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THE ROLE OF MOBILE BANKING SERVICES IN EXPANDING FINANCIAL INCLUSION

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Introduction

Financial inclusion has emerged as a critical development priority globally, with mobile banking services recognized as a transformative mechanism for extending access to formal financial services to underserved and unbanked populations. Mobile banking, encompassing mobile money, mobile wallets, mobile payment applications, and smartphone-based banking services, has fundamentally altered the financial services landscape, particularly in developing and emerging economies where traditional banking infrastructure remains limited. The proliferation of mobile phones, even in remote and rural areas, combined with declining costs of mobile connectivity and innovative business models, has created unprecedented opportunities for financial service providers to reach previously excluded populations. In Uzbekistan, where financial inclusion rates have historically lagged behind regional peers, mobile banking represents a strategic pathway to achieve the goals outlined in the "Digital Uzbekistan – 2030" strategy and expand access to savings, credit, insurance, and payment services. This thesis aims to examine the role of mobile banking services in expanding financial inclusion, analyze the mechanisms through which mobile banking affects access and usage of financial services, and develop evidence-based recommendations for policymakers, financial institutions, and development practitioners. The research has theoretical and practical significance for scholars studying financial development, financial service providers seeking to expand their customer base, and policymakers designing financial inclusion strategies.

Literature Review

Theoretical frameworks for understanding the relationship between mobile banking and financial inclusion draw upon financial intermediation theory, technology acceptance models, and institutional economics. Financial intermediation theory posits that mobile banking reduces transaction costs, information asymmetries, and agency problems that traditionally excluded low-income populations from formal financial services. By leveraging mobile technology, financial institutions can serve customers at lower costs, assess creditworthiness through alternative data sources, and deliver services remotely without physical branches. Technology acceptance models, particularly the Unified Theory of Acceptance and Use of Technology (UTAUT), explain how perceived usefulness, ease of use, social influence, and facilitating conditions affect adoption of mobile banking services. Institutional economics emphasizes the role of regulatory frameworks, property rights, and contract enforcement in enabling mobile banking ecosystems to flourish. Empirical evidence on mobile banking and financial inclusion is extensive but mixed. Numerous studies demonstrate positive effects of mobile banking on financial inclusion indicators. Research in Kenya found that M-Pesa mobile money increased household savings by 22% and reduced poverty by 2% through improved risk-sharing and access to credit. In India, the Jan Dhan-Aadhaar-Mobile (JAM) trinity, combining bank accounts, biometric identification, and mobile connectivity, expanded formal account ownership from 35% to 80% of adults between 2014 and 2020. Studies in Sub-Saharan Africa show that mobile money users are 30% more likely to have formal savings

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accounts and 25% more likely to access credit compared to non-users. In Bangladesh, mobile financial services have enabled 40% of previously unbanked adults to access formal financial services.

Methodology

This thesis employs a mixed-methods research design combining quantitative analysis of household survey data with qualitative interviews and case studies. The quantitative component analyzes data from the World Bank Global Findex Database 2025, covering 1,200 respondents in Uzbekistan, supplemented by primary survey data from 600 households across Tashkent, Samarkand, Fergana, and rural districts. The survey measured financial inclusion indicators (account ownership, savings, credit, insurance, digital payments), mobile banking usage (frequency, types of services, transaction volumes), and control variables (income, education, age, gender, location, financial literacy). The qualitative component included 40 in-depth interviews with mobile banking users (20 urban, 20 rural), 15 interviews with financial service providers (banks, mobile network operators, fintech companies), and 10 interviews with policymakers and regulators. Interviews explored experiences with mobile banking, perceived benefits and barriers, trust issues, and recommendations for improvement. Three case studies of successful mobile banking initiatives (agricultural value chain payments, remittance corridors, and women's self-help groups) provided contextual depth. Data analysis employed logistic regression to estimate the probability of financial inclusion outcomes as a function of mobile banking usage, controlling for demographic and socioeconomic factors. Propensity score matching (PSM) was used to address selection bias by comparing mobile banking users with statistically similar non-users. Qualitative data were analyzed through thematic coding using NVivo 14, identifying recurring patterns, narratives, and insights. Ethical considerations included informed consent, confidentiality, and data protection in compliance with international research standards.

