


Chapter 6

Digital Banking as a Catalyst for Climate–Resilient Financial Markets

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ABSTRACT

The accelerating shift towards digital banking services has not only reshaped the Indian financial landscape through enhanced convenience and accessibility but also emerges as a critical nexus in the broader context of climate risk, energy consumption, and sustainable financial market development. This study investigates the awareness, adoption, and challenges of sustainable digital banking practices among Indian users, viewing digital banking as a pivotal channel for advancing environmental resilience and efficient energy use in financial ecosystems. By analyzing user behavior across leading digital platforms such as Google Pay, Paytm, Phone Pe, and banking applications, the research explores how platform trust, incentive structures, and usage frequency influence the willingness to embrace eco-friendly financial services, with an emphasis on their potential to reduce carbon footprints and support climate adaptation strategies.

INTRODUCTION

In the context of India’s evolving digital landscape, mobile banking has emerged as a transformative force not only in expanding financial services, but also in advanc-

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ing climate resilience and sustainable financial market frameworks. The widespread proliferation of smartphones and digital applications has dramatically altered how individuals access, interact with, and derive value from financial services, reducing long-standing barriers related to geography, infrastructure, and socio-economic status (Shaban, 2024). More than just a means for basic transactions, mobile and digital banking platforms are now pivotal channels for channeling financial flows in an environmentally conscious manner, contributing to a reduction in carbon footprints and optimizing energy consumption by replacing traditional, resource-intensive banking models (Ahmad et al., 2025).

This digital transformation has heightened opportunities for financial inclusion, empowering underserved and rural populations by making secure, low-cost, and accessible financial services available directly through handheld devices. Furthermore, the integration of user-centric digital interfaces—supported by incentives such as rewards and lower transaction costs—has fostered greater user trust and participation, especially in climate-aware, adaptive financial systems (Lindfors, 2024). Policymakers, financial institutions, and fintech innovators are increasingly leveraging mobile banking to deploy targeted strategies that not only promote economic empowerment, but also support the urgent need for sustainable, climate-resilient development. Nevertheless, the expansion of mobile banking is accompanied by persistent challenges such as digital illiteracy, cybersecurity risks, insufficient connectivity, and regulatory constraints, which must be addressed through collaborative, multi-stakeholder efforts for a truly inclusive and sustainable financial ecosystem.

This study investigates the dual impact of mobile banking: enhancing access and literacy in financial services, and catalyzing sustainable, climate-aligned market transformation. Through empirical analysis of user behavior, platform adoption, and the interplay of incentives and trust, the research offers evidence-informed insights to guide policies and practices that underpin a more equitable, eco-conscious financial future in India and beyond.

LITERATURE REVIEW

The literature highlights the critical role of mobile banking in advancing financial inclusion by extending banking services to underserved populations. Adoption is primarily influenced by factors such as perceived usefulness, ease of use, and social influence, as framed by the Technology Acceptance Model (TAM) (Vannoy & Palvia, 2010) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Sarfaraz, 2017). Despite rapid growth, challenges persist in regulatory frameworks and the long-term financial sustainability of mobile banking systems. The proliferation of mobile banking has significantly reshaped financial markets,

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