

## FINANCIAL LITERACY AS A MEDIATOR BETWEEN DIGITAL ENGAGEMENT AND GEN Z STUDENTS' FINANCIAL PREPAREDNESS



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### Abstract

This study investigates the influence of Digital Financial Engagement (DFE) on Financial Preparedness (FP) among Generation Z college students in Indonesia, with Financial Literacy (FL) serving as a mediating variable. Employing a quantitative approach, data were collected from 231 Generation Z students who actively use digital financial services, and analyzed using Structural Equation Modeling (SEM) with AMOS. The findings reveal that DFE has a positive and significant effect on both FL ( $\beta = 0.218$ ;  $p < 0.001$ ) and FP ( $\beta = 0.144$ ;  $p < 0.001$ ). Furthermore, FL exerts a strong positive influence on FP ( $\beta = 0.534$ ;  $p < 0.001$ ). The mediation test using the Sobel method confirms that FL partially mediates the relationship between DFE and FP ( $Z = 3.871$ ;  $p < 0.001$ ), suggesting the presence of both direct and indirect effects. Theoretically, this study enriches the literature on financial behavior by highlighting the role of digital financial practices in fostering preparedness for future financial needs. Practically, the results emphasize the importance of integrating financial literacy education into higher education curricula and promoting responsible engagement with digital financial platforms to enhance young adults' financial readiness in an increasingly digitalized economy.

**Keywords:** Digital Financial Engagement, Financial Literacy, Financial Preparedness, Generation Z, Structural Equation Modeling

## INTRODUCTION

The rapid advancement of digital technology over the past few decades has profoundly transformed various aspects of human life, including financial management (Zaytsev et al., 2021). In Indonesia, innovations in digital financial services—such as e-wallets, online investment platforms, and app-based lending—have significantly improved public access to financial services (Hassan et al., 2022). Beyond enhancing transactional efficiency, these services have also expanded financial inclusion to underserved populations previously excluded from the formal financial system (Fauziah & Santosa, 2024).

According to the 2024 National Survey on Financial Literacy and Inclusion (SNLIK, 2024) conducted by the Financial Services Authority (OJK) and the Central Statistics Agency (BPS), the national financial inclusion rate has reached 75.02%. A key driver of this growth is the active participation of younger generations, particularly university students from Generation Z—those born between 1997 and 2012 (Daqar et al., 2020). Known as digital natives, this cohort has grown up immersed in technology and information, making them avid users of various digital financial platforms such as e-wallets, investment apps, and paylater features (Khalifah et al., 2023).

While the presence of financial technology brings numerous benefits—such as ease of access, flexibility, and time efficiency (Shrestha, 2024), it also presents several risks. Challenges such as high-interest online loans, digital fraud, and impulsive spending habits pose significant threats, particularly to users lacking sufficient financial understanding (Setiadi & Frederika, 2022). In this context, financial preparedness becomes increasingly critical. It refers to an individual's capacity to manage finances wisely, including budgeting, building emergency funds, managing debt, and planning long-term financial strategies (Alshubiri et al., 2023).

Ironically, despite the relatively high level of financial inclusion, the national financial literacy rate stands at only 65.43% (SNLIK, 2024). This disparity suggests that a large portion of users, including students, may not fully comprehend how to utilize digital financial services prudently (Lusardi & Mitchell, 2007). This study seeks to examine how Generation Z students' engagement with digital financial services (Digital Financial Engagement/DFE) influences their financial preparedness and whether financial literacy serves as a mediating factor in this relationship (Yulianto et al., 2024; Zahwa & Soekarno, 2023).

## REVIEW OF LITERATURE

### Digital Financial Engagement

Digital Financial Engagement (DFE) is defined as the extent to which individuals actively utilize digital financial technologies in their daily lives (Koskelainen et al., 2023). This engagement includes the frequency of using financial applications, the variety of services utilized (e-wallets, online loans, investments), and behaviors related to data protection, such as the use of two-step authentication (Maladianti et al., 2024). Generation Z tends to exhibit high levels of engagement with such services (Shrestha, 2024).

