Digital Financial Literacy and Financial Resilience among Women Entrepreneurs: The Mediating Role of Financial Management Behaviour

Ashme Andrews[1], Dr. N Jisha [2]

[1]Research Scholar, Department of Commerce, CMS College of Science and Commerce, Coimbatore

[2]Associate Professor, Department of Commerce, CMS College of Science and Commerce, Coimbatore

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ABSTRACT

Digital financial literacy has become increasingly important for women entrepreneurs in navigating digital financial services and strengthening their financial well-being. However, the extent to which different dimensions of digital financial literacy translate into financial resilience through financial management practices remains insufficiently understood. This study examines the influence of five dimensions of digital financial literacy digital knowledge, financial knowledge, knowledge of digital financial services, awareness of digital finance risk, and digital finance risk control on financial resilience, with financial management behaviour as a mediating construct. Drawing on the Financial Capability Framework and Social Cognitive Theory, the study adopts a quantitative, cross-sectional research design. Primary data were collected through a structured questionnaire from women entrepreneurs in Kerala, India. Of the 350 responses collected, 327 valid responses were retained for analysis. The proposed relationships were examined using partial least squares structural equation modelling (PLS-SEM). The findings reveal that financial knowledge, awareness of digital finance risk, and digital finance risk control significantly influence financial management behaviour, whereas digital knowledge and knowledge of digital financial services do not demonstrate significant effects. Furthermore, financial management behaviour has a significant positive influence on financial resilience. The mediation analysis indicates that financial management behaviour mediates the relationships between financial knowledge, awareness of digital finance risk, and digital finance risk control and financial resilience. However, mediation is not established for digital knowledge and knowledge of digital financial services. The study highlights that digital financial literacy contributes to financial resilience primarily when financial knowledge and risk-related competencies are translated into effective financial management practices. These findings offer implications for financial literacy interventions and entrepreneurship development initiatives targeting women entrepreneurs.

Keywords: Digital Financial Literacy; Financial Management Behaviour; Financial Resilience; Women Entrepreneurs.

INTRODUCTION

The rapid digitalisation of financial services has transformed how entrepreneurs access, manage and deploy financial resources. Digital payments, mobile banking, online lending, and fintech platforms offer opportunities to improve financial management; however, using them effectively requires more than access to technology. Entrepreneurs must understand financial concepts, recognise digital financial risks and exercise appropriate control over transactions. Digital financial literacy therefore represents an important capability for navigating increasingly technology-mediated financial environments. Research on women entrepreneurs in India has linked digital financial literacy, financial competency and financial skills with financial decision-making and enterprise performance. Nevertheless, the extent to which these capabilities contribute to financial resilience through everyday financial behaviour warrants further investigation.

Financial resilience refers to the capacity to withstand financial shocks, meet financial commitments and recover from unexpected economic difficulties. For women entrepreneurs, financial disruptions may affect

both business continuity and household financial security. Financial knowledge alone may not ensure resilience unless it translates into practices such as budgeting, saving, cash-flow monitoring, and prudent debt management. Recent research among Indian women workers demonstrates the relevance of financial literacy and digital financial engagement to financial behaviour, while studies of rural women entrepreneurs highlight the importance of financial literacy, personal financial management and financial well-being. These findings suggest that financial behaviour may provide a mechanism through which digital financial capabilities contribute to more resilient financial outcomes.

This study draws on the Financial Capability Framework, which emphasises the interaction between individual knowledge, skills and the opportunity to use financial services effectively (Atkinson et al., 2007), and Social Cognitive Theory, which explains how personal capabilities and behavioural processes influence actions and outcomes (Schunk & DiBenedetto, 2023). Together, these perspectives provide a basis for examining how digital knowledge, financial knowledge, knowledge of digital financial services, awareness of digital finance risks and digital finance risk control shape financial behaviour and financial resilience.

Existing research also demonstrates that digital financial literacy can influence financial inclusion and firm performance among women entrepreneurs, although the relationships among these variables are not uniformly straightforward. In Kerala, research has examined women's financial literacy and community-based financial activities, including Kudumbashree, but these studies address outcomes other than the financial resilience of women entrepreneurs. Consequently, an important research gap remains in understanding how distinct dimensions of digital financial literacy translate into financial resilience through financial behaviour. To address this gap, the present study examines women entrepreneurs in Kerala, India, by investigating how digital knowledge, financial knowledge, knowledge of digital financial services, awareness of digital finance risks, and digital finance risk control affect financial resilience, with financial behaviour as a mediator. Using partial least squares structural equation modelling (PLS-SEM), the study aims to provide an integrated explanation of the behavioural mechanism connecting digital financial capabilities with resilience in an entrepreneurial context.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Digital knowledge

Digital knowledge refers to an individual's understanding of digital technologies and the ability to use digital devices and platforms to access, process and communicate information. In digital financial contexts, such knowledge enables entrepreneurs to navigate mobile banking applications, digital payment interfaces and online financial platforms. Ravikumar et al. (2022) identified digital knowledge as a distinct dimension of digital financial literacy among Indian adults, highlighting its importance for effective use of digital financial services. Among women entrepreneurs, digital knowledge may facilitate efficient financial transactions, financial monitoring and the adoption of digital financial practices. Ojeleye and Mustapha (2024) also reported a positive relationship between digital knowledge and female entrepreneurs' performance. Accordingly, digital knowledge is expected to encourage effective financial behaviour.

