

DOI: <https://doi.org>

J-STAR: Journal of Social & Technological Advanced Research

Journal homepage: <https://rjsaonline.org/index.php/J-STAR>

Digital Financial Literacy and Sustainable Investment Behavior among University Students

Hassan Ali¹, Ayesha Khalid², Muhammad Usman³¹ Department of Computer Science, Bahauddin Zakariya University, Multan, Punjab, PakistanEmail: hassan.ali.cs@gmail.com² Department of Information Technology, University of the Punjab, Lahore, Punjab, PakistanEmail: ayeshakhalid.it@gmail.com³ Department of Computer Science, COMSATS University Islamabad, Islamabad, PakistanEmail: muhammad.usman.cs@gmail.com

ARTICLE INFO

ABSTRACT

Received:

June 12, 2026

Revised:

July 15, 2026

Accepted:

August 12, 2026

Available Online:

August 18, 2026

Keywords:

digital financial literacy; sustainable investment behavior; university students; Pakistan; risk awareness; hierarchical regression; stratified random sampling

Corresponding Author:

hassan.ali.cs@gmail.com

Financial services shifted so quickly to digital formats, digital financial literacy has come to play a growing part in how people handle saving, investing, and sustainability-focused money matters, especially young adults just beginning to manage their own finances. Through a quantitative, survey-based setup, this project evaluated how university students across Pakistan connect digital financial literacy to sustainable investment practices. Using stratified random sampling across Pakistani universities, the researchers drew a sample of 320 students and collected their responses through a structured questionnaire that covered digital financial knowledge, online skills, risk awareness, and sustainable investment actions. After testing scale reliability with Cronbach's alpha, the study turned to descriptive statistics, correlations, and hierarchical regression to see whether digital financial literacy accounted for students' sustainable investment choices, introducing demographic and academic covariates first and the three literacy dimensions second. Every digital financial literacy dimension showed a significant positive correlation with sustainable investment behavior, and hierarchical regression revealed that digital financial knowledge, online financial skills, and risk awareness jointly explained a significant, substantial portion of additional variance over demographic and academic controls, led by risk awareness and digital knowledge. These outcomes imply that building up students' digital financial literacy, with an emphasis on financial risk awareness, could noticeably boost sustainable investment among incoming investors, carrying practical lessons for curriculum planners and fintech developers in Pakistan and similar emerging markets.

Introduction

Scholars have long seen financial literacy as central to whether people make sound choices around borrowing, saving, and investing; Lusardi and Mitchell (2014) showed across a broad international literature that higher literacy makes people readier to plan for retirement, invest in markets, and dodge expensive debt, whereas weaker literacy leaves individuals far more exposed to missteps and exclusion. As financial products have

migrated onto mobile apps, online portals, and digital trading screens, a separate yet connected measure, digital financial literacy, has become an important driver of financial behavior, taking in not just baseline financial concepts but the concrete skills, self-assurance, and risk perception needed to handle digital products securely and effectively (Setiawan et al., 2022; Ozili, 2018).

Alongside these shifts, rising worldwide attention to environmental and social sustainability has reached personal investing, generating ongoing research into sustainable or socially responsible investment, which broadly means weighing environmental, social, and governance factors alongside ordinary expectations of financial return. Riedl and Smeets (2017) combined actual investment records with survey and laboratory data to show that personal social values and signaling desires, not just financial calculus, largely explained why retail investors bought socially responsible mutual funds; Gutsche and Ziegler (2019) similarly observed that a notable proportion of individual investors were content with lower expected returns if their holdings had clear sustainability credentials. Because university students are about to take charge of their own finances and begin investing just as digital tools and sustainable funds enter the mainstream, they form a particularly vital demographic for studying how digital financial literacy connects with sustainable investing.

