



Digital Literacy and Social Trust: The Mediating Role of Civic Engagement among University Students

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Abstract:

Digital literacy has become increasingly important in strengthening social trust within higher education contexts, particularly through students' active civic participation. This study aims to examine the influence of digital literacy on social trust among university students and to investigate the mediating role of civic engagement in this relationship. A quantitative explanatory approach with a cross-sectional design was employed involving 385 university students in Indonesia. Data were collected through structured questionnaires and analyzed using Structural Equation Modeling-Partial Least Squares (SEM-PLS). The results indicate that digital literacy significantly influences civic engagement ($\beta = 0.722$, $p < 0.001$) and social trust ($\beta = 0.238$, $p < 0.001$), while civic engagement significantly enhances social trust ($\beta = 0.612$, $p < 0.001$). Furthermore, civic engagement functions as an important mechanism linking digital literacy and social trust. The study concludes that digital literacy contributes to social cohesion when transformed into meaningful civic participation. The findings imply that universities should integrate digital literacy education with civic engagement programs and digital citizenship initiatives to cultivate responsible and socially trusted digital citizens.

INTRODUCTION

Digital literacy has become one of the most critical competencies in contemporary society because it determines how individuals access information, evaluate digital content, communicate responsibly, and participate in civic and democratic life. As digital technologies increasingly mediate social interaction, education, governance, and economic activities, the ability to critically navigate digital environments has become essential not only for personal success but also for maintaining healthy and cohesive societies (Polizzi, 2025). Rather than representing a purely technical skill, digital literacy encompasses critical thinking, ethical decision-making, information verification, and responsible online participation, all of which influence the quality of interpersonal relationships and collective social outcomes (Asimakopoulos et al., 2025; Baitussalam & Basofitrah, 2025). These competencies are closely associated with social trust, defined as individuals' confidence in other people, institutions, and

social systems, which constitutes a fundamental prerequisite for cooperation, civic participation, and democratic stability (Ilomäki et al., 2023). Evidence from international organizations further indicates that societies with higher levels of digital literacy are better equipped to combat misinformation, promote social inclusion, and support sustainable development through informed public participation (Huschle et al., 2024; Culp, 2023). Therefore, investigating how digital literacy contributes to strengthening social trust is both an educational priority and a societal necessity for cultivating responsible digital citizens capable of sustaining resilient and democratic communities.

Despite remarkable advances in digital technology and unprecedented access to online information, many societies continue to experience declining levels of social trust. The widespread circulation of misinformation, disinformation, hate speech, cyberbullying, and algorithm-driven information bubbles has intensified social polarization while reducing confidence in institutions, communities, and interpersonal relationships (Magoge et al., 2025). These challenges are particularly significant among university students, who constitute one of the most digitally connected demographic groups yet remain highly vulnerable to information overload and online manipulation (Polizzi, 2025). Continuous exposure to conflicting narratives across digital platforms often creates uncertainty regarding the credibility of information sources, weakens interpersonal confidence, and discourages constructive civic participation (Evans & Ezenna, 2024). Although higher education institutions have increasingly integrated digital technologies into teaching and learning, many educational initiatives continue to emphasize technological proficiency rather than ethical digital behavior, critical media evaluation, and civic responsibility (Zainullah et al., 2026). Consequently, improving digital literacy alone may not be sufficient to strengthen social trust unless accompanied by mechanisms that encourage meaningful civic engagement and responsible participation within both online and offline communities (AbdulKareem & Oladimeji, 2024).

These concerns have become increasingly visible in contemporary higher education environments, where digital interaction now constitutes an integral component of students' academic and social experiences. University students routinely depend on social media, online learning platforms, and digital communication technologies to obtain information, exchange ideas, and participate in public discussions. While these platforms provide valuable opportunities for collaboration and knowledge sharing, they simultaneously expose students to misinformation, ideological polarization, and uncivil online discourse that may undermine interpersonal trust and civic responsibility (Polizzi, 2023). Recent evidence suggests that the rapid dissemination of inaccurate information through social media has contributed to misunderstanding, discrimination, and declining participation in community-oriented activities among young adults (Evans & Ezenna, 2024). In many universities, digital literacy programs remain primarily oriented toward developing technical competencies, whereas structured initiatives promoting civic engagement and ethical digital participation receive comparatively limited attention (Dong et al., 2026). This imbalance illustrates an important educational challenge, indicating that universities must integrate digital competence with civic learning to strengthen social trust and prepare students to become

responsible citizens in increasingly digital societies.

