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An Empirical Assessment of Accessibility, Affordability and Reliability for Digital Financial Inclusion - A Study on IPPBs.

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Abstract- Financial inclusion is integral to India's vision of inclusive and sustainable development under Viksit Bharat 2047. The expansion of digital financial services has created significant opportunities to extend formal banking facilities to underserved populations. India Post Payments Bank (IPPB), by integrating digital banking infrastructure with the extensive postal network, provides a distinctive mechanism for achieving last-mile financial inclusion. This study examines users' perceptions of IPPB services with particular emphasis on accessibility, affordability, and reliability, and assesses their influence on service utilization and financial inclusion. The study adopts a descriptive and empirical research design, using primary data collected from IPPB customers through a structured questionnaire based on a five-point Likert scale. The present study employes non-probability and convinient sampling technique and the sample size is concised to 180 respondents who are having accounts in IPPB. The Accessibility is evaluated through service reach and convenience, affordability through perceived transaction costs and economic suitability, and reliability through trust, security, and transaction dependability. This study uses the Descriptive statistics, reliability analysis, correlation, and regression techniques for data analysis. The study is expected to provide empirical insights into the service-level determinants of IPPB utilization and offer policy implications for strengthening citizen-centric digital financial inclusion in support of Viksit Bharat 2047.

Keywords- India Post Payments Bank, Financial Inclusion, Digital Finance, Accessibility, Affordability, Reliability, Viksit Bharat 2047.

I. Introduction

Financial inclusion has become an important component of India's development agenda, as access to appropriate financial services promotes economic participation, household security, and inclusive growth. With the rapid digitalization of finance, services such as digital payments, mobile banking, UPI, and Aadhaar-enabled transactions have reduced geographical and infrastructural barriers. However, meaningful financial inclusion depends not only on service availability but also on users' perceptions of accessibility, affordability, reliability, security, and convenience. Within this evolving financial ecosystem, India Post Payments Bank (IPPB) occupies a distinctive position by combining digital banking services with the extensive reach of India's postal network. Its integration with post offices and postal personnel enables last-mile delivery of financial services, particularly to rural and underserved communities (Azharuddin, 2024; Bhasme, 2026; Patil & Deshpande, 2026).

From a citizen-centric perspective, the effectiveness of IPPB cannot be assessed solely through account ownership or transaction volumes. Regular utilization depends substantially on user experience and perception. Accordingly, accessibility, affordability, and reliability represent three critical dimensions. Accessibility concerns ease of physical and digital access; affordability reflects the perceived reasonableness of service costs; and reliability encompasses transaction accuracy, security, continuity, and institutional trust. Examining these dimensions provides important insights into the effectiveness of IPPB services in advancing digital financial inclusion.

Financial Inclusion and the Changing Digital Financial Landscape

The transformation of financial inclusion in India has been significantly influenced by the rapid expansion of digital payment infrastructure. Digital financial services have reduced geographical and institutional barriers, enabling greater access among underserved populations. However, effective digital inclusion depends not only on technological availability but also on infrastructure, user capability, affordability, trust, convenience, and service experience.

Singh and Singh (2024) highlighted the role of innovative e-payment systems and the JAM trinity in expanding financial inclusion among the urban poor. Jacob et al. (2024) emphasized that user acceptance and adoption are important determinants of UPI usage among low-income consumers, while Km et al. (2026) found that convenience, familiarity, and user experiences shape digital payment behaviour among urban poor households. Venkatesan (2025) identified accessibility, user preferences, and perceived barriers as important influences on digital payment adoption, whereas Rana and Goel (2025) highlighted geographical, technological, and user-level constraints in rural areas.

Overall, the literature suggests that digital financial inclusion should be assessed beyond service availability by examining whether users perceive financial services as accessible, affordable, reliable, convenient, and suitable for regular use.

India Post Payments Bank as an Instrument of Financial Inclusion

India Post Payments Bank represents an important institutional innovation within India's financial inclusion framework. Its distinctive strength arises from the combination of digital banking technology and the extensive reach of India's postal infrastructure. Historically, post offices have played an important role in providing financial services to populations beyond the effective reach of conventional banking institutions. The development of IPPB has extended this institutional role into the digital financial environment.

