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# Customer Perception And Adoption Of Digital Payments: An Empirical Study Of Rural Customers In East And West Godavari Districts, Andhra Pradesh, India

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***Abstract***
*Digital payments have revolutionised India's financial ecosystem; however, adoption levels in rural regions remain inconsistent despite major government drives such as Unified Payments Interface (UPI) and Pradhan Mantri Jan Dhan Yojana (PMJDY). This empirical study investigates the perceptions and key drivers of digital payment adoption among 480 rural respondents selected from East and West Godavari districts of Andhra Pradesh. Employing a structured questionnaire and a mixed-methods design, the research extends the Unified Theory of Acceptance and Use of Technology (UTAUT) by incorporating perceived security, customer support, and technology self-efficacy. Data were analysed through exploratory factor analysis (EFA), multiple linear regression, independent t-tests, and Pearson correlation.*
*Findings demonstrate that customer support ($\beta = 0.413$, $p < 0.001$), convenience ($\beta = 0.312$, $p < 0.001$), perceived ease of use ($\beta = 0.260$, $p < 0.001$), technology self-efficacy ($\beta = 0.295$, $p < 0.001$), and perceived security ($\beta = 0.225$, $p < 0.001$) exert significant positive influence on overall digital payment perception, collectively explaining 79.2 % of variance (Adjusted $R^2 = 0.792$). Intention to use produced a minor negative effect, revealing an intention–behaviour gap. Strong correlations emerged between high adaptation and pandemic perception ($r = 0.9631$), trust in technology ($r = 0.9234$), and user interface experience ($r = 0.9527$), with the regression model accounting for 94.6 % of variance in adaptation levels. No statistically significant differences were observed between the two districts regarding challenges such as fraud or connectivity issues.*
*The study emphasises the urgency of targeted rural interventions to bridge the digital divide. Practical recommendations for policymakers, banks, and fintech providers include strengthening offline UPI functionalities, establishing localised support systems, and expanding digital literacy initiatives. Limitations and avenues for future research are outlined.*

***Keywords:*** *digital payments, rural adoption, customer perception, UTAUT, perceived security, technology self-efficacy, Andhra Pradesh*

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## I. Introduction

India's digital payment landscape has witnessed remarkable expansion in recent years. UPI transactions reached 21.63 billion in December 2025, amounting to ₹27.96 lakh crore, with rural areas contributing 25–30 % of the volume [NPCI, 2025]. In Andhra Pradesh, UPI transactions account for approximately 6 % of state GDP, supported by 4.77 crore digital touchpoints developed under the Payments Infrastructure Development Fund (PIDF) [RBI, 2025a]. Nevertheless, rural customers in districts such as East and West Godavari continue to encounter obstacles including limited digital literacy (40–50 %), inconsistent internet connectivity, and persistent security concerns [BCG, 2025; Podile & Rajesh, 2025].

This research fills an important gap by empirically analysing customer perceptions and adoption determinants among rural users in a low-literacy agrarian context. By extending the UTAUT framework with context-specific variables—perceived security, customer support, and technology self-efficacy—the study offers fresh insights into financial inclusion in emerging markets and supports the objectives of RBI's Payments Vision 2025.

## II. Literature Review And Theoretical Framework

Existing literature consistently identifies convenience, ease of use, security, and social influence as primary drivers of digital payment adoption [1, 2]. In rural Indian settings, infrastructural constraints and trust-related barriers further influence usage patterns [3, 4]. Although demonetisation and the COVID-19 pandemic accelerated overall adoption, the rural–urban divide persists [5].

The present study integrates the UTAUT model with three additional constructs: perceived security (PS), customer support (CS), and technology self-efficacy (TSE). Digital Experience Perception (DEP) serves as the dependent variable, reflecting overall satisfaction and intention for continued usage.

## III. Research Methodology

***Design and Sample*** A descriptive cross-sectional survey was conducted among 480 rural customers (240 from each district) using stratified random sampling across 12 villages representing urban, semi-urban, and rural blocks. Participants were adults aged 18 years and above who had completed at least one digital payment transaction in the preceding year.