According to Pandya (2023), the main appeal of digital financial services lies in their accessibility, intuitive user interfaces, and added features such as cashback and paylater. However, this engagement is not always accompanied by prudent financial management. Jain

& Raman (2023) emphasize that many young users are drawn to these conveniences without fully understanding the long-term financial consequences. Maladianti et al. (2024) further argue that while DFE may enhance technical skills, it may also lead to impulsive financial decisions if not supported by adequate financial understanding. A similar study in Russia by Maltseva et al. (2022) found that digital involvement without sufficient literacy can increase financial vulnerability.

### **Financial Literacy**

Financial Literacy encompasses the knowledge, attitudes, and skills required to effectively manage financial resources in order to achieve financial well-being (Lusardi & Mitchell, 2007). Zahwa & Soekarno (2023) found that students with higher levels of Financial Literacy tend to be more rational and cautious in making financial decisions—for example, by avoiding consumer debt and actively saving.

Financial Literacy is believed to function as a mediator in the relationship between DFE and financial preparedness. In other words, student engagement in digital finance will yield optimal results if supported by sufficient Financial Literacy (Maladianti et al., 2024). (Páldi, 2023) found that in Eastern Europe, Financial Literacy enhances the effectiveness of digital financial tools and reduces the risk of poor decision-making. In this context, Desda et al. (2025) add that an understanding of the risks and potential returns of digital financial services is a crucial component of Financial Literacy among young people.

### **Financial Preparedness**

Financial Preparedness is a critical indicator of an individual's ability to meet current and future financial needs (Vučetić et al., 2022). This includes readiness to face emergencies, manage debt, and plan for long-term goals such as retirement savings or educational expenses (Zahwa & Soekarno, 2023).

Unfortunately, Desda et al. (2025) note that many Generation Z students remain financially unprepared. This is often due to a lack of awareness regarding the importance of financial planning, combined with a consumerist lifestyle influenced by the ease of digital access. (Páldi, 2023) highlights that digital financial technology can indeed improve financial preparedness, but its impact is significantly enhanced when accompanied by strong Financial Literacy.

By integrating conceptual understanding and empirical findings, this study seeks to fill the gap in the literature regarding the mediating role of Financial Literacy in the relationship between Digital Financial Engagement and Financial Preparedness. The results are expected to contribute both theoretically and practically by informing Financial Literacy programs in higher education and supporting sustainable financial inclusion efforts in Indonesia.

## **RESEARCH METHOD**

This study aims to examine the causal relationships between Digital Financial Engagement, Financial Literacy, and Financial Preparedness among Generation Z college students in Indonesia. The primary objective is to investigate how Digital Financial Engagement influences Financial Preparedness, both directly and indirectly through Financial Literacy as a mediating (intervening) variable. Accordingly, the research model includes three main variables: digital financial engagement as the independent variable,

financial literacy as the mediating variable, and financial preparedness as the dependent variable.

The target population consists of Generation Z students (born between 1997 and 2012) enrolled at various universities across Indonesia. The inclusion criteria required participants to have actively used at least one digital financial service within the past six months. A purposive sampling technique was employed, with the questionnaire distributed online via social media platforms during June–July 2025. The questionnaire was delivered using Google Forms and utilized a five-point Likert scale. The measurement instruments were developed and adapted from previously validated studies (Desda et al., 2025; Maladianti et al., 2024; Zahwa & Soekarno, 2023), with adjustments made to ensure language clarity and accessibility for student respondents.

The research model was constructed based on existing theories and supported by prior findings, such as studies on digital financial engagement (Shrestha, 2024) Financial Literacy (Lusardi & Mitchell, 2007), and Financial Preparedness (Maladianti et al., 2024). A structural model was adopted to assess both the direct and indirect relationships among the variables. A total of 231 valid responses were collected, meeting the minimum sample size requirement for structural equation modeling (SEM) in models of moderate complexity (Roodhi et al., 2024). The adequacy of the sample size was further confirmed through a power analysis based on Cohen’s approach ( $d = 0.5$ ,  $\alpha = 0.05$ , power = 0.80), which indicated that the sample was sufficient to detect significant effects (Schober et al., 2021).

