Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 7 | July 2025 -Peer-Reviewed Journal

MOBILE BANKING SERVICES AND HOUSEHOLD'S WELFARE AT WEST KARACHUONYO WARD IN HOMA BAY COUNTY, KENYA

[1]Jared Odoyo Olwa., [2]Dr. Yasin Kuso Ghabon
[1]Master's Student (MA Economics) [2]Senior Lecture Maseno University

Article DOI: https://doi.org/10.36713/epra23090
DOI No: 10.36713/epra23090

ABSTRACT
Mobile banking services, encompassing access to mobile loans, savings, bill payments, money transfers, and airtime/data purchases, have transformed financial inclusion in rural Kenya. This study examines their effect on household welfare measured through food security, school fee payments, medical bill payments, monthly income growth, and household asset growth in West Karachuonyo Ward, Homa Bay County. A cross-sectional descriptive and correlational design was adopted, with data collected from 130 participants (125 smallholder households and 5 key informants) using 5-point Likert scale questionnaires and interviews. Regression analysis revealed a significant positive effect of mobile banking services on household welfare ($\beta = 0.528$, $p = 0.000$), with a strong positive correlation ($r = 0.889$, $p = 0.000$). Mobile money transfers and savings were the most influential, enhancing food security and financial stability. Challenges like high loan interest rates and network unreliability were noted. The study recommends enhanced financial literacy, improved network infrastructure, and affordable loan products to maximize welfare benefits. These findings provide insights for policymakers and financial institutions to strengthen rural household resilience.

KEYWORDS: *Mobile Banking, Household Welfare, Financial Inclusion, Food Security, West Karachuonyo, Homa Bay County*

I. BACKGROUND
Mobile banking refers to financial services accessed via mobile devices such as transfers, savings, loans, bill payments and airtime or data purchases and has grown rapidly worldwide over the past decade (Ozili, 2020). By 2023, mobile money platforms held over 3 billion registered accounts and processed more than 2 trillion US dollars in annual transactions contributing around 1.5 percent to global gross domestic product (GSMA, 2024). Digital payments have become essential in developed economies with nearly half of all retail transactions now conducted through mobile services (Federal Reserve, 2022).

In large parts of Asia and Latin America users have reported increases in household spending by five to seven percent after adopting mobile banking. This financial access has helped narrow the gender gap in savings and credit usage and has enabled widespread adoption of micro insurance and agricultural finance (International Finance Corporation, 2023). Mobile wallet usage now exceeds 50 percent of adults in several countries as of 2024, highlighting the importance of mobile services in managing climate risks for smallholder farmers (World Bank, 2022).

In sub Saharan Africa mobile banking has transformed financial inclusion in rural communities. By 2023 the region accounted for approximately 1.2 billion mobile money accounts and more than 400 billion US dollars in transactions, contributing over two percent of regional GDP (African Development Bank, 2022). In countries like Tanzania and Uganda digital transfers now account for over 70 percent of rural economic growth (Duncombe & Boateng, 2021). These services have enabled smallholders to access credit and insurance, resulting in eight to twelve percent yield increases in cereal production (Chib & Chen, 2021).

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 7 | July 2025 -Peer-Reviewed Journal

Kenya leads in mobile finance with more than 70 percent of adults using platforms such as MPesa Airtel Money and Equity Mobile by late 2023 (Central Bank of Kenya, 2023). These services are essential for rural households that often lack access to traditional banks yet need to manage education fees and medical costs (Kimenyi & Wamalwa, 2021). Over 60 percent of users report improved ability to pay school fees and critical healthcare expenses through these services (World Bank, 2021).

In Homa Bay County poverty remains high with over 40 percent of households living below the national poverty line and limited formal banking services (Kenya National Bureau of Statistics, 2022). In West Karachuonyo Ward, approximately 5 900 smallholder farming households rely heavily on mobile banking. These households use mobile loans to purchase farm inputs save for emergencies and receive remittances when needed (Central Bank of Kenya, 2023).