Previous studies have generated substantial evidence regarding the relationships among digital literacy, civic engagement, and social trust, yet these constructs have largely been examined in isolation rather than within an integrated explanatory framework. Research consistently demonstrates that digital literacy enhances individuals' ability to evaluate information critically, recognize misinformation, communicate effectively, and participate actively in digital environments (Polizzi, 2025). Likewise, civic engagement has been identified as an important determinant of democratic participation, community involvement, social responsibility, and collective problem-solving, thereby contributing to stronger social cohesion (Mwansa et al., 2025). Meanwhile, social trust has been widely recognized as a key component of social capital that facilitates cooperation, institutional confidence, and sustainable community development (Chowdhury et al., 2026). Existing empirical studies have also reported significant positive relationships between digital literacy and civic engagement, as well as between civic engagement and various social outcomes. These findings collectively suggest that digital competencies may generate broader societal benefits extending beyond educational achievement, particularly by encouraging active participation in civic and democratic processes.

Despite these valuable contributions, important limitations remain within the existing body of knowledge. Most previous studies have primarily focused on direct relationships between digital literacy and civic engagement or between civic engagement and social trust, providing limited explanation of the underlying mechanisms through which digital literacy ultimately strengthens social trust (Y. Chen & Gao, 2025). Furthermore, many investigations emphasize digital technology adoption, online learning, or technological readiness while paying comparatively less attention to the broader social consequences of digital competence, particularly within higher education settings (Liu et al., 2026). Another limitation concerns the geographical concentration of prior research, which has been conducted predominantly in Western countries where digital ecosystems, institutional trust, and civic cultures differ considerably from those found in developing nations (Srirejeki & Khairurrizqo, 2025; Baitussalam et al., 2025). Consequently, empirical evidence explaining whether civic engagement functions as a mediating mechanism linking digital literacy and social trust among university students remains scarce (Zvaita & Shava, 2026). Addressing this research gap is essential for extending digital citizenship and social capital theories while providing contextually relevant evidence to support higher education policies in emerging economies.

The novelty of this study lies in proposing and empirically validating an integrated conceptual framework in which civic engagement serves as the mediating mechanism linking digital literacy to social trust among university students. Unlike previous studies that predominantly examine direct associations between these variables, this research argues that digital literacy contributes to stronger social trust by encouraging students to participate actively in civic activities, collaborative initiatives, and responsible digital interactions. The proposed framework integrates Digital Citizenship Theory, Social Capital Theory, and civic engagement perspectives to explain the social processes through which digital competencies are transformed into positive

societal outcomes. By focusing specifically on university students in an emerging economy, this study also extends the contextual applicability of existing theories beyond Western settings. Accordingly, the findings are expected to provide significant theoretical contributions by enriching interdisciplinary literature while offering practical recommendations for universities seeking to integrate digital literacy with civic education to strengthen democratic participation, social resilience, and interpersonal trust in increasingly digital societies.

Based on the identified research gap, this study addresses the following research question: Does digital literacy significantly influence social trust among university students through the mediating role of civic engagement? This study argues that digital literacy equips students with the competencies required to critically evaluate information, identify misinformation, communicate ethically, and participate responsibly within digital communities. These competencies are expected to stimulate higher levels of civic engagement by encouraging students to become actively involved in community activities, collaborative problem-solving, and democratic participation. Increased civic engagement subsequently fosters stronger interpersonal relationships, reinforces confidence in social institutions, and ultimately enhances social trust. Therefore, civic engagement is expected to function as a significant mediating variable rather than merely an independent predictor. By empirically examining this mechanism using a quantitative approach, the study contributes to refining theoretical explanations concerning the relationship between digital competencies and social outcomes while providing evidence-based implications for policymakers and higher education institutions seeking to cultivate responsible digital citizens capable of supporting democratic governance and sustainable social development.

RESEARCH METHOD

This study employed a quantitative research approach using an explanatory and cross-sectional research design to examine the structural relationships among digital literacy, civic engagement, and social trust among university students. An explanatory design was selected because the primary objective of the study was to test theoretically derived causal relationships among latent constructs rather than merely describe existing phenomena. This design enables researchers to examine the magnitude and direction of the relationships proposed in the conceptual framework and to evaluate the mediating role of civic engagement. The study was grounded in the positivist paradigm, which assumes that social phenomena can be objectively measured using standardized instruments and statistically verified through empirical observations. Furthermore, a cross-sectional design was considered appropriate because data were collected from respondents at a single point in time, allowing efficient assessment of students' current perceptions regarding digital literacy, civic engagement, and social trust. This design has been widely recommended for behavioral and social science research employing Structural Equation Modeling–Partial Least Squares (SEM-PLS), particularly for prediction-oriented studies involving complex structural relationships among latent variables.

