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## Role of India Post Payments Bank (IPPB) in Enhancing Rural Women's Financial Participation: Evidence from Belagavi District, Karnataka

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### Abstract

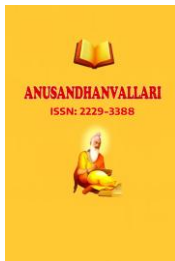
This study examines the role of India Post Payments Bank (IPPB) in enhancing rural women's financial participation in Belagavi district, Karnataka. The study adopts a mixed-methods approach using primary data collected from 220 respondents through structured questionnaires and supported by interviews with customers and frontline staff. Statistical tools such as descriptive analysis, correlation, ANOVA, t-test and regression were employed. The findings reveal that IPPB has significantly improved access to financial services, savings behaviour and digital transaction usage among rural women. Education level and smartphone ownership positively influence digital confidence and participation, while barriers such as low digital literacy, income instability and connectivity issues hinder effective usage. Staff interaction was found to play a crucial role in improving user confidence. The study concludes that while IPPB enhances financial participation, sustained efforts in digital literacy and infrastructure are essential for achieving meaningful financial empowerment.

**Keywords:** Digital Finance, Financial Participation, India Post Payments Bank, Rural Women, Financial Inclusion

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### 1. Introduction

Financial inclusion is a central component of India's development agenda, yet rural women continue to experience limited participation in formal financial systems. Despite improvements in bank account ownership and digital payment infrastructure, barriers such as restricted mobility, low digital literacy and limited financial autonomy persist. These challenges are evident in districts like Belagavi, where women contribute significantly to household livelihoods but often engage with banking services only indirectly. IPPB, established in 2018, was introduced to address last-mile access constraints through doorstep banking (providing all banking services at the customer's doorstep via Postman/Gramin Dak Sevak staff) and Aadhar enabled transactions utilizing an extensive postal network of 1,64,000 Post Offices. By operating through Branch (village) post offices, IPPB offers an alternative to branch-based banking for women who face access and mobility constraints. However, access alone does not ensure regular usage or meaningful participation. It remains unclear whether IPPB services lead to improved saving behaviour, greater comfort with digital transactions or enhanced financial decision-making among rural women. Women's financial participation depends not only on access but also on confidence, capability and autonomy. Factors such as education, smartphone ownership, digital readiness, income stability and interaction with service providers are likely to influence outcomes. This study examines how rural women in Belagavi district access and uses IPPB services, assesses their influence on financial behaviour and decision-making, and identifies the barriers and enabling factors that shape effective service utilisation.



Despite the expansion of India Post Payments Bank services across rural areas, there is limited clarity on whether increased access has led to sustained usage and meaningful financial participation among women. Access to banking facilities does not necessarily result in regular engagement, nor does service usage automatically translate into financial autonomy. This study therefore examines the extent to which rural women access and use IPPB services, and how such usage influences saving behaviour, digital transactions and financial planning. It also explores the role of IPPB in women's household-level financial decision-making and identifies the barriers and enabling factors that shape effective service utilisation.

### Objectives of the Study

1. To examine the extent of access and usage of IPPB services among rural women in Belagavi district.
2. To analyse the influence of IPPB on savings, digital payments and financial behaviour.
3. To evaluate the impact of IPPB services on women's financial decision-making and autonomy.
4. To identify key barriers and enabling factors affecting effective service usage.

### Hypotheses of the Study:

H1: IPPB usage significantly influences women's financial participation.

H2: Education level of respondents has a significant effect on digital transaction confidence.

H3: Women who own a smartphone demonstrate higher financial participation than those who do not.

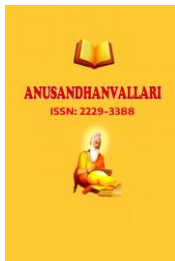
H4: Barriers such as digital skills, income instability, and network issues significantly predict women's financial participation.

H5: Regular interaction with IPPB staff positively influences women's confidence in using financial services.

