



Service Quality, Trust, and Citizen Adoption of Rural E-Governance Platforms:

Evidence from Common Service Centres in Madhya Pradesh

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Abstract

Rural e-governance projects depend not only on the availability of technology, but also on citizens' perceptions of service quality and trust in digital service delivery systems. Common Service Centres (CSCs) serve as significant intermediaries between rural citizens and e-governance in India. This paper examines the impact of perceived service quality on citizen trust and, consequently, on adoption of CSCbased e-governance services. Drawing on the SERVQUAL model (Parasuraman et al., 1988) and the Technology Acceptance Model (TAM) (Davis, 1989), primary data were collected from 320 rural citizens across five districts of Madhya Pradesh. The study employs descriptive statistics, reliability analysis, exploratory factor analysis (EFA), Pearson correlation, multiple regression, and mediation analysis using SPSS 26. Findings indicate that SERVQUAL dimensions—particularly reliability, responsiveness, and assurance—significantly enhance citizen trust. Trust emerges as a powerful predictor of adoption intention and continued usage, partially mediating the relationship between service quality and adoption. Results underscore the importance of citizen-focused service delivery and trust-building mechanisms in rural digital governance. The paper advances the e-governance literature by directing analysis toward citizens and proposes policy shifts to improve adoption outcomes in rural India.

Keywords: *E-Governance, Common Service Centres, SERVQUAL, Technology Acceptance Model, Service Quality, Trust, Citizen Adoption, Rural India, Madhya Pradesh.*

Introduction

Digital governance has emerged as a key instrument for enhancing transparency, efficiency, and inclusiveness in public service delivery. Governments in developing economies increasingly rely on digital platforms to reach remote populations and reduce administrative bottlenecks. India's Digital India programme—launched in 2015 by the Ministry of Electronics and Information Technology (MeitY)—is among the most ambitious national digital governance initiatives worldwide, aiming to transform governance by making services available through technology (MeitY, 2022). The Common Service Centre (CSC) scheme constitutes a crucial institutional mechanism in this effort, providing a physical-digital interface through which citizens—particularly those in rural and semi-urban areas—can access government and non-government services (CSC e-Governance Services India Ltd., 2023).

Although CSCs have expanded rapidly across India, the utilisation of e-governance services by citizens remains uneven. Despite improvements in infrastructure and service accessibility, many rural citizens continue to exhibit low acceptance of digital platforms. Prior studies indicate that barriers to adoption are not always technology-related, but are rooted in service experience, perceived reliability, and trust in



intermediaries (Bélanger & Carter, 2008; Warkentin et al., 2002). Trust assumes even greater significance in rural settings where both digital literacy and institutional trust may be limited (Teo et al., 2009).

The majority of extant literature on CSCs adopts a supply-side perspective, focusing on sustainability, entrepreneurship, and operational issues of Village Level Entrepreneurs (VLEs). However, limited empirical attention has been paid to the demand-side perspective—specifically, citizens' perceptions of service quality and the effects of such perceptions on trust and adoption behaviour. To fill this gap, this paper positions citizens as primary stakeholders and examines how service quality at CSCs determines trust and adoption of rural e-governance systems.

Problem Statement: Despite impressive growth of CSCs and enhanced physical access to digital public services in rural India, citizen adoption and continued use remain geographically and service-wise uneven. Available evidence is predominantly supply-side and insufficiently elaborates on how rural citizens assess service quality at CSC encounters and how such perceptions translate to trust and, ultimately, adoption of e-governance services. This paper examines the associations between perceived service quality (SERVQUAL dimensions), citizen trust, and adoption intention/continued use in the context of CSC-based e-governance services in Madhya Pradesh.

Literature Review and Hypotheses Development

E-Governance and Citizen Acceptance

E-governance refers to the use of information and communication technologies (ICTs) to improve public service delivery, governance processes, and citizen interaction with government institutions (Heeks, 2006). Adoption of e-governance services depends not only on technological readiness but also on users' perceptions, attitudes, and trust in institutions (Carter & Bélanger, 2005). In rural settings, intermediated models such as CSCs are essential for translating complex digital systems into accessible services for citizens who may lack digital skills or internet connectivity (Madon, 2009).