H1: Digital knowledge positively influences financial management behaviour among women entrepreneurs.

Financial knowledge

Financial knowledge encompasses an individual's understanding of fundamental financial concepts, including interest rates, inflation, savings, borrowing and financial planning. Such knowledge enables entrepreneurs to evaluate financial alternatives, understand the implications of financial decisions and allocate resources more effectively. Lusardi and Mitchell (2014) emphasised the importance of financial literacy for sound economic decision-making, while Atkinson and Messy (2012) highlighted the relationship between financial knowledge and financial behaviour. In the digital financial environment, financial knowledge complements technological proficiency by helping entrepreneurs evaluate the financial implications of digital transactions and services. Ojeleye and Mustapha (2024) found that financial knowledge positively influenced female entrepreneurs' performance, supporting its relevance to entrepreneurial financial management.

H2: Financial knowledge positively influences financial management behaviour among women entrepreneurs.

Knowledge of digital financial services

Knowledge of digital financial services refers to an individual's understanding of digitally delivered financial products, platforms and service providers, including digital payments, mobile banking, online lending and electronic savings facilities. Such knowledge enables entrepreneurs to identify appropriate services, compare alternatives and make informed financial decisions. Morgan et al. (2019) emphasised that digital financial literacy is necessary for individuals to benefit effectively from digital financial services. Ravikumar et al. (2022) also identified knowledge of digital financial services as a distinct dimension of digital financial literacy in India. For women entrepreneurs, knowledge of these services may facilitate efficient transactions, financial planning and resource management, thereby encouraging more effective financial behaviour.

H3: Knowledge of digital financial services positively influences financial management behaviour among women entrepreneurs.

Awareness of digital finance risk

Awareness of digital finance risk refers to an individual's ability to recognise potential threats associated with digital financial transactions, including fraud, identity theft, privacy breaches and unauthorised access. Digital financial services provide convenience but also expose users to cybersecurity and consumer protection risks. Hasan (2024) identifies risk awareness and consumer protection as important components of digital financial literacy. Ravikumar et al. (2022) similarly incorporated awareness of digital finance risk into their multidimensional measure of digital financial literacy. Among women entrepreneurs, awareness of these risks may encourage cautious financial decisions, transaction verification and responsible use of digital financial platforms. Such protective practices may contribute to more effective financial behaviour.

H4: Awareness of digital finance risk positively influences financial management behaviour among women entrepreneurs.

Digital finance risk control

Digital finance risk control refers to an individual's ability to take appropriate measures to prevent, mitigate and respond to risks associated with digital financial transactions. These measures may include protecting passwords and personal information, verifying payment recipients, using secure applications and reporting suspicious transactions. Ravikumar et al. (2022) identified digital finance risk control as a distinct dimension of digital financial literacy, differentiating protective capability from general risk awareness. Ojeleye and Mustapha (2024) also found a positive relationship between digital finance risk control and female entrepreneurs' performance. Effective risk control may therefore support responsible financial practices.

H5: Digital finance risk control positively influences financial management behaviour among women entrepreneurs.

Financial management behaviour

Financial management behaviour encompasses the actions and practices through which individuals manage financial resources, including budgeting, saving, spending, borrowing and financial planning. Lusardi and Mitchell (2014) demonstrated the importance of financial literacy for sound financial decision-making, while Xiao (2008) conceptualised financial behaviour as observable actions associated with financial management. For women entrepreneurs, effective financial behaviour may include maintaining business records, monitoring cash flow, managing debt and maintaining savings to address unexpected expenses. Such practices can help entrepreneurs manage financial uncertainty and sustain business operations during adverse conditions. Accordingly, financial behaviour is expected to serve as a mechanism through which digital financial literacy contributes to financial resilience.

H6: Financial management behaviour positively influences financial resilience among women entrepreneurs.

Financial resilience

Financial resilience refers to the capacity to withstand financial shocks, maintain essential financial

commitments and recover from unexpected economic difficulties. It encompasses the ability to absorb disruptions, access resources and adapt financial practices when circumstances change. Salignac et al. (2019) conceptualised financial resilience as individuals' ability to access and draw on resources to withstand financial adversity. More recently, Tahir and Richards (2025) highlighted the multidimensional nature of financial resilience and identified economic, social and behavioural antecedents in their systematic review. For women entrepreneurs, sound financial behaviour may strengthen resilience by supporting emergency savings, prudent financial commitments and continuity of business activities during financial shocks.