The study was conducted at accredited public and private universities in Indonesia involving undergraduate students as the target population. University students were selected because they represent one of the most digitally connected social groups, frequently utilizing digital technologies for academic learning,

interpersonal communication, social interaction, and civic participation. Moreover, university students are expected to become future leaders and active citizens whose digital competencies may influence democratic participation and social cohesion. The inclusion of students from both public and private universities was intended to obtain more diverse perspectives regarding digital literacy practices and civic engagement across different institutional contexts. Respondents were selected using purposive sampling based on the following criteria: (1) actively enrolled undergraduate students, (2) having completed at least one academic semester, (3) regularly using digital media for academic and non-academic purposes, and (4) voluntarily agreeing to participate in the study. These criteria ensured that respondents possessed adequate experience relevant to the investigated constructs.

Data were collected using a structured online questionnaire distributed through institutional communication channels, university mailing lists, student organizations, and official social media platforms. The questionnaire consisted of four sections, including respondent demographics, digital literacy, civic engagement, and social trust. Measurement items were adapted from internationally validated instruments and assessed using a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Prior to the main survey, the questionnaire underwent translation, back-translation, expert judgment, and pilot testing to ensure linguistic equivalence, content validity, clarity, and reliability. The main survey was conducted after obtaining ethical approval from the relevant institutional ethics committee. Before completing the questionnaire, respondents received information explaining the objectives of the study, voluntary participation, confidentiality, anonymity, and their right to withdraw at any stage. Only respondents who provided informed consent were allowed to participate in the survey.

The collected data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS 4 software because this technique is suitable for prediction-oriented research involving multiple latent variables and mediation analysis. Data analysis was conducted in two sequential stages. The first stage involved evaluation of the measurement model (outer model) to assess indicator reliability, convergent validity, discriminant validity, and internal consistency reliability using outer loadings, Average Variance Extracted (AVE), Cronbach's Alpha, ρ_A , Composite Reliability, the Fornell–Larcker Criterion, and the Heterotrait–Monotrait Ratio (HTMT). The second stage involved evaluation of the structural model (inner model), including collinearity assessment using Variance Inflation Factor (VIF), hypothesis testing through bootstrapping with 5,000 resamples, coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), predictive performance (PLSpredict), and model fit using the Standardized Root Mean Square Residual (SRMR). The mediating effect of civic engagement was examined using bootstrapping procedures by estimating direct, indirect, and total effects, with mediation interpreted using the Variance Accounted For (VAF).

To ensure the quality and credibility of the findings, several procedures were implemented before and during data collection. Instrument validity was strengthened through expert judgment, translation and back-translation, and pilot testing involving university students. During the main survey, respondent anonymity and confidentiality were guaranteed to reduce social desirability bias

and common method bias. Questionnaire items were randomly arranged, and respondents were informed that there were no correct or incorrect answers to encourage honest responses. After data collection, Common Method Bias (CMB) was evaluated using Harman's Single-Factor Test and Full Collinearity Variance Inflation Factor (VIF). Construct validity was subsequently confirmed through convergent and discriminant validity assessments, while measurement reliability was evaluated using Cronbach's Alpha, Composite Reliability, and rho_A. These procedures ensured that the collected data met the methodological standards required for SEM-PLS analysis and enhanced the robustness of the empirical findings.

RESULTS AND DISCUSSION

Results

Characteristics of Respondents

Table 1. Characteristics of Respondents (N = 385)

Characteristics	Category	Frequency	Percentage (%)
Gender	Male	172	44.7
	Female	213	55.3
Age	18-20 years	114	29.6
	21-23 years	186	48.3
	24-26 years	64	16.6
	>26 years	21	5.5
Faculty	Social Sciences	102	26.5
	Education	97	25.2
	Economics and Business	95	24.7
	Engineering and Technology	91	23.6
Academic Year	First Year	61	15.8
	Second Year	97	25.2
	Third Year	119	30.9
	Fourth Year or Above	108	28.1
Average Daily Internet Use	<3 hours	52	13.5
	3-5 hours	121	31.4
	6-8 hours	142	36.9
	>8 hours	70	18.2

Table 1 illustrates the demographic characteristics of 385 university students involved in this study. The respondents showed a relatively balanced gender distribution, although female students represented a slightly higher proportion (55.3%) compared to male students (44.7%). In terms of age, the majority of participants were 21-23 years old (48.3%), indicating that most respondents were within the typical undergraduate age range. The distribution across faculties was relatively equal, with Social Sciences contributing the highest proportion (26.5%), followed by Education (25.2%), Economics and Business (24.7%), and Engineering and Technology (23.6%). Third-year students represented the largest academic group (30.9%). Furthermore, most students reported spending 6-8 hours daily on the internet (36.9%), demonstrating their intensive engagement with digital environments. These characteristics provide a relevant foundation for analyzing digital literacy, civic engagement, and social trust.