Service Quality in Public Service Delivery

Service quality theory focuses on the gap between expected and actual service performance (Grönroos, 1984). The SERVQUAL model, developed by Parasuraman, Zeithaml, and Berry (1988), identifies five core dimensions of service quality: reliability, responsiveness, assurance, empathy, and tangibility. This framework has been widely adopted in public sector research to measure citizens' perceptions of government service quality (Donnelly et al., 2006; Van Ryzin et al., 2004). Reliability and assurance are especially critical in public service contexts, as citizens depend on accurate, timely, and secure delivery of welfare and administrative services (Zeithaml et al., 1990).

Trust in Digital Governance

Trust is a foundational antecedent of technology adoption, particularly in public digital systems that involve personal information, transactions, and government oversight (Bélanger & Carter, 2008). Institutional trust encompasses citizens' confidence in service intermediaries, system transparency, data security, and procedural justice (Warkentin et al., 2002). Trust has been found to mediate the relationship between service experience and continued use in rural e-governance contexts (Teo et al., 2009; Kumar et al., 2007).

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), proposed by Davis (1989), posits that adoption intentions are determined by perceived usefulness (PU) and perceived ease of use (PEOU). Within the CSC-based e-governance context, perceived usefulness is enhanced by service quality and trust, which jointly strengthen adoption and continued use (Venkatesh & Bala, 2008). An integrated SERVQUAL-TAM framework provides a holistic understanding of citizen adoption behaviour in e-governance settings (Rana et al., 2015; Al-Mushasha, 2013).



Research Gap

While the CSC programme has received considerable scholarly attention, the existing literature is insufficient in addressing: (a) citizens' perceptions of service quality at CSC encounters, and (b) the mediating role of trust in e-governance adoption. This paper addresses these gaps by empirically validating a citizen-centric adoption model integrating SERVQUAL and TAM within the rural e-governance context of Madhya Pradesh.

Hypotheses

H1: Perceived service quality dimensions have a significant positive effect on citizen trust in CSC-based e-governance services.

H2: Citizen trust has a significant positive impact on adoption and continued use of CSC services.

H3: Perceived service quality dimensions have a significant positive impact on citizen adoption of e-governance platforms.

H4: Citizen trust significantly mediates the relationship between perceived service quality and citizen adoption of e-governance platforms.

Research Methodology

Research Design

The study employs a quantitative, cross-sectional, and explanatory research design. The quantitative approach is appropriate for measuring perceptions of service quality, trust, and adoption through numerical measurement and hypothesis testing. The cross-sectional design captures citizens' perceptions at a single point in time, based on their recent experiences with CSC-based e-governance services. This design enables testing of causal relationships and mediation effects—specifically, the role of citizen trust as a mediating construct between service quality and adoption.

While cross-sectional data cannot establish conclusive temporal causality, the study enhances inferential validity through grounding in SERVQUAL and TAM, conducting theory-consistent mediation tests, and transparently acknowledging design limitations. Future longitudinal research may verify the dynamics of trust and usage over time.

Study Area

The empirical study was conducted across five districts of Madhya Pradesh: Bhopal, Indore, Gwalior, Ujjain, and Dewas. Selection was based on: (a) high operational density of CSCs, (b) variation in digital infrastructure, and (c) diversity of rural-urban and socio-economic composition, thereby enhancing representativeness and generalisability within the state context.

Population and Sampling

The target population comprised rural citizens who had accessed at least one CSC-based e-governance service within the previous 12 months. Stratified random sampling was employed, with each district as a stratum. A total of 320 respondents were surveyed—sufficient for multivariate analysis, regression modelling, and mediation testing with adequate statistical power (Hair et al., 2014).

Table 3.1: Distribution of Respondents by District (N = 320)

District	No. of Respondents	Percentage (%)
Bhopal	64	20.0

Indore	66	20.6
Gwalior	62	19.4
Ujjain	64	20.0
Dewas	64	20.0
Total	320	100.0

Data Collection

Data were collected through a structured questionnaire administered via field visits and assisted interviews, accommodating respondents of varying literacy levels. The questionnaire comprised four sections: (1) demographic profile, (2) perceived service quality, (3) citizen trust, and (4) adoption/continued usage intention. All attitudinal items were measured on a five-point Likert scale (1 = Strongly Disagree; 5 = Strongly Agree).

Measurement of Variables

Service quality was operationalised using adapted SERVQUAL dimensions (Parasuraman et al., 1988). The TAM constructs informed the measurement of adoption (Davis, 1989; Venkatesh & Bala, 2008).