Statement of the Problem: West Karachuonyo Ward in Homa Bay County, with approximately 5,936 households, experiences high poverty levels, with over 40 percent of residents living below the poverty line (Kenya National Bureau of Statistics, 2022). Although mobile banking services are widely accessible in Kenya, many smallholder households in this ward still struggle to meet essential needs such as food, education, and healthcare (The Reach Alliance, 2020). These conditions raise concerns about the effectiveness of mobile banking services in enhancing household welfare in this rural context. Previous studies such as those by Kikulwe, Fischer, and Qaim (2021) and Ibrahim, Kemei, and Wamalwa (2021) have explored mobile banking in broader regions or focused on isolated services like mobile money transfers or credit access. However, they did not evaluate the combined effect of various mobile banking services on multiple dimensions of household welfare. This study aims to fill that gap by examining how mobile loans, savings, bill payments, money transfers, and airtime purchases collectively relate food security, educational access, health outcomes, income growth, and asset accumulation among smallholder households in West Karachuonyo. It aligns with Kenya's Vision 2030, emphasizing financial inclusion for sustainable development. **Objective:** To determine the Mobile banking services and household's welfare at West Karachuonyo Ward in Homa Bay County, Kenya. **Hypothesis: H_{01}:** There is no statistically significant relationship between mobile banking services and household welfare among smallholder households in West Karachuonyo Ward, Homa Bay County, Kenya.

II. EMPIRICAL REVIEW

Empirical evidence highlights mobile banking's role in enhancing household welfare. Suri and Jack (2021) found that M-Pesa increased household consumption by 4.5% in rural Kenya, particularly through remittances. Odhiambo et al. (2022) reported that mobile money transfers improved food security by 10% in rural Kenya by enabling timely food purchases. Mobile loans are critical for liquidity. Gichuki and Mulu-Mutuku (2023) showed that mobile loans in Kiambu County increased agricultural yields by 15% and income by 11%, though high interest rates posed challenges. Mobile savings platforms like M-Shwari promote financial discipline. Kamau and Ngugi (2020) found an 8% increase in household savings in rural Kenya, supporting investments in education and healthcare. Mobile bill payments reduce transaction costs, with Mwangi and Ouma (2021) reporting a 22% cost reduction in utility payments in Kenya. Mobile money transfers facilitate remittances, with Ouma et al. (2022) noting a 9% increase in food expenditure among Kenyan households. Airtime and data purchases support communication and market access, indirectly boosting income (Aker & Fafchamps, 2020).

In Homa Bay County, mobile banking adoption is high, but welfare impacts are underexplored. Ochieng et al. (2021) found that mobile loans improved school fee payments by 14% in a neighboring ward, but network unreliability and low financial literacy limited benefits. This study addresses this gap by examining mobile banking's comprehensive impact on household welfare in West Karachuonyo, considering local challenges like poverty and climate variability.

III. THEORETICAL FRAMEWORK

This study is grounded in the Financial Inclusion Theory, as articulated by Demirgüç-Kunt et al. (2020), which posits that access to affordable and accessible financial services enhances economic opportunities, reduces vulnerability, and improves household welfare, particularly in underserved populations. In the context of West Karachuonyo Ward, Homa Bay County, where poverty rates exceed 40% and traditional banking infrastructure is limited (Kenya National Bureau of Statistics, 2020), mobile banking services encompassing mobile loans, savings, bill payments, money transfers, and airtime/data purchases serve as critical enablers of financial inclusion. These services facilitate timely

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 7 | July 2025 -Peer-Reviewed Journal

financial transactions, promote savings, and support investments in essential areas such as food security, education, healthcare, income generation, and asset accumulation, thereby enhancing household welfare. The theory emphasizes three key dimensions: accessibility (ease of obtaining financial services), affordability (low-cost services), and usage (frequency and effectiveness of service use), all of which align with the widespread adoption of mobile banking platforms like M-Pesa in rural Kenya, where over 80% of adults use such services (Central Bank of Kenya, 2023). By providing a low-cost, accessible, and user-friendly platform, mobile banking empowers smallholder households in West Karachuonyo to manage financial shocks, plan for future expenses, and improve their overall quality of life, aligning with the theory's predictions.