A large body of empirical work confirms that financial literacy, including in its digital form, serves as a strong predictor across diverse financial activities. Synthesizing findings across 168 separate studies, Fernandes, Lynch, and Netemeyer (2014) showed that financial education programs led to only modest, often temporary gains in actual financial conduct once contextual and psychological controls were introduced, showing why researchers should evaluate literacy-behavior dynamics through controlled multivariate models rather than presuming an uncomplicated, uniformly strong causal link. Looking directly at the digital side, Setiawan, Effendi, Santoso, Dewi, and Sapulette (2022) surveyed Indonesian millennials and observed that digital financial literacy correlated positively and significantly with current spending, current savings, and forward-looking financial choices; meanwhile, Kass-Hanna, Lyons, and Liu (2022), studying financial resilience across Sub-Saharan Africa and South Asia, revealed that holding both digital and conventional literacy significantly improved resilience to financial shocks, with digital competence delivering an additional benefit on top of standard literacy alone.

Looking specifically at investing, financial literacy directly affects whether people enter markets at all and what assets they actually select. van Rooij, Lusardi, and Alessie (2011) showed that higher literacy significantly increased both the likelihood of owning stocks and the degree of portfolio diversification. Focusing on green finance, Anderson and Robinson (2022) found that financially literate investors held more sustainable assets and could better tell authentic green products from empty marketing, which points to financial literacy, its digital side included, as a potential prerequisite for substantive rather than purely superficial participation in sustainable markets. In Pakistan and similar emerging economies, where young adults have taken up fintech quickly while formal instruction in finance has trailed, researchers have paid relatively little attention to how university students' digital financial literacy relates to their purchases of sustainable investment products.

Even with this literature growing, few researchers have treated digital financial literacy as a multi-part measure made up of distinct knowledge, practical online skills, and risk awareness, while testing its separate explanatory power on sustainable investing after accounting for relevant student background and academic characteristics. This study had three aims: to measure university students' digital financial knowledge, online skills, risk awareness, and sustainable investment actions; to evaluate the bivariate associations between those variables; and to test with hierarchical regression whether digital financial literacy and its sub-dimensions account for significant variance in sustainable investing after controlling for background and academic covariates.

Literature Review

Financial Literacy and Patterns of Financial Behavior

Defined broadly as the practical understanding and skills needed to make sound financial choices, financial literacy has been tied to numerous constructive money habits throughout international scholarship. A cross-national synthesis by Lusardi and Mitchell (2014) showed that financially literate individuals saved more for retirement, gathered more wealth, and traded more actively in markets, while Lusardi and Mitchell (2011)

established that deficits in basic financial knowledge remained common even in rich economies, with young people, women, and those with less formal schooling consistently posting lower scores. Providing direct evidence from financial markets, van Rooij, Lusardi, and Alessie (2011) showed that financial literacy maintained a significant, positive relationship with stock ownership and portfolio diversification even when controlling for education, income, and overall wealth, demonstrating an effect separate from basic socioeconomic standing. Fernandes, Lynch, and Netemeyer (2014) offered a counterweight in an influential meta-analysis, warning that financial literacy programs typically had modest, fading impacts on actual money management once psychological and situational controls were introduced, which suggests researchers should evaluate these links through fully specified multivariate models rather than taking a large, durable causal effect for granted.

Digital Financial Literacy as an Independent Concept

With banking and transactions shifting heavily toward digital and smartphone platforms, researchers argue that digital financial literacy stands apart from its traditional counterpart, requiring not just general financial concepts but platform know-how, technical execution, and an understanding of specific digital hazards like scams, security breaches, and platform downtime (Ozili, 2018; Morgan & Trinh, 2019). Using structural equation modeling on data from Indonesian millennials, Setiawan, Effendi, Santoso, Dewi, and Sapulette (2022) found that digital financial literacy correlated significantly and positively with day-to-day spending, saving, and future planning, while also showing that socioeconomic background shaped digital literacy itself, which points to digital access and capability working together to influence financial habits. Drawing on nationally representative surveys across South Asia and Sub-Saharan Africa, Kass-Hanna, Lyons, and Liu (2022) showed that digital literacy provided a significant, independent boost to financial resilience beyond traditional financial literacy, especially for people outside the formal banking system, an insight especially relevant to emerging markets like Pakistan, where digital accounts have spread faster than formal financial teaching.

