

Integrating Technology Acceptance and Government Trust to Explain Public Engagement on Social Media: An IPMA-Based Study in Local E-Government Communication

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Abstract—In the digital transformation era, local governments increasingly use social media to foster transparency, disseminate information, and enhance civic participation. However, challenges remain in ensuring consistent public engagement and user satisfaction, especially in regions with limited digital literacy and uneven access to infrastructure. This study investigates the key determinants of user satisfaction, engagement, and continuance intention in local government social media platforms, with a specific focus on Central Lombok, Indonesia, a rural region facing significant digital inclusion gaps. The research combines the Technology Acceptance Model (TAM), which focuses on how easy and useful a system is, with the e-Government Adoption Model (e-GAM), which looks at factors like trust in the government, transparency, how interactive the platform is, and perceived risks. A survey of 557 users was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) and Importance Performance Map Analysis (IPMA), showing that user satisfaction is greatly affected by how easy the platform is to use and how much users trust it. Digital literacy, interactivity, and institutional trust further shape these perceptions. Interestingly, perceived usefulness and perceived risk did not show strong direct effects, which was surprising and might be due to regular usage habits and dependence on institutional signals in rural areas. IPMA results indicate that interactivity, user trust, and digital literacy are high-impact yet underperforming areas, warranting strategic attention. The study makes progress in theory by merging behavioral and institutional models and provides practical suggestions for improving two-way communication, building public trust, and encouraging digital skill development to boost meaningful participation in local digital governance.

Index Terms—Social media, e-government, user satisfaction, public engagement, continuance intention, TAM, IPMA.

I. INTRODUCTION

The digital transformation era has caused government organizations around the world to use social media more and more as a key communication tool to share information, engage with the public, and promote civic involvement in governance activities. Social media platforms have transformed the way public service communication works by enabling interactions in both directions that encourage transparency, responsiveness, and inclusive [1], [2]. In Indonesia, the adoption of social media by local government agencies has intensified as part of digital communication strategies. However, disparities in public adoption, engagement, and satisfaction persist, particularly in regions with low digital literacy and inadequate technological infrastructure [3], [4], [5]. This situation presents a considerable challenge for local governments in bridging digital divides amidst growing public expectations for open and efficient information services. Recent statistics from the Indonesian Ministry of Communication and Informatics indicate that over 95% of local governments have adopted social media accounts as part of their digital service strategies. However, only 32% of these institutions maintain regular and interactive communication with citizens, and less than 25% utilize social media for two-way dialogue related to public services. Moreover, disparities remain evident between urban and rural regions, with rural communities such as Central Lombok exhibiting lower engagement metrics and higher digital exclusion risks. These conditions emphasize the urgency of exploring the determinants of social media effectiveness in facilitating meaningful public participation in local governance.

This research brings together the Technology Acceptance Model (TAM) and the e-Government Adoption Model (e-GAM) in order to delve into the ways in which citizens engage with government social media. TAM emphasizes how users' beliefs regarding system usability and its perceived benefits influence

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their attitudes and intentions toward using digital platforms [6], [7]. On the other hand, e-GAM introduces external, context-specific variables such as government transparency, public trust, and the quality of social interaction as key antecedents to citizen engagement in digital public services [2], [3], [8]. The integration of these frameworks enables a more holistic analysis of the mechanisms that underlie user satisfaction and civic participation in government-run social media environments. The integration of TAM and e-GAM in this study is designed to capture both cognitive and contextual dimensions of technology adoption. While TAM emphasizes internal user evaluations namely, perceived ease of use and usefulness e-GAM enriches the model by incorporating institutional and societal variables such as transparency, interactivity, and trust in government. This combination allows the research to examine how personal experiences and perceptions of institutional reliability jointly shape engagement behaviors in the context of government run social media platforms.

Psychological dimensions, notably user trust and perceived risk, are pivotal in influencing the acceptance of digital services provided by government entities. Trust in public institutions enhances citizens' readiness to engage with official digital communication platforms, while perceived risks, especially those associated with privacy concerns and the potential for misinformation can act as significant deterrents to participation [2], [5], [9]. As a result, it is essential to have a detailed understanding of these psychological concepts in order to evaluate how effective social media is as a platform for delivering public services. This study focuses on Central Lombok, a semi-rural regency in West Nusa Tenggara, Indonesia, characterized by limited technological infrastructure, low average digital literacy, and varied levels of civic engagement. The choice of this region is intended to highlight how digital transformation efforts are experienced outside of urban centers, where structural barriers and socio-cultural dynamics present unique challenges for fostering sustained public participation in digital government initiatives.

The primary aim of this study is to investigate the key factors that influence user satisfaction and engagement with social media platforms utilized by local government. The merging of the Technology Acceptance Model (TAM) and the e-Government Adoption Model (e-GAM) will be used to achieve this. In addition to the traditional elements present in these models, the framework includes extra aspects like digital literacy, trust in government institutions, perceived risk, and user-level trust. Furthermore, the research includes the use of Importance Performance Map Analysis (IPMA) to identify factors that have a significant impact but are not performing optimally. This provides valuable strategic insights for improving the efficiency of digital public service delivery [10], [11].

The novelty of this research lies in two primary contributions. From a theoretical standpoint, it extends the traditional technology acceptance model by incorporating essential contextual variables from the e-Government Adoption

Model and by investigating the mediating roles of user trust and perceived risk dimensions that have received limited attention within the context of Indonesian local governance [3], [12]. In practical terms, the research utilizes IPMA as a data-driven approach to guide specific enhancements in digital public communication. Unlike prior studies that have largely concentrated on e-government adoption through websites or standalone applications, this research addresses a critical gap by examining the influence of official government social media on user perceptions, satisfaction, and engagement. In doing so, the study offers both theoretical advancements and actionable recommendations for fostering inclusive, participatory, and trust-centered digital engagement at the local government level.

II. CONCEPTUAL FRAMEWORK

The growing use of social media in the public sector reflects efforts to enhance transparency, inclusivity, and citizen participation in governance. Numerous studies have investigated user satisfaction and continued use of digital government platforms using theoretical frameworks such as the Technology Acceptance Model (TAM) and the e-Government Adoption Model (e-GAM). TAM highlights internal factors perceived ease of use and perceived usefulness that shape user attitudes and intentions [13], [14], while e-GAM adds external influences like institutional trust, transparency, and perceived risk [8]. In the context of public services, user satisfaction is influenced by system accessibility and meaningful communication [15]. Transparent communication can enhance credibility and trust, whereas concerns about privacy and misinformation dimensions of perceived risk can hinder adoption [16]. Combining TAM and e-GAM enables a comprehensive understanding of user behavior in e-government, especially when trust and digital concerns are significant [17].