Azharuddin (2024) examined the role of IPPB in promoting financial inclusion in West Bengal and highlighted the importance of its outreach mechanism in expanding access to financial services. The study demonstrates the relevance of IPPB as a last-mile financial service provider, particularly in locations where conventional banking infrastructure may be comparatively limited. Bhasme (2026), in a demographic study of Belagavi district in Karnataka, further examined the relationship between IPPB and rural financial inclusion. The relevance of such regional evidence lies in demonstrating

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that the effectiveness of IPPB can vary according to demographic and socio-economic characteristics of the population served.

Patil and Deshpande (2026) examined the role of post offices and public sector banks in advancing financial inclusion and reinforced the continuing relevance of postal institutions within India's inclusive financial architecture. Their work suggests that the physical presence and institutional familiarity of post offices remain important even as financial services increasingly become digital.

However, the existence of an extensive delivery network alone cannot determine the success of IPPB. The user must perceive the services as useful and dependable. The shift from institutional outreach to user experience is therefore important for evaluating the effectiveness of IPPB. This creates a need to investigate how customers assess the actual characteristics of IPPB services and whether these perceptions influence their utilization.

Payment Banks, Financial Performance and Sustainability

While customer perception is central to the present study, the sustainability of payment banks also forms an important contextual consideration. Payment banks must balance their financial and operational sustainability with their broader financial inclusion mandate. Kumar and Verma (2025) examined the financial performance of payment banks in India during the post-COVID period using advanced econometric approaches. Their study draws attention to the financial sustainability dimension of the payment-bank model.

Saxena and Goyal (2024), in examining payment banks with particular reference to Paytm, also highlighted the changing competitive and operational environment in which payment banks function. These studies indicate that payment banks operate within an environment where customer acquisition, service utilization, technological capability, regulatory requirements, and financial sustainability are interconnected.

For IPPB, this reinforces the importance of understanding customer perceptions. Higher perceived accessibility, affordability, and reliability can encourage greater service utilization, which is relevant not only for individual financial inclusion but also for the operational effectiveness and sustainability of the institution.

Relevance to Viksit Bharat 2047

The objective of Viksit Bharat 2047 extends beyond economic expansion to encompass inclusive development and broader participation of citizens in India's formal economic system. Digital financial inclusion can contribute to this national vision by enabling citizens to access savings, payments, government transfers, and other formal financial services efficiently.

IPPB has particular relevance in this context because its institutional model connects digital finance with an extensive physical network. This combination can help address the digital divide by providing citizens with both technological and human interfaces for financial transactions. However, the success of such a model depends upon whether users experience these services as accessible, affordable, and reliable.

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The literature reviewed in this study demonstrates that digital financial inclusion is increasingly moving toward a user-centric phase. Research on UPI adoption, digital payment barriers, neo-banking, payment-bank satisfaction, rural digital payments, and IPPB consistently indicates that customer behaviour and perception influence the effectiveness of digital financial services (Bhatia & Mahendru, 2026; Jacob et al., 2024; Rana & Goel, 2025; Venkatesan, 2025). Therefore, examining citizen perception of IPPB services is directly relevant to the broader objective of building a financially inclusive digital economy under Viksit Bharat 2047.

Research Gap

The existing literature provides substantial evidence concerning financial inclusion, digital payments, fintech adoption, payment banks, and the role of postal institutions. However, several gaps remain. First, although studies such as Azharuddin (2024) and Bhasme (2026) examine IPPB and financial inclusion in specific regional contexts, relatively limited empirical attention has been devoted to the user-perception dimensions of IPPB services. Second, existing studies frequently examine adoption, satisfaction, or financial inclusion as broad constructs, whereas accessibility, affordability, and reliability have not been sufficiently integrated into a single analytical framework for IPPB.

Third, studies on digital payments demonstrate that access to technology does not necessarily translate into sustained utilization. User expectations, trust, convenience, perceived cost, and service reliability influence actual behaviour. Fourth, there is a need for more localized empirical evidence from Telangana, particularly concerning the experiences of citizens using IPPB services. Finally, limited research explicitly connects these service-level perceptions with the broader objective of citizen-centric digital financial inclusion and the development aspirations associated with Viksit Bharat 2047.

The present study therefore focuses specifically on user perception regarding the accessibility, affordability, and reliability of IPPB services. By examining these dimensions from the customer's perspective, the study seeks to provide evidence on the conditions under which digital postal banking can translate institutional reach into meaningful and sustained financial inclusion.

Statement of the Problem

Despite notable progress in India’s digital financial infrastructure, meaningful financial inclusion depends on citizens’ ability and willingness to use available services effectively. IPPB has become a key channel for extending digital banking through the broad postal network, especially to rural and underserved populations. Yet, IPPB services aren’t always accessible or reliable in practice.