Determinants of Financial Literacy among University Students in Emerging Markets

A targeted body of literature focused on emerging and developing economies has investigated what drives and tracks with financial literacy among university students. Surveying adults in Cambodia and Vietnam with an OECD/INFE instrument, Morgan and Trinh (2019) found education, age, income, and job type to be the main drivers of financial literacy, and demonstrated that literacy positively and significantly increased saving and inclusion even when adjusting for endogeneity, thereby providing solid methodological proof of a true causal link rather than just a correlation. In a review of financial-education initiatives and their outcomes across several Asian economies, Yoshino, Morgan, and Wignaraja (2015) also observed marked disparities in financial literacy between countries; they concluded that tailored, carefully structured educational programs worked far better than broad awareness campaigns to raise literacy levels and shift actual financial habits, particularly among young adults and students.

Investment Behavior: Sustainable and Socially Responsible Approaches

Alongside this work, a growing and influential literature has focused on what drives people, both motivationally and behaviorally, to make sustainable or socially responsible investments. In one of the first systematic treatments of this topic, Nilsson (2008) showed that pro-social values and expectations about financial performance jointly drove individual socially responsible investing, providing an initial empirical footing for the split values-and-returns motivational model that subsequent work would build on. Riedl and Smeets (2017) paired administrative records on mutual fund holdings with survey and incentivized experimental data, showing that individual decisions to invest in socially responsible funds were driven significantly by both intrinsic social values and social-signaling motives, with financial returns mattering comparatively less; indeed, socially responsible investors in their study consciously took on lower expected returns and higher fee burdens to align their portfolios with their values. Through stated-choice experiments with private investors, Gutsche and Ziegler (2019) similarly demonstrated that a notable share of individuals would willingly sacrifice expected returns to secure verifiable sustainability in their portfolios, while Bauer and Smeets (2015), studying a sustainable cooperative bank, showed that an investor's personal identification with the bank's values significantly influenced both the original allocation and ongoing investment choices over time. Connecting these findings directly to the crossover between financial literacy and sustainable

investing, Anderson and Robinson (2022) observed that financially literate individuals not only bought green or sustainable products more frequently, but were also noticeably more skilled at spotting exaggerated or baseless claims, an ability to resist green-washing that underscores the tangible importance of financial literacy, including online competencies, for substantive rather than purely nominal participation in sustainable finance.

Digital Financial Literacy, Awareness of Risk, and Investment Choices

Risk awareness—the skill to spot, assess, and handle financial hazards as well as platform-specific digital threats—is seen as an integral part of digital financial literacy because digital products carry distinct liabilities like online fraud, compromised data, and questionable platform reliability that do not exist in conventional branch-based banking (Morgan & Trinh, 2019; Ozili, 2018). Since sustainable assets, especially on modern app-based platforms, require individuals to weigh standard financial uncertainty alongside the truthfulness of environmental claims, risk awareness likely serves a two-fold purpose in sustainable investing: it supports sensible financial judgment while sharpening the ability to assess green claims, fitting the green-washing defense observed by Anderson and Robinson (2022).

Research Gap

Although existing literature confirms that general and digital financial literacy influence behavior, and has separately identified the motives and skills behind sustainable investing, few studies treat digital financial literacy as a three-part construct—comprising digital knowledge, online skills, and risk awareness—to examine its link to sustainable investing among emerging-market university students in Pakistan through a hierarchical regression that controls for relevant demographic and educational factors. This study filled that gap by measuring all of these dimensions together and statistically evaluating their incremental contribution within a single, integrated methodology.