Key enabling variables include digital literacy and interactivity. Higher digital literacy enhances perceived usability and engagement [18], while interactivity facilitating two-way communication has been shown to increase civic involvement [19], [20]. Trust in government correlates positively with user satisfaction [21], [22], whereas perceived risk can undermine it [2], [7], especially in low-literacy environments. User satisfaction acts both as a result of system perception and as a mediator influencing engagement and continuance intention [23], [24]. Hence, understanding how system qualities influence public behavior is vital for effective digital governance.

This study proposes an integrated framework combining TAM and e-GAM with eleven constructs: transparency, digital literacy, interactivity, government trust, perceived risk, perceived ease of use, perceived usefulness, user trust, user satisfaction, public engagement, and continuance intention. The model tests 32 hypotheses, covering direct, mediating, and moderating relationships [8], [11], using PLS-SEM and Importance-Performance Map Analysis (IPMA) to derive both theoretical and strategic insights. By merging TAM and e-GAM, this framework captures both cognitive and

institutional factors shaping engagement. Transparency, digital literacy, and interactivity are foundational to shaping perceptions of usability and satisfaction [9], [25]. Compared to models like UTAUT or the DeLone & McLean IS Success Model, which focus on performance or system quality, the combined TAM–e-GAM model provides a more balanced lens on personal and institutional drivers of digital public service acceptance especially relevant in the context of local government social media platforms. As a result, the following hypotheses are proposed:

- H1: Greater transparency is expected to enhance users' perception of ease in navigating the platform.*
H2: Transparency is hypothesized to contribute positively to overall user satisfaction.
H3: Higher levels of digital literacy are anticipated to facilitate greater perceived ease of use.
H4: Digital literacy is proposed to have a positive influence on how satisfied users feel.
H5: Interactivity is presumed to make the platform feel easier to use.
H6: Interactive features are hypothesized to positively affect satisfaction levels.
H7: Trust in government institutions is expected to enhance perceived usefulness of the platform.
H8: Government trust is posited to impact user satisfaction in a positive manner.
H9: Institutional trust is believed to increase user-level trust.
H10: Perceived risks are hypothesized to undermine user satisfaction.
H11: A negative relationship is expected between perceived risk and user trust.
H12: Users who find the system easy to use are expected to perceive it as more useful.
H13: Perceived ease of use is assumed to positively impact satisfaction.
H14: The more useful users perceive the system to be, the more satisfied they are likely to feel.
H15: A positive association is hypothesized between user trust and satisfaction.
H16: User satisfaction is expected to lead to greater public engagement.
H17: Users who are satisfied are more likely to intend continued use of the platform.
H18: The effect of perceived usefulness on user satisfaction is moderated by the interaction between trust in government and PU.
H19: The relationship between perceived ease of use and satisfaction is influenced by the interaction with transparency.
H20: Perceived usefulness's impact on satisfaction is expected to vary depending on its interaction with ease of use.
H21: Trust in government may alter the strength of the relationship between user trust and satisfaction.

- H22: The influence of perceived ease of use on satisfaction is moderated by digital literacy levels.*
H23: Perceived risk is expected to shape how strongly user trust influences satisfaction.
H24: Interactivity is hypothesized to moderate the link between perceived ease of use and satisfaction.

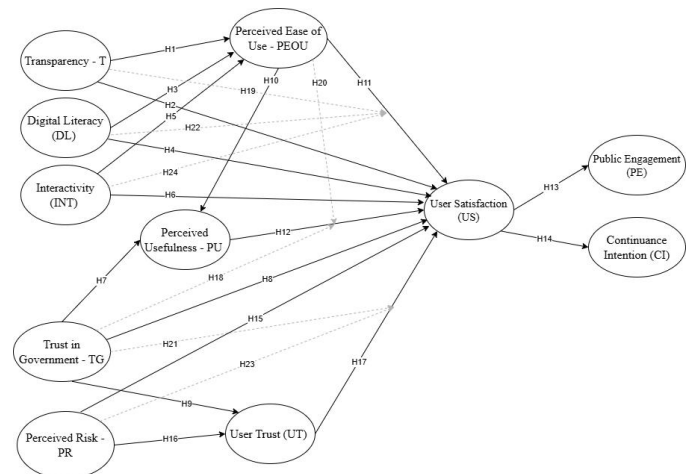


Fig 1. Proposed research framework.

While Fig. 1 depicts the direct and moderating relationships among constructs, the model also includes mediation mechanisms to explain how specific antecedents influence user satisfaction, engagement, and continuance intention. Although not visually shown, these mediating effects are tested empirically to capture indirect influences. In this context, user trust and satisfaction function as key intermediaries that transmit the effects of psychological and technological factors into user behavior. For example, institutional trust and perceived risk may impact satisfaction indirectly through user trust [2], [8], while user satisfaction may mediate the link between digital capabilities and engagement outcomes [10], [26]. Based on this, the final set of hypotheses is proposed:

- H25: User trust is proposed as a mediator between institutional trust and satisfaction.*
H26: Satisfaction mediates the relationship between digital literacy and public engagement.
H27: The effect of digital literacy on continuance intention is channeled through user satisfaction.
H28: Satisfaction mediates the relationship between interactivity and public engagement.
H29: Interactivity influences continuance intention indirectly through satisfaction.
H30: The effect of perceived risk on satisfaction is hypothesized to be mediated by user trust.
H31: Satisfaction plays a mediating role between user trust and public engagement.
H32: Continuance intention is affected by user trust through the mediating mechanism of satisfaction.

III. RESEARCH METHODOLOGY

A. Research Approach and Design

This study employed a quantitative explanatory design and a structured survey method to examine the elements that affect user satisfaction and public engagement with social media platforms utilized by local government. The framework analysis was created by merging TAM and e-GAM, as well as incorporating additional elements like transparency, digital literacy, interactivity, institutional trust, and perceived risk. To assess the proposed relationships in a hands-on way, the study utilized PLS-SEM, with SmartPLS version 4.0 serving as the primary statistical software for analyzing the data.

B. Population and Sampling Technique

The target audience consisted of people who had interacted with the official social media accounts of local government organizations in Central Lombok, Indonesia. The researchers used purposive sampling to select participants who had used or engaged with those platforms within the past six months. The information was gathered in February and March of the year 2025. We obtained 557 valid responses, which exceeds the recommended minimum sample size for conducting PLS-SEM analysis, particularly for models with multiple underlying variables [27].