Data analysis was conducted using the SEM technique with AMOS software. The first step involved a confirmatory factor analysis (CFA) to assess the validity and reliability of the constructs. This was followed by an examination of the full structural model to evaluate the hypothesized relationships, including the mediating role of financial literacy. The Sobel test (Soper, 2025) based on the method developed by (Sobel, 1982) was used to statistically test the mediation effect.

Throughout the research process, ethical considerations were upheld. Participant involvement was entirely voluntary, all identities remained anonymous, and no personal data were collected.

**Table 1.**  
**Summary of Respondents' Answers**

Variables	Indicators	Mean	Std. Deviation
Digital Finance Engagement	DFE1	3.94	1.12
	DFE2	3.99	1.09
	DFE3	3.41	1.35
	DFE4	3.82	1.11
	DFE5	3.89	1.08
Financial Literacy	FL1	3.85	0.99
	FL2	3.76	1.03
	FL3	3.80	1.06

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	FL4	3.86	1.00
	FL5	3.81	1.08
	FL6	3.97	0.96
	FL7	3.75	1.04
	FL8	3.83	1.00
	FL9	3.81	1.02
	FP1	3.96	0.99
	FP2	4.03	0.97
Financial Preparedness	FP3	3.98	1.03
	FP4	4.00	1.00

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Source: Researcher's own data processing (2025)

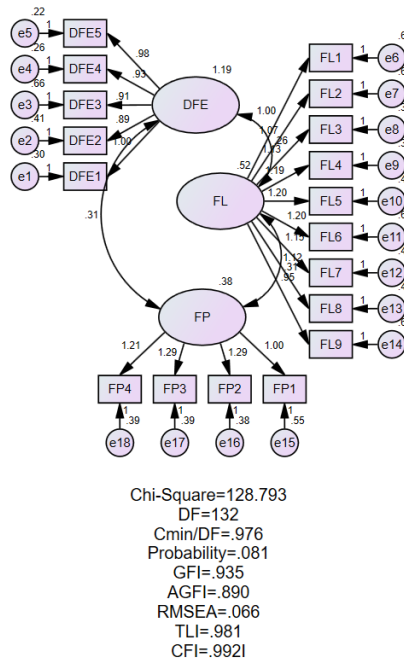
### Research Hypothesis

This study aims to analyze the influence of responsiveness, empathy, and interpersonal communication on customer satisfaction in telecommunication services. Based on the review of the literature and previous research, the hypothesis proposed in this study is as follows:

- H1: Digital Financial Engagement positively influences the Financial Literacy of Generation Z college students.
- H2: Financial Literacy positively influences the Financial Preparedness of Generation Z college students.
- H3: Financial Literacy positively influences the Financial Preparedness of Generation Z college students.
- H4 Digital Financial Engagement positively influences the Financial Preparedness of Generation Z college students through the mediation of Financial Literacy.

**RESULTS AND DISCUSSION**

After the data were collected, a Confirmatory Factor Analysis (CFA) was conducted. The results of the analysis are presented in Figure 1, Table 2, and Table 3.



**Figure 1.**  
**Result of Confirmatory Factor Analysis**  
 Source: Researcher’s own data processing (2025)

**Table 2.**  
**Result of CFA Model Fit Test**

Goodness Of Fit Index	Cut-off Value	Model Test Result	Description
Chi-square	Small (DF = 132, $\alpha = 0.05$ ) ( $< 106.4586$ )	128.793	Marginal
Probability	$\geq 0.05$	0.081	Good
RMSEA	$\leq 0.08$	0.066	Good
GFI	$\geq 0.90$	0.935	Good
AGFI	$\geq 0.90$	0.890	Marginal
CMIN/DF	$\leq 2.00$	0.976	Good
TLI	$\geq 0.95$	0.981	Good
CFI	$\geq 0.95$	0.992	Good

Source: Researcher’s own data processing (2025)