***Instrument*** An 84-item questionnaire (5-point Likert scale for perception items) was developed and pilot-tested (Cronbach's $\alpha = 0.726$). Sections included demographics, awareness levels, perception constructs (TSE, convenience, perceived ease of use, CS, PS, social influence, intention to use, DEP), challenges faced, and pandemic-related factors.

***Data Analysis*** Analysis was performed using SPSS 26. Exploratory factor analysis (Varimax rotation) identified latent factors. Multiple linear regression examined predictors of DEP and high adaptation. Independent t-tests compared districts, and Pearson correlations assessed relationships (significance level $p < 0.05$).

## IV. Results

**Demographic Profile**

The sample was predominantly male (81.9 %), aged 18–35 years, married, educated up to bachelor's or master's level, employed in private sector or business, and belonged to households with annual income of ₹1–3 lakh. Smartphone ownership stood at 100 %, with 82.7 % reporting daily usage. Primary applications included online shopping, in-store purchases, bill payments, and fund transfers. Google Pay and PhonePe were used by all respondents.

***Factor Analysis*** EFA extracted six factors explaining 75 % of total variance: Customer Support, Convenience, Perceived Ease of Use, Technology Self-Efficacy, Intention to Use, and Perceived Security.

**Table 1: Rotated Component Matrix (Principal Component Analysis, Varimax)**

| Rotated Component Matrix | | | | | | |
|---|---|---|---|---|---|---|
| | Component | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| CS6 | .906 | | | | | |
| CS3 | .902 | | | | | |
| CS2 | .897 | | | | | |
| CS5 | .893 | | | | | |
| CS4 | .890 | | | | | |
| CNV4 | | .868 | | | | |
| CNV3 | | .838 | | | | |
| CNV2 | | .785 | | | | |
| CNV5 | | .765 | | | | |
| PEU4 | | | .896 | | | |
| PEU3 | | | .856 | | | |
| PEU2 | | | .797 | | | |
| PEU5 | | | .735 | | | |
| TSE2 | | | | .879 | | |
| TSE1 | | | | .847 | | |
| TSE4 | | | | .837 | | |
| TSE3 | | | | .576 | | |
| IU1 | | | | | .909 | |
| IU2 | | | | | .897 | |
| IU3 | | | | | .863 | |
| PS2 | | | | | | .797 |
| PS1 | | | | | | .792 |
| PS3 | | | | | | .741 |

| |
|---|
| Extraction Method: Principal Component Analysis.<br>Rotation Method: Varimax with Kaiser Normalization. |
| Rotationconvergedin6iterations. |

***Regression Results – Predictors of Digital Experience Perception (DEP)*** Six predictors (PS, CS, IU, PEU, CNV, TSE) were entered into the model. The model was significant (Adjusted $R^2 = 0.792$, $F(6,473) = 305.892$, $p < 0.001$). Customer support emerged as the strongest predictor ($\beta = 0.413$, $p < 0.001$), followed by convenience ($\beta = 0.312$), technology self-efficacy ($\beta = 0.295$), perceived ease of use ($\beta = 0.260$), and perceived security ($\beta = 0.225$). Intention to use showed a small negative effect ($\beta = –0.057$, $p = 0.008$). No multicollinearity issues were detected (VIF < 2).

**Table 2: Multiple Regression – DEP**

| Coefficients[a] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statisti Customer Support | |
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | .543 | .088 | | 6.138 | .000 | | |
| | Customer Support | .210 | .011 | .413 | 19.600 | .000 | .975 | 1.025 |
| | Convenience | .191 | .015 | .312 | 12.482 | .000 | .694 | 1.442 |
| | Perceived Ease of Use | .176 | .015 | .260 | 11.453 | .000 | .837 | 1.194 |
| | Technology Self Efficacy | .179 | .016 | .295 | 11.417 | .000 | .650 | 1.538 |
| | Intention To Use | -.037 | .014 | -.057 | -2.666 | .008 | .959 | 1.043 |
| | Perceived Security | .150 | .016 | .225 | 9.674 | .000 | .804 | 1.244 |
| a. Dependent Variable: DEPN | | | | | | | | |

***Challenges (t-test)*** Independent samples t-tests revealed no significant differences between districts in fraud experience, connectivity problems, security confidence, or other barriers (all $p > 0.05$).