The respondents' demographics indicated a fairly even split in gender, with 51.2% male and 48.8% female participants. The largest age groups were 26–35 years old, making up 42.2% of the total, and 36–45 years old, making up 41.3% of the total. There were smaller percentages in the 18–25 (7%), 46–55 (8.5%), and over 55 (1%) age categories. Regarding education, the majority of participants had achieved a Bachelor's degree (59.7%), with others having received a Diploma (17.9%), completed Senior High School or equivalent (20.4%), or earned a Master's degree (1.5%). A small minority (0.5%) reported only primary education, with no respondents holding a doctoral degree. In terms of employment, most participants (56.2%) identified their occupation as "Other," followed by civil servants (19.9%), private sector employees (16.4%), entrepreneurs (5%), and students (2.5%).

Regarding engagement frequency with local government social media platforms, 23.3% reported infrequent interaction (1–2 times every six months), 28.9% engaged occasionally (1–2 times every three months), 24.4% interacted frequently (1–2 times a month), and 23.4% interacted very frequently (almost every week). In terms of platform preference, Instagram (26.9%) and Facebook (25.4%) were the most commonly used, followed by WhatsApp (15.4%), Telegram (13.8%), YouTube (7.5%), TikTok (3%), and other platforms (8%). None of the respondents reported using Twitter/X. The primary reason for engagement was to obtain information related to public services and policies (60.2%), followed by accessing local news (25.4%), participating in government programs (7.5%), engaging with officials or citizens (1.5%), and other miscellaneous reasons (5.4%). Notably, none

reported using social media to submit feedback or complaints to the government.

C. Research Instrument

The research made use of an online survey as its main method of gathering data, including questions that were taken from existing and approved measuring instruments. The study evaluated hidden factors like perceived usefulness, perceived ease of use, trust, user satisfaction, and engagement using a five-point Likert scale, where 1 indicated strong disagreement and 5 indicated strong agreement. All measurement items were derived from reputable prior studies [3], [6], [11], and the survey instrument underwent expert review by three specialists in the field to ensure clarity and content validity before dissemination to respondents.

D. Data Analysis Technique

The research utilized PLS-SEM to assess the proposed model by investigating the connections between the core components, such as direct, mediating, and moderating influences. A variety of reliability and validity indicators, including outer loadings, composite reliability (CR), Average variance extracted (AVE), and Cronbach's Alpha, were used to test the measurement model. This was done to ensure that the model displayed both internal consistency and convergent validity. Discriminant validity was evaluated by applying the Fornell–Larcker criterion, Heterotrait–Monotrait Ratio (HTMT), and cross-loadings. The study also used IPMA to pinpoint essential factors that are falling short of expectations, offering useful recommendations for enhancing the delivery of digital public services.

IV. RESULT AND DISCUSSION

A. Measurement Model

Multiple diagnostic tests were carried out to evaluate the effectiveness of the measurement model, specifically examining the reliability of the indicators, internal consistency, and both convergent and discriminant validity. These evaluations were essential in verifying the accurate and consistent measurement of the latent variables. Based on the data in Table 1, the loadings for each item exceeded the threshold of 0.708, indicating strong reliability at the indicator level [27], and confirming that each item accurately represented the core of its related concept. Internal consistency was confirmed using three standard reliability measures. All values for Cronbach's Alpha (CA), Composite Reliability (CR), and rho A (ρ_A) are above the recommended minimum of 0.70. Among all the constructs, user satisfaction showed remarkably high reliability metrics (CR = 0.965; CA = 0.946). Similarly, perceived ease of use, transparency, and continuance intention demonstrated strong internal reliability, with CR values ranging from 0.888 to 0.965. Furthermore, it is noteworthy that all constructs achieved an Average Variance Extracted (AVE) score that surpassed the 0.50 benchmark, demonstrating acceptable levels of convergent validity (seen on Table 1).

Tabel 1.
Construct Validity and Reliability

Construct	Item	Indicator Statement	Outer Loadings	CA	ρA	ρC	AVE
Transparency	T_1	Government information is communicated clearly.	.954	.907	.909	.956	.915
	T_2	Government openly shares public updates.	.959				
Digital Literacy	DL_1	I understand how to use the platform.	.912	.912	.913	.945	.851
	DL_2	I possess essential digital skills.	.928				
	DL_3	I feel confident using its features.	.927				
Interactivity	INT_1	I can interact directly with officials.	.941	.938	.939	.960	.889
	INT_2	The platform enables civic discussions.	.944				
	INT_3	It supports meaningful two-way dialogue.	.944				
Trust in Government	TG_1	I trust the information shared is valid.	.918	.830	.835	.922	.855
	TG_2	I believe in the government's intent.	.931				
Perceived Risk	PR_1	I worry about data misuse.	.917	.927	.933	.953	.872
	PR_2	I sense a risk to my privacy.	.952				
	PR_3	Unauthorized access remains a concern.	.931				
Perceived Ease of Use	PEOU_1	The interface is easy to operate.	.938	.839	.851	.925	.861
	PEOU_2	I can use it without much effort.	.917				
Perceived Usefulness	PU_1	It helps me understand public services.	.947	.882	.882	.944	.894
	PU_2	It simplifies access to information.	.945				
User Trust	UT_1	I trust its data protection system.	.854	.815	.842	.888	.725
	UT_2	It handles personal information fairly.	.866				
	UT_3	I perceive the platform as secure.	.833				
User Satisfaction	US_1	Overall, I am pleased with its use.	.949	.946	.947	.965	.903
	US_2	It aligns with my expectations.	.959				
	US_3	I'm satisfied with service quality.	.943				
Public Engagement	PE_1	I take part in public discussions.	.894	.886	.890	.929	.814
	PE_2	Social media increases my involvement.	.917				
	PE_3	I join civic initiatives more often.	.895				
Continuance Intention	CI_1	I intend to continue using the platform.	.951	.897	.897	.951	.907
	CI_2	I would suggest it to others.	.953				

Note(s): CA = Cronbach's alpha; ρA = Composite Reliability rho_A/ Dijkstra–Henseler's rho;
ρC = Composite Reliability rho_C/ CR = composite reliability; AVE = average variance extracted.

