COMPARATIVE ANALYSIS OF THE EMERGING SUPER APP MODEL IN EAST AFRICA: CONSOLIDATED DATA EXTRACTION AND FRAGMENTED DIGITAL GOVERNANCE

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Introduction

Super apps have long been recognized as a distinct application model that integrates most digital mobile functions within a single platform, supported by a large user base and significant social influence (Chen et al., 2018; Hasselwander, 2024). This concept has provided scholars with an opportunity to rethink the relationships between data, platforms, and applications within mobile ecosystems and to examine the trajectories of new industrial development beyond the Silicon Valley model (Goggin, 2021; van der Vlist et al., 2024).

Research on super apps has predominantly focused on Asia, with case studies on China's WeChat and Alipay (Chong, 2019; Huang & Miao, 2021), Japan's LINE (Steinberg, 2020), Indonesia's Grab and Gojek (Das et al., 2024), and India's Reliance Jio (Athique & Kumar, 2022). The rise of these super apps has been framed as a phenomenon closely tied to large tech conglomerates, with the potential to shape cultural and political dynamics (Steinberg et al., 2022).

However, research on the digital development including super apps in Africa, particularly East Africa, remains limited despite the region's rapid digital transformation (Graham, 2019; Yeh Bunje et al., 2022).

Kenya's M-Pesa and Ethiopia's Telebirr represent emerging super apps in East Africa. M-Pesa, operated by Kenya's Safaricom, provides mobile financial services to over 30 million users, while Ethiopia's Telebirr, developed by the state-owned Ethio Telecom, has amassed over 36 million users within two years. Both platforms share common traits:

● Owned by domestic dominant telecom providers (Safaricom and Ethio Telecom).
● Their users constitute nearly 50% of mobile connections in their respective countries.
● Developed and/or supported by external actors including Huawei.

These apps are evolving into super apps, mirroring China's WeChat and Alipay through third-party service integration. Telebirr incorporates Ethiopia's national ID and government e-services, while M-Pesa is expanding through mini-app integrations.

Research Questions

This study addresses key gaps in the literature by examining:
a) What strategies do M-Pesa and Telebirr use to collect, store, and utilize data, and how do these approaches affect state and corporate control over users' personal information?
b) How Kenya's and Ethiopia's regulatory environments influence the emergence of M Pesa and Telebirr, compared to Asian super apps.
c) To what extent do the power dynamics among states, corporations, and users in the East African super app ecosystem, exemplified by M-Pesa and Telebirr, reinforce or contest theories of data exploitation, such as data colonialism, in shaping digital infrastructures in the Global South?

Theoretical Framework

This study leverages two interconnected theoretical lenses, postcolonial computing and platform and infrastructure studies, to examine the emergence and implications of M Pesa and Telebirr as super apps in East Africa. These frameworks are tailored to address the research questions by unpacking the interplay of data practices, regulatory environments, and power dynamics in shaping digital infrastructures in the Global South.

Postcolonial computing (Couldry & Mejias, 2023; Irani et al., 2010) examines how global technologies adapt to local contexts, highlighting power asymmetries and historical legacies. It is used to explore Chinese influence via Huawei in M-Pesa and Telebirr, assessing how these platforms' data strategies, e.g., Telebirr's national ID integration and M-Pesa's financial data collection, impact state and corporate control. This lens tests whether these super apps reinforce data colonialism (Couldry & Mejias, 2023), where data extraction mirrors colonial exploitation, particularly under foreign technological dependency.

Platform and infrastructure studies (Plantin et al., 2018) views super apps as digital infrastructures shaping socio-political and economic landscapes. It investigates how M Pesa and Telebirr collect, store, and utilize data, and how Kenya's market-driven and Ethiopia's state-led regulatory environments shape their development compared to Asian counterparts like WeChat. This framework reveals how Telebirr enhances state surveillance, while M-Pesa's corporate model expands data extraction, analyzing power dynamics among states, firms (Safaricom, Ethio Telecom), and users.

Together, these frameworks address the research questions by dissecting data governance, regulatory impacts, and whether these platforms contest or perpetuate exploitative data practices. They situate East African super apps within debates on digital sovereignty and surveillance, blending postcolonial critiques with infrastructural insights to enrich global super app research.

Methodology

This study employs case study (Broughton Micova, 2019) and comparative research (Esser, 2019) methods, combining desk research, online fieldwork, and document analysis.

The research systematically examines:
a) Policy Environment: Analysis of regulatory frameworks shaping platform operations.
b) Data Practices: Evaluation of privacy policies and data governance structures. c) Platform Functionality: Cross-platform comparison of service aggregation models.

Data Collection
a) Online Fieldwork: Ethnographic observation of platform functionalities, payment systems, and third-party integrations (Hine, 2020).
b) Document Analysis: Examination of privacy policies, user agreements, and governance frameworks.

Preliminary Outcomes of the Comparative Analysis

Policy and Governance: Kenya's market-oriented regulatory environment drives M Pesa's private sector-led expansion, cultivating a vibrant fintech ecosystem where Safaricom competes with other players. In contrast, Ethiopia's state-controlled policies integrate Telebirr into national governance structures, amplifying state oversight through Ethio Telecom's monopoly. These divergent frameworks influence data control and platform evolution, paralleling Asian super apps like WeChat in scope but differing due to East Africa's unique political and economic contexts.

Data Extraction and Surveillance: Both platforms exhibit sophisticated data practices tailored to their ecosystems. Telebirr's linkage to Ethiopia's national ID system consolidates state authority over digital identities, enabling centralized surveillance. M Pesa, while privately operated, collaborates with Kenyan regulators to manage financial data, blending corporate and state interests. Huawei's foundational role in both infrastructures introduces concerns about data sovereignty, hinting at external influence from Chinese tech giants over local digital ecosystems.

User-Corporate-State Dynamics: M-Pesa's growth epitomizes corporate-driven financialization, prioritizing profit and market reach, whereas Telebirr reflects state-led digital expansion aligned with national development goals. Users in both systems navigate weak data protection regimes, exposing them to surveillance risks and

reinforcing power imbalances. These findings align with postcolonial computing, exposing how global tech (e.g., Huawei) intersects with local actors to reshape control, and platform
studies, emphasizing super apps' infrastructural roles in governance and potential exploitation.

Conclusion:

This study addresses the research questions by revealing M-Pesa and Telebirr's data strategies—centralized state control in Ethiopia and hybrid corporate-regulatory oversight in Kenya—highlighting their impact on user information governance. Regulatory environments distinctly shape their trajectories, with Kenya's openness contrasting Ethiopia's statism, differing from Asian models. Power dynamics reflect data colonialism, as extensive data extraction by state and corporate entities, compounded by Huawei's influence, risks entrenching exploitation in the Global South. These insights refine postcolonial and infrastructural theories, deepening our understanding of platformization's socio-political implications in East Africa.

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