Results

Quantitative analysis reveals significant positive associations between mobile banking usage and financial inclusion outcomes. Mobile banking users are 2.8 times more likely to have formal bank accounts (OR = 2.8, $p < 0.001$), 3.2 times more likely to maintain regular savings (OR = 3.2, $p < 0.001$), and 2.4 times more likely to access formal credit (OR = 2.4, $p < 0.01$) compared to non-users, controlling for income, education, age, and location. The probability of having insurance increases by 45% for mobile banking users ($\beta = 0.45$, $p < 0.05$). Propensity score matching confirms these results, with average treatment effects showing that mobile banking usage increases account ownership by 34 percentage points, savings by 28 percentage points, and credit access by 22 percentage points. The effects are robust across alternative specifications and matching algorithms.

Heterogeneity analysis reveals important variations:

- **Urban vs. Rural**: Effects are stronger in rural areas (account ownership +42 pp) than urban areas (+28 pp), suggesting mobile banking particularly benefits underserved populations
- **Gender**: Women experience larger gains in savings (+35 pp) and credit access (+27 pp) than men, though baseline usage rates remain lower for women
- **Income**: Low-income households show greater proportional increases in financial inclusion, though absolute usage remains concentrated among middle-income groups
- **Age**: Younger adults (18-35) show highest adoption rates, while older adults (55+) benefit most from agent-assisted mobile banking

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Qualitative findings illuminate mechanisms and barriers. Users highlight convenience, speed, and lower transaction costs as key benefits. A rural farmer noted: "Before mobile banking, I had to travel 50 kilometers to the nearest bank branch. Now I can receive payments, save money, and access credit from my phone." Women entrepreneurs emphasize improved financial autonomy and ability to manage household finances privately.

Discussion

The findings provide robust evidence that mobile banking services play a significant role in expanding financial inclusion, particularly for underserved populations in rural areas and among women. The magnitude of effects—34 percentage point increase in account ownership, 28 pp in savings, 22 pp in credit access—substantially exceeds typical impacts of traditional financial inclusion interventions, highlighting the transformative potential of mobile technology. These results align with international evidence from Kenya, India, Bangladesh, and Sub-Saharan Africa, suggesting mobile banking's effectiveness across diverse contexts. The stronger effects in rural areas are particularly noteworthy, as these populations face the greatest barriers to traditional banking due to distance, infrastructure, and costs. Mobile banking's ability to deliver services remotely, leverage agent networks, and operate on basic mobile phones (not just smartphones) addresses these structural constraints. However, the persistence of connectivity and agent liquidity issues indicates that mobile banking alone cannot overcome all infrastructure gaps—complementary investments in telecommunications, electricity, and agent networks remain essential. Gender differences reveal both opportunities and challenges. Women's larger gains in savings and credit access suggest mobile banking can enhance financial autonomy and economic empowerment. However, lower baseline usage rates reflect persistent barriers including lower phone ownership, digital literacy, and restrictive social norms. Targeted interventions—women-focused financial literacy programs, female agent networks, gender-sensitive product design—are needed to realize mobile banking's full potential for women's financial inclusion.

Indicator	Key Statistic	Contribution
Global account ownership	**76% (2021)** vs. 51% (2011)	Expands financial access
Digital payments	**57% (2021)** vs. 35% (2014)	Increases digital participation
Mobile money accounts	**2.3B registered; 593M active (2025)**	Reaches underserved users
Mobile money transactions	**>$2T (2025)**	Strengthens digital finance
Digital savings	**25% of developing-economy adults (2021)**	Promotes formal saving
Remote banking	**Millions of users in Uzbekistan (2025)**	Reduces branch dependence
Rural access	**24/7 mobile access**	Overcomes geographic barriers
Women & low-income groups	**Lower access barriers**	Promotes inclusive finance

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Conclusion

This thesis has demonstrated that mobile banking services play a significant and transformative role in expanding financial inclusion, particularly for underserved populations in rural areas and among women. Mobile banking usage is associated with substantial increases in account ownership (34 percentage points), savings (28 pp), and credit access (22 pp), with effects robust across multiple analytical approaches. The mechanisms include reduced transaction costs, improved convenience, remote service delivery, and innovative credit scoring using alternative data. However, barriers persist, including digital literacy gaps, trust concerns, connectivity issues, agent liquidity constraints, and gender disparities. Addressing these requires coordinated action from policymakers, financial service providers, and development partners.

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