**Table 3: Independent Samples t-test – Challenges**

| | | t-test f or Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | t | df | Sig. (2-tailed) | Mean Difference | Std.Error Difference | 95%ConfidenceInterv alof the Difference | |
| | | | | | | | Lower | Upper |
| Have you ever been a victim of fraud while using digital payment services? | Equal variances assumed | 1.256 | 478 | .210 | .071 | .056 | -.040 | .182 |
| | Equal variances not assumed | 1.256 | 265.429 | .210 | .071 | .056 | -.040 | .182 |
| How often do you experience internet connectivity problems while using digital payments? | Equal variances assumed | .000 | 478 | 1.000 | .000 | .055 | -.107 | .107 |
| | Equal variances not assumed | .000 | 476.963 | 1.000 | .000 | .055 | -.107 | .107 |
| Do you believe that lack of internet access is a barrier to using digital payments? | Equal variances assumed | .913 | 478 | .362 | .063 | .068 | -.072 | .197 |
| | Equal variances not assumed | .913 | 475.257 | .362 | .063 | .068 | -.072 | .197 |
| How confident are you in the security of digital payment methods? | Equal variances assumed | .614 | 478 | .540 | .046 | .075 | -.101 | .193 |
| | Equal variances not assumed | .614 | 475.168 | .540 | .046 | .075 | -.101 | .193 |
| What concerns do you have regarding security while using digital payment services? | Equal variances assumed | 1.002 | 478 | .317 | .067 | .067 | -.064 | .197 |
| | Equal variances not assumed | 1.002 | 477.865 | .317 | .067 | .067 | -.064 | .197 |
| Do you find the user | Equal variances assumed | 1.823 | 478 | .069 | .137 | .075 | -.011 | .286 |

***Pandemic, Trust, UI, and High Adaptation*** Pandemic perception, trust in technology, and user interface experience exhibited very strong positive correlations with high adaptation ($r = 0.9631$, 0.9234, and 0.9527 respectively). The regression model explained 94.6 % of variance in adaptation (Adjusted $R^2 = 0.946$, $F(3,476) = 2775.593$, $p < 0.001$), with pandemic perception as the strongest predictor ($\beta = 0.534$, $p < 0.001$).

**Table 4: Multiple Regression – High Adaptation**

| Coefficients[a] | | | | | |
|---|---|---|---|---|---|
| | Unstandardized | Standardized | | | |

| Model | | Coefficients | | Coefficients | t | Sig. | Result |
|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | |
| 1 | (Constant) | -.110 | .026 | | -4.184 | .000 | |
| | Pandemic Perception | .564 | .040 | .534 | 13.965 | .000 | Positively Influencing |
| | Trust In Technology | .079 | .032 | .077 | 2.435 | .015 | Positively Influencing |
| | User Interface & Experience | .383 | .034 | .378 | 11.310 | .000 | Positively Influencing |
| a. Dependent Variable: High Adaptation | | | | | | | |