Table 2.
Discriminant Validity - Heterotrait-monotrait (HTMT) ratio

Construct	T	DL	INT	TG	PEOU	PU	US	PR	UT	PE	CI	TG x PU	T x PEOU	PEOU x PU	TG x UT	DL x PEOU	PR x UT	INT x PEOU
T																		
DL	.754																	
INT	.777	.845																
TG	.837	.878	.799															
PEOU	.792	.852	.790	.871														
PU	.719	.803	.689	.857	.872													
US	.842	.888	.874	.830	.810	.744												
PR	.306	.375	.443	.260	.366	.252	.346											
UT	.810	.807	.757	.829	.786	.770	.854	.174										
PE	.569	.541	.579	.566	.642	.562	.596	.343	.816									
CI	.564	.610	.506	.635	.611	.589	.615	.137	.893	.800								
TG x PU	.319	.352	.260	.405	.397	.352	.359	.179	.250	.167	.221							
T x PEOU	.280	.316	.233	.363	.353	.374	.306	.095	.289	.203	.289	.850						
PEOU x PU	.314	.326	.241	.383	.466	.409	.349	.131	.256	.248	.263	.897	.859					
TG x UT	.318	.289	.239	.386	.309	.273	.325	.154	.340	.247	.297	.790	.785	.737				
DL x PEOU	.273	.354	.220	.336	.330	.336	.317	.111	.248	.136	.215	.837	.899	.821	.744			
PR x UT	.191	.180	.120	.206	.127	.151	.212	.286	.195	.042	.179	.332	.320	.315	.331	.305		
INT x PEOU	.245	.268	.191	.316	.313	.303	.276	.074	.202	.129	.192	.771	.863	.758	.652	.891	.369	

Note(s): T: Transparency; DL: Digital Literacy; INT: Interactivity; TG: Trust in Government; PEOU: Perceived Ease of Use; PU: Perceived Usefulness; US: User Satisfaction; PR: Perceived Risk; UT: User Trust; PE: Public Engagement; CI: Continuance Intention.

Table 3.
Discriminant Validity (Fornell-Lacker Criterion)

Construct	T	DL	INT	TG	PEOU	PU	US	PR	UT	PE	CI	R ²	Q ²
T	.957												
DL	.688	.922											
INT	.718	.783	.943										
TG	.729	.767	.708	.924									
PEOU	.695	.746	.704	.729	.928							.630	.529
PU	.643	.720	.628	.732	.754	.946						.639	.565
US	.780	.826	.824	.739	.727	.680	.950					.828	.720
PR	.280	.346	.414	.231	.324	.230	.325	.934					
UT	.715	.724	.685	.701	.667	.658	.777	.167	.851			.491	.334
PE	.513	.488	.530	.487	.556	.498	.548	.309	.681	.902		.301	.238
CI	.509	.553	.465	.548	.532	.524	.567	.125	.750	.715	.952	.322	.285

Note(s): T: Transparency; DL: Digital Literacy; INT: Interactivity; TG: Trust in Government; PEOU: Perceived Ease of Use; PU: Perceived Usefulness; US: User Satisfaction; PR: Perceived Risk; UT: User Trust; PE: Public Engagement; CI: Continuance Intention; R²:R-squared; Q²: Predictive Relevance.

The validity of convergence was evaluated by analyzing the Average Variance Extracted (AVE) for every underlying variable. As shown in Table 1, the AVE values for all constructs were above the standard threshold of 0.50, suggesting that each construct accounted for more than 50% of the variability in its associated indicators. An illustration of this is trust in government, which had an AVE of 0.855, and Public Engagement, which had an AVE of 0.814. Both of these values demonstrate a high level of convergent validity.

The initial stage of evaluating discriminant validity involved applying the Fornell-Larcker criterion. Table 2 indicates that the square root of the AVE for each construct, as presented on the diagonal, exceeded the inter-construct correlations (off-diagonal values), suggesting that each variable is separate from the others. Digital literacy in this instance had a square root AVE of 0.922, which was greater than its correlations with perceived ease of use (0.746) and User Satisfaction (0.826), indicating that discriminant validity was successfully established. Further support for discriminant validity was obtained via the Heterotrait–Monotrait Ratio (HTMT). All HTMT values in Table 3 were below the conservative threshold of 0.85 and liberal threshold of 0.90 [28], indicating that each latent variable was empirically distinct from the others. For instance, the HTMT value between perceived usefulness and user satisfaction was 0.744, while that between Perceived Risk and User Trust was 0.741 both within acceptable limits [29]. The results strongly back up the trustworthiness and accuracy of the measurement model, enabling further examination of the structural connections in the model using PLS-SEM.

B. Structural Model Results

Before proceeding with the evaluation of structural relationships among the latent variables, multicollinearity diagnostics were carried out to identify any potential collinearity issues. The results showed that all Variance Inflation Factor (VIF) values were well below the standard cutoff point of 10, indicating that there were no significant

issues with multicollinearity in the model. This confirmed that it was appropriate to continue with the analysis of the structural path. Afterwards, the structural model was evaluated using SmartPLS version 4.0, utilizing a bootstrapping method with 10,000 subsamples to examine the statistical significance of every proposed path. Table 4 contains detailed results such as path coefficients, p-values, effect sizes (f^2), and VIF values, which are presented to help interpret the model's explanatory strength and the reliability of the connections between variables.

The R² values derived from the structural model demonstrate a robust capacity to elucidate a range of significant constructs. 63.0% of the variance in Perceived Ease of Use (PEOU) was explained by the model, as well as 63.9% in Perceived Usefulness (PU), 82.8% in User Satisfaction (US), 49.1% in User Trust (UT), 30.1% in Public Engagement (PE), and 32.2% in Continuance Intention (CI). The predictive ability of the model was supported by the positive Q² values for all endogenous variables, which exceeded the zero benchmark. The Q² values ranged from 0.238 for Public Engagement to 0.720 for User Satisfaction, indicating a high level of predictive significance. All the results, as well as the measures of discriminant validity, are comprehensively outlined in Table 3.

The statistical significance of 11 out of the 24 structural paths (H1-H24) tested was determined. Transparency had a notable beneficial effect on both Perceived Ease of Use ($\beta = 0.283$, $t = 4.281$, $p < 0.001$) and User Satisfaction ($\beta = 0.195$, $t = 2.628$, $p < 0.01$). In the same way, Digital Literacy had a notable effect on Perceived Ease of Use ($\beta = 0.410$, $t = 4.665$, $p < 0.001$) and User Satisfaction ($\beta = 0.281$, $t = 3.171$, $p < 0.01$). The influence of Interactivity on Perceived Ease of Use did not show a significant impact, however, it did have a statistically significant effect on User Satisfaction ($\beta = 0.307$, $t = 3.615$, $p < 0.001$). Trust in the government was also discovered to be a crucial element, with a strong correlation to both perceived usefulness ($\beta = 0.390$, $t = 6.199$, $p < 0.001$) and user trust ($\beta = 0.700$, $t = 19.548$, $p < 0.001$). Nonetheless, its immediate effect on user contentment did not show statistical significance.