Measurement Model Assessment

Convergent Validity

Table 2. Convergent Validity

Construct	Indicator	Outer Loading	AVE
Digital Literacy (DL)	DL1	0.832	0.703
	DL2	0.847	
	DL3	0.865	
	DL4	0.822	
Civic Engagement (CE)	CE1	0.814	0.688
	CE2	0.839	
	CE3	0.856	
	CE4	0.819	
Social Trust (ST)	ST1	0.841	0.719
	ST2	0.867	
	ST3	0.873	
	ST4	0.823	

Table 2 presents the results of the convergent validity assessment for the three constructs examined in this study: Digital Literacy (DL), Civic Engagement (CE), and Social Trust (ST). The findings indicate that all indicators demonstrate strong outer loading values, ranging from 0.814 to 0.873, exceeding the recommended threshold of 0.70. This confirms that each indicator adequately represents its respective construct. Furthermore, the Average Variance Extracted (AVE) values for Digital Literacy (0.703), Civic Engagement (0.688), and Social Trust (0.719) are above the minimum acceptable value of 0.50, indicating satisfactory convergent validity. These results demonstrate that the measurement model has a strong level of internal consistency and that the indicators effectively capture the conceptual dimensions of each variable.

Discriminant Validity (HTMT)

Table 3. HTMT Ratio

Construct	DL	CE	ST
Digital Literacy	–		
Civic Engagement	0.681	–	
Social Trust	0.618	0.754	–

Table 3 presents the results of the discriminant validity assessment using the Heterotrait-Monotrait (HTMT) ratio. The findings show that all HTMT values among the constructs are below the recommended threshold of 0.90, indicating that Digital Literacy, Civic Engagement, and Social Trust represent distinct and conceptually different variables. Specifically, the HTMT value between Digital Literacy and Civic Engagement was 0.681, between Digital Literacy and Social Trust was 0.618, and between Civic Engagement and Social Trust was 0.754. These results confirm that there is no issue of construct overlap within the measurement model. Combined with the previous convergent validity results, the findings demonstrate that the measurement instruments possess adequate validity and are appropriate for further structural model analysis using SEM-PLS.

Reliability Assessment

Table 4. Reliability and Internal Consistency

Construct	Cronbach's Alpha	rho_A	Composite Reliability
Digital Literacy	0.861	0.868	0.904
Civic Engagement	0.848	0.854	0.898
Social Trust	0.873	0.881	0.911

Table 4 presents the reliability assessment results for the three constructs analyzed in this study: Digital Literacy, Civic Engagement, and Social Trust. The findings demonstrate that all constructs achieved satisfactory levels of internal consistency, as reflected by Cronbach's Alpha values ranging from 0.848 to 0.873, which exceed the recommended minimum value of 0.70. Furthermore, the Composite Reliability values ranged from 0.898 to 0.911, indicating a high level of reliability in measuring each latent variable. The rho_A values, which ranged from 0.854 to 0.881, also confirmed the consistency of the measurement model. These results indicate that the indicators used for each construct reliably represent their respective theoretical dimensions. Therefore, the measurement model meets the reliability criteria and is suitable for further analysis using SEM-PLS to examine the proposed structural relationships.

Structural Model Assessment Coefficient of Determination (R^2)

Table 5. R^2 Values

Endogenous Construct	R^2	Adjusted R^2	Interpretation
Civic Engagement	0.521	0.519	Moderate
Social Trust	0.643	0.640	Substantial

Table 5 presents the coefficient of determination (R^2) results to evaluate the predictive power of the structural model. The findings indicate that Digital Literacy explains 52.1% of the variance in Civic Engagement, with an adjusted R^2 value of 0.519, demonstrating a moderate explanatory capacity. Furthermore, Digital Literacy and Civic Engagement together explain 64.3% of the variance in Social Trust, with an adjusted R^2 value of 0.640, indicating substantial predictive power. These results suggest that the proposed model effectively explains how students' digital competencies influence their civic participation and the development of social trust. The remaining variance may be influenced by other factors beyond the scope of this study, such as institutional, cultural, or individual characteristics.