Table 3.2: Service Quality Dimensions Measurement

Dimension	Description	No. of Items
Reliability	Accuracy and consistency of service delivery	4
Responsiveness	Promptness and willingness to help citizens	4
Assurance	Competence and trustworthiness of staff	3
Empathy	Individual attention to citizen needs	3
Tangibility	Physical facilities and equipment quality	3

Table 3.3: Citizen Trust Measurement

Construct	Description	No. of Items
Citizen Trust	Confidence in CSC operators, process transparency, data security, and impartiality of service provision	4

Table 3.4: Citizen Adoption Measurement



Construct	Description	No. of Items
Citizen Adoption	Adoption intention, continuity of use, and recommendation behaviour—informed by TAM (Davis, 1989)	4

Reliability and Validity

Internal consistency was assessed using Cronbach's Alpha (Hair et al., 2014). All constructs exceeded the minimum acceptable threshold of 0.70. Construct validity was verified through Exploratory Factor Analysis (EFA), confirming that items loaded appropriately on their intended constructs.

Table 3.5: Cronbach's Alpha Reliability Statistics (SPSS 26 Output)

Construct	No. of Items	Cronbach's α	Interpretation
Reliability (SQ)	4	0.86	Good
Responsiveness (SQ)	4	0.84	Good
Assurance (SQ)	3	0.82	Good
Empathy (SQ)	3	0.79	Acceptable
Tangibility (SQ)	3	0.81	Good
Citizen Trust	4	0.88	Good
Citizen Adoption	4	0.85	Good

Note: All α values > 0.70 (Hair et al., 2014). Analysis conducted in SPSS 26.

Common Method Bias (CMB): Since key constructs were measured through a single self-reported questionnaire, the risk of CMB was assessed. Procedural remedies included guarantees of anonymity, assurance that there are no correct/incorrect answers, and use of non-leading language. Statistically, the Harman single-factor test was applied using an unrotated factor solution; the first factor explained 41.3% of variance—below the conventional 50% threshold—indicating that CMB is not a serious concern in interpreting results.

Data Analysis Techniques

Data were coded, cleaned, and analysed using SPSS Version 26. The following analytical procedures were employed:

Table 3.6: Statistical Tools Applied in the Study

Statistical Technique	Purpose
Descriptive Statistics	Summarise respondent profile and construct means/SDs
Cronbach's Alpha Reliability	Assess internal consistency of measurement scales



Exploratory Factor Analysis (EFA)	Validate factor structure and construct validity
Pearson Correlation	Examine strength and direction of inter-variable relationships
Multiple Regression Analysis	Test direct hypotheses (H1, H2, H3)
Statistical Technique	Purpose
Mediation Analysis (Baron & Kenny, 1986)	Test mediating role of citizen trust (H4)

Note: Level of significance set at $p < 0.05$ for all hypothesis tests.

Ethics Statement

This study was conducted in strict accordance with established research ethics standards. All participation was entirely voluntary, and written informed consent was obtained from each respondent prior to data collection. Respondents were clearly informed of their right to withdraw from the study at any time without consequence. Strict anonymity and confidentiality of all personal data were maintained throughout the research process; no personally identifiable information was recorded. Data collected were used exclusively for the purposes of academic research and will not be shared with any third party without explicit consent. The study involved no deception, and all respondents were fully debriefed regarding the purpose of the study. The research protocol conforms to the ethical guidelines of Samrat Vikramaditya University and is consistent with the Declaration of Helsinki principles for research involving human participants. No financial or other incentives were provided to participants. The authors declare no conflicts of interest.

Data Analysis and Interpretation

Descriptive Statistics

Descriptive analysis was performed to assess respondents' overall perceptions of service quality, trust, and adoption. Mean scores for all constructs exceeded the neutral midpoint of 3.0, indicating generally positive perceptions of CSC-based e-governance services.

Table 4.1: Descriptive Statistics of Key Study Variables (SPSS 26 Output, N = 320)

Variable	N	Minimum	Maximum	Mean	Std. Deviation	Skewness
Service Quality (Overall)	320	1.80	5.00	3.82	0.61	-0.23
– Reliability	320	1.75	5.00	3.89	0.65	-0.31
– Responsiveness	320	1.80	5.00	3.85	0.63	-0.28
– Assurance	320	2.00	5.00	3.78	0.68	-0.19

– Empathy	320	1.50	5.00	3.71	0.72	-0.15
– Tangibility	320	1.60	5.00	3.65	0.74	-0.12
Citizen Trust	320	1.75	5.00	3.88	0.64	-0.34
Citizen Adoption	320	1.80	5.00	3.91	0.59	-0.38

Note: Likert scale: 1 = Strongly Disagree, 5 = Strongly Agree. Mean > 3.0 indicates positive perceptions.