## 2. Literature Review

Prior studies consistently show that rural women face persistent barriers to effective financial participation due to limited asset ownership, mobility restrictions, low literacy and dependence on intermediaries (Fletschner & Kenney, 2011). Studies on women's entrepreneurship further indicate that financial access combined with institutional support improves confidence, decision-making capacity and economic engagement among rural women (Sharma & Dua, 2012). Although financial inclusion is often linked with women's economic empowerment, evidence from developing regions indicates that structural barriers, digital limitations and social norms continue to restrict women's active participation in formal financial systems (Demirgüç-Kunt et al., 2022; Allen et al., 2016). Research in global contexts finds that when women gain access to reliable financial services, they are more likely to save, invest in household welfare and strengthen long-term resilience, but meaningful empowerment requires more than account ownership—it depends on confidence, capability and freedom to make financial decisions (Banerjee et al., 2019; Johnson, 2018). Research on digital financial services suggests that mobile-based systems can enhance women's autonomy by simplifying transactions; however, limited digital skills, restricted access to devices and apprehension toward technology remain significant challenges for rural women. (Suri & Jack, 2016; Grohmann et al., 2018).

Payment banks in India, particularly India Post Payments Bank, have been identified as key institutions for extending last-mile financial services through small-value transactions, digital payments and government benefit transfers (Reserve Bank of India, 2018; RBI, 2023). In countries such as Kenya, Bangladesh and Indonesia, researchers have observed that agent-assisted models help women bridge capability gaps, especially when



frontline staff provide personalised guidance (Aker & Mbiti, 2019; Bateman & Chang, 2018). Findings from the Global Findex Database indicate that while bank account ownership in India has expanded substantially, effective and regular usage continues to be constrained by digital capability gaps and accessibility issues. The Economic Survey of India (2022) identifies payment banks, particularly IPPB, as important for supporting small-value transactions and encouraging formal savings in rural communities, but notes that usability challenges must be addressed for wider adoption. The RBI Annual Report (2023) further emphasises that the reach and effectiveness of payment banks depend heavily on rural penetration and ongoing financial literacy efforts. Together, these sources highlight IPPB's potential while underscoring the need to strengthen digital capability among rural users. India Post Payments Bank represents a similar last-mile service model, leveraging postal infrastructure, biometric authentication and doorstep delivery to overcome distance and documentation barriers (Sharma & Rao, 2020; RBI, 2023). However, while international research emphasises that such models can reshape women's financial behaviour, limited studies in India specifically examine whether IPPB enhances savings discipline, digital transaction comfort or financial decision-making. Research on payment banks in India emphasises their role in extending low-cost, technology-enabled services to underserved populations, particularly through digital payments, remittances and government benefit transfers (Panda & Priya, 2024). This gap, particularly evident in rural districts like Belagavi, underscores the need for focused empirical research connecting access, behaviour and empowerment within the IPPB ecosystem. Evidence from developing economies suggests that access to financial services alone is insufficient unless service delivery models account for women's risk perceptions, prevailing social norms and the need for personalised assistance. (Kyeyune & Ntayi, 2025).

### 3. Research Methodology

Table 3.1

Key Variables Used in the Study

Variable	Type	Description
IPPB Usage	Independent	Frequency of using IPPB services
Education Level	Independent	Four categories
Smartphone Ownership	Independent	Binary (0 = No, 1 = Yes)
Barriers	Independent	Perceived structural barriers
Staff Interaction	Independent	Quality and frequency of support
Financial Participation	Dependent	Behaviour, engagement and autonomy
Digital Confidence	Mediating/ Dependent	Skills and comfort with digital transactions

The study adopted a mixed-methods approach to examine the influence of India Post Payments Bank on rural women's financial participation in Belagavi district. Quantitative data were collected through a structured questionnaire, supported by brief interviews with women users and IPPB staff. The study covered selected villages across four taluks—Belagavi, Bailhongal, Saundatti and Ramdurg—and focused on women aged 18 years and above using IPPB services. A multi-stage sampling method yielded 220 respondents, and data were gathered on demographics, IPPB usage, financial behaviour, digital confidence, barriers, staff interaction and financial participation using five-point Likert scales. All data were collected through direct field surveys and personal interviews conducted by the researcher during the study period.

Qualitative data were collected from 10 women customers and 4 Gramin Dak Sevaks / branch post office staff to support interpretation of quantitative trends. Details of the key variables examined in this study are as under:

Data analysis was conducted using Excel and Python to produce SPSS-equivalent outputs. The following statistical techniques were applied: descriptive statistics, Pearson's correlation (H1), one-way ANOVA (H2), independent sample t-test (H3), multiple regression (H4) and correlation alongside qualitative themes for H5.