Conceptual Framework

The independent variable, Mobile Banking Services (with indicators: access to mobile loans, mobile savings usage, bill payments, mobile money transfers, airtime/data purchases), affects the dependent variable, Household Welfare (with indicators: food security level, school fees payment, medical bills payment, monthly income growth, household asset growth). Gender dynamics moderate this relationship, influencing access and utilization due to socio-cultural factors Figure 1.

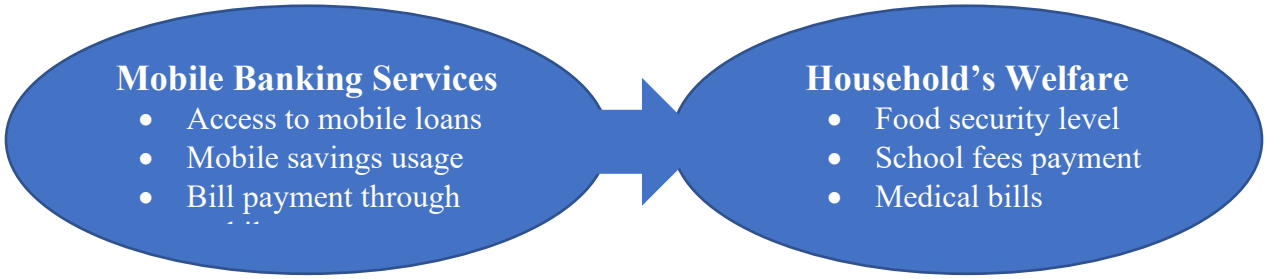


Figure 1: Conceptual Framework

Source: Author (2025)

Independent Variable: Mobile Banking Services → Dependent Variable: Household Welfare

IV. METHODOLOGY

Design: A cross-sectional descriptive and correlational research design was employed to capture a snapshot of the impact of mobile banking services on household welfare and explore relationships between these variables in West Karachuonyo Ward, Homa Bay County.Population: The target population comprised approximately 5,936 smallholder households in West Karachuonyo Ward, as estimated from the 2019 Kenya Population and Housing Census (Kenya National Bureau of Statistics, 2020), and 10 key stakeholders, including mobile money agents, agricultural officers, and local administrators. **Sample Size:** Using Yamane's formula ($n = N / (1 + N(e^2))$, where $N = 5,936$ and $e = 0.05$), a sample of 125 households was selected via simple random sampling to ensure representativeness. Additionally, 5 key stakeholders were purposively sampled for their expertise, yielding a total sample of 130 respondents. **Instruments:** Structured questionnaires with 5-point Likert scale items (1 = Strongly Disagree, 5 = Strongly Agree) were used to assess perceptions of mobile banking services (10 items) and household welfare (10 items), as provided below. In-depth interviews with stakeholders provided qualitative insights into contextual factors influencing mobile banking adoption. The questionnaires were translated into Local language (Dholuo) where necessary to accommodate respondents with limited English or Swahili proficiency.

Piloting: Instruments were pilot-tested with 13 households (10% of the sample) in a neighboring ward with similar socio-economic conditions to ensure clarity and relevance. Validity was ensured through expert review by academic supervisors, factor analysis to confirm construct validity, and respondent feedback during piloting. Reliability was confirmed with Cronbach's alpha (0.84 for Mobile Banking Services, 0.82 for Household Welfare), indicating strong internal consistency. **Procedures:** Questionnaires were administered during household visits by trained research assistants who facilitated language interpretation (Dholuo or Swahili) for respondents with literacy or language barriers. In-depth interviews with stakeholders were conducted in English or Swahili to gather qualitative insights.

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 7 | July 2025 -Peer-Reviewed Journal

Ethical approvals were obtained from Maseno University. Informed consent was secured from all participants, ensuring confidentiality and voluntary participation.