**Figure 1:** Gender Distribution (Male 81.9 %, Female 18.1 %).

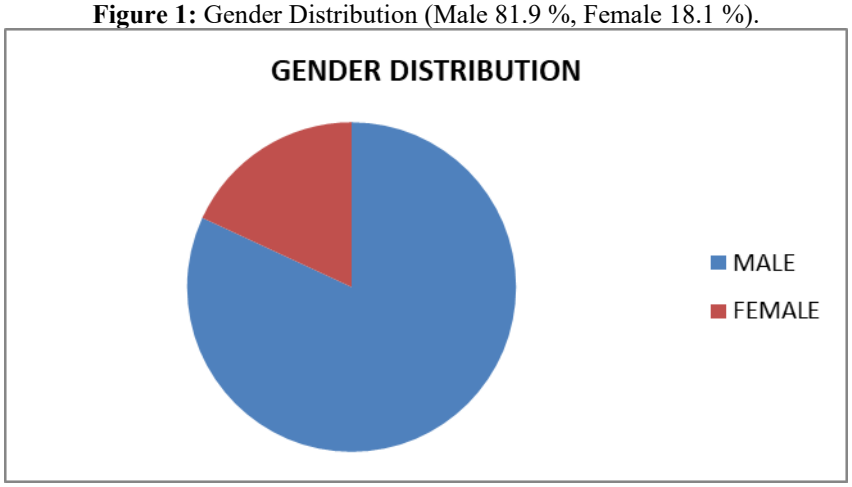



**Figure 2:** Age Group Distribution (18–35 years dominant).

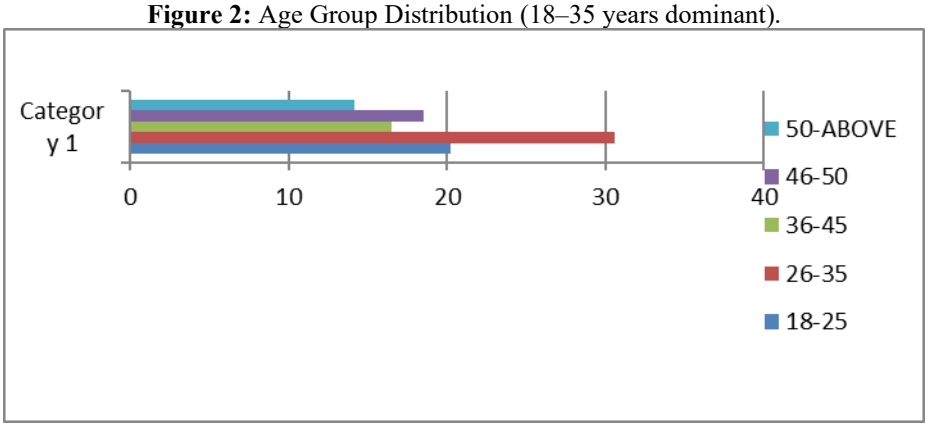
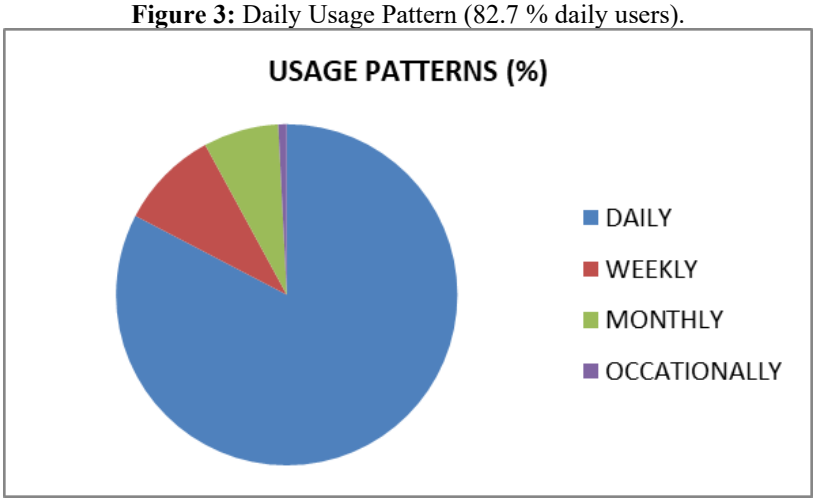



**Figure 3:** Daily Usage Pattern (82.7 % daily users).



## V. Discussion

The results underscore the dominant role of customer-centric factors—support, convenience, and ease of use—over traditional UTAUT variables in rural contexts, corroborating and extending earlier findings from similar settings. The modest negative effect of intention to use highlights a common intention–behaviour gap observed in low-literacy environments. The pronounced influence of pandemic perception aligns with global evidence on crisis-driven digital acceleration and validates recent policy emphasis on offline UPI solutions. Uniform challenges across districts suggest that scalable, region-agnostic interventions are feasible.

