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**From Access to Impact:
Exploring Access–Usage Imbalances in Digital Financial Inclusion Among
Women, Youth, and Rural Communities in Rwanda**

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OUTLINE OF THE PRESENTATION

- Background of the study
- Statement of the problem
- Objectives of the study
- Research questions
- Methodology
- Results
- Conclusion and Recommendations

Background of the study

- Financial inclusion is becoming a widely recognized critical enabler of economic development, as it offers access financial services like savings, credit, insurance, pension and payments (World Bank, 2022).
- At the global level, digital financial services particularly digital payment services have expanded rapidly, with over 2.3 billion mobile money accounts processing more than US\$2 trillion annually and 500+ million monthly active users (GSMA, 2025)
- In 2024, mobile money recorded 85 billion transactions worth USD 1.68 trillion+ globally (GSMA, 2025).
- Sub-Saharan Africa leading in active usage due to high mobile penetration and limited traditional banking access (GSMA, 2024).

Background of the study Cont'd

- Financial inclusion in Rwanda has reached 96% (7.8 million) of adults in 2024 up from 77% (5.4 million) in 2020.
- This was promoted by mobile money proliferation.
- Mobile money being dominant, with about 9.8 million users (76% of adults).
- However, adults are the primary users of mobile money in making basic transactions and there is a relatively low utilization of more advanced financial activities.
- The tendency is also supported by the FinScope 2024 Gender and Youth Thematic Report, which indicates that in spite of the fact that women and youth have already increased their account ownership, there is still a low rate of sustained use of formal financial products.

Statement of the problem

- Rwanda has expanded access to digital payment services, especially mobile money, supported by strong financial infrastructure.
- Despite high access, gaps remain in **usage intensity**, with most users making only basic and infrequent person-to-person transfers.
- There are also gaps in **usage diversification**, as merchant payments, bill payments, online purchases, and government transactions remain limited, especially among women, youth, and rural populations.
- As a result, cash is still widely used, showing that access has not fully translated into broad and meaningful digital payment use, and full benefits are not realized.

Research Objectives

General Objective: To examine the gap between access to digital payment services and their actual usage among women, youth, and rural populations in Rwanda.

Specific Objectives	Research Questions
To identify the digital payment platforms in use and evaluate the extent of the access–usage gap among women, youth, and rural populations in Rwanda.	What are the digital payment platforms in use and the extent of the access–usage gap among women, youth, and rural populations in Rwanda?
To determine the factors influencing the use of digital payment services among women, youth, and rural populations in Rwanda.	What are the factors influencing the use of digital payment services among women, youth, and rural populations in Rwanda?
To examine the key constraints limiting digital payment usage among women, youth, and rural populations in Rwanda.	What are the key constraints limiting digital payment usage among women, youth, and rural populations in Rwanda?

METHODOLOGY

Analytical Framework

Objective 1: **Identify Digital Payment Platforms and Assess the Access–Usage Gap**

Method: **Descriptive Statistics**

➤ Identify the **digital payment platforms in use** in Rwanda

➤ Assess **access** versus **actual usage** among:

- Women
- Youth
- Rural populations

➤ Establish the **magnitude** and **patterns** of digital payment inclusion gaps

$$\text{Access–Usage Gap (\%)} = \frac{\text{Number of individuals with access} - \text{Number of active users}}{\text{Number of individuals with access}} \times 100$$

Why Descriptive Statistics?

➤ Provides a baseline understanding of who has **access**, who **actively uses** digital payment services, and who remains **excluded** despite availability of services.

Methodology Cont'd

Objective 2: **Determine Factors Influencing Digital Payment Usage**

Method: **Heckman Selection Model**

Why Heckman?

- Digital payment adoption is a **two-stage decision process**:
 - **Access** to digital payment services
 - Actual **usage** of services
- Corrects potential **selection bias** arising from unequal access opportunities

Model Structure:

Selection equation:

$$A_i^* = Z_i\gamma + u_i$$

Usage equation:

$$Y_i^* = X_i\beta + \lambda IMR_i + \epsilon_i$$

Where:

- A_i = access decision
- Y_i = digital payment usage
- IMR = Inverse Mills Ratio (selection correction)

Methodology Cont'd

Objective 3: **Examine Constraints Limiting Digital Payment Usage**

Method: **Principal Component Analysis (PCA)**

Why PCA?