Mediating role of financial management behaviour

Financial management behaviour is the mechanism through which financial knowledge and capabilities translate into practical financial outcomes. The Financial Capability Framework suggests that knowledge and skills improve financial outcomes when individuals apply them through appropriate financial practices (Atkinson et al., 2007). From a Social Cognitive Theory perspective, personal capabilities influence behaviour, which subsequently shapes outcomes (Chou et al., 2024). Empirical evidence supports this behavioural mechanism: Kanth and Sinha (2026) found that personal financial management behaviour partially mediated the relationship between financial literacy and financial well-being among rural women entrepreneurs in India. Similarly, Rubel (2026) reported a significant indirect relationship between financial literacy and financial resilience through personal financial behaviour among micro entrepreneurs. Building on this evidence, the present study proposes that financial behaviour mediates the relationships between the five dimensions of digital financial literacy and financial resilience among women entrepreneurs in Kerala.

H7a: Financial management behaviour mediates the relationship between digital knowledge and financial resilience among women entrepreneurs.

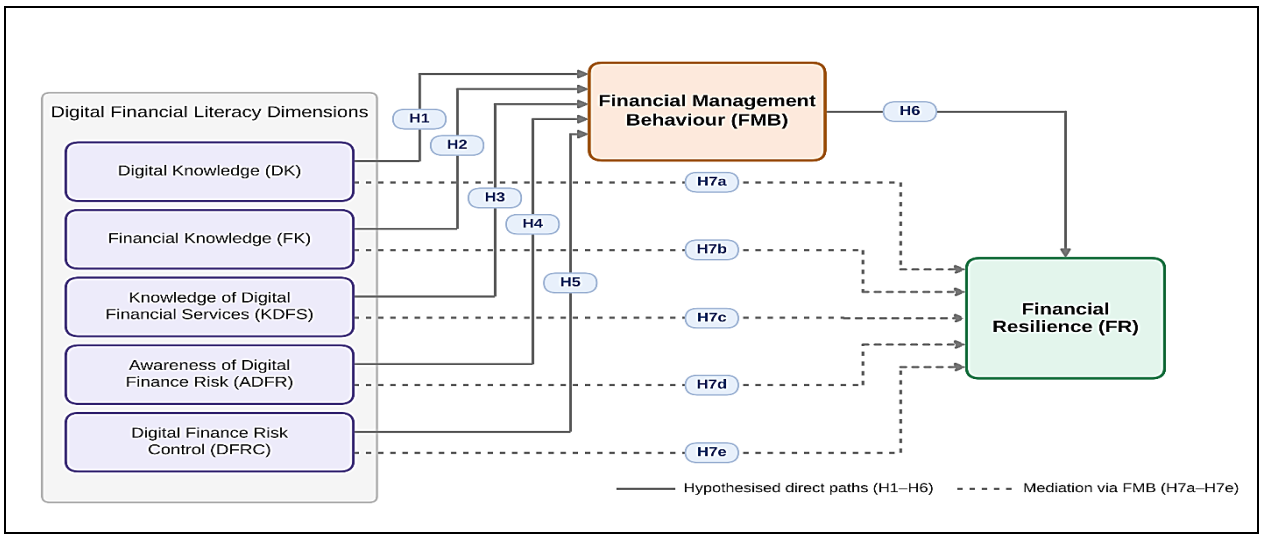
H7b: Financial management behaviour mediates the relationship between financial knowledge and financial resilience among women entrepreneurs.

H7c: Financial management behaviour mediates the relationship between knowledge of digital financial services and financial resilience among women entrepreneurs.

H7d: Financial management behaviour mediates the relationship between awareness of digital finance risk and financial resilience among women entrepreneurs.

H7e: Financial management behaviour mediates the relationship between digital finance risk control and financial resilience among women entrepreneurs.

Research model



Source: Self-prepared

Figure 1. Proposed research model

RESEARCH METHODOLOGY

Sample design

The present study adopts a cross-sectional research design to examine the relationship between digital financial literacy and financial resilience among women entrepreneurs, with particular emphasis on the mediating role of financial behaviour. Primary data were collected from women entrepreneurs in Kerala, India, using a structured questionnaire based on established scales and previous research. This approach ensured systematic, consistent data collection aligned with the research objectives and facilitated subsequent statistical analysis. Kerala was selected as the study's geographical context, with women entrepreneurs across the state considered potential respondents. The study included women entrepreneurs aged 18 years and above, regardless of income level, educational qualifications, or type of business activity.

The researchers screened and cleaned the data to ensure the quality and suitability of the collected responses for analysis. The researchers initially collected 350 responses. After screening, 23 responses were excluded due to incompleteness or errors in the submitted information. Consequently, 327 valid responses were retained for the final analysis and hypothesis testing.