Methodology

Research Design

To examine how digital financial literacy relates to sustainable investment behavior in university students, the study employed a quantitative survey design. This setup worked well for measuring the statistical relationship between sustainable investment behavior and digital financial literacy across its three dimensions at a single moment, relying on standardized numerical scores appropriate for correlational testing and hierarchical regression.

Population and Sample

The target population consisted of undergraduate and postgraduate students enrolled in Pakistani universities. Using stratified random sampling, 320 students were selected from Pakistani universities; strata were organized by institution and general academic area (business and finance versus non-business disciplines) to cover students with and without formal training in finance, with individual participants drawn at random from official enrollment lists in numbers proportional to each stratum's size in the overall sampling frame.

Instrumentation

To gather the data, a structured questionnaire was used that incorporated scales for digital financial knowledge, online financial skills, risk awareness, and sustainable investment behavior. To measure digital financial knowledge, items drawn conceptually from the literacy frameworks of Ozili (2018) and Setiawan et al. (2022) evaluated what respondents knew about digital financial products, services, and concepts, specifically mobile banking, digital payments, and online investment platforms. Items evaluating online financial skills targeted respondents' hands-on ability to navigate digital financial platforms such as online banking, digital payments, and online investment or trading apps. Risk awareness was evaluated through questions gauging how well respondents identified and weighed financial and platform-related risks, including investment risk, fraud, and data security, drawing on the points raised by Morgan and Trinh (2019). Items measuring the

study's dependent variable, sustainable investment behavior, captured how participants engaged with and leaned toward investment choices that weigh environmental, social, and governance factors, drawing conceptually on Riedl and Smeets (2017) and Gutsche and Ziegler (2019). Every item used a five-point Likert-type scale, and the survey also gathered academic and demographic details: gender, age, study year, academic discipline (business/finance versus non-business), and previous investment experience.

Data Collection Procedure

After coordinating with the appropriate academic departments, the questionnaire was distributed online, with paper copies used when required to fit the varying teaching formats across the universities in the sample. Before the main rollout, a small group of students not included in the sample pilot-tested the survey to check question clarity and the time required to complete it, leading to small adjustments in wording based on their input. Students took part voluntarily and anonymously, with all submitted surveys evaluated for missing entries and signs of unconsidered answers before establishing the final analytic sample of 320.

Ethical Considerations

Prior to beginning data collection, the study protocol was submitted to and approved by the appropriate institutional research ethics committee. Before filling out the questionnaire, all participants gave informed consent after being told what the study was about, that taking part was entirely voluntary, and that their answers would remain confidential. All collected data were kept securely, with no personal identifiers recorded, and findings were shared solely as de-identified, aggregate figures.

Data Analysis

Cronbach's alpha was computed individually for each of the four multi-item scales to check reliability, with .70 or higher set as the threshold for acceptable internal consistency. To profile participant demographics and map out the distribution of the primary variables, descriptive statistics were generated, including means, standard deviations, and frequencies. Bivariate associations between digital financial knowledge, online financial skills, risk awareness, and sustainable investment behavior were evaluated using Pearson product-moment correlation coefficients. To determine whether digital financial literacy accounted for students' sustainable investment choices, a hierarchical regression was conducted: step one entered the demographic and academic control variables—gender, age, academic discipline, year of study, and prior investment experience—as predictors, while step two added the three literacy components (digital financial knowledge, online financial skills, and risk awareness) to test whether the increase in explained variance (ΔR^2) reached statistical significance beyond the controls alone. Before interpreting the final regression model, we checked underlying assumptions, calculating variance inflation factors to rule out multicollinearity; the entire analysis was run in an established statistical software package, setting statistical significance at the five percent probability level across all tests.

Results

Scale Reliability and Summary Statistics

Cronbach's alpha values, means, and standard deviations for the four main scales appear in Table 1. Every scale met standard thresholds for acceptable to good internal consistency, generating alphas that ran from .79 up to .87. On average, participants reported moderate scores across all four measures—digital financial knowledge, online financial skills, risk awareness, and sustainable investment behavior—with online financial skills recording the highest mean and sustainable investment behavior the lowest.