## VI. Conclusion, Implications, And Limitations

Rural digital payment adoption in the study districts is primarily shaped by service support, convenience, security perceptions, and self-efficacy. Policymakers should focus on (1) localised customer support through postal networks and self-help groups, (2) enhanced offline UPI features, (3) gender-sensitive digital literacy campaigns, and (4) targeted incentives for low-income households. Banks and fintech companies must prioritise intuitive user interfaces and robust fraud-prevention mechanisms.

**Managerial Implications:** Onboarding processes should incorporate technology self-efficacy training, while trust-building campaigns can capitalise on pandemic-induced momentum.

**Limitations:** The cross-sectional design, reliance on self-reported data, and geographical focus on two districts limit generalisability. Future studies could adopt longitudinal designs or conduct nationwide urban–rural comparisons.

## References


[1]. Aigbe, P., & Akpojaro, J. (2014). Analysis Of Security Issues In Electronic Payment Systems. International Journal Of Computer Applications, 108(10), 10–14. Https://Doi.Org/10.5120/18946-9993

[2]. Akinola, O. S. (2012). Cashless Society, Problems And Prospects. Data Mining Research Potentials, International Journal Of Computer Science And Telecommunications, 3(8), 49- 55.

[3]. Allen J, Carbo-Valverde S, Chakravorti S, Rodriguez-Fernandez F, Pinarardic O (2022) Assessing Incentives To Increase Digital Payment Acceptance And Usage: A Machine Learning Approach. Plos ONE 17(11): E0276203.

[4]. Almarashdeh, I. (2018). An Overview Of Technology Evolution: Investigating The Factors Influencing Non-Bitcoins Users To Adopt Bitcoins As Online Payment Transaction Method. Journal Of Theoretical Andapplied Information Technology, 96(13), 3984–3993.

[5]. Al-Qudah, A. A., Al-Okaily, M., Alqudah, G., & Ghazlat, A. (2022). Mobile Payment Adoption In The Time Of The COVID-19 Pandemic. Electronic Commerce Research, 1-25.

[6]. Arora, S., & Sandhu, S.(2018). Usage Based Upon Reasons: The Case Of Electronic Banking Services In India. International Journal Of Bank Marketing, 36(4), 680–700. Https://Doi.Org/10.1108/IJBM-03-2017-0060.

[7]. Athanassiou, P. (2017). Impact Of Digital Innovation On The Processing Of Electronic Payments And Contracting: An Overview Of Legal Risks. SSRN Electronic Journal. Https://Doi.Org/10.2139/Ssrn.3067222

[8]. Bagla, R. K., & Sancheti, V.(2018). Gaps in customer satisfaction with digital Wallets: Challenge for sustainability. Journal of management development,37(6),442–

[9]. 451.Https://Doi.Org/10.1108/Jmd-04-2017-0144.

[10]. Balamurugan, S., & M, S. (2021). Decision Making Model For Adoption Of Digital Payments Among Youngsters: An Exploration. SSRN Electronic Journal. Https://Doi.Org/10.2139/Ssrn.3825029.

[11]. Banerji, R., & Singh, A. (2022). An Empirical Study On Consumer Attitude And Behavioural Intention To Adopt Mobile Wallet In India. International Journal Ofelectronic Banking, 3(2), 83-99.

[12]. Bezhovski, Z. (2016). The Future Of The Mobile Payment As Electronic Payment System. European Journal Of Business And Management, 8(8), 127–132.