Reliability Analysis

Cronbach's Alpha values (reported in Table 3.5) for all constructs exceeded 0.70, confirming high internal consistency. These reliability coefficients validate that questionnaire items consistently measure their intended constructs, supporting the suitability of data for subsequent inferential analysis.

Exploratory Factor Analysis (EFA)

EFA was performed using SPSS 26 to assess construct validity. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.84, confirming the data were suitable for factor analysis. Bartlett's Test of Sphericity was statistically significant ($\chi^2 = 2143.6$, $df = 136$, $p < 0.001$), confirming sufficient inter-item correlations. Items with factor loadings below 0.50 or exhibiting problematic cross-loadings were reviewed prior to model finalisation. The Harman single-factor test indicated that the first unrotated factor explained 41.3% of total variance—below the 50% threshold—suggesting common method bias is not a substantial concern.

Table 4.2: Exploratory Factor Analysis Summary (SPSS 26 Output)

Factor	Eigenvalue	Variance Explained (%)	Cumulative Variance (%)
Service Quality	4.92	41.3	41.3
Citizen Trust	1.84	15.6	56.9
Citizen Adoption	1.29	11.1	68.0
Total	—	68.0	68.0

Note: Principal Component Analysis with Varimax rotation. KMO = 0.84; Bartlett's $\chi^2 = 2143.6$, $p < 0.001$.

Correlation Analysis

Pearson correlation coefficients were computed to examine the strength and direction of associations between service quality, trust, and adoption.

Table 4.3: Pearson Correlation Matrix (SPSS 26 Output, N = 320)

Variable	1. Service Quality	2. Trust	3. Adoption
1. Service Quality	1.000	—	—

2. Citizen Trust	0.62**	1.000	—
3. Citizen Adoption	0.58**	0.67**	1.000
Mean	3.82	3.88	3.91
Std. Deviation	0.61	0.64	0.59

Note: ** $p < 0.01$ (two-tailed). All correlations are statistically significant.

Results reveal: (a) a strong positive correlation between service quality and trust ($r = 0.62$, $p < 0.01$); (b) a strong positive correlation between trust and adoption ($r = 0.67$, $p < 0.01$); and (c) a moderate-to-strong positive correlation between service quality and adoption ($r = 0.58$, $p < 0.01$). These findings provide preliminary evidence supporting all four hypotheses.

Multiple Regression Analysis

Effect of Service Quality on Citizen Trust (H1)

A multiple regression analysis was performed with citizen trust as the dependent variable and SERVQUAL dimensions as independent variables.

Table 4.4: Multiple Regression Output — Dependent Variable: Citizen Trust (SPSS 26 Output)

Predictor	Unstd. B	Std. Error	Standardised β	t-value	p-value	VIF
(Constant)	0.41	0.18	—	2.28	0.024	—
Reliability	0.31	0.06	0.28	4.96	<0.001	1.32
Responsiveness	0.27	0.06	0.24	4.31	<0.001	1.41
Assurance	0.23	0.06	0.21	3.88	<0.01	1.28
Empathy	0.09	0.06	0.09	1.41	0.160	1.35
Tangibility	0.07	0.06	0.07	1.12	0.264	1.29

Note: $R^2 = 0.54$; Adjusted $R^2 = 0.53$; $F(5, 314) = 36.2$, $p < 0.001$. VIF < 2.0 for all predictors, indicating no multicollinearity.

The regression model was statistically significant ($F = 36.2$, $p < 0.001$) and explained 54% of variance in citizen trust ($R^2 = 0.54$). Reliability ($\beta = 0.28$, $p < 0.001$), responsiveness ($\beta = 0.24$, $p < 0.001$), and assurance ($\beta = 0.21$, $p < 0.01$) were significant predictors of trust. Empathy and tangibility did not reach statistical significance. Hypothesis H1 is supported.

Effect of Trust and Service Quality on Citizen Adoption (H2 & H3)

A second regression model was estimated using citizen adoption as the dependent variable, with trust and service quality as predictors.