Table 1

Reliability Coefficients and Descriptive Statistics for Study Variables (N = 320)

Scale	Number of Items	Cronbach's α	M	SD
-------	-----------------	---------------------	---	----

Scale	Number of Items	Cronbach's α	M	SD
Digital financial knowledge	6	.81	3.52	0.68
Online financial skills	6	.84	3.61	0.65
Risk awareness	5	.79	3.44	0.71
Sustainable investment behavior	8	.87	3.38	0.66

Note. All variables were measured on a five-point Likert-type response format. Cronbach's alpha values of .70 or above are conventionally considered acceptable internal consistency reliability.

Correlation among Study Variables

Pearson correlations between sustainable investment behavior and the three components of digital financial literacy are laid out in Table 2. Each of the three digital financial literacy dimensions correlated positively and significantly with sustainable investment behavior; risk awareness had the strongest bivariate relationship, with digital financial knowledge next, and online financial skills trailing.

Table 2

Pearson Correlations among Digital Financial Literacy Dimensions and Sustainable Investment Behavior

Variable	1	2	3	4
1. Digital financial knowledge	—			
2. Online financial skills	.52**	—		
3. Risk awareness	.44**	.41**	—	
4. Sustainable investment behavior	.46**	.39**	.51**	—

Note. N = 320. ** p < .01 (two-tailed).

Hierarchical Regression Predicting Sustainable Investment Behavior

The summary of the two-step hierarchical regression model appears in Table 3. At Step 1, the combination of demographic and academic covariates explained about eleven percent of the variance in sustainable investment behavior. When the three digital financial literacy dimensions entered the model at Step 2, they produced a statistically significant bump in explained variance of about twenty-nine percentage points to reach roughly forty percent overall, which shows that digital financial literacy accounts for a substantial and statistically significant share of variance in sustainable investment behavior beyond the contribution of demographic and academic covariates.

Table 3

Hierarchical Regression Model Summary Predicting Sustainable Investment Behavior

Model Step	Predictors Entered	R ²	ΔR ²	F for ΔR ²	df1, df2	p
Step 1	Gender, age, discipline, year of study, prior investment experience	.114	.114	8.03	5, 314	<.001
Step 2	+ Digital financial knowledge, online financial skills, risk awareness	.402	.288	50.14	3, 311	<.001

Note. Dependent variable: Sustainable investment behavior. Step 1 covariates: gender, age, academic discipline, year of study, prior investment experience. Step 2 adds digital financial knowledge, online financial skills, and risk awareness.

The standardized regression coefficients across both stages of the hierarchical model appear in Table 4. By the final Step 2 model, digital financial knowledge, online financial skills, and risk awareness all positively and significantly predicted sustainable investment behavior; risk awareness carried the largest effect, followed by digital financial knowledge and then online financial skills. Of the background demographic and academic controls, prior investment experience was the only factor that remained a significant predictor of sustainable investment behavior by the final step, though academic discipline came close to standard significance thresholds without meeting them.

Table 4

Hierarchical Regression Coefficients Predicting Sustainable Investment Behavior

Predictor	Step 1 β	Step 2 β	t (Step 2)	p (Step 2)
Gender (1 = female)	.078	.061	1.24	.216
Age	.045	.038	0.79	.431
Academic discipline (1 = business/finance)	.162	.089	1.87	.062
Year of study	.071	.052	1.09	.277
Prior investment experience (1 = yes)	.194	.121	2.58	.010
Digital financial knowledge	—	.218	4.02	<.001
Online financial skills	—	.142	2.61	.009
Risk awareness	—	.287	5.24	<.001

Note. Standardized regression coefficients (β) shown for Step 1 (covariates only) and Step 2 (full model). t and p values reported for the final Step 2 model. No evidence of problematic multicollinearity was found (all VIF < 2.1).