Measurement items

The study employed measurement items adapted from established scales to assess the proposed research constructs. Digital Financial Literacy (DFL) was conceptualised through five dimensions: Digital Knowledge (DK), Financial Knowledge (FK), Knowledge of Digital Financial Services (KDFS), Awareness of Digital Finance Risk (ADFR), and Digital Finance Risk Control (DFRC). Each dimension was measured using items adapted from Ravikumar et al. (2022), covering digital competencies, financial knowledge, awareness of digital services, risk awareness, and risk control practices. Financial Management Behaviour (FMB), the mediating construct, was assessed using five items adapted from Mathew et al. (2026), focusing on saving, expenditure management, bill payments, long-term financial planning, and insurance practices. Financial Resilience (FR), the dependent construct, was measured using five items adapted from Salignac et al. (2019), evaluating respondents' ability to manage unexpected expenses, cope with income reductions, meet financial commitments, recover from financial shocks, and maintain financial preparedness. Overall, the questionnaire comprised 31 measurement items across seven constructs, assessed using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 1. Measurement items and sources

Construct	Dimension	Measurement Items	Source
Digital Financial Literacy	Digital Knowledge (DK)	I can conduct online searches using my digital device(s) (Smartphone/PC/Lop top)	Ravikumar et al., (2022)
		I can send and receive emails on my own	
		I shop online	
		I use mobile banking	
		I use internet banking	
	Financial Knowledge (FK)		Ravikumar et al., (2022)
		I prepare a budget for my personal finances every month	
		I do not tend to live for today and worry about tomorrow	
		I rarely make impulse purchases	
		I prefer to save money rather than to spend	
	Knowledge of Digital Financial Services (KDFS)		Ravikumar et al., (2022)
		I am aware of digital payment methods such as	

		PhonePe, GPay, Amazon Pay, UPI, and so on.	
		I know about online trading of financial securities	
		I know about digital lending methods such as peer-to-peer lending, App-based lending, supply chain finance, and so on.	
		Insurance products can be purchased online.	
	Awareness of Digital Finance Risk (ADFR)	I am aware that I am exposed to various risks such as phishing and spyware when I perform a digital financial transaction.	Ravikumar et al., (2022)
		I know how to protect myself against risks such as phishing, spyware, and other risks.	
		I never share my one-time password with anyone.	
		I never share my username, password, and PIN with anyone.	
	Digital Finance Risk Control (DFRC)	I initiate and complete digital financial transactions such as digital payments and remittances on my own	Ravikumar et al., (2022)
		I can resolve errors that happen in a digital financial transaction	
		I prefer to use digital financial transactions rather than conventional ones.	
		Continuous use of digital financial products and services makes me confident and error-free.	
Financial Management Behaviour (FMB)		I compare prices when purchasing a product or service	Mathew et al., (2026)
		I pay my bills on time	
		I maintain an emergency savings fund	
		I save money for long-term goals such as business expansion and other needs.	
		I maintain adequate insurance coverage to protect myself and my assets	
Financial Resilience (FR)		I could manage a major unexpected expense without serious financial difficulty.	Salignac et al., (2019)
		I could cope financially with a substantial temporary income reduction.	
		I could meet essential financial commitments during an emergency.	
		I could continue financial and business activities after a major financial shock.	
		I feel financially prepared for unexpected difficulties.	

Source: Self-prepared

Method of data analysis and techniques

The study used IBM SPSS 26 and SmartPLS 4.0 for comprehensive data analysis. These tools facilitated the examination of the relationships between the five dimensions of digital financial literacy, financial management behaviour, and financial resilience among women entrepreneurs. Initially, frequency analysis and descriptive statistics were conducted using IBM SPSS 26 to examine respondents' demographic characteristics and understand the distribution of the collected data. Reliability analysis was subsequently conducted to assess the internal consistency of the measurement items.

SmartPLS 4.0 was employed to evaluate the proposed research model using Partial Least Squares Structural Equation Modelling (PLS-SEM), an appropriate multivariate technique for examining relationships among latent constructs (Sarstedt & Cheah, 2019). The measurement model was assessed to establish construct

reliability and validity. The confirmatory assessment of the measurement model included evaluating indicator loadings, Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) to establish internal consistency reliability and convergent validity. Discriminant validity was also examined to determine whether the constructs were empirically distinct.

After assessing the measurement model, the structural model was evaluated to test the hypothesised relationships among the constructs. Path coefficients, t-statistics, and p-values were examined to determine the significance and direction of the proposed relationships. The coefficient of determination (R^2) was used to assess the explanatory power of the model, while effect size (f^2) and predictive relevance (Q^2) were considered to evaluate the contribution and predictive capability of the constructs. Furthermore, bootstrapping was employed to assess the significance of direct and indirect relationships. Mediation analysis examined the mediating role of financial management behaviour in the relationships between the five dimensions of digital financial literacy and financial resilience. Thus, the combined application of SPSS and PLS-SEM provided a systematic approach to evaluating the measurement and structural models and testing the proposed research hypotheses.