Table 4.
Path Coefficients and Hypotheses Testing Results

Hypothesis/ Relationships	β	SD	T-value	Confidence interval (β) (95%)	Effect size (f^2)	Confidence interval (f^2) (95%)	VIF	Supported
H1: T $\rightarrow$ PEOU	.283	.066	4.281 ***	[.153; .409]	0.096	[.026; .231]	2.254	Yes
H2: T $\rightarrow$ US	.195	.074	2.628 **	[.031; .318]	0.073	[.002; .207]	3.011	Yes
H3: DL $\rightarrow$ PEOU	.410	.088	4.665 ***	[.228; .571]	0.161	[.043; .376]	2.820	Yes
H4: DL $\rightarrow$ US	.281	.089	3.171 **	[.106; .452]	0.097	[.014; .267]	4.741	Yes
H5: INT $\rightarrow$ PEOU	.180	.096	1.881 ns	[.002; .375]	0.029	[.000; .140]	3.063	No
H6: INT $\rightarrow$ US	.307	.085	3.615 ***	[.149; .484]	0.155	[.037; .363]	3.549	Yes
H7: TG $\rightarrow$ PU	.390	.063	6.199 ***	[.267; .515]	0.197	[.083; .396]	2.137	Yes
H8: TG $\rightarrow$ US	-0.021	.059	.356 ns	[-0.132; .098]	0.001	[.000; .030]	3.756	No
H9: TG $\rightarrow$ UT	.700	.036	19.548 ***	[.625; .766]	0.910	[.615; .332]	1.057	Yes
H10: PEOU $\rightarrow$ PU	.469	.066	7.139 ***	[.336; .593]	0.285	[.120; .575]	2.137	Yes
H11: PEOU $\rightarrow$ US	-0.026	.065	.406 ns	[-0.135; .118]	0.001	[.000; .032]	3.931	No
H12: PU $\rightarrow$ US	.013	.051	.259 ns	[-0.081; .120]	0.000	[.000; .027]	3.178	No
H13: US $\rightarrow$ PE	.548	.055	9.991 ***	[.436; .652]	0.430	[.235; .741]	1.000	Yes
H14: US $\rightarrow$ CI	.567	.056	10.116 ***	[.450; .671]	0.475	[.254; .820]	1.000	Yes
H15: PR $\rightarrow$ US	.011	.039	.284 ns	[-0.056; .099]	0.000	[.000; .032]	1.599	No
H16: PR $\rightarrow$ UT	.005	.041	.125 ns	[-0.072; .088]	0.000	[.000; .016]	1.057	No
H17: UT $\rightarrow$ US	.235	.052	4.527 ***	[.123; .325]	0.101	[.027; .212]	3.192	Yes
H18: TG x PU $\rightarrow$ US	-0.034	.055	.626 ns	[-0.131; .084]	0.003	[.000; .042]	7.406	No
H19: T x PEOU $\rightarrow$ US	.113	.075	1.511 ns	[-0.051; .241]	0.021	[.000; .112]	8.897	No
H20: PEOU x PU $\rightarrow$ US	-0.067	.062	1.077 ns	[-0.205; .041]	0.012	[.000; .092]	7.515	No
H21: TG x UT $\rightarrow$ US	.002	.036	.056 ns	[-0.062; .077]	0.000	[.000; .027]	3.733	No
H22: DL x PEOU $\rightarrow$ US	.011	.075	.144 ns	[-0.145; .158]	0.000	[.000; .057]	9.259	No
H23: PR x UT $\rightarrow$ US	-0.020	.032	.618 ns	[-0.096; .029]	0.003	[.000; .050]	1.503	No
H24: INT x PEOU $\rightarrow$ US	-0.053	.084	.627 ns	[-0.198; .129]	0.006	[.000; .089]	6.382	No

Note(s): Significance based on T-value: ns = non-significant ($p \geq 0.05$), * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

β : Path Coefficients; SD: Standard Deviation; VIF: Variance Inflation Factor; T: Transparency; DL: Digital Literacy; INT: Interactivity; TG: Trust in Government; PEOU: Perceived Ease of Use; PU: Perceived Usefulness; US: User Satisfaction; PR: Perceived Risk; UT: User Trust; PE: Public Engagement; CI: Continuance Intention.

Table 5.
Indirect Effects and Mediation Outcomes

Hypothesis	Path	Indirect Effect (β)	T value	P Value	Remark
H25	TG $\rightarrow$ UT $\rightarrow$ US $\rightarrow$ PE	.090	3.777	.000	PE
H26	TG $\rightarrow$ UT $\rightarrow$ US $\rightarrow$ CI	.093	3.817	.000	PE
H27	DL $\rightarrow$ US $\rightarrow$ PE	.154	3.102	.002	PE
H28	DL $\rightarrow$ US $\rightarrow$ CI	.159	2.863	.004	PE
H29	INT $\rightarrow$ US $\rightarrow$ PE	.169	3.406	.001	PE
H30	INT $\rightarrow$ US $\rightarrow$ CI	.174	3.723	.000	PE
H31	PR $\rightarrow$ UT $\rightarrow$ US $\rightarrow$ PE	.001	0.124	.901	NE
H32	PR $\rightarrow$ UT $\rightarrow$ US $\rightarrow$ CI	.001	0.125	.900	NE

Note(s): FE = Full Effect, PE = Partial Effect, NE = No Effect.

Moreover, the perceived simplicity of using the product had a substantial influence on its perceived usefulness ($\beta = 0.469$, $t = 7.139$, $p < 0.001$), although it did not directly affect user satisfaction in a significant way. Similarly, the study found that Perceived Usefulness did not have a direct effect on User Satisfaction, indicating that there may be other factors such as User Trust playing a role as mediators. The research revealed that User Trust had a notable effect on User Satisfaction ($\beta = 0.235$, $t = 4.527$, $p < 0.001$), and this in turn was closely associated with both Public Engagement ($\beta = 0.548$, $t = 9.991$, $p < 0.001$) and Continuance Intention ($\beta = 0.567$, $t = 10.116$, $p < 0.001$). On the other hand, the results for all seven interaction hypotheses (H18-H24) did not show any significant findings. This suggests that the anticipated mitigating influences, such as

those connected to digital literacy, trust, perceived risk, and interactivity, did not exert a noteworthy influence on the correlations between predictor and outcome variables.