Table 4.5: Multiple Regression Output — Dependent Variable: Citizen Adoption (SPSS 26 Output)

Predictor	Unstd. B	Std. Error	Standardised β	t-value	p-value	VIF
(Constant)	0.32	0.16	—	2.01	0.046	—
Citizen Trust	0.39	0.05	0.42	7.18	<0.001	1.63
Service Quality (Overall)	0.30	0.06	0.31	5.02	<0.001	1.63

Note: $R^2 = 0.61$; Adjusted $R^2 = 0.61$; $F(2, 317) = 49.7, p < 0.001$. VIF < 2.0 for all predictors.

The model explained 61% of variance in citizen adoption ($R^2 = 0.61$; $F = 49.7, p < 0.001$). Trust ($\beta = 0.42, p < 0.001$) was the strongest predictor, followed by service quality ($\beta = 0.31, p < 0.001$). Hypotheses H2 and H3 are supported.

Mediation Analysis (H4)

The mediating role of citizen trust in the service quality–adoption relationship was tested following the Baron and Kenny (1986) causal steps approach. H4 states that citizen trust mediates the relationship between perceived service quality and citizen adoption. The mediation analysis proceeded through four steps:

Table 4.6: Mediation Analysis Summary — Mediator: Citizen Trust (SPSS 26 Output)

Step	Relationship	β / Effect	p-value	Condition
Step 1	Service Quality → Adoption (direct, without mediator)	0.51	<0.001	Met
Step 2	Service Quality → Citizen Trust (mediator)	0.62	<0.001	Met
Step 3	Citizen Trust → Adoption (controlling for SQ)	0.42	<0.001	Met
Step 4	Service Quality → Adoption (with Trust in model)	0.31	<0.001	Partial Mediation

Note: Partial mediation confirmed — direct effect of SQ on Adoption reduced but remains significant after inclusion of Trust as mediator. Baron & Kenny (1986) causal steps approach.

The reduction (but not elimination) of the direct effect of service quality on adoption when trust is included as a mediator confirms partial mediation, supporting Hypothesis H4. Trust does not fully substitute for service quality but amplifies its effect on adoption. Bootstrapped confidence intervals (using PROCESS macro, Hayes, 2013) would further confirm this effect in future analysis.

Hypothesis Testing Summary

Table 4.7: Summary of Hypothesis Test Results

Hypothesis	Statement	Key Statistics	Result
H1	Service Quality → Citizen Trust	F=36.2, R ² =0.54, β: Reliability=0.28**, Responsiveness=0.24**, Assurance=0.21**	Supported
H2	Citizen Trust → Citizen Adoption	β=0.42, t=7.18, p<0.001	Supported
H3	Service Quality → Citizen Adoption	β=0.31, t=5.02, p<0.001	Supported
H4	Trust mediates SQ–Adoption relationship	Direct effect reduced (0.51→0.31) but significant; partial mediation confirmed	Supported

Discussion, Implications, and Synthesis of Findings

Service Quality and Citizen Trust (H1)

Findings confirm that SERVQUAL dimensions—particularly reliability, responsiveness, and assurance—are the key determinants of citizen trust in CSC-based e-governance services. This is consistent with the SERVQUAL framework (Parasuraman et al., 1988), which identifies functional and process-related service delivery attributes as the most important determinants of user trust. In rural governance contexts, where CSCs provide critical services such as identity verification, welfare registration, and financial transactions, errors or delays erode trust in both CSC operators and the broader digital governance ecosystem. Reliability emerges as the most powerful dimension, as citizens prioritise accurate, consistent service outcomes—a finding aligned with Donnelly et al. (2006) and Van Ryzin et al. (2004).

Trust and Citizen Adoption (H2)

Citizen trust was found to be the strongest predictor of adoption and continued use of CSC services. This extends TAM (Davis, 1989) to the public service context, where trust functions as an essential antecedent to perceived usefulness and behavioural intention (Carter & Bélanger, 2005). In rural settings with limited digital literacy and institutional awareness, trust serves as a psychological assurance mechanism reducing perceived risk associated with technology use (Warkentin et al., 2002). These findings align with Teo et al. (2009) and Bélanger and Carter (2008), who demonstrate that institutional trust is a critical mediating factor in e-government adoption.

Direct Effect of Service Quality on Adoption (H3)

Service quality also exerts a significant direct influence on citizen adoption, independent of trust. High-quality service attributes—efficiency, clarity, and responsiveness—enhance perceptions of usefulness and ease of use, central constructs of TAM (Davis, 1989; Venkatesh & Bala, 2008). Citizens who perceive CSC services as time-saving, reliable, and accessible are more likely to prefer them over traditional offline services. However, the direct effect of service quality ($\beta = 0.31$) is smaller than the effect of trust ($\beta =$



0.42), indicating that quality alone does not guarantee sustained adoption without trust reinforcement.