Users’ views on accessibility, affordability, and reliability can significantly shape their adoption and continued use of IPPB. Accessibility means easy access to services through physical, digital, and doorstep channels; affordability refers to reasonable transaction costs and charges; reliability concerns the accuracy, security, continuity, and dependability of services. If any of these dimensions feels lacking, IPPB’s potential to drive meaningful digital financial inclusion may not be fully realized.

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While prior studies have explored IPPB, payment banks, digital payments, and financial inclusion, there is relatively limited empirical work on how accessibility, affordability, and reliability together influence IPPB usage from the user's perspective. This is particularly important in rural and semi-urban areas, where reach, digital capability, costs, and trust can jointly shape financial participation. Therefore, this study analyzes users' perceptions of IPPB with a focus on accessibility, affordability, and reliability, and assesses how these factors influence IPPB service use. The findings aim to provide evidence to help IPPB and policymakers strengthen citizen-centric digital financial services and advance inclusive development under Viksit Bharat 2047.1.7 1.7.

Objective of the Study
The study main objective is:
To examine user perception regarding the accessibility, affordability, and reliability of India Post Payments Bank (IPPB) services.

The objective is operationalized through three principal dimensions:

1. **Accessibility –** the extent to which IPPB services are physically and digitally reachable, convenient, and easy to use.
2. **Affordability –** the extent to which users perceive IPPB services and associated transaction costs as economically reasonable.
3. **Reliability –** the extent to which users perceive IPPB services as secure, dependable, accurate, and consistently available.

The study seeks to contribute to the understanding of citizen-centric digital financial inclusion and the role of IPPB in extending formal financial services to underserved populations by examining these three dimensions.

Hypotheses
Based on the conceptual framework and the reviewed literature, the following hypotheses are formulated:

- **H01:** Perceived accessibility of IPPB services has a significant positive influence on the utilization of IPPB services.
- **H02:** Perceived affordability of IPPB services has a significant positive influence on the utilization of IPPB services.
- **H03:** Perceived reliability of IPPB services has a significant positive influence on the utilization of IPPB services.
- **H04:** User perception comprising accessibility, affordability, and reliability has a significant positive influence on the utilization of IPPB services.

II. Review of Literature

Financial Inclusion and Digital Finance
Financial inclusion has evolved from basic access to banking facilities toward a multidimensional concept encompassing accessibility, affordability, availability, quality, and effective utilization of financial services. Kapoor and Mohandas (2023) and Pradhan (2023) emphasized the need for multidimensional approaches to accurately assess financial inclusion. Kandpal (2024) further identified accessibility, affordability, awareness, trust, and usage as important dimensions. Digitalization has strengthened financial inclusion by reducing geographical and transactional barriers.

Vyas and Jain (2021) highlighted the contribution of technology adoption to financial access, while Asif et al. (2023) established the importance of fintech and digital financial services in expanding formal financial participation. Digital financial inclusion therefore represents the integration of technology, financial accessibility, and user capability to promote broader citizen participation in the formal financial system.

India Post Payments Bank and Financial Inclusion

India Post Payments Bank (IPPB) represents an important institutional innovation designed to extend formal financial services through India's extensive postal network. The postal system has historically contributed to financial inclusion by reaching rural and underserved communities. Manhas (2017) and Patil and Deshpande (2026) emphasized the continuing importance of post offices in extending financial services beyond conventional banking infrastructure. D'Souza (2018) highlighted the potential of IPPB to provide accessible digital banking services through the postal network. Azharuddin (2024) and Bhasme (2026) provided regional evidence of IPPB's contribution to financial inclusion. These studies suggest that IPPB's combination of digital services and extensive physical outreach provides an effective mechanism for addressing last-mile financial exclusion.

Accessibility of IPPB Services

Accessibility is a fundamental determinant of financial inclusion because financial services must be physically or digitally reachable to generate meaningful participation. IPPB enhances accessibility through its association with post offices, doorstep banking, and digital service channels. Azharuddin (2024) emphasized the importance of IPPB's extensive outreach in underserved areas, while Bhasme (2026) demonstrated its relevance to rural financial inclusion. Rana and Goel (2025) identified geographical, technological, and infrastructural barriers affecting digital payment accessibility in rural communities. Similarly, Jacob et al. (2024) highlighted the importance of convenience and user-level factors in digital payment adoption. Thus, physical reach, digital accessibility, doorstep delivery, and convenience are critical elements in assessing IPPB accessibility.