This implies that although both external and psychological factors play a significant role, their combined influence on shaping user satisfaction may be less apparent in the current circumstances. The mediation analysis presented in Table 5 revealed eight indirect pathways, six of which demonstrated statistically significant partial mediation. Notably, the influence of trust in government on both public engagement and continuance intention was mediated through user trust and user satisfaction (H25 and H26). Digital literacy and interactivity also exerted their effects on engagement and continuance intention through user satisfaction (H27–H30). Conversely,

Table 6.
IPMA Results for User Satisfaction, Engagement, and Continuance Intention

Construct	User Satisfaction		Public Engagement		Continuance Intention	
	Important	Performance	Important	Performance	Important	Performance
Transparency	0.189	72.635	0.104	72.635	0.107	72.635
Digital Literacy	0.273	73.184	0.149	73.184	0.155	73.184
Interactivity	0.304	69.153	0.167	69.153	0.172	69.153
Trust in Government	0.148	72.456	0.081	72.456	0.084	72.456
Perceived Ease of Use	-0.020	74.031	-0.011	74.031	-0.011	74.031
Perceived Usefulness	0.013	73.166	0.007	73.166	0.007	73.166
Perceived Risk	0.012	60.611	0.007	60.611	0.007	60.611
User Trust	0.235	71.949	0.129	71.949	0.133	71.949
User Satisfaction	-	-	0.548	71.750	0.567	71.750

perceived risk did not show significant indirect effects via user trust and user satisfaction, reaffirming its limited role in this structural configuration (H31–H32).

Effect size analysis (f^2) was conducted to further evaluate the magnitude of the relationships among the latent constructs. The most substantial effect was observed in the path from trust in government to user trust ($f^2 = 0.910$), indicating a very strong influence. This was followed by the effects of user satisfaction on continuance intention ($f^2 = 0.475$) and *Public Engagement* ($f^2 = 0.430$), both classified as large according to the benchmarks established [27]. Moderate effect sizes were found for paths such as *Digital Literacy* → *Perceived Ease of Use* and *Interactivity* → *User Satisfaction*, while several other paths demonstrated small or negligible effect sizes despite reaching statistical significance. A full summary of effect sizes for all hypothesized paths is provided in Table 4.

C. Impact Performance Map Analysis (IPMA)

The researchers conducted an Importance–Performance Map Analysis (IPMA) to identify the key areas to focus on for improving digital public service delivery. This involved assessing the importance and performance of each factor in relation to three main outcomes at the same time: user satisfaction (US), public engagement (PE), and continuance intention (CI). The overall conceptual framework and variable relationships underlying this IPMA approach are visualized in Figure 2. IPMA offers a nuanced perspective by highlighting constructs that exhibit high importance but suboptimal performance, thus guiding targeted interventions for maximum impact. This analytical approach provides valuable insights for evidence-based optimization of digital government services [11], [28].

As shown in Table 6 and Fig. 4, Interactivity (INT) emerged as the most influential determinant of user satisfaction (importance = 0.304), yet its performance score (69.153) suggests room for improvement. This indicates that while interactive features of government social media platforms are crucial for enhancing user experience, their current implementation may be underperforming. Digital literacy (DL) and user trust (UT) also displayed substantial importance (0.273 and 0.235, respectively), but moderate performance levels (73.184 and 71.949, respectively), signaling areas where digital education and trust-building efforts can be strengthened.

These findings align with prior studies highlighting the critical role of digital competency and perceived platform credibility in shaping satisfaction outcomes [4], [26].

Regarding public engagement, User Satisfaction was the strongest predictor (importance = 0.548; performance = 71.750), as visualized in Figure 3. This underscores the mediating role of user satisfaction in translating positive digital experiences into active civic participation. Additionally, both Interactivity (importance = 0.167) and Digital Literacy (importance = 0.149) were found to be strategically important, suggesting that fostering digital dialogue and enhancing user skills can directly contribute to higher levels of public engagement. These outcomes reinforce findings, which emphasize the need for inclusive communication strategies and digital capability-building in e-government platforms [9], [24].

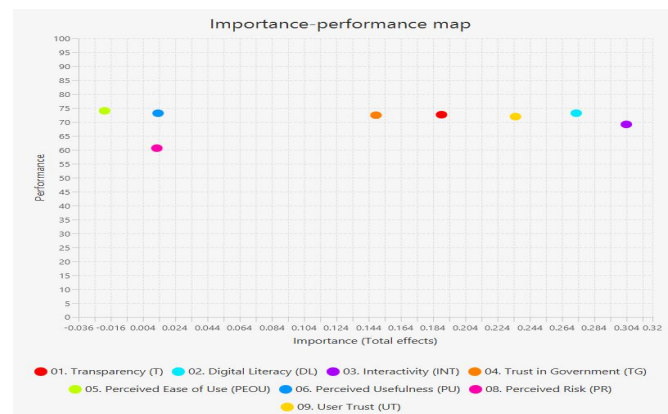


Fig 2. IPMA Results for User Satisfaction

In terms of continuance intention, user satisfaction again held the highest importance value (0.567), reaffirming its central role in predicting users' intention to continue interacting with government social media services (see Figure 4). This was followed by interactivity (importance = 0.172) and digital literacy (importance = 0.155), pointing to the importance of seamless user experiences and digital competencies in fostering loyalty and long-term usage behavior. Conversely, Perceived Ease of Use (PEOU) and Perceived Risk (PR) exhibited low or even negative importance values, suggesting their limited role in influencing sustained usage within this context similar to results observed in [3].