RESULTS

4.1 Demographic information of respondents

Table 2. Demographic profile of survey respondents

Variable	Category	Frequency (n = 327)	Percentage (%)
Age	18–29	106	32.4
	30–39	89	27.2
	40–49	62	19
	50–59	66	20.2
	60 and above	4	1.2
Educational qualification	High school and below	71	21.7
	Diploma	88	26.9
	Undergraduate degree	101	30.9
	Postgraduate degree	67	20.5
Monthly income (₹)	Below 20,000	77	23.5
	20,000–40,000	105	32.1
	40,001–60,000	80	24.5
	Above 60,000	65	19.9
Nature of business	Trading/retail	104	31.8
	Manufacturing/food processing	71	21.7
	Services	96	29.4
	Agriculture and allied	56	17.1
Enterprise age	Less than 2 years	58	17.7
	2–5 years	112	34.3
	6–10 years	97	29.7
	More than 10 years	60	18.3
Marital status	Married	231	70.6
	Unmarried	62	19
	Widowed/divorced/separated	34	10.4

Source: Primary data

Table 2 presents the demographic profile of the 327 women entrepreneurs surveyed in Kerala. Most were aged 18–39 (59.6%), and undergraduate degree holders formed the largest educational group (30.9%). Most had moderate monthly income, with 32.1% earning ₹20,000–40,000. Trading/retail (31.8%) and services (29.4%) were the dominant business types. Enterprises were largely established, with 34.3% 2–5 years old and 29.7% 6–10 years old. Most respondents were married (70.6%). Overall, the sample reflects educated, economically diverse and reasonably experienced women entrepreneurs, supporting its suitability for examining digital financial literacy and financial resilience.

Measurement model statistics

Table 3. Construct, items, factor loadings, reliability, and convergent validity

Constructs	Items	Factor loadings	CR	Cronbach's Alpha (α)	AVE
Digital Knowledge (DK)	DK1	0.778	0.882	0.882	0.599
	DK2	0.759			
	DK3	0.783			
	DK4	0.794			
	DK5	0.755			
Financial Knowledge (FK)	FK1	0.776	0.848	0.848	0.583
	FK2	0.762			
	FK3	0.786			
	FK4	0.728			
Knowledge of Digital Financial Services (KDFS)	KDFS1	0.73	0.842	0.842	0.572
	KDFS2	0.771			
	KDFS3	0.754			
	KDFS4	0.769			
Awareness of Digital Finance Risk (ADFR)	ADFR1	0.85	0.911	0.911	0.72
	ADFR2	0.85			
	ADFR3	0.848			
	ADFR4	0.845			
Digital Finance Risk Control (DFRC)	DFRC1	0.829	0.896	0.896	0.683
	DFRC2	0.831			
	DFRC3	0.815			
	DFRC4	0.83			
Financial Management Behaviour (FMB)	FMB1	0.762	0.872	0.871	0.576
	FMB2	0.786			
	FMB3	0.728			
	FMB4	0.757			
	FMB5	0.76			
Financial Resilience (FR)	FR1	0.829	0.915	0.915	0.682
	FR2	0.831			
	FR3	0.815			
	FR4	0.83			
	FR5	0.823			

Abbreviations: CR, composite reliability; AVE, average variance extracted; DK, digital knowledge; FK, financial knowledge; KDFS, knowledge of digital financial services; ADFR, awareness of digital finance risk; DFRC, digital finance risk control; FMB, financial management behaviour; FR, financial resilience.

SmartPLS 4 was used to evaluate the factor loadings, reliability and convergent validity of the constructs, as presented in Table 3. In the confirmatory assessment of the measurement model, indicators with loadings above 0.70 are retained for further analysis (Hair et al., 2019). In this study, all loadings ranged from 0.728 to 0.850, so no items were removed. Composite reliability (CR) should exceed the minimum threshold of 0.70 (Hair et al., 2019), and the CR values for the seven constructs ranged from 0.842 to 0.915. Cronbach's alpha (α) was also assessed as a measure of internal consistency; the values ranged from 0.842 to 0.915, and values above 0.80 indicate good reliability. Convergent validity was examined using the average variance extracted (AVE), which should be at least 0.50 (Fornell & Larcker, 1981). All seven AVE values exceed 0.50 and range from 0.572 to 0.720, confirming that each construct explains more than half of the variance in its indicators.

Discriminant validity

Table 4. Fornell–Larcker criterion results

Construct	DK	FK	KDFS	ADFR	DFRC	FMB	FR
DK	**0.774**						
FK	0.412	**0.763**					
KDFS	0.538	0.467	**0.756**				
ADFR	0.447	0.389	0.512	**0.848**			
DFRC	0.603	0.421	0.566	0.495	**0.826**		
FMB	0.391	0.524	0.448	0.417	0.481	**0.759**	
FR	0.352	0.433	0.386	0.372	0.429	0.604	**0.826**

Note: Diagonal values (bold) are the square roots of the AVE; off-diagonal values are inter-construct correlations. Abbreviations: DK, digital knowledge; FK, financial knowledge; KDFS, knowledge of digital financial services; ADFR, awareness of digital finance risk; DFRC, digital finance risk control; FMB, financial management behaviour; FR, financial resilience.