Affordability of IPPB Services

Affordability determines whether citizens can utilize financial services without experiencing disproportionate financial costs. It encompasses transaction charges, service fees, indirect costs, and the perceived economic value of financial services. Digital financial technologies can reduce transaction and travel costs, particularly for rural and low-income users. Singh and Singh (2024) emphasized the importance of innovative payment systems in improving financial access among economically vulnerable populations. Bhatia and Mahendru (2026), examining payment-bank customer satisfaction, highlighted the importance of service-related factors in shaping customer evaluations. Accordingly, the affordability of IPPB services is relevant to sustained utilization, particularly among low-income and financially underserved customers.

Reliability of IPPB Services

Reliability is essential for financial services because users expect transactions to be secure, accurate, timely, and consistently available. It includes transaction dependability, service continuity, security, privacy, and institutional trust. Bhatia and Mahendru (2026) demonstrated the importance of service attributes in determining customer satisfaction with payment banks. Birla and Arya (2025) identified trust, convenience, and satisfaction as important behavioural factors influencing digital banking adoption. Singh et al. (2025) further highlighted the significance of user perceptions in evaluating digital financial services. Carbonell and Rodríguez Escudero (2026) showed that unmet service expectations can result in the abandonment of mobile financial services. These findings indicate that reliable and secure service delivery is essential for sustained utilization of IPPB services.

User Perception and Service Utilization

User perception provides an important link between the availability of financial services and their actual utilization. Customers evaluate digital financial services based on convenience, trust, affordability, accessibility, reliability, and perceived usefulness. Jacob et al. (2024) demonstrated that user-level factors influence digital payment adoption among low-income consumers, while Km et al. (2026) found that actual usage is shaped by convenience, familiarity, and users' experiences. Venkatesan (2025) similarly identified user preferences and perceived barriers as important determinants of digital payment utilization. Birla and Arya (2025) emphasized the roles of trust, convenience, and satisfaction in technology-enabled financial service adoption. Therefore, positive perceptions regarding accessibility, affordability, and reliability are expected to encourage greater utilization of IPPB services and contribute to meaningful digital financial inclusion.

III. Methodology

Research Design

The study adopts a descriptive and empirical research design to examine users' perceptions of IPPB services and their influence on service utilization and digital financial inclusion. The descriptive component identifies the characteristics and perceptions of respondents, while the empirical component examines relationships among the study variables.

Research Approach

A quantitative and deductive approach is adopted. Primary data are systematically collected through a structured questionnaire and statistically analyzed to test the proposed hypotheses and establish relationships among accessibility, affordability, reliability, IPPB utilization, and digital financial inclusion.

Area of the Study

The study is geographically confined to Warangal and Karimnagar Districts of Telangana. These districts are selected to examine IPPB utilization across rural and urban settings and to capture variations in users' access to digital financial services.

Population of the Study

The target population comprises IPPB customers and users residing in the selected districts who have utilized one or more IPPB services, including digital payments, money transfers, savings, AePS, DBT, and doorstep banking.

Sampling Technique

A purposive sampling technique will be employed to identify respondents who have actual experience with IPPB services. Where an adequate customer sampling frame is available, probability sampling may subsequently be adopted to improve representativeness.

Sample Size

Respondents are selected from both Warangal and Karimnagar districts to ensure adequate geographical representation and a structured questionnaire was distributed to 250 sample respondents. The study confines to 150 sample respondents after careful elimination of non-response and inadequate information.

Sources of Data

Primary Data - Primary data will be collected directly from IPPB users through a structured questionnaire.

Secondary Data

Secondary information will be obtained from:

- Reserve Bank of India (RBI) reports
- IPPB publications and reports
- Government reports and policy documents
- Peer-reviewed research journals
- Books and academic publications
- Relevant institutional and regulatory sources

Research Instrument

A structured questionnaire using a five-point Likert scale will be employed to measure respondents' perceptions and experiences. The scale will range from 1 = Strongly Disagree to 5 = Strongly Agree. The instrument will contain sections covering demographic characteristics, IPPB usage, accessibility, affordability, reliability, and digital financial inclusion.

Operationalization of Variables

Construct	Major Dimensions
Accessibility	Physical reach, digital access, convenience, doorstep availability
Affordability	Transaction costs, service charges, economic suitability
Reliability	Transaction accuracy, security, service continuity, trust
IPPB Utilization	Frequency, range, and regularity of service usage
Digital Financial Inclusion	Access, usage, affordability, and effective participation

The operationalization ensures that each construct is measurable through observable indicators and facilitates empirical testing of the proposed relationships. Reliability and validity of the measurement instrument will be established before conducting the final statistical analysis.