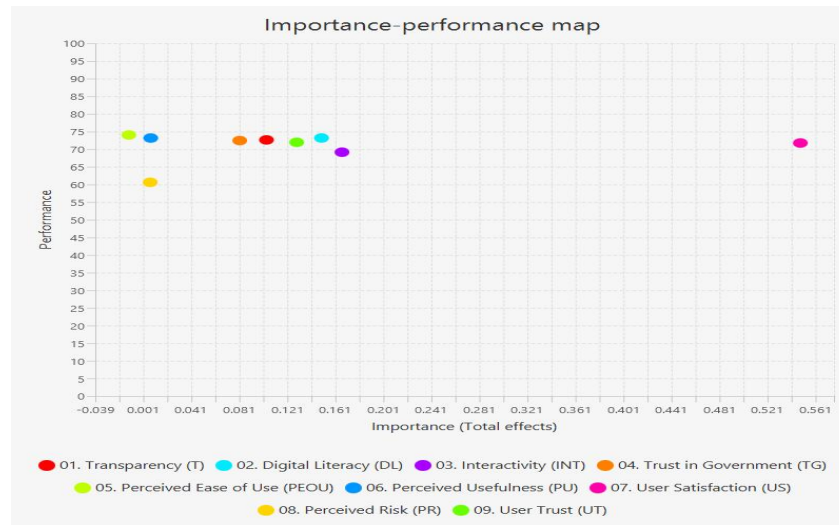


Fig 3. IPMA Results for Public Engagement

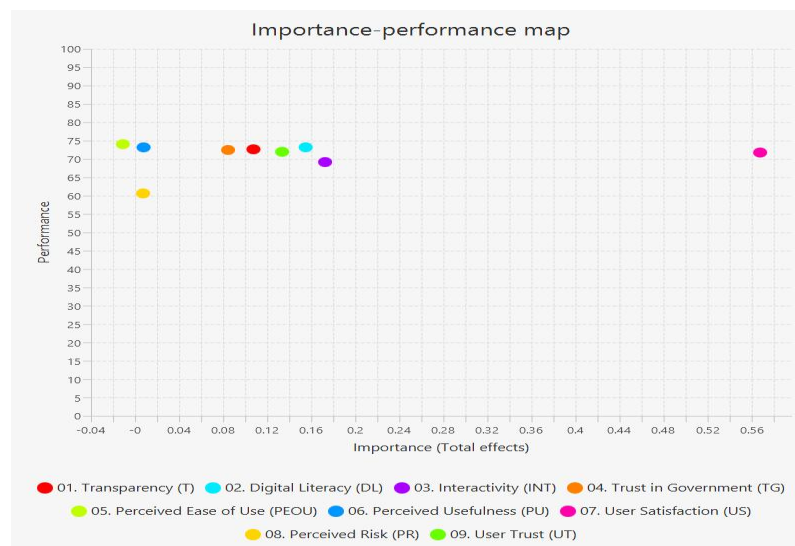


Fig 4. IPMA Results for Continuance Intention

D. Discussion

This study provides empirical support for combining TAM and e-GAM into a cohesive framework for comprehending user satisfaction, public involvement, and the intention to continue using government-operated social media sites. The proposed model builds on the core components of TAM's Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) by incorporating key external factors emphasized in e-GAM, such as Trust in Government (TG), Transparency (T), Digital Literacy (DL), and Perceived Risk (PR). Incorporating crucial elements such as User Trust (UT) and User Satisfaction (US) enhances the model's ability to predict results, as these factors have been proven to significantly influence users' attitudes and behaviors.

The structural model showed significant explanatory ability, with R^2 values varying from 30.1% for Public Engagement to

82.8% for User Satisfaction. The results show that the external factors in the model play a significant role in explaining the variation in the dependent variables. Furthermore, the model's predictive relevance is reinforced by the positive Q^2 values observed in all endogenous constructs, adding to the evidence of its applicability in evaluating digital public service performance in real-world governance settings.

According to the theoretical principles of TAM, the results confirm the concept that perceived ease of use greatly influences perceived usefulness ($\beta = 0.469$; $t = 7.139$). This aligns with earlier studies that emphasize the significance of usability in determining the perceived practical value of digital systems. In this investigation, it was found that perceived ease of use and perceived usefulness did not have the anticipated direct influence on user satisfaction, which goes against traditional TAM predictions. This discovery indicates a possible change in what users expect, with emotional aspects

like trust and perceived interaction quality becoming more important in influencing satisfaction.

Confidence in the government had a significant positive impact on both perceived usefulness ($\beta = 0.390$; $t = 6.199$) and user trust ($\beta = 0.700$; $t = 19.548$), highlighting the important role of trust in institutions in building trust in digital government services [3], [31]. Nonetheless, the fact that it doesn't directly impact user satisfaction suggests that trust at the institutional level isn't enough on its own; it needs to be supported by platform-level trust (UT) in order to result in satisfaction. The findings in Table 5 from the mediation analysis provide additional support for this explanation, highlighting the significance of user trust as a mediator in the connection between trust in government and user satisfaction.

The analysis also emphasizes the critical role of user trust in predicting satisfaction ($\beta = 0.235$; $t = 4.527$), which in turn significantly influenced both public engagement ($\beta = 0.548$) and continuance intention ($\beta = 0.567$). These findings affirm the importance of psychological assurance and perceived security in sustaining digital civic participation [8], [32]. The IPMA expands on these insights by pinpointing critical areas for strategic intervention. As an instance, the importance of interactivity and digital literacy was high, but their performance in terms of user satisfaction, engagement, and continuance intention was moderate (see Table 6; Figures 2–4). The findings are consistent with previous research that highlights the significance of interactive communication and technological proficiency in promoting meaningful public participation [4], [9]. The study suggests that perceived risk and ease of use have a declining influence on user loyalty in mature digital service environments, urging a reevaluation of traditional TAM assumptions in digital governance ecosystems.

Theoretically, the research enriches the e-government literature by demonstrating how the integration of TAM and e-GAM, supported by PLS-SEM and IPMA, can produce a nuanced understanding of user engagement behavior. This integrated approach serves both explanatory and prescriptive purposes, aligning with recent calls in information systems research for models that are simultaneously theory-driven and action-oriented [11], [33]. While the structural model revealed several statistically significant relationships, it is equally important to address the paths that did not yield significant effects. These findings offer theoretical and practical insights into the nuanced dynamics of user behavior in the context of local government social media platforms.

Initially, there was no statistically significant impact of interactivity on the perceived ease of use ($\beta = 0.180$; $t = 1.881$; $p > 0.05$). Although interactivity is often theorized to facilitate system usability and enhance user engagement, the results indicate that the interactive elements available on government social media platforms may not yet be sufficiently optimized to support seamless or intuitive user experiences. This finding suggests a possible disconnect between user expectations and the actual implementation or responsiveness of interactive features. Furthermore, perceived ease of use did not significantly predict user satisfaction ($\beta = -0.026$; $t = 0.406$; $p > 0.05$), and neither did perceived usefulness ($\beta = 0.013$; $t = 0.259$; $p > 0.05$). These results call into question one of the basic

beliefs of the TAM framework, which suggests that systems that are seen as easy to use and have functional benefits are more likely to result in higher user satisfaction [6], [34].