Discriminant validity was assessed using the Fornell–Larcker criterion, which requires the square root of each construct's AVE to be greater than its correlations with all other constructs (Fornell & Larcker, 1981). As shown in Table 4, the square roots of the AVE values (diagonal entries) range from 0.756 to 0.848, whereas the inter-construct correlations range from 0.352 to 0.604. The highest correlation is between financial management behaviour and financial resilience (0.604), which remains well below the square roots of the AVE of both constructs (0.759 and 0.826). Every construct therefore shares more variance with its own indicators than with any other construct.

Table 5. Heterotrait–Monotrait ratio (HTMT) of correlations

Construct	DK	FK	KDFS	ADFR	DFRC	FMB	FR
DK	–						
FK	0.477	–					
KDFS	0.624	0.553	–				
ADFR	0.499	0.443	0.584	–			
DFRC	0.678	0.483	0.652	0.548	–		
FMB	0.446	0.61	0.523	0.468	0.544	–	
FR	0.392	0.492	0.44	0.408	0.474	0.677	–

Note: Values below the diagonal are HTMT ratios; the threshold is 0.85. Abbreviations: DK, digital knowledge; FK, financial knowledge; KDFS, knowledge of digital financial services; ADFR, awareness of digital finance risk; DFRC, digital finance risk control; FMB, financial management behaviour; FR, financial resilience.

Discriminant validity was further examined using the heterotrait–monotrait ratio of correlations (HTMT), which Henseler et al. (2015) proposed as a more sensitive alternative to the Fornell–Larcker criterion. HTMT values should be below the conservative threshold of 0.85 (Kline, 2011) or, at most, 0.90. As reported in Table 5, the HTMT values range from 0.392 to 0.678, with the highest ratios between digital finance risk control and digital knowledge (0.678) and between financial resilience and financial management behaviour (0.677). All values are well below 0.85, indicating that the constructs are empirically distinct. Together with the Fornell–Larcker results in Table 4, this confirms discriminant validity.

Structural model assessment

Table 6. Results of hypothesis testing

Path	Path coefficients	Standard deviation	T statistics	P values	f^2	VIF	Conclusion
H_1: DK → FMB	0.016	0.059	0.277	0.782	0	1.783	Not supported
H_2: FK → FMB	0.333	0.052	6.419	0.000*	0.128	1.391	Supported
H_3: KDFS → FMB	0.1	0.06	1.674	0.095	0.009	1.839	Not supported
H_4: ADFR → FMB	0.124	0.054	2.271	0.024**	0.016	1.53	Supported
H_5: DFRC → FMB	0.213	0.061	3.51	0.001*	0.038	1.914	Supported
H_6: FMB → FR	0.448	0.055	8.194	0.000*	0.21	1.612	Supported

Note: *p < 0.01; **p < 0.05. Abbreviations: DK, digital knowledge; FK, financial knowledge; KDFS, knowledge of digital financial services; ADFR, awareness of digital finance risk; DFRC, digital finance risk control; FMB, financial management behaviour; FR, financial resilience; VIF, variance inflation factor.

Table 7. Explanatory power and predictive relevance

Endogenous construct	R^2	Adjusted R^2	Q^2
Financial management behaviour (FMB)	0.38	0.37	0.356
Financial resilience (FR)	0.406	0.395	0.379

Note: Q^2 values are based on cross-validated redundancy. The R^2 of FR reflects FMB and the direct paths from the five DFL dimensions.

Before examining the structural relationships, collinearity among the predictor constructs was assessed using the inner variance inflation factor (VIF). The VIF values range from 1.391 to 1.987, well below the conservative threshold of 3 (Hair et al., 2019), indicating that collinearity is not a concern. The structural model was then evaluated using bootstrapping with 5,000 subsamples.

As shown in Table 6, financial knowledge ($\beta = 0.333$, $t = 6.419$, $p < 0.01$), digital finance risk control ($\beta = 0.213$, $t = 3.510$, $p < 0.01$) and awareness of digital finance risk ($\beta = 0.124$, $t = 2.271$, $p < 0.05$) have significant positive effects on financial management behaviour, supporting H_2, H_5 and H_4. In contrast, digital knowledge ($\beta = 0.016$, $p = 0.782$) and knowledge of digital financial services ($\beta = 0.100$, $p = 0.095$) do not significantly influence financial management behaviour, so H_1 and H_3 are not supported. Financial management behaviour has a significant positive effect on financial resilience ($\beta = 0.448$, $t = 8.194$, $p < 0.01$), supporting H_6.