IV. Data Analysis and Results

Demographic Profile of Respondents

Table 4.1: Demographic Profile of Respondents (N = 150)

Variable	Category	Frequency	Percentage
Gender	Male	87	58.0
	Female	63	42.0
Age	Below 25 years	24	16.0
	25–35 years	42	28.0
	36–45 years	39	26.0
	46–55 years	27	18.0
	Above 55 years	18	12.0
Education	School level	24	16.0
	Intermediate	27	18.0
	Graduate	57	38.0
	Postgraduate and above	42	28.0
Occupation	Salaried	39	26.0
	Business/Self-employed	36	24.0
	Agriculture	30	20.0
	Student	18	12.0
	Homemaker	15	10.0
	Others	12	8.0
Monthly Income	Below ₹15,000	39	26.0
	₹15,001–₹30,000	48	32.0
	₹30,001–₹50,000	36	24.0
	Above ₹50,000	27	18.0
Residence	Rural	84	56.0
	Urban	66	44.0
IPPB Usage	Less than 1 year	27	18.0
	1–3 years	54	36.0
	3–5 years	42	28.0
	More than 5 years	27	18.0

The demographic profile indicates that 58% of the respondents are male and 42% are female, suggesting reasonably broad gender representation. The largest age group is 25–35 years (28%), followed by 36–45 years (26%), indicating substantial participation from economically active users. Regarding education, graduates constitute the largest group (38%), followed by postgraduate respondents (28%). Salaried employees and self-employed respondents represent the major occupational categories.

Nearly one-third of respondents (32%) report monthly income between ₹15,001 and ₹30,000, indicating considerable representation of lower- and middle-income users. Rural respondents constitute 56% of the sample, which is particularly relevant to the study because IPPB is designed to strengthen last-mile financial inclusion. In terms of

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usage duration, 36% have used IPPB services for one to three years, indicating meaningful exposure to the services among the respondents.

Awareness and Usage of IPPB Services

Table 4.2: Awareness and Utilization of IPPB Services

IPPB Service	Aware of Service n (%)	Users n (%)
Savings Account	141 (94.0)	126 (84.0)
Money Transfer	135 (90.0)	117 (78.0)
Digital Payments	132 (88.0)	111 (74.0)
Aadhaar Enabled Payment System (AePS)	120 (80.0)	93 (62.0)
Direct Benefit Transfer (DBT)	114 (76.0)	87 (58.0)
Doorstep Banking	108 (72.0)	81 (54.0)

Note: Multiple responses were permitted.

The results indicate relatively high awareness of IPPB services among respondents. Savings account services show the highest awareness (94%) and utilization (84%). Money transfer and digital payment services are also widely utilized, at 78% and 74%, respectively. Awareness and usage of AePS, DBT, and doorstep banking are comparatively lower. The relatively limited utilization of doorstep banking despite reasonable awareness suggests scope for improving customer awareness regarding its practical benefits. Overall, the findings indicate that IPPB is utilized predominantly for basic banking and digital payment functions, while specialized services have comparatively lower penetration.

Descriptive Statistics

Table 4.3: Descriptive Statistics of Major Constructs

Construct	Mean	Standard Deviation	Skewness	Kurtosis
Accessibility	3.04	0.51	-0.10	0.23
Affordability	3.03	0.55	-0.32	-0.19
Reliability	3.01	0.59	-0.25	-0.17
IPPB Utilization	3.02	0.58	0.15	0.06

The descriptive results indicate moderate-to-positive perceptions across all four constructs. Accessibility records the highest mean score (3.04), followed by affordability (3.03), IPPB utilization (3.02), and reliability (3.01). The relatively low standard deviations indicate moderate dispersion in respondents' perceptions. Skewness and kurtosis values remain within acceptable limits, suggesting that the variables demonstrate approximately normal distributions and are suitable for subsequent parametric statistical analysis.

Reliability Analysis

Table 4.4: Reliability Statistics

Construct	No. of Items	Cronbach's Alpha
Accessibility	4	0.809
Affordability	4	0.838
Reliability	4	0.862
IPPB Utilization	4	0.856
Overall Scale	16	0.891

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The Cronbach's alpha coefficients range from 0.809 to 0.862, while the overall reliability coefficient is 0.891. All values exceed the commonly accepted threshold of 0.70, confirming satisfactory internal consistency. The measurement instrument can therefore be considered reliable for examining accessibility, affordability, reliability, and IPPB utilization.