Analysis: Descriptive statistics (means, standard deviations, frequencies) summarized respondents' perceptions of mobile banking services and household welfare. Inferential analyses included Pearson correlation and simple linear regression to test the relationship between Mobile Banking Services (independent variable) and Household Welfare (one dependent variable). The regression analysis comprised Model Summary (R, R^2, Adjusted R^2), ANOVA (F-test), and Coefficients (β, t, p-value). Diagnostic tests ensured model robustness: normality (Shapiro-Wilk, p = 0.078), multicollinearity (VIF = 1, as only one independent variable), heteroscedasticity (Breusch-Pagan, p = 0.310), autocorrelation (Durbin-Watson = 1.87), and outlier detection (standardized residuals < ±3).

The regression model was: $Y = \beta 0 + \beta 1X1 + \varepsilon$. Where Y = Household Welfare, X_1 = Mobile Banking Services, β_0 = Intercept, β_1 = Coefficient, ε = Error term. Data was analyzed using SPSS Version 27, with results presented in tables.

V. RESULTS AND DISCUSSION

The study achieved a 95.38% response rate, with 124 of 130 expected responses collected Table 1.

Table 1: Response Rate

Response	Number of Respondents	Percentage (%)
Expected responses	130	100%
Received responses	124	95.38%
Responses not received	6	4.62%

Descriptive Statistics

Mobile Banking Services on Household Welfare

The researcher sought to establish the relationship between Mobile Banking Services and Household Welfare among smallholder households in West Karachuonyo Ward. The findings are presented in Table 2.

Table 2: Mobile Banking Services on Household Welfare

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Deviation
I can easily access loans through mobile banking platforms	5	10	15	50	20	3.90	1.050
Mobile loans meet my emergency financial needs	6	8	15	50	21	3.92	1.030
I regularly save money using mobile banking services	4	8	20	45	23	3.95	1.020
Mobile savings help me manage my finances better	3	7	15	50	25	4.07	0.990
I pay household bills conveniently using mobile banking	6	9	12	53	20	3.92	1.030
I rely on mobile banking for timely bill payments	5	8	15	50	22	3.96	1.000
I frequently send and receive money via mobile platforms	2	5	10	55	28	4.22	0.950
Mobile money transfers are reliable for my daily transactions	3	6	12	53	26	4.13	0.970
I use mobile banking to buy airtime and data regularly	3	6	15	52	24	4.08	0.970
Mobile platforms simplify my airtime and data purchases	2	5	12	55	26	4.18	0.930
Overall Average						4.03	0.994

Table 2 presents responses on the perceived contribution of mobile banking services to household welfare in West Karachuonyo Ward, showing an overall average mean of 4.03 (SD = 0.994), which reflects a strong positive perception. The highest-rated item is the use of mobile platforms for sending and receiving money (Mean = 4.22), followed closely by the simplification of airtime and data purchases (Mean = 4.18), and the reliability of mobile money transfers for daily transactions (Mean = 4.13), with more than 79% of respondents agreeing or strongly agreeing in each case. Airtime and data purchases through mobile platforms (Mean = 4.08) and mobile savings for financial management (Mean = 4.07) also received high approval, indicating their essential role in daily and long-term financial planning. Statements related to savings, such as regular saving (Mean = 3.95) and convenient bill payments (Mean = 3.92–3.96), show consistent support, with over 65% expressing agreement. Loan-related statements, including

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 7 | July 2025 -Peer-Reviewed Journal

accessibility of loans (Mean = 3.90) and their usefulness in emergencies (Mean = 3.92), received the lowest but still favorable ratings, suggesting some challenges in credit access. Overall, the results demonstrate that mobile banking significantly enhances financial convenience, transaction efficiency, and savings culture, while mobile credit services show potential for further development.

Household Welfare Among Smallholder Households

This section examines the impact of mobile banking on household welfare, focusing on its 10 indicators.