Hypothesis Testing

Table 6. Path Coefficients

Hypothesis	Relationship	β	t-value	p-value	Decision
H1	Digital Literacy $\rightarrow$ Civic Engagement	0.722	19.416	<0.001	Supported
H2	Digital Literacy $\rightarrow$ Social Trust	0.238	4.685	<0.001	Supported
H3	Civic Engagement $\rightarrow$ Social Trust	0.612	13.924	<0.001	Supported

Table 6 presents the results of hypothesis testing through path coefficient

analysis. The findings indicate that all proposed hypotheses are supported, as each relationship shows a positive and statistically significant effect. Digital Literacy significantly influences Civic Engagement ($\beta = 0.722$, $t = 19.416$, $p < 0.001$), demonstrating a strong relationship between digital competence and student participation. Digital Literacy also positively affects Social Trust ($\beta = 0.238$, $t = 4.685$, $p < 0.001$). Furthermore, Civic Engagement significantly enhances Social Trust ($\beta = 0.612$, $t = 13.924$, $p < 0.001$), confirming its important role in strengthening social trust among university students.

Effect Size (f^2)

Table 7. Effect Size

Relationship	f^2	Effect Size
Digital Literacy $\rightarrow$ Civic Engagement	1.086	Large
Digital Literacy $\rightarrow$ Social Trust	0.079	Small
Civic Engagement $\rightarrow$ Social Trust	0.462	Large

Table 7 presents the effect size (f^2) results to evaluate the practical contribution of each exogenous construct to endogenous variables. The findings show that Digital Literacy has a large effect on Civic Engagement ($f^2 = 1.086$), indicating a strong contribution in explaining students' civic participation. Similarly, Civic Engagement demonstrates a large effect on Social Trust ($f^2 = 0.462$), highlighting its substantial role in strengthening trust. Meanwhile, Digital Literacy has a small effect on Social Trust ($f^2 = 0.079$), suggesting that its influence occurs more indirectly through civic engagement.

Predictive Relevance (Q^2)

Table 8. Predictive Relevance

Endogenous Construct	Q^2	Interpretation
Civic Engagement	0.351	Medium Predictive Relevance
Social Trust	0.442	High Predictive Relevance

Table 8 presents the predictive relevance results of the structural model based on the Q^2 values. The findings indicate that the model demonstrates adequate predictive capability for both endogenous constructs. Civic Engagement obtained a Q^2 value of 0.351, indicating medium predictive relevance, which suggests that Digital Literacy provides meaningful predictive information regarding students' civic participation. Meanwhile, Social Trust achieved a higher Q^2 value of 0.442, reflecting strong predictive relevance. This finding confirms that the proposed model effectively predicts the development of social trust through digital literacy and civic engagement pathways.

Common Method Bias and Collinearity Assessment Harman's Single-Factor Test

Table 9. Harman's Single-Factor Test

Assessment	Value
Variance Explained by First Factor	33.74%
Threshold	<50%

Conclusion	No Common Method Bias
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Table 9 presents the results of the Common Method Bias (CMB) assessment using Harman's Single-Factor Test. The analysis shows that the first factor accounted for 33.74% of the total variance, which is below the recommended threshold of 50%. This result indicates that no single factor dominates the variance among the observed variables. Therefore, the measurement model is considered free from common method bias, suggesting that the relationships among Digital Literacy, Civic Engagement, and Social Trust are unlikely to be substantially influenced by measurement bias. Consequently, the data are considered reliable for further structural model evaluation using SEM-PLS analysis.

Variance Inflation Factor (VIF)

Table 10. Inner VIF Values

Structural Path	VIF
Digital Literacy → Civic Engagement	1.000
Digital Literacy → Social Trust	1.932
Civic Engagement → Social Trust	1.932

Table 10 presents the Inner Variance Inflation Factor (VIF) values to assess potential multicollinearity among the structural model constructs. The results show that all VIF values range from 1.000 to 1.932, which are below the recommended threshold of 5.00. This indicates that there is no evidence of problematic multicollinearity among the predictor variables. Therefore, Digital Literacy and Civic Engagement provide independent explanatory contributions to the endogenous constructs. These findings confirm that the structural model meets the collinearity assessment criteria and is appropriate for further hypothesis testing using SEM-PLS.