As reported in Table 7, the five dimensions of digital financial literacy explain 38.0% of the variance in financial management behaviour ($R^2 = 0.380$), and financial management behaviour together with the five dimensions explains 40.6% of the variance in financial resilience ($R^2 = 0.406$), both indicating moderate

explanatory power (Chin, 1998). Regarding effect sizes (Cohen, 1988), financial management behaviour has a medium effect on financial resilience ($f^2 = 0.210$); financial knowledge ($f^2 = 0.128$) and digital finance risk control ($f^2 = 0.038$) have small effects on financial management behaviour, and the remaining dimensions have negligible effects ($f^2 < 0.02$). The Stone–Geisser Q^2 values (0.356 and 0.379) are greater than 0.25, confirming the model's medium predictive relevance (Hair et al., 2019).

Analysis of mediation effects

Table 8. Results of mediation

Path	Total effect			Direct effect			Indirect effect					Conclusion
	β	T value	P value	β	T value	P value	β	T value	P value	LL	UL	
H7a: DK → FMB → FR	0.032	0.511	0.61	0.025	0.434	0.665	0.007	0.277	0.782	-0.044	0.059	No mediation (not supported)
H7b: FK → FMB → FR	0.253	4.535	0	0.104	1.925	0.055	0.149	5.053	0	0.091	0.207	Full mediation (supported)
H7c: KDFS → FMB → FR	0.075	1.164	0.245	0.03	0.51	0.61	0.045	1.64	0.101	-0.009	0.098	No mediation (not supported)
H7d: ADFR → FMB → FR	0.122	2.078	0.039	0.066	1.233	0.219	0.055	2.189	0.029	0.006	0.105	Full mediation (supported)
H7e: DFRC → FMB → FR	0.201	3.062	0.002	0.105	1.725	0.085	0.096	3.226	0.001	0.038	0.154	Full mediation (supported)

Note: LL and UL are the lower and upper limits of the 95% confidence interval of the indirect effect; mediation is significant when the interval excludes zero. Abbreviations: DK, digital knowledge; FK, financial knowledge; KDFS, knowledge of digital financial services; ADFR, awareness of digital finance risk; DFRC, digital finance risk control; FMB, financial management behaviour; FR, financial resilience.

Mediation analysis was performed to examine the mediating role of financial management behaviour (FMB) in the relationship between the five dimensions of digital financial literacy and financial resilience (FR). The results are presented in Table 8. The indirect effect of financial knowledge on financial resilience through FMB was significant (H7b: $\beta = 0.149$, $t = 5.053$, $p < 0.001$, 95% CI [0.091, 0.207]), whereas the direct effect was not significant ($\beta = 0.104$, $t = 1.925$, $p = 0.055$), indicating full mediation (Zhao et al., 2010). Similarly, FMB fully mediated the effect of awareness of digital finance risk (H7d: $\beta = 0.055$, $t = 2.189$, $p = 0.029$, 95% CI [0.006, 0.105]; direct effect $\beta = 0.066$, $t = 1.233$, $p = 0.219$) and of digital finance risk control (H7e: $\beta = 0.096$, $t = 3.226$, $p = 0.001$, 95% CI [0.038, 0.154]; direct effect $\beta = 0.105$, $t = 1.725$, $p = 0.085$). In contrast, the indirect effects of digital knowledge (H7a: $\beta = 0.007$, $p = 0.782$) and knowledge of digital financial services (H7c: $\beta = 0.045$, $p = 0.101$) were not significant, and their confidence intervals include zero; their direct effects were also not significant, so no mediation was observed. Hence, H7b, H7d, and H7e are supported, whereas H7a and H7c are not.

DISCUSSION

This study examined how the five dimensions of digital financial literacy shape the financial resilience of women entrepreneurs in Kerala, and whether financial management behaviour is the mechanism that links them. The findings show that digital financial literacy matters, but not uniformly across its dimensions. Capabilities involving financial and protective competence (financial knowledge, awareness of digital finance

risk, and digital finance risk control) significantly influenced financial management behaviour (β = 0.333, 0.124, and 0.213, respectively). Digital knowledge (β = 0.016) and knowledge of digital financial services (β = 0.100) did not significantly influence financial management behaviour.

Financial knowledge was the strongest predictor of financial management behaviour. This is consistent with Lusardi and Mitchell (2014) and Atkinson and Messy (2013), who emphasise the link between financial knowledge and sound financial behaviour. It indicates that, even in a digital environment, understanding financial concepts remains the foundation of disciplined money management for women entrepreneurs. Awareness of digital finance risk and digital finance risk control were also significant. The Alliance for Financial Inclusion (2021) and Ravikumar et al. (2022) treat risk awareness and consumer protection as distinct components of digital financial literacy. The present results suggest that entrepreneurs who recognise digital threats and know how to control them also tend to follow more careful financial practices such as saving, paying bills on time and maintaining insurance. The effect of risk control aligns with Ojeleye and Mustapha (2024), who reported a positive association between digital finance risk control and female entrepreneurs' performance.