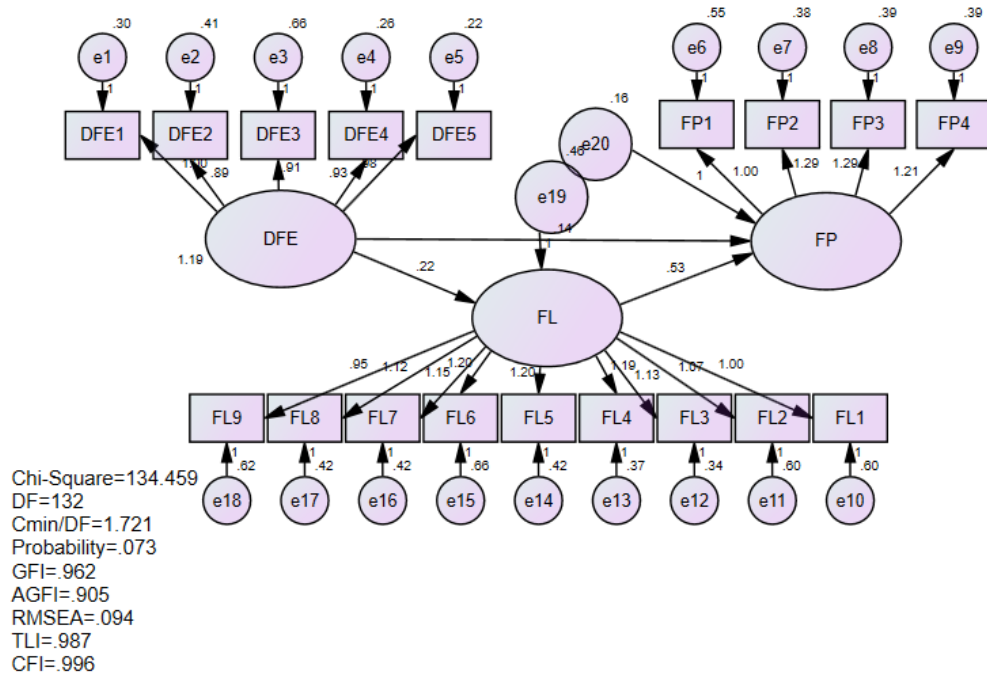
**Table 3.**  
**Result of CFA Regression Test**

	Estimate	S.E.	C.R.	P	Label
DFE1 <--- DFE	1.000				

			Estimate	S.E.	C.R.	P	Label
DFE2	<---	DFE	.887	.051	17.535	***	
DFE3	<---	DFE	.912	.060	15.263	***	
DFE4	<---	DFE	.930	.046	20.369	***	
DFE5	<---	DFE	.976	.046	21.412	***	
FL1	<---	FL	1.000				
FL2	<---	FL	1.071	.108	9.908	***	
FL3	<---	FL	1.129	.100	11.268	***	
FL4	<---	FL	1.186	.105	11.290	***	
FL5	<---	FL	1.199	.108	11.091	***	
FL6	<---	FL	1.197	.117	10.204	***	
FL7	<---	FL	1.149	.105	10.943	***	
FL8	<---	FL	1.117	.103	10.853	***	
FL9	<---	FL	.952	.103	9.263	***	
FP1	<---	FP	1.000				
FP2	<---	FP	1.291	.136	9.494	***	
FP3	<---	FP	1.294	.137	9.465	***	
FP4	<---	FP	1.211	.130	9.317	***	

Source: Researcher's own data processing (2025)

Based on the results of the analysis, the measurement model in this study meets the criteria for Goodness of Fit. Of the eight model fit indicators, six fall into the "good" category, while the remaining two (AGFI and chi-square) are categorized as marginal but still acceptable. The results of the Confirmatory Factor Analysis (CFA) also indicate that all indicators significantly load onto their respective latent constructs, with probability values less than 0.05 and Critical Ratio (CR) values greater than 0.7 . This confirms that all indicators are valid in representing the constructs of Digital Financial Engagement, Financial Literacy, and Financial Preparedness. Following the CFA, the analysis proceeded to the full model to examine the causal relationships among the constructs, as presented in Figure 2, Table 4, and Table 5.