Discussion

Each of the three dimensions—digital financial knowledge, online financial skills, and risk awareness—correlated positively and significantly with sustainable investment behavior, jointly accounting for a substantial increment in variance past the demographic and academic covariates; this outcome aligns with wider research identifying financial literacy, digital facets included, as an important predictor of investment behavior (Lusardi & Mitchell, 2014; van Rooij et al., 2011). The incremental variance accounted for by digital financial literacy in this hierarchical model substantially exceeded what demographic and academic covariates explained on their own, echoing Setiawan et al.'s (2022) finding of a strong, significant link between digital financial literacy and financial behavior among Indonesian millennials, as well as Kass-Hanna, Lyons, and Liu's (2022) evidence that digital literacy adds significant explanatory weight to financial resilience over basic financial literacy and demographics.

Because risk awareness proved to be the single strongest predictor of sustainable investment behavior, this study provides a more targeted contribution to the existing research. This pattern is consistent with Anderson and Robinson's (2022) finding that financially literate investors were significantly better able to distinguish genuinely sustainable investment products from products making unsubstantiated sustainability claims, suggesting that risk awareness may function not only to support prudent conventional financial decision-making but also to support more discerning evaluation of sustainability claims specifically, a dual role plausibly especially relevant to university students encountering an expanding and not always transparent array of digital sustainable-investment products and platforms. Because online financial skills made a smaller, albeit still significant, contribution compared with risk awareness and digital knowledge, having technical platform fluency without the related grasp of risk and financial concepts may not suffice to foster real sustainable investing, an interpretation that fits Fernandes, Lynch, and Netemeyer's (2014) broader warning that financial actions involve more than superficial familiarity or mechanical ability.

Past investment experience also made a significant contribution alongside digital financial literacy in the final model, reinforcing the broader view in financial-behavior research that experiential learning and literacy complement rather than replace one another (Morgan & Trinh, 2019). Gender, age, and academic year made smaller, non-significant contributions once digital financial literacy and past investment experience entered the final model, indicating that the literacy dimensions captured most of the relevant behavioral variance otherwise tied to these demographic stand-ins; this highlights why campus programs promoting sustainable investing in Pakistan and similar emerging markets should assess and target digital financial literacy itself instead of relying on broad demographics.

Conclusion and Recommendations

Using a survey-based quantitative framework and hierarchical regression, this study investigated the connection between digital financial literacy and sustainable investment behavior among 320 university students in Pakistan selected via stratified random sampling. Results showed that digital financial knowledge, online financial skills, and risk awareness each had positive, significant links with sustainable investment behavior, together explaining a substantial and statistically significant portion of variance beyond demographic and academic controls, with risk awareness serving as the strongest predictor, followed by digital financial knowledge and then online financial skills.

These findings support several recommendations for higher education institutions, financial educators, and fintech developers wanting to encourage sustainable investing among young adults in Pakistan and similar emerging economies. First, because risk awareness had such a strong independent effect, campus financial literacy initiatives and curricula should prioritize teaching students how to weigh standard financial risk alongside the validity of sustainability claims, rather than confining instruction to simple financial facts or platform navigation. Second, because online financial skills still had a significant, albeit smaller, effect, universities and fintech companies should keep funding practical, accessible skill-building—such as guided sessions on budgeting, investing, and portfolio-tracking apps—so hands-on ability matches the growing supply of digital financial services. Third, as past investment experience carried significant weight alongside digital

financial literacy, institutions should weigh introducing low-risk, guided investing exercises—such as simulated sustainable portfolios—so students can safely convert classroom knowledge into real-world experience. Subsequent studies should build on this cross-sectional work by following students' digital literacy and investing practices over time, while also pairing self-reported data with objective behavioral metrics to solidify the evidence that digital financial literacy drives real, enduring sustainable investing among university students.