In the same way, trust in government showed no statistically significant effect on user satisfaction ($\beta = -0.021$; $t = 0.356$; $p > 0.05$), and perceived risk did not predict user trust ($\beta = 0.005$; $t = 0.125$; $p > 0.05$) or user satisfaction ($\beta = 0.011$; $t = 0.284$; $p > 0.05$). In the specific context of government-operated social media, these findings suggest that user satisfaction may not be directly impacted by broader institutional trust and perceived risk. A possible explanation is that users have become familiar with the platform or are regularly using it, which lessens their worries about data privacy and misinformation. In these situations, regularly using digital government platforms may help to lessen the psychological impact often linked to distrust in institutions or perceived risk.

Furthermore, all seven interaction effects (H18–H24) were statistically non-significant. These included moderating effects involving transparency, digital literacy, trust, perceived risk, and interactivity. This implies that while these variables are important in their own right, their interaction does not significantly amplify or diminish the core relationships between predictors and user satisfaction in the current model. The findings reflect a more linear and direct path structure, where constructs exert influence independently rather than through interaction. Mediation analysis further supported these insights. Specifically, the hypothesized indirect paths from perceived risk through user trust and user satisfaction to both public engagement (H31) and continuance intention (H32) were not statistically supported.

These non-significant findings enrich our understanding of the digital public service ecosystem. They indicate that traditional constructs from TAM and e-GAM may require adaptation when applied to government social media platforms. From a policy perspective, the results highlight the need to invest in emotional and relational dimensions of user experience such as satisfaction, trust, and engagement rather than relying solely on functional or technical enhancements. This underscores the evolving nature of digital government interactions, where cognitive, affective, and contextual factors jointly shape citizen behavior.

E. Managerial Implications

The information obtained from the structural model and IPMA offers practical insights for local government managers who want to improve digital public service delivery through social media platforms. More importantly, concepts like user satisfaction, interactivity, digital literacy, and user trust were identified as being of great importance and showing moderate performance, indicating that these are areas that require strategic focus. First, the strong influence of User satisfaction on both public engagement and continuance intention (IPMA importance scores of 0.548 and 0.567, respectively) reinforces its central role in digital service success. Public managers should therefore prioritize initiatives that elevate user satisfaction by improving content relevance, responsiveness, and service consistency across digital touch-points. This could include redesigning communication workflows on social media to ensure clarity, reducing response latency to citizen inquiries,

and promoting consistent engagement with users to maintain institutional visibility and credibility.

Second, interactivity (importance = 0.304 for satisfaction; 0.172 for continuance intention) was identified as a top driver of positive user experiences, yet its performance level (69.153) remains below optimal. This highlights the need to enhance two-way communication features such as real-time chat, interactive polls, and live Q&A sessions with public officials. Embedding participatory mechanisms into official social media channels could not only increase civic engagement but also strengthen relational trust with citizens [9], [17]. Third, digital literacy also displayed substantial influence across all three key outcomes especially perceived ease of use and satisfaction. Local governments must therefore continue investing in digital literacy programs, targeting vulnerable populations in semi-urban and rural areas. These programs can be executed in collaboration with schools, universities, and community organizations through workshops, video tutorials, or mobile digital literacy units. The objective is to reduce the digital divide and foster more inclusive e-participation. Fourth, the role of user trust as a determinant of satisfaction (importance = 0.235) and intention (0.133) underscores the necessity of trust-building mechanisms. Government institutions should implement robust privacy protocols, increase transparency about data usage, and promote secure authentication processes. These efforts are essential not only to reduce perceived risk but also to reinforce citizens' confidence in using public digital platforms. Surprisingly, constructs like perceived ease of use and perceived risk showed minimal importance across all outcomes, suggesting that functional usability and risk perceptions may no longer be primary concerns for more digitally mature users. Nonetheless, usability should not be neglected; rather, it should be integrated as a foundational element of design, while managerial focus is directed toward relational and experiential dimensions of user interaction.

In operationalizing these insights, local governments are advised to adopt a dual strategic approach focusing on technical reliability and human-centric service design. This includes investing in system performance, interactivity, and data security while also prioritizing emotional resonance, inclusivity, and sustained dialogue with the public. The IPMA framework thus enables evidence-based resource allocation by identifying constructs with high importance but relatively low performance, allowing digital transformation efforts to be both effective and efficient. Ultimately, these implications provide a roadmap for enhancing citizen-centric governance through optimized social media engagement. By aligning public service delivery with user expectations and behavioral insights, local governments can advance toward more responsive, transparent, and participatory digital ecosystems.

V. CONCLUSION

This study examined the determinants of user satisfaction and public engagement in the context of local government social media platforms by integrating TAM and the e-GAM,

complemented with constructs such as digital literacy, interactivity, transparency, trust in government, perceived risk, and user trust. Using PLS-SEM and IPMA, the study provided empirical evidence on the key cognitive and contextual factors influencing user behavior. The findings confirm that user satisfaction is significantly shaped by digital literacy, interactivity, trust in government, user trust, and perceived usefulness, while perceived ease of use showed no significant direct effect highlighting the evolved user expectations in digital public service environments. The integration of IPMA further highlighted several high-importance yet underperforming factors, offering actionable recommendations for local policymakers and public administrators to optimize their digital service strategies. From a theoretical perspective, this research extends conventional adoption models by embedding psychological constructs such as trust and perceived risk, thereby bridging gaps between system-centric and user-centric approaches in e-government research. Practically, the results provide a roadmap for enhancing civic engagement by strengthening transparency, fostering digital literacy, and building institutional credibility in social media-based governance. However, this study is not without limitations. First, the research focused on a single semi-rural region (Central Lombok), which may limit the generalizability of findings to broader or urban contexts. Second, the cross-sectional design restricts causal inference over time. Third, although survey validation was conducted, the reliance on self-reported data introduces potential bias in perception-based responses. Future research should consider applying the proposed model to multiple regional contexts with varying levels of digital maturity, including longitudinal designs to observe behavioral shifts over time. Also, future work could explore the influence of content quality, emotional tone of communication, or algorithmic personalization in shaping engagement behavior on government social media platforms. Incorporating qualitative insights from citizens or administrators could also enrich the understanding of contextual barriers and expectations in real-world e-government implementation.

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