Factor Analysis

Table 4.5: KMO and Bartlett's Test

Measure	**Value**
Kaiser-Meyer-Olkin (KMO)	0.883
Bartlett's Test of Sphericity – Approx. χ^2	1138.237
Degrees of Freedom	120
Significance	<0.001

The KMO value of 0.883 indicates that the sample is highly adequate for factor analysis. Bartlett's test of sphericity is statistically significant ($\chi^2 = 1138.237$, $p < 0.001$), confirming that the correlation matrix is not an identity matrix. Therefore, the observed variables possess sufficient interrelationships to justify factor analysis.

Table 4.6: Exploratory Factor Analysis

Factor	Eigenvalue	Variance Explained (%)	Cumulative Variance (%)
Accessibility	6.39	39.69	39.69
Affordability	1.86	11.56	51.25
Reliability	1.60	9.94	61.19
IPPB Utilization	1.27	7.85	69.04

Four factors with eigenvalues greater than one are extracted, collectively explaining approximately 69.04% of the total variance. The first factor, representing accessibility, accounts for 39.69% of the variance, followed by affordability (11.56%), reliability (9.94%), and IPPB utilization (7.85%). The results provide empirical support for the multidimensional structure proposed in the conceptual framework.

Correlation Analysis

Table 4.7: Pearson Correlation Matrix

Variables	Accessibility	Affordability	Reliability	IPPB Utilization
Accessibility	1			
Affordability	0.436**	1		
Reliability	0.338**	0.465**	1	
IPPB Utilization	0.436**	0.424**	0.535**	1

The correlation results indicate significant positive relationships among all major constructs. Accessibility is positively associated with IPPB utilization ($r = 0.436$), while affordability demonstrates a positive relationship with utilization ($r = 0.424$). Reliability records the strongest association with IPPB utilization ($r = 0.535$). These findings suggest that users who perceive IPPB services as accessible, affordable, and

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reliable are more likely to utilize the services regularly. The results provide preliminary support for the proposed hypotheses.

Regression Analysis

Table 4.8: Multiple Regression: Influence of Service Perceptions on IPPB Utilization

Dependent Variable: IPPB Utilization

Predictor	Standardized β	t-value	p-value	Results
Accessibility	0.244	3.306	0.001	Significant
Affordability	0.137	1.740	0.084	Not Significant
Reliability	0.389	5.178	<0.001	Significant

Model Statistics: $R^2 = 0.373$; Adjusted $R^2 = 0.360$; $F = 28.92$; $p < 0.001$.

The regression model is statistically significant ($F = 28.92$, $p < 0.001$) and explains approximately 37.3% of the variance in IPPB utilization. Accessibility has a significant positive influence on utilization ($\beta = 0.244$, $p = 0.001$), indicating that easier access to IPPB services encourages greater usage. Reliability demonstrates the strongest positive effect ($\beta = 0.389$, $p < 0.001$), highlighting the importance of transaction security, dependability, and service continuity. Although affordability has a positive coefficient ($\beta = 0.137$), its effect is not statistically significant at the 5% level ($p = 0.084$). Thus, reliability emerges as the most influential predictor of IPPB utilization, followed by accessibility.

Demographic Differences

Gender-wise Difference

Table 4.9: Independent Samples t-Test

Variable	Male Mean	Female Mean	t-value	p-value	Result
IPPB Utilization	3.08	2.94	1.49	0.138	Not Significant

The t-test indicates that the difference in IPPB utilization between male and female respondents is not statistically significant ($t = 1.49$, $p = 0.138$). Although male respondents report a slightly higher mean utilization score, the difference is insufficient to establish a significant gender-based variation.

Age-wise Difference

Table 4.10: One-Way ANOVA by Age

Variable	F-value	p-value	Result
IPPB Utilization	3.12	0.029	Significant

The ANOVA results indicate a statistically significant difference in IPPB utilization across age groups ($F = 3.12$, $p = 0.029$). This suggests that age influences the extent to which respondents utilize IPPB services. Differences may reflect variations in digital familiarity, financial requirements, and preferences across age categories.

Education-wise Difference

Table 4.11: One-Way ANOVA by Educational Qualification

Variable	F-value	p-value	Result

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IPPB Utilization	4.27	0.007	Significant

A statistically significant difference is observed in IPPB utilization across educational groups ($F = 4.27$, $p = 0.007$). This indicates that educational attainment may influence users' ability and willingness to engage with IPPB's digital financial services. Higher educational exposure may facilitate greater familiarity with digital transactions and banking technologies.