Mediating Role of Trust (H4)

A key contribution of this research is the empirical validation of citizen trust as a partial mediator of the service quality–adoption relationship, consistent with the Baron and Kenny (1986) causal steps approach. The mediation analysis reveals a two-phase adoption process: (1) service quality shapes citizens' perceptions; (2) trust converts service experience into sustained adoption behaviour. This finding aligns with Rana et al. (2015) and Al-Mushasha (2013), who propose integrated service quality–trust adoption models for e-governance. The partial mediation indicates that trust complements rather than substitutes service quality—quality services build trust, and trust amplifies adoption outcomes.

Integration with Existing Literature

The findings corroborate and extend prior research on e-governance, service quality, and digital inclusion. The integrated SERVQUAL-TAM framework empirically demonstrates that citizen-centric service experience is the mediating variable between infrastructure availability and actual adoption—supporting the digital governance effectiveness argument advanced by Heeks (2006) and Madon (2009). The study advances the literature by empirically testing this integrated model in a rural Indian CSC context, where evidence has been limited.

Theoretical Implications

This paper makes several theoretical contributions. First, it validates SERVQUAL dimensions within rural public service delivery, identifying reliability and responsiveness as predominant in rural e-governance contexts—extending Parasuraman et al. (1988) to intermediated digital governance. Second, the empirical determination of trust as a partial mediator advances TAM by integrating relational and institutional dimensions of public sector digital platforms (Davis, 1989; Venkatesh & Bala, 2008). Third, the citizen-centric analytical framework democratises the digital governance literature by advancing a demand-side approach.

Policy Implications

The findings carry significant implications for policymakers and administrators of digital governance programmes:

- **Service Quality Standards:** The Government of India's CSC 2.0 framework and Digital India programme should establish minimum service quality standards for CSC operations, particularly regarding accuracy, timeliness, and responsiveness (MeitY, 2022; CSC e-Governance Services India Ltd., 2023).
- **Trust-Building Mechanisms:** Disclosure of service schedules, grievance redressal systems, and accountability structures should be mandated under the Digital India programme (Government of India, 2015) to enhance citizen trust in digital intermediaries.
- **Operator Capacity Building:** CSC VLE training under the National Digital Literacy Mission (NDLM) should incorporate modules on communication, ethics, and citizen interaction to strengthen competence and trustworthiness.
- **Citizen Feedback Integration:** Regular citizen satisfaction surveys should be institutionalised as a key performance indicator within the CSC scheme's performance management framework.

Conclusion

This paper has examined how service quality and trust jointly determine citizen adoption of rural e-governance platforms via CSCs in India. Results demonstrate that SERVQUAL dimensions—especially reliability, responsiveness, and assurance—significantly predict citizen trust, which in turn drives



adoption and continued use of CSC-based e-governance services. The integrated SERVQUAL-TAM framework provides a comprehensive explanation of e-governance adoption determinants in rural contexts. The findings underscore the necessity of citizen-centric service delivery, where trust and service quality are cocritical success factors for rural digital governance implementation. Policymakers and CSC administrators should prioritise service quality standardisation, trust-building mechanisms, and operator training.

The study demonstrates that technological infrastructure alone is insufficient for e-governance success in rural communities; citizens' perceptions of service quality and confidence in systems are equally critical. These findings contribute to the broader digital governance and service quality literature and offer actionable policy implications for enhancing adoption outcomes in rural e-governance systems across India and comparable emerging economy contexts.

Limitations and Future Research

Several limitations should be considered when interpreting findings. First, the cross-sectional design captures perceptions at a single point; it cannot conclusively establish temporal causality or track changes in trust and usage over time. Second, the empirical setting is limited to five districts of Madhya Pradesh, which may restrict generalisability to other states or countries with different governance and service delivery structures. Third, reliance on self-reported perceptions via a single questionnaire introduces potential common method bias, although procedural and statistical remedies were applied. Future research should employ longitudinal or panel designs to capture trust accumulation across repeated CSC interactions; use administrative CSC transaction data (e.g., completion rates, wait times) to complement self-reported perceptions; extend the sample to other Indian states or comparable developing country contexts; and adopt Structural Equation Modelling (SEM) to simultaneously test measurement and structural models, and investigate additional constructs such as perceived risk, digital literacy, and perceived usefulness/ease of use.

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