#### 4. Data Analysis And Interpretation

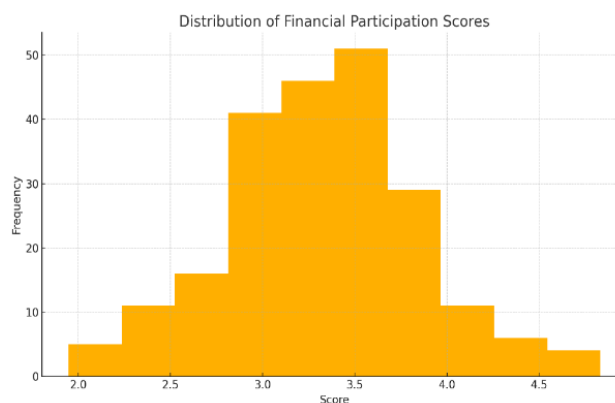
This section presents the analysis and interpretation of data collected from 220 rural women respondents across selected four taluks of Belagavi district. The analysis begins with descriptive statistics to provide an overview of key variables, followed by inferential statistical tests to examine relationships, differences and influencing factors related to women's financial participation through IPPB. The findings are discussed in the context of the research questions and hypotheses formulated for the study.

**Table 4.1**  
**Descriptive Statistics of Major Variables (n = 220)**

Variable	Mean	Std. Dev	Min	Max
IPPB Usage	3.37	0.70	1.67	5.55
Financial Participation	3.32	0.52	1.94	4.83
Digital Confidence	3.03	0.60	1.38	4.58
Barriers	3.28	0.82	0.88	5.15
Staff Interaction	3.64	0.69	1.79	5.40
Smartphone Ownership	0.61	0.49	0	1

On average, respondents showed moderate IPPB usage and moderate-to-high financial participation. Digital confidence levels were lower, indicating scope for capability-building.

#### 4.2 Distribution of Financial Participation Scores:



**Figure 4.1: Histogram of Financial Participation Scores**

Scores cluster between 3.0 and 3.8, showing moderate engagement and supporting the argument that IPPB has positively influenced behaviour but not full empowerment.

4.3 Financial Participation Across Smartphone Ownership (H3): The t-test compared means of financial participation between smartphone users and non-users. The result is as under:

- Smartphone users mean = 3.88
- Non-users mean = 3.24
- $t = 4.73, p < 0.001$

Women with smartphones have significantly higher participation, confirming H3. Access to digital tools is a strong enabler.

4.4 Digital Confidence Across Education Levels (H2):

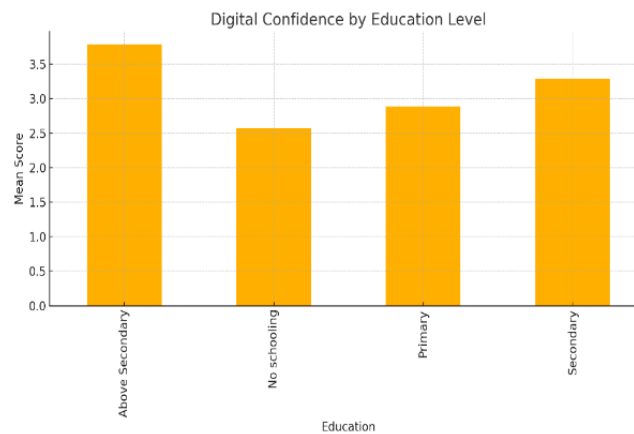


Figure 4.2: Bar Chart – Digital Confidence by Education

ANOVA Result:  $F = 5.21, p = 0.002$  (significant)

Digital confidence increases substantially with higher education levels. This supports H2, emphasising education as a key determinant of digital adoption.