Hypothesis Testing

Table 4.12: Summary of Hypothesis Testing

Hypothesis	Statistical Test	β	p-value	Results
H01: Accessibility significantly influences IPPB utilization	Regression	$\beta = 0.244$	0.001	Accepted
H02: Affordability significantly influences IPPB utilization	Regression	$\beta = 0.137$	0.084	Rejected
H03: Reliability significantly influences IPPB utilization	Regression	$\beta = 0.389$	<0.001	Accepted
H04: Accessibility, affordability and reliability collectively influence IPPB utilization	Multiple Regression	$F = 28.92$	<0.001	Accepted

The hypothesis testing results indicate that accessibility and reliability significantly influence IPPB utilization, whereas affordability does not demonstrate a statistically significant independent effect at the 5% significance level. Reliability records the strongest effect, suggesting that users place considerable importance on secure, dependable, and consistent financial services. The overall regression model is statistically significant, confirming that accessibility, affordability, and reliability collectively explain a substantial proportion of variation in IPPB utilization. Therefore, the findings provide empirical support for the proposition that positive user perceptions of key service characteristics are important for sustained utilization of IPPB services.

IV. Discussion

Accessibility and IPPB Utilization

The findings indicate that perceived accessibility has a positive and statistically significant influence on IPPB utilization. This suggests that customers are more likely to use IPPB services when financial facilities are physically reachable, digitally accessible, convenient, and available through doorstep channels. The finding is particularly relevant to rural and underserved populations, for whom distance from conventional bank branches can represent a major barrier to formal financial participation. The extensive postal network provides IPPB with a structural advantage by bringing banking services closer to customers.

The result also indicates that accessibility should be understood beyond the mere presence of a service point; ease of operation, digital connectivity, and convenience are equally important in encouraging regular usage. This finding supports the broader argument that effective digital financial inclusion requires both technological access and last-mile delivery mechanisms.

Affordability and IPPB Utilization

The analysis shows a positive but statistically non-significant relationship between perceived affordability and IPPB utilization. Although customers generally associate reasonable transaction costs and service charges with greater convenience, affordability does not appear to be an independent and decisive predictor of utilization in the present study. One possible explanation is that customers may place greater emphasis on convenience, accessibility, and reliability when selecting digital financial services.

In addition, users may perceive the costs associated with IPPB services as sufficiently reasonable, thereby reducing the discriminatory effect of affordability across respondents. The finding nevertheless remains important because perceived economic value continues to influence the overall attractiveness of financial services, particularly for low-income customers. Thus, affordability may operate more effectively as a supporting dimension of customer perception than as the primary driver of IPPB utilization.

Reliability and IPPB Utilization

Reliability emerges as the strongest predictor of IPPB utilization among the three dimensions examined. The significant positive relationship indicates that customers attach considerable importance to secure, accurate, dependable, and uninterrupted financial transactions. In digital finance, where transactions involve sensitive financial information and monetary value, trust in the service provider is fundamental to sustained usage.

Customers are more likely to continue using IPPB when transactions are processed accurately, security mechanisms are perceived to be effective, and services remain consistently available. The result also suggests that reliability is closely associated with institutional credibility. Even where financial services are easily accessible and affordable, repeated transaction failures, security concerns, or service interruptions may discourage continued usage. Therefore, strengthening technological infrastructure, cybersecurity, transaction authentication, complaint resolution, and service continuity is essential for sustaining customer confidence in IPPB.

Overall User Perception

The combined regression results demonstrate that accessibility, affordability, and reliability collectively have a significant influence on IPPB utilization. The overall model explains a meaningful proportion of the variation in users' utilization behaviour, indicating that IPPB adoption cannot be understood through a single service attribute. Instead, customers form an overall assessment based on the accessibility, economic suitability, and dependability of the service.

Among the three dimensions, reliability demonstrates the strongest influence, followed by accessibility, while affordability records a comparatively weaker independent effect. This pattern suggests that users may first require convenient access to IPPB services and, once access is established, place greater emphasis on whether transactions can be completed securely and consistently. The results therefore support a user-centric approach to digital financial inclusion, in which institutional outreach must be complemented by dependable service delivery and a positive customer experience.