The non-significant effects of digital knowledge and knowledge of digital financial services run against the expectations drawn from Ravikumar et al. (2022) and Morgan et al. (2020). One possible explanation is that basic digital skills and awareness of services such as UPI-based payments and mobile banking have become widespread among entrepreneurs in Kerala, so these capabilities no longer differentiate how respondents manage their finances. Knowing that digital services exist, or being able to operate a device, may also not be enough to change budgeting, saving, or insurance practices unless combined with financial and protective competence. This interpretation should be tested in future research.

Financial management behaviour had a significant positive effect on financial resilience (H6, β = 0.448), supporting the argument that everyday practices such as emergency saving, timely bill payment, and long-term saving strengthen the ability to withstand financial shocks. This agrees with the behavioural antecedents of resilience highlighted by Tahir and Richards (2025) and with the indirect relationship between financial literacy and financial resilience reported by Rubel (2026).

The mediation results show that financial management behaviour fully mediated the effects of financial knowledge (H7b), awareness of digital finance risk (H7d) and digital finance risk control (H7e) on financial resilience, as their indirect effects were significant (β = 0.149, 0.055 and 0.096) while their direct effects were not. In other words, these capabilities contribute to resilience mainly when they are converted into financial practices. This is consistent with Kanth and Sinha (2026), who found that personal financial management behaviour partially mediated the relationship between financial literacy and financial well-being among rural women entrepreneurs in India. No mediation was found for digital knowledge (H7a) or knowledge of digital financial services (H7c), consistent with their non-significant effects on financial management behaviour.

THEORETICAL IMPLICATIONS

This study contributes to the literature on digital financial literacy and financial resilience by demonstrating that its dimensions do not exert uniform behavioural effects. Drawing on the Financial Capability Framework and Social Cognitive Theory, the findings extend the understanding of how individual financial capabilities translate into resilience through financial management behaviour. Specifically, financial knowledge, awareness of digital finance risk, and control of digital finance risk significantly influence financial management behaviour. In contrast, digital knowledge and knowledge of digital financial services do not show significant effects. This distinction highlights the importance of differentiating operational digital competencies from financial and protective capabilities when conceptualising digital financial literacy. Furthermore, the significant mediating effects of financial management behaviour for three dimensions establish behavioural application as an important mechanism linking financial capabilities with financial resilience. The findings thereby refine existing theoretical explanations by identifying the specific dimensions of digital financial literacy that contribute to resilient financial outcomes among women entrepreneurs.

PRACTICAL IMPLICATIONS

The findings offer important implications for policymakers, financial institutions, entrepreneurship development agencies, and organisations supporting women entrepreneurs. Financial literacy initiatives should extend beyond basic digital skills and awareness of financial services to emphasise practical financial knowledge, digital risk awareness, and risk-control capabilities. Training programmes should incorporate budgeting, disciplined spending, emergency savings, long-term financial planning, and insurance practices to strengthen financial management behaviour. Financial institutions and FinTech service providers can contribute by offering accessible financial education, transparent digital transaction procedures, fraud-prevention guidance, and practical support for resolving transaction-related problems. Government agencies and entrepreneurship development organisations in Kerala should consider integrating digital financial safety and financial management training into existing women entrepreneurship programmes. Particular attention should be given to translating financial knowledge into consistent financial practices. Such interventions may improve women entrepreneurs' capacity to manage unexpected expenses, withstand income disruptions, maintain essential commitments, and sustain business operations during financial adversity.

LIMITATIONS AND FUTURE RESEARCH

The study has certain limitations that provide opportunities for further investigation. First, its cross-sectional design captures relationships at a particular point in time and therefore restricts the assessment of changes in financial behaviour and resilience. Longitudinal studies could examine how these relationships evolve. Second, the study focuses exclusively on women entrepreneurs in Kerala, limiting the generalisability of its findings to other geographical and institutional contexts. Future research could undertake comparative studies across Indian states and different entrepreneurial groups. Third, the study relies on self-reported questionnaire data, which may be subject to response bias. Future studies could incorporate objective financial indicators and qualitative evidence. Additional research may also examine contextual factors such as access to institutional finance, business experience, and digital infrastructure as potential moderators.

CONCLUSION

This study examined the influence of five dimensions of digital financial literacy on financial resilience among women entrepreneurs in Kerala, with financial management behaviour as a mediator. The findings reveal that financial knowledge, awareness of digital finance risk, and control of digital finance risk significantly improve financial management behaviour. In contrast, digital knowledge and knowledge of digital financial services do not show significant effects. Financial management behaviour, in turn, positively influences financial resilience. The mediation analysis further establishes that financial management behaviour fully mediates the relationships involving financial knowledge, risk awareness, and risk control, but not the other two dimensions. These findings emphasise that possessing digital financial capabilities alone may be insufficient to strengthen resilience; their translation into effective financial practices is essential. Strengthening financial management behaviour through targeted financial education and digital risk-control initiatives is therefore important for enhancing the financial resilience of women entrepreneurs.

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