**Figure 2.**  
**Result of Full Model Test**  
 Source: Researcher’s own data processing (2025)

**Table 4.**  
**Result of Full Model Fit Test**

Goodness of Fit Index	Cut-off Value	Model Test Result	Description
Chi-square	Small (DF = 132, $\alpha = 0.05$ ) ( $< 106.4586$ )	134.459	Marginal
Probability	$\geq 0.05$	0.073	Good
RMSEA	$\leq 0.08$	0.094	Marginal
GFI	$\geq 0.90$	0.962	Good
AGFI	$\geq 0.90$	0.905	Good
CMIN/DF	$\leq 2.00$	1.721	Good
TLI	$\geq 0.95$	0.987	Good
CFI	$\geq 0.95$	0.996	Good

Source: Researcher’s own data processing (2025)

**Table 5.**  
**Result of Full Model Regression Test**

		Estimate	S.E.	C.R.	P	Label
FL	<--- DFE	.218	.047	4.592	***	
FP	<--- DFE	.144	.035	4.074	***	
FP	<--- FL	.534	.077	6.939	***	
DFE1	<--- DFE	1.000				

		Estimate	S.E.	C.R.	P	Label
DFE2	<--- DFE	.887	.051	17.535	***	
DFE3	<--- DFE	.912	.060	15.263	***	
DFE4	<--- DFE	.930	.046	20.369	***	
DFE5	<--- DFE	.976	.046	21.412	***	
FP1	<--- FP	1.000				
FP2	<--- FP	1.291	.136	9.494	***	
FP3	<--- FP	1.294	.137	9.465	***	
FP4	<--- FP	1.211	.130	9.317	***	
FL1	<--- FL	1.000				
FL2	<--- FL	1.071	.108	9.908	***	
FL3	<--- FL	1.129	.100	11.268	***	
FL4	<--- FL	1.186	.105	11.290	***	
FL5	<--- FL	1.199	.108	11.091	***	
FL6	<--- FL	1.197	.117	10.204	***	
FL7	<--- FL	1.149	.105	10.943	***	
FL8	<--- FL	1.117	.103	10.853	***	
FL9	<--- FL	.952	.103	9.263	***	

Source: Researcher's own data processing (2025)

The results of the Goodness of Fit test indicate that the structural model remains within an acceptable range, with most fit indices falling under the "good" category. Although RMSEA is categorized as marginal, other indices such as GFI, TLI, and CFI show very good results. All path relationships between the constructs demonstrate significant effects at the 0.05 significance level ( $p < 0.05$ ), indicating that the model is acceptable and suitable for hypothesis testing.

**Table 6.**  
**Hypothesis Testing**

Hypothesis	Pathway	$\beta$	E	C.R	P	Label	Conclusion
H1	Digital Financial Engagement → Financial Literacy	0.218	0.047	4.592	***	Positive Significant	Hypothesis Accepted
H2	Digital Financial Engagement → Preparedness Financial Literacy	0.144	0.035	4.074	***	Positive Significant	Hypothesis Accepted
H3	Financial Literacy → Preparedness	0.534	0.077	6.939	***	Positive Significant	Hypothesis Accepted

Source: Researcher's own data processing (2025)

In general, hypothesis testing in this study was conducted based on two main indicators: the Critical Ratio (C.R.) value and the significance value (p-value). The C.R. is used to determine the significance of the effect between latent variables and is considered valid if the value exceeds 0.07 (Baharum et al., 2023), in accordance with the critical value of the t-distribution at the 0.05 significance level (Knežo et al., 2019). Meanwhile, the p-value is considered statistically significant if it is below 0.05. To interpret the direction of the relationship, the standardized regression coefficient ( $\beta$ ) is used; a positive value indicates a positive relationship, and a negative value indicates a negative relationship (Esmailpour Zanjani et al., 2023).