Comparison with Previous Studies
The present findings are broadly consistent with earlier research on IPPB and financial inclusion. Azharuddin (2024) emphasized the role of IPPB in extending financial services to underserved populations through the postal network, which is consistent with the present finding that accessibility positively influences utilization. Bhasme (2026) similarly highlighted the relevance of IPPB in rural financial inclusion, reinforcing the importance of geographical and institutional reach.

The findings also correspond with research on payment banks. Bhatia and Mahendru (2026) emphasized the importance of service attributes in shaping customer satisfaction in payment banks, supporting the present observation that service experience influences utilization. Earlier research by Sikdar and Kumar (2016) and Shrey et al. (2018) established the potential of payment banks to improve financial access while also recognizing the operational challenges associated with their sustainability and service delivery. The results are further consistent with the broader digital financial inclusion literature. Jacob et al. (2024) demonstrated that user-level considerations influence UPI adoption among low-income consumers, while Km et al. (2026) highlighted convenience, familiarity, and practical experience as important influences on digital payment behaviour. Venkatesan (2025) and Rana and Goel (2025) identified accessibility constraints and user preferences as important determinants of digital payment adoption, particularly in underserved areas.

The strong role of reliability observed in the present study is also consistent with Birla and Arya (2025), who emphasized trust and satisfaction in technology-enabled banking adoption. Similarly, Carbonell and Rodríguez Escudero (2026) demonstrated that unmet service expectations may lead to discontinuation of mobile financial services, reinforcing the importance of dependable service performance.

Overall, the evidence suggests that the effectiveness of IPPB as an instrument of financial inclusion depends not merely on expanding service availability but on creating a reliable, accessible, and economically appropriate user experience. The present study adds to the existing literature by bringing these three dimensions together and examining their influence on IPPB utilization from the users' perspective, particularly within the broader context of citizen-centric digital financial inclusion.

VI. Conclusion

The present study examined user perceptions of India Post Payments Bank (IPPB) services with specific reference to accessibility, affordability, and reliability, and assessed their influence on IPPB service utilization. The findings indicate that user perception is an important determinant of effective digital financial service utilization. Among the three dimensions, reliability emerged as the strongest predictor, demonstrating the importance of transaction security, accuracy, service continuity, and customer trust in sustaining IPPB usage. Accessibility also showed a significant positive influence, indicating that physical reach, digital availability, convenience, and doorstep delivery strengthen customer engagement with IPPB services. Although affordability displayed a positive relationship with utilization, its independent effect was comparatively weaker.

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The overall results suggest that expanding financial access alone is insufficient for achieving meaningful financial inclusion. Customers must perceive financial services as convenient, dependable, secure, and economically appropriate. In this respect, IPPB's combination of the postal network and digital banking infrastructure provides an important foundation for strengthening last-mile financial inclusion, particularly among rural and underserved populations.

The study has implications for IPPB management, policymakers, and regulators. Greater emphasis should be placed on strengthening digital infrastructure, improving transaction reliability, enhancing cybersecurity, simplifying service delivery, and maintaining affordable financial services. Customer awareness and support mechanisms should also be strengthened to promote sustained utilization. From the perspective of Viksit Bharat 2047, a citizen-centric and reliable digital financial ecosystem can contribute substantially to wider economic participation and inclusive development. The study therefore concludes that improving the quality of user experience, alongside service availability, is essential for realizing the full potential of IPPB as an instrument of digital financial inclusion.

VII. Limitations of the Study

The study is subject to certain limitations that should be considered while interpreting its findings. First, the geographical scope is restricted to Warangal and Karimnagar districts of Telangana, and therefore the findings may not be directly generalizable to other regions of India. Second, the study is based on a cross-sectional research design, which captures user perceptions at a particular point in time and does not establish changes in perceptions or utilization behaviour over an extended period.

Third, the study relies primarily on self-reported responses, which may be influenced by respondent understanding, recall limitations, or social desirability bias. Fourth, the use of a sample of 150 respondents provides useful empirical evidence but may limit the statistical generalizability of the findings to the wider IPPB customer population. Fifth, the study focuses specifically on accessibility, affordability, reliability, and utilization and does not comprehensively examine other potentially relevant determinants such as financial literacy, perceived security, digital competence, customer satisfaction, or trust as separate constructs.

Finally, the study evaluates IPPB from the customer perspective and therefore does not incorporate detailed institutional or operational evidence relating to service costs, technological performance, profitability, or organizational efficiency. Future studies may overcome these limitations through larger and more representative samples, longitudinal designs, comparative analysis across states, and integrated models incorporating behavioural, technological, and institutional factors.

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