4.5 Relationship Between IPPB Usage and Financial Participation (H1):

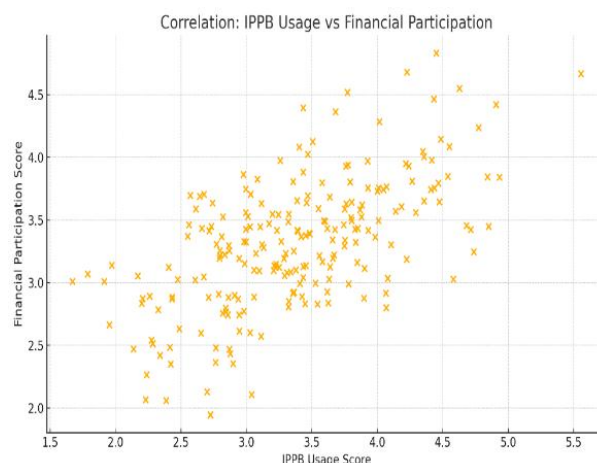
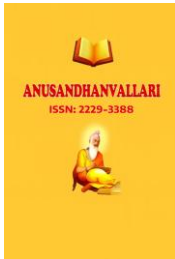


Figure 4.3: Scatter Plot – IPPB Usage vs Financial Participation



Following is the result of Correlation:

$$r = 0.476, p < 0.001$$

There is a moderate, positive, statistically significant relationship. Women who use more IPPB services show stronger behavioural outcomes.

4.6 Regression Analysis of Barriers (H4): A regression model tested the influence of barriers on financial participation. Result is as below:

**Table 4.2:**

**Result of Regression Analysis of Barriers**

Predictor	Beta	p-value
Barriers	-0.31	< 0.01

Higher barrier levels predict lower financial participation. Structural constraints—digital skills, income instability, poor connectivity—negatively influence progress. H4 supported.

4.7 Staff Interaction and Confidence (H5): Correlation between staff interaction and digital confidence:  $r = 0.41$ ,  $p < 0.001$

Regular guidance from post office staff significantly improves women's comfort with financial activities. Qualitative responses reinforced this:

“I feel safe transacting because the GDS sir/madam explains everything clearly.”  
“I can ask doubts without fear.”

4.8 Integrated Interpretation:

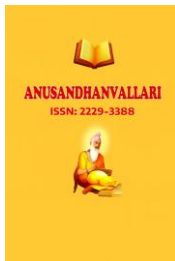
- IPPB usage has a clear positive impact on financial behaviour and participation.
- Education and smartphones play defining roles in shaping digital confidence and adoption.
- Structural barriers dampen participation, even when access is available.
- Staff support remains an essential human factor that strengthens adoption among low-literacy women.

The findings collectively indicate that IPPB creates access and behavioural change, but full empowerment requires addressing capability and infrastructure gaps.

## 5. Findings And Conclusion

### Findings

Analysis of responses from 220 rural women in Belagavi district shows that IPPB usage is positively and significantly associated with women's financial participation. Frequent users of IPPB services, particularly savings, AEPS withdrawals and DBT, exhibited better saving habits, improved budgeting and higher confidence in managing finances. Education level and smartphone ownership emerged as key factors influencing digital confidence and participation, with better-educated and smartphone-owning women demonstrating higher engagement. Structural barriers such as limited digital skills, income instability and network issues negatively affected participation by reducing usage frequency and confidence. In contrast, regular interaction with IPPB staff had a positive influence on women's comfort with digital transactions. Despite these gains, women's decision-



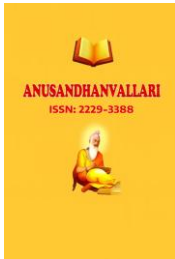
making remained limited in higher-risk financial matters, indicating partial rather than complete empowerment. Overall participation levels were moderate, reflecting progress alongside continuing constraints.

### Conclusion

The study concludes that India Post Payments Bank has played a meaningful role in improving financial participation among rural women in Belagavi district by reducing access-related barriers through its postal network and doorstep services. Women showed greater engagement in routine financial activities and increased confidence in using banking services. However, access alone did not translate into full financial empowerment. Participation was strongly shaped by education, smartphone access and staff support, while structural challenges such as digital illiteracy and poor connectivity continued to restrict independent decision-making. IPPB has strengthened transactional inclusion, but achieving deeper empowerment will require sustained digital literacy initiatives, infrastructure improvements and continued community-level support. With targeted interventions, IPPB can further enhance its contribution to inclusive and gender-responsive financial development.

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