Based on the results of data analysis in the structural model, all causal paths between the constructs show C.R. values greater than 0.7 and p-values below 0.05. Furthermore, all standardized regression coefficients exhibit a positive direction, indicating that an increase in construct X is positively associated with an increase in the related construct Y. Therefore, all hypotheses in this study are accepted, as they fulfill the criteria for statistical significance and align with the theoretically expected direction of the relationships.

**Endogenous Variables = Exogenous Variables + Error**

***Financial Literacy ( $\eta_1$ )***

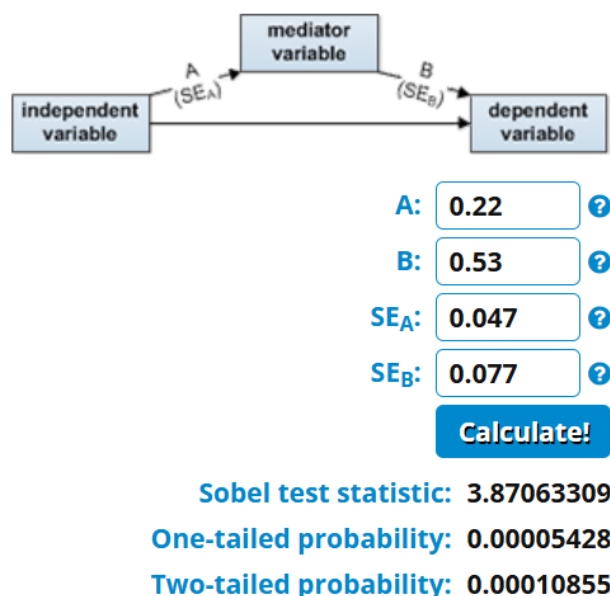
=  $\beta$  ( $\xi_1$ ) + error

= 0.218 Digital Financial Engagement + error

***Financial Preparedness ( $\eta_2$ )***

$\beta$  ( $\eta_1$ ) +  $\beta$  ( $\xi_1$ ) +  $\beta$  ( $\xi_2$ ) + error

= 0.534 Financial Literacy + 0.144 Digital Financial Engagement + error



**Figure 3.**  
**Result of Sobel Test**

Source: Researcher's own data processing (2025)

Based on the calculation using the Sobel Test Calculator (Soper, 2025), the Sobel test statistic was 3.871, with a one-tailed probability of 0.00005428 and a two-tailed probability of 0.00010855. Since the two-tailed p-value is smaller than the 0.05 significance threshold and the statistic test is more than 1.965, it can be concluded that the indirect effect of Digital Financial Engagement on Financial Preparedness through Financial Literacy is statistically significant.

The results of the structural analysis indicate that the research model meets the criteria for Goodness of Fit, with six out of eight model fit indicators falling within the "good" category, and the remaining two (AGFI and chi-square) categorized as marginal yet still acceptable. The Confirmatory Factor Analysis (CFA) confirms that all indicators significantly load onto their respective latent constructs—Digital Financial Engagement, Financial Literacy, and Financial Preparedness—with probability values below 0.05 and Critical Ratios (CR) above 1.96, supporting the validity of the indicators in measuring each construct (Roodhi et al., 2024). The Goodness of Fit test for the structural model also validates the model's adequacy, with most indices such as GFI, TLI, and CFI indicating good fit, although RMSEA is marginal (Kline, 2023). All causal paths between the constructs demonstrate significant effects ( $p < 0.05$ ), confirming the model's suitability for hypothesis testing.

Hypothesis 1: Digital Financial Engagement has a positive effect on Financial Literacy among Gen Z students.

The analysis reveals that Digital Financial Engagement has a positive and significant effect on Financial Literacy ( $\beta = 0.218$ ; C.R. = 4.592;  $p < 0.001$ ). This suggests that the more actively Gen Z students engage with digital financial tools, such as mobile banking apps or

online investment platforms, the better their understanding of financial concepts. This finding aligns with recent studies which show that exposure to digital financial technologies expands access to financial information, thereby enhancing Financial Literacy (Gautam et al., 2022). Hypothesis 2: Digital Financial Engagement has a positive effect on Financial Preparedness among Gen Z students.

