rely uncritically on technology-generated financial information. Rather, within the present sample, students who expressed greater confidence in the safety, data protection, usefulness, and reliability of financial technologies also tended to report higher financial decision-making quality. Because the study is cross-sectional, the direction of this relationship cannot be established.

The relatively large standardized coefficient for trust in technology is particularly noteworthy when considered alongside the non-significant coefficient for AI awareness. The comparison suggests that merely knowing about emerging financial technologies may be less closely associated with financial decision-making quality than having confidence in the technological environment through which financial activities are conducted. Nevertheless, this interpretation is restricted to the predictors and measures included in the present model and should not be taken to establish trust as universally more important than AI awareness or digital financial literacy.

Overall Interpretation of the Findings

Taken together, the findings provide a more differentiated understanding of technology-related factors associated with students' financial decision-making. The significant overall

regression model indicates that AI awareness, digital financial literacy, and trust in technology collectively account for a meaningful proportion of variation in financial decision-making quality. However, their individual contributions differ considerably.

The findings particularly distinguish technological awareness from technological and financial capability. AI awareness was related to financial decision-making quality at the bivariate level, but this relationship did not remain statistically significant after accounting for digital financial literacy and trust in technology. In contrast, the ability to navigate digital financial information and the willingness to rely on technological systems retained significant associations with financial decision-making quality.

This pattern provides support for the central premise of the study: awareness of emerging technologies should not automatically be equated with the ability to make high-quality financial decisions. As AI becomes increasingly embedded within digital environments, educational efforts may therefore need to move beyond increasing awareness of AI and place greater emphasis on developing the competencies required to critically evaluate digital financial information, assess risk, protect financial data, and use technology appropriately in financial contexts.

Implications, Limitations and Future Research

Theoretical Implications

This study offers several implications for the emerging literature on financial decision-making in digitally mediated environments. First, the findings highlight the importance of distinguishing AI awareness from AI literacy and digital financial capability. Although AI awareness was positively correlated with financial decision-making quality at the bivariate level, it did not demonstrate a significant unique association after digital financial literacy and trust in technology were considered. This finding suggests that awareness of AI and its potential financial applications should not automatically be interpreted as the capability to use AI-supported information effectively in financial decision-making.

This distinction contributes to the developing literature on AI-related competencies. Previous research has demonstrated significant relationships between broader AI literacy and financial decision-making (Rehan et al., 2026). The present findings suggest that more basic awareness may operate differently. Individuals may recognise and understand the general functions of AI without necessarily possessing the financial, digital, and evaluative competencies required to translate such awareness into higher-quality financial decisions. Future conceptualisations of AI-related financial capability should therefore distinguish between awareness, literacy, competence, and actual use rather than treating them as interchangeable constructs.

Second, the significant association between digital financial literacy and financial decision-making quality reinforces the relevance of capability-based explanations of financial behaviour. The finding is consistent with prior evidence connecting digital financial literacy and financial decision-making (Kusuma et al., 2024). Importantly, digital financial literacy remained significant even when AI awareness and trust in technology were considered simultaneously, suggesting that the ability to understand digital financial information, assess risks, and manage finances through digital technologies represents a distinct component of financial decision-making.

Third, the findings extend the relevance of technology trust beyond the commonly examined outcome of technology adoption. Much of the existing FinTech literature has considered trust in relation to adoption intention and technology acceptance (Devlin et al., 2025). In the present study, trust in technology was significantly associated with the perceived quality of financial decisions and exhibited the largest standardized coefficient among the predictors included in the model. This finding suggests that technology trust may also be relevant to how individuals evaluate and make financial decisions after engaging with digital financial environments, rather than only determining whether they initially adopt financial technologies.

Practical Implications

The findings have practical implications for universities, financial educators, and organisations involved in digital financial education. For universities, financial education programmes should extend beyond introducing students to AI-enabled and digital financial technologies. Increasing awareness of emerging technologies may be useful, but the present findings indicate that awareness alone may not be sufficient to support higher-quality financial decision-making.

Greater emphasis should therefore be placed on digital financial literacy development. Financial education initiatives could incorporate practical activities that require students to interpret financial information presented through digital platforms, compare financial alternatives, evaluate risks, identify potentially misleading information, understand data-security practices, and assess the implications of technology-assisted financial recommendations.