[13]. Chawla, D., & Joshi, H. (2019). Consumer Attitude And Intention To Adopt Mobilewallet In India – An Empirical Study. International Journal Of Bank Marketing, 37(7), 1590–1618. Https://Doi.Org/10.1108/Ijbm-09- 2018-0256.

[14]. Chawla, D., & Joshi, H. (2020). Role Of Mediator In Examining The Influence Of Antecedents Of Mobile Wallet Adoption On Attitude And Intention. Global Business Review, 097215092092450. Https://Doi.Org/10.1177/0972150920924506.

[15]. Dahlberg, T., Guo, J., & Ondrus, J. (2015). A Critical Review Of Mobile Payment Research. Electronic Commerce Research And Applications, 14(5), 265-284.

[16]. De, R., Pandey, N., & Pal, A. (2020). Impact Of Digital Surge During Covid-19 Pandemic: A Viewpoint On Research And Practice. International Journal Of Information Management, 55, 102171. Https://Doi.Org/10.1016/J.Ijinfomgt.2020.102171.

[17]. Deepak Kumar Yadav. (2019). Indian Rural Customer's Risk Perception Of Electronic Payment System.Journal Of Emerging Technologies And Innovative Research. Https://Www.Jetir.Org/View?Paper=JETIR1902582.

[18]. Edward J. Malecki (2003); Digital Development In Rural Areas: Potentials And Pitfalls, Journal Of Rural Studies, Vol. 19, Pp 201–214.

[19]. Esther Krupa, M. (2022). A Study On Users Perception Towards Selected E-Wallets (Google Pay & Paytm) Among College Students. Gedrag & Organisatie Review, 35(1), 318-327.

[20]. Eswaran, K. K. (2019). Consumer Perception Towards Digital Payment Mode With Special Reference To Digital Wallets. Research Explorer, 22.

[21]. Gupta, A., & Gupta, M. (2013). Electronic Mode Of Payment – A Study Of Indian Banking System. International Journal Of Enterprise Computing And Business Systems, 2(2).

[22]. Gupta, A., & Singhal, R. (2021). Impact Of COVID-19 On Digital Payment Services At Towns And Villages. IJCRT2106045 International Journal Of Creative Research Thoughts (IJCRT).

[23]. Gupta, R. K. (2022). Adoption Of Mobile Wallet Services: An Empirical Analysis International Journal Of Intellectual Property Management, 12(3), 341. Https://Doi.Org/10.1504/Ijipm.2022.124634.
[24]. Hidayanto, A. N., Hidayat, L. S., Sandhyaduhita, P. I., & Handayani, P. W. (2015). Examining The Relationship Ofpayment System Characteristics And Behavioural Intention In E-Payment Adoption: A Case Of Indonesia. International Journal Of Business Information Systems, 19(1), 58–86. Https://Doi.Org/10.1504/IJBIS.2015.069065
[25]. Hun, Houg (2024) Mobile payment, Digital inclusive finance, And residents' consumption Behavior Research. Plos ONE 19(7): E0288679.
[26]. Isimoya, O., Ajemunigbohun, S. S., & Balogun, M. T. (2018). Customers Satisfaction Of Electronic Payment Systems In The Purchase Of Insurance Products In Nigeria. Management And Marketing Journal, XVI(2), 180–191.
[27]. Jegerson, D., & Hussain, M. (2022). A Framework For Measuring The Adoption Factorsin Digital Mobile Payments In The COVID-19 Era. International Journal Of Pervasive Computing And Communications. Https://Doi.Org/10.1108/Ijpcc-12-2021-0307.
[28]. Jin, C. C., Seong, L.C., & Khin, A. A.(2020). Consumers' Behaviouralintention To Accept of the mobile wallet in malaysia. Journal of south west jiaotong university, 55 (1). Https://Doi.Org/10.35741/Issn.0258-2724.55.1.3
[29]. Kabir, M. A., Saidin, S. Z., & Ahmi, A. (2017). Analysis Of Factors That Influence Electronic Payment Adoption. Journal Of Engineering And Applied Sciences, 12(Specialissue3), 6560–6568.