The results indicate that Digital Financial Engagement has a positive and significant impact on Financial Preparedness ( $\beta = 0.144$ ; C.R. = 4.074;  $p < 0.001$ ). Engagement with digital financial platforms supports Gen Z students in financial planning and risk management. Recent research highlights that features within digital finance apps facilitate better financial decision-making (Barone et al., 2024).

Hypothesis 3: Financial Literacy has a positive effect on Financial Preparedness among Gen Z students.

Financial Literacy shows a strong positive and significant influence on Financial Preparedness ( $\beta = 0.534$ ; C.R. = 6.939;  $p < 0.001$ ). The high regression coefficient suggests that students with stronger financial knowledge are more capable of making prudent financial decisions, such as budgeting and investing, which contributes to improved Financial Preparedness. This finding is consistent with studies that identify Financial Literacy as a key predictor of Financial Preparedness (Vučetić et al., 2022).

Hypothesis 4: Digital Financial Engagement has a positive effect on Financial Preparedness among Gen Z students through the mediation of Financial Literacy.

The Sobel Test results confirm that the indirect effect of Digital Financial Engagement on Financial Preparedness through Financial Literacy is statistically significant (Sobel statistic = 3.871; two-tailed  $p = 0.00010855$ ). This indicates that Financial Literacy mediates the relationship between Digital Financial Engagement and Financial Preparedness. The mediation is classified as partial, since Digital Financial Engagement has both a significant direct effect on Financial Preparedness (H2:  $\beta = 0.144$ ;  $p < 0.001$ ) and an indirect effect via Financial Literacy (Baron & Kenny, 1986; Showkat et al., 2025). Thus, Financial Literacy strengthens the impact of Digital Financial Engagement on Financial Preparedness, although a direct effect remains. Recent studies also support the role of Financial Literacy as a mediator between financial technology use and financial behavior (Koskelainen et al., 2023).

Overall, these findings demonstrate that Digital Financial Engagement enhances Financial Preparedness among Gen Z students both directly and indirectly through the improvement of Financial Literacy. The implication is that efforts to enhance Financial Preparedness should promote access to digital financial platforms while simultaneously incorporating Financial Literacy education (Castro-Valencia et al., 2024).

## CONCLUSION

This study investigated the relationship between Digital Financial Engagement, Financial Literacy, and Financial Preparedness among Generation Z university students in Indonesia, focusing on the mediating role of Financial Literacy. Employing Structural Equation Modeling (SEM) with 231 active users of digital financial services, all proposed hypotheses were statistically supported.

The findings revealed that Digital Financial Engagement positively influences both Financial Literacy (Koskelainen et al., 2023) and Financial Preparedness (Barone et al.,

2024). Furthermore, Financial Literacy demonstrated a strong and significant effect on Financial Preparedness (Vučetić et al., 2022), underscoring its critical role in shaping sound financial behavior. The Sobel test also confirmed that Financial Literacy partially mediates the relationship between Digital Financial Engagement and Financial Preparedness (Showkat et al., 2025), suggesting that the impact of digital engagement is more substantial when financial knowledge is present.

Theoretically, this study enriches the literature on digital finance by affirming the importance of Financial Literacy as a mediating mechanism (Maladianti et al., 2024). Practically, the findings advocate for the integration of Financial Literacy into higher education curricula and the promotion of safe and responsible digital finance usage (Castro-Valencia et al., 2024). These initiatives are essential to help young adults navigate financial decisions with greater awareness and resilience.

Nonetheless, the study has limitations. The sample was limited to university students from Generation Z, which may restrict generalizability. The study also measured digital engagement quantitatively, without exploring qualitative dimensions such as perceived trust or data security (Desda et al., 2025). Future research should include diverse populations, additional psychosocial variables, and longitudinal methods to capture behavioral changes over time (Subongkod & Hongsakul, 2024).

In conclusion, Digital Financial Engagement and Financial Literacy are two vital pillars for developing Financial Preparedness in young people. Efforts to improve digital financial inclusion must be accompanied by targeted financial education to ensure that Generation Z can manage their finances wisely and sustainably (Setiadi & Frederika, 2022).

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