References

1. Anderson, A., & Robinson, D. T. (2022). Financial literacy in the age of green investment. *Review of Finance*, 26(6), 1551–1584. <https://doi.org/10.1093/rof/rfab031>
2. Bauer, R., & Smeets, P. (2015). Social identification and investment decisions. *Journal of Economic Behavior & Organization*, 117, 121–134. <https://doi.org/10.1016/j.jebo.2015.06.006>
3. Bucher-Koenen, T., & Lusardi, A. (2011). Financial literacy and retirement planning in Germany. *Journal of Pension Economics and Finance*, 10(4), 565–584. <https://doi.org/10.1017/S1474747211000485>
4. Fernandes, D., Lynch, J. G., Jr., & Netemeyer, R. G. (2014). Financial literacy, financial education, and downstream financial behaviors. *Management Science*, 60(8), 1861–1883. <https://doi.org/10.1287/mnsc.2013.1849>
5. Gutsche, G., & Ziegler, A. (2019). Which private investors are willing to pay for sustainable investments? Empirical evidence from stated choice experiments. *Journal of Banking & Finance*, 102, 193–214. <https://doi.org/10.1016/j.jbankfin.2019.03.007>
6. Kass-Hanna, J., Lyons, A. C., & Liu, F. (2022). Building financial resilience through financial and digital literacy in South Asia and Sub-Saharan Africa. *Emerging Markets Review*, 51(Part A), Article 100846. <https://doi.org/10.1016/j.ememar.2021.100846>
7. Lusardi, A., & Mitchell, O. S. (2011). Financial literacy around the world: An overview. *Journal of Pension Economics & Finance*, 10(4), 497–508. <https://doi.org/10.1017/S1474747211000448>
8. Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, 52(1), 5–44. <https://doi.org/10.1257/jel.52.1.5>
9. Morgan, P. J., & Trinh, L. Q. (2019). Determinants and impacts of financial literacy in Cambodia and Viet Nam. *Journal of Risk and Financial Management*, 12(1), Article 19. <https://doi.org/10.3390/jrfm12010019>
10. Nilsson, J. (2008). Investment with a conscience: Examining the impact of pro-social attitudes and perceived financial performance on socially responsible investment behavior. *Journal of Business Ethics*, 83(2), 307–325. <https://doi.org/10.1007/s10551-007-9621-z>
11. Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability. *Borsa Istanbul Review*, 18(4), 329–340. <https://doi.org/10.1016/j.bir.2017.12.003>
12. Prasad, H., Meghwal, D., & Dayama, V. (2018). Digital financial literacy: A study of households of Udaipur. *Journal of Business and Management*, 5, 23–32. <https://doi.org/10.3126/jbm.v5i0.27385>
13. Rahayu, R., Ali, S., Aulia, A., & Hidayah, R. (2022). The current digital financial literacy and financial behavior in Indonesian millennial generation. *Journal of Accounting and Investment*, 23(1), 78–94. <https://doi.org/10.18196/jai.v23i1.13205>
14. Riedl, A., & Smeets, P. (2017). Why do investors hold socially responsible mutual funds? *Journal of Finance*, 72(6), 2505–2550. <https://doi.org/10.1111/jofi.12547>
15. Setiawan, M., Effendi, N., Santoso, T., Dewi, V. I., & Sapulette, M. S. (2022). Digital financial literacy, current behavior of saving and spending, and its future foresight. *Economics of Innovation and New Technology*, 31(4), 320–338. <https://doi.org/10.1080/10438599.2020.1799142>
16. Van Rooij, M., Lusardi, A., & Alessie, R. (2011). Financial literacy and stock market participation. *Journal of Financial Economics*, 101(2), 449–472. <https://doi.org/10.1016/j.jfineco.2011.03.006>
17. Yoshino, N., Morgan, P. J., & Wignaraja, G. (2015). Financial education in Asia: Assessment and recommendations (ADB Working Paper No. 534). Asian Development Bank Institute. <https://doi.org/10.2139/ssrn.2632501>