- Digital payment barriers are **multiple** and **interrelated**
- Reduces **many constraints** into **key underlying factors**
- Identifies the most important barriers affecting:
 - Women
 - Youth
 - Rural populations

PCA Model:

$$PC_j = a_1X_1 + a_2X_2 + \dots + a_nX_n$$

Where:

- PC_j = extracted principal component
- a_i = factor loading
- X_i = observed constraints

RESULTS: Objective one

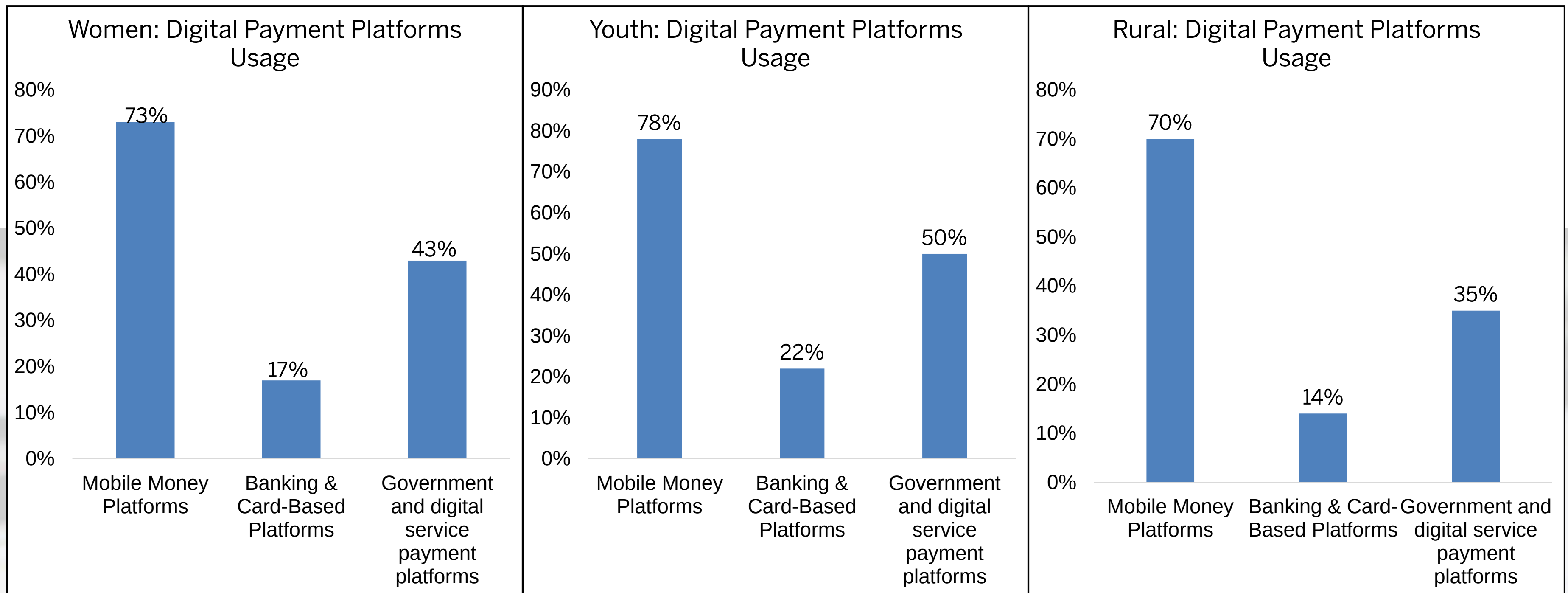




Table 1:
Access–Usage Gap in Digital Payment Services among Women, Youth, and Rural Populations in Rwanda

Group	Access (%)	Usage (%)	Gap (%)	Usage given access (%)	p-value (Usage difference)	Interpretation
Women	96	73	23.96%	76	0.031** (<0.05)	Significant gender-based usage gap; access not fully translating into usage
Youth	95	78	17.89%	82	0.118 (>0.05)	No statistically significant difference; relatively efficient conversion of access into usage
Rural	94	70	25.53%	74	0.001** (<0.05)	Highly significant rural disadvantage; strongest access–usage disconnect