The findings concerning trust in technology also have practical relevance. Digital financial service providers should recognise that students' confidence in technological systems is associated with their perceived financial decision-making quality. Transparent communication concerning data protection, system security, the basis of automated recommendations, and the limitations of technology-assisted financial tools may help users develop more appropriately calibrated trust.

Importantly, financial education should aim to promote informed rather than unconditional trust. Students should be encouraged to recognise the benefits of digital financial technologies while maintaining the ability to critically evaluate automated or technology-generated information before making financial decisions. This becomes increasingly relevant as AI-enabled tools become more accessible within everyday financial environments.

Limitations and Future Research

Several limitations should be considered when interpreting the findings. First, the study involved a relatively small sample of 101 students from a single university and employed a non-probability convenience sampling technique. As respondents were recruited based on accessibility and willingness to participate, the sampling approach may have introduced selection bias and limits the representativeness of the sample. The sample was also concentrated among younger students, with 70.3% aged between 18 and 20 years, while diploma students constituted 59.4% of the respondents. Consequently, the findings should not be generalised to the broader university student population without caution.

Future studies could employ larger and more diverse samples involving students from multiple universities, study levels, disciplines, and geographical locations. Such research would enable researchers to examine whether the observed relationships remain consistent across different student populations.

Second, the study employed a cross-sectional design. The variables were measured at a single point in time; therefore, the observed associations should not be interpreted as evidence of causal relationships. For example, although greater technology trust was associated with higher financial decision-making quality, the study cannot establish whether technology trust improves financial decision-making or whether students who perceive themselves as making better financial decisions subsequently develop greater confidence in financial technologies. Longitudinal or experimental research could provide stronger evidence regarding the temporal and causal nature of these relationships.

Third, all constructs were assessed using self-reported measures. Financial decision-making quality therefore reflects respondents' perceptions of their decision-making rather than objectively observed financial performance. Future research could incorporate objective or scenario-based measures, such as financial decision tasks, assessments of digital financial knowledge, simulated investment or budgeting decisions, or actual financial behaviours.

Fourth, although the measurement scales demonstrated satisfactory internal consistency, the exploratory factor analysis identified some cross-loading among items measuring trust in technology, particularly items concerning comfort in using technology for financial activities and the perceived contribution of technology to financial management. Future studies could further refine the measurement of technology trust and distinguish more clearly between trust, perceived usefulness, comfort with technology, and technology acceptance.

Fifth, the present study examined AI awareness rather than comprehensive AI literacy. This distinction should be considered when comparing the findings with studies employing broader measures of AI knowledge, skills, critical evaluation, or AI competence. Future research could simultaneously examine AI awareness and AI literacy to determine whether different levels of AI-related capability have different relationships with financial decision-making.

Future studies may also examine potential mechanisms linking technology-related capabilities with financial outcomes. For example, digital self-efficacy, financial confidence, perceived risk, or actual use of AI-enabled financial tools could be investigated as mediators or moderators. Such extensions may help explain why awareness of AI does not necessarily translate directly into higher-quality financial decisions.

Conclusions

The increasing digitalisation and AI-enablement of financial services raise important questions regarding the capabilities required for young adults to make sound financial decisions. This study examined the associations of AI awareness, digital financial literacy, and trust in technology with financial decision-making quality among 101 university students.

The findings revealed that the three predictors collectively explained 37.3% of the variance in financial decision-making quality. Digital financial literacy was significantly and positively associated with financial decision-making quality, while trust in technology also demonstrated a significant positive association and exhibited the largest standardized regression coefficient within the model. In contrast, AI awareness did not demonstrate a statistically significant unique association with financial decision-making quality after the other predictors were taken into account.

These findings highlight an important distinction between being aware of emerging financial technologies and possessing the capabilities required to make informed financial decisions. Awareness of AI may increase familiarity with technology-enabled financial environments, but awareness alone may not translate into better decision-making when broader digital financial competencies and trust in technology are considered.

Overall, the study suggests that preparing university students for increasingly AI-enabled financial environments requires more than technological exposure. Developing digital financial literacy, encouraging critical evaluation of financial information, and fostering appropriately calibrated trust in technological systems may be particularly relevant to supporting informed financial decision-making among young adults.

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