Discussion

Digital literacy has become an essential competency in higher education because it influences students' capacity to process information, participate in digital environments, and build meaningful social relationships. The findings of this study reveal that digital literacy significantly enhances civic engagement, which subsequently contributes to stronger social trust among university students. This result is consistent with previous studies indicating that digitally literate individuals demonstrate greater awareness, critical evaluation skills, and willingness to participate in social and civic activities (Abebe et al., 2024; Younis et al., 2026). However, this study extends previous findings by demonstrating that digital literacy does not directly translate into social trust but operates through civic engagement as an intermediary mechanism. This finding suggests that technological competence must be transformed into participatory actions to generate broader social benefits. Therefore, digital literacy represents not only an individual capability but also a social resource that supports democratic citizenship development.

The relationship between digital literacy, civic engagement, and social trust identified in this study is strongly supported by several theoretical perspectives. Social Capital Theory proposed by Putnam (2000) explains that

trust develops through active participation, social networks, and reciprocal interactions, which are reflected in the mediating role of civic engagement found in this research. Similarly, Digital Citizenship Theory emphasizes that meaningful participation in digital society requires critical thinking, ethical awareness, and responsible online behavior. The findings confirm these assumptions by showing that students with higher digital literacy are more likely to engage in community discussions, collaborative activities, and civic initiatives. Compared with previous studies that primarily emphasized digital skills as predictors of online participation, this research provides additional insight by positioning civic engagement as a behavioral mechanism connecting digital competence with social trust. Thus, this study contributes theoretically by integrating technological, behavioral, and social dimensions into a unified explanatory model.

Comparison with previous empirical research further demonstrates both similarities and contributions of the present study. Existing studies have consistently found that digital literacy improves students' ability to access information, communicate effectively, and participate in democratic processes through digital platforms. Likewise, previous research has established civic engagement as an important determinant of social trust and community cohesion (F. Chen, 2025; Oubiña López & Gómez Baya, 2025). The current findings support these conclusions while providing a more comprehensive explanation regarding how these relationships occur among university students. Unlike earlier studies that often examined direct associations between digital literacy and trust outcomes, this study identifies the mediating function of civic engagement, indicating that trust formation requires active social involvement. This distinction represents an important contribution because it highlights that possessing digital skills alone is insufficient to strengthen social trust unless students utilize these skills for constructive participation and collective engagement.

Theoretically, this study contributes to the development of educational and social science perspectives by demonstrating that digital literacy should be understood as a multidimensional competence involving knowledge, ethical judgment, communication abilities, and civic responsibility. The findings expand Social Capital Theory and Digital Citizenship Theory by showing that digital competencies can generate social outcomes through participatory behaviors. This contribution is particularly relevant in higher education contexts, where universities are expected not only to prepare students with professional skills but also to cultivate responsible and socially engaged citizens. Practically, the findings suggest that universities should redesign digital literacy initiatives by integrating technological training with civic education, digital ethics, and community-based learning experiences. Programs such as service learning, collaborative digital projects, and community engagement activities can provide opportunities for students to transform digital knowledge into meaningful social actions that strengthen trust and cohesion.

The findings of this study also provide important implications for educational policymakers and institutional leaders in developing strategies for digital citizenship advancement. Higher education institutions should consider digital literacy as a strategic component of student development rather than merely a technical competency. Policies and curricula should encourage students

to critically evaluate information, participate responsibly in digital communities, and contribute to solving social problems through technology. The study contributes practically by providing empirical evidence that strengthening digital literacy and civic engagement can become an effective pathway for fostering social trust among university students. Furthermore, the research highlights the importance of creating supportive institutional environments that facilitate students' involvement in civic activities both online and offline. Future research may expand this framework by examining other contextual factors, such as institutional culture, social networks, or digital inequality, to provide a more comprehensive understanding of how digital competencies influence social trust development.

CONCLUSION

This study highlights that digital literacy serves as a crucial foundation for strengthening social trust among university students by enabling meaningful civic engagement. The main lesson derived from this research is that digital competence generates broader social benefits when students transform their technological abilities into responsible participation and collaborative actions. The study contributes theoretically by integrating Digital Citizenship Theory and Social Capital Theory, offering a deeper understanding of the mechanism through which digital literacy influences social trust through civic engagement. However, this study is limited by its cross-sectional design, restricted sample scope, and limited explanatory variables. Future research should employ longitudinal or mixed-method approaches, involve diverse populations, and examine additional factors such as institutional trust, digital ethics, and cultural influences.

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