Table 2:
Factors Influencing Digital Payment Services Usage Among Women, Youth and Rural Populations in Rwanda

Variable	Women (Use)	Youth (Use)	Rural (Use)
Age	0.014 (0.011)	0.020* (0.012)	0.016 (0.011)
Household size	-0.007 (0.007)	-0.011 (0.008)	-0.009 (0.007)
Married	0.028 (0.032)	0.012 (0.030)	0.022 (0.031)
No schooling	-0.065 (0.046)	-0.085* (0.050)	-0.095* (0.052)
Secondary+ education	0.150** (0.062)	0.170** (0.068)	0.130* (0.062)
Employed	0.190*** (0.048)	0.270*** (0.052)	0.230*** (0.050)
Self-employed	0.085* (0.047)	0.150*** (0.052)	0.095* (0.048)
Student	0.110* (0.052)	-0.190*** (0.062)	0.115* (0.056)
Retired	-0.085* (0.052)	-0.095* (0.057)	-0.090* (0.052)
Household income (log)	0.490** (0.082)	0.460** (0.072)	0.410* (0.067)
Asset index	0.110*** (0.036)	0.260*** (0.047)	0.130*** (0.042)
Mobile phone ownership	0.620*** (0.095)	0.560*** (0.088)	0.500*** (0.090)
Internet access	0.150** (0.058)	0.190** (0.063)	0.135** (0.062)
Agent network density	0.420*** (0.095)	0.270*** (0.082)	0.470** (0.100)
Transaction costs (fees)	-0.260*** (0.072)	-0.190** (0.067)	-0.290*** (0.078)
Financial literacy	0.740* (0.062)	0.760** (0.062)	0.725* (0.058)
Savings group membership	0.130* (0.072)	0.140* (0.072)	0.150* (0.077)
Constant	0.340* (0.120)	0.360* (0.115)	0.320* (0.118)

Results Cont'd

Factors Influencing Digital Payment Service Usage in Rwanda (Heckman Selection Model Results)

Individual Capabilities

- Education
- Digital & financial literacy

Economic Capacity

- Employment status
- Income and asset ownership

Technology Access

- Mobile phone ownership

Digital Payment Ecosystem

- Agent network availability
- Transaction costs

Results cont'd: Objective 3

Table 3:
Principal Component Structure and Descriptive Statistics of Digital Payment Usage Constraints among Women, Youth, and Rural Populations in Rwanda

Component	Mean	Std. dev.	Constraints
Component 1: Capability and literacy constraints	2.94	0.26	Cash preference/cultural habits Low financial literacy Difficulty in using digital platforms Dependence on others for transactions
Component 2: Cost and affordability constraints	2.94	0.18	High transaction fees Cost of getting an account/wallet Unpredictable service charges
Component 3: Trust and reliability constraints	2.79	0.32	Fear of fraud/scams System errors/failed transactions Lack of trust in providers Poor complaint resolution systems
Component 4: Access and infrastructure constraints	2.01	0.34	Distance to access points (agents) Poor network coverage (rural areas) Limited availability of agents/services

Conclusion

- Rwanda has expanded its digital payment ecosystem, with mobile money driving adoption among women, youth, and rural populations; however, access does not always translate into effective usage.
- Digital payment usage is shaped by individual capabilities, economic capacity, technology access, and service conditions, while affordability, literacy, trust, and infrastructure remain key barriers.
- The next step is moving from **digital access to meaningful, inclusive, and sustained usage** across all population groups.

Recommendations

- **Expand affordable and interoperable digital payment infrastructure**
→ Improve accessibility, convenience, and reliability, especially in underserved areas.
- **Promote user-centered digital payment solutions**
→ Continuously improve simple, inclusive, and tailored products for women, youth, and rural populations.
- **Strengthen digital and financial literacy**
→ Build users' confidence, skills, and ability to effectively engage with digital payment services.

There is need for coordinated action between the public and private sector to boost the adoption of digital payment services among women, youth and rural populations in Rwanda.

The next frontier: moving from financial inclusion to digital finance.

Thank you!