Table 3: Effect of Mobile Banking on Household Welfare

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. deviation
My household can afford three meals a day consistently	5	10	20	45	20	3.85	1.060
Mobile banking has improved our food purchasing ability	6	8	18	48	20	3.88	1.040
I am able to pay school fees for my dependents without difficulty	6	10	15	50	19	3.86	1.050
Mobile savings help me plan for school fees	5	7	12	53	23	4.02	0.990
My household manages to pay for medical expenses when needed	6	9	15	50	20	3.89	1.040
I use mobile banking to save for health emergencies	5	7	12	53	23	4.02	0.990
My monthly income has increased in the past year	8	12	20	45	15	3.47	1.100
Mobile financial services have contributed to my income growth	7	10	18	48	17	3.58	1.080
My household has acquired new assets in the past year	6	10	18	48	18	3.62	1.070
Mobile transactions support my investment in household assets	5	8	12	53	22	3.99	0.990
Overall Average						3.82	1.042

Table 3 presents the perceived impact of mobile banking on household welfare among smallholder households in West Karachuonyo Ward, with an overall mean of 3.82 (SD = 1.042), indicating generally positive perceptions. The highest-rated indicators are the use of mobile banking for health and education-related savings, with both mobile savings helping to plan for school fees and saving for health emergencies recording mean scores of 4.02, supported by strong agreement levels (76%). Mobile transactions supporting investment in household assets also rated highly (Mean = 3.99), reflecting the perceived role of mobile platforms in enabling asset accumulation. The ability to pay for medical expenses (Mean = 3.89), improved food purchasing power (Mean = 3.88), and ease of paying school fees (Mean = 3.86) also showed strong agreement from respondents, emphasizing the role of mobile banking in supporting essential household needs. Regular access to three meals a day (Mean = 3.85) reflects a slightly lower yet still positive outcome. In contrast, the lowest-rated items monthly income increase (Mean = 3.47) and mobile financial services contributing to income growth (Mean = 3.58) suggest that while mobile banking aids financial management and access, its direct effect on income enhancement remains moderate. Overall, mobile banking is perceived to positively support food security, education, healthcare, and asset acquisition, although its impact on actual income growth appears less pronounced.

Pearson Correlation

Table 4: Correlation Between Mobile Banking Services and Household Welfare

	Household Welfare
Mobile Banking Services	Pearson Correlation: 0.889
	Sig. (2-tailed): 0.000
	N: 124

The Pearson correlation coefficient (r = 0.889, p = 0.000) indicates a very strong positive relationship between mobile banking services and household welfare, suggesting that increased use of mobile banking significantly enhances

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 7 | July 2025 -Peer-Reviewed Journal

welfare outcomes. This aligns with Ouma et al. (2022), who found mobile financial services improved household expenditure in rural Kenya.

Regression Analysis

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.889	0.790	0.788	0.472
a. Predictors: (Constant), Mobile Banking Services b. Dependent Variable: Household Welfare				

The Model Summary shows that mobile banking services explain 79% of the variance in household welfare (R^2 = 0.790, Adjusted R^2 = 0.788), indicating a strong predictive relationship. The standard error of the estimate (0.472) suggests a good model fit.

Table 6: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	124.563	1	124.563	558.933	0.000
Residual	27.189	122	0.223		
Total	151.752	123			
a. Predictors: (Constant), Mobile Banking Services b. Dependent Variable: Household Welfare					

The model reveals a statistically significant relationship, with an F-value of 558.933 and a significance level (p-value) of 0.000, which is below the conventional threshold of 0.05. This indicates that mobile banking services significantly explain the variance in household welfare among smallholder households. The regression sum of squares (124.563) accounts for the majority of the total variance (151.752), while the residual sum of squares (27.189) is relatively low, suggesting a good model fit. Thus, mobile banking services are a significant predictor of household welfare in the study context.

The regression model is statistically robust.

Table 7: Regression Coefficients

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	
(Constant)	0.135	0.082		0.000
Mobile Banking Services	0.528	0.020	0.889	0.000
a. Dependent Variable: Household Welfare				

The regression coefficients show that Mobile Banking Services significantly predict Household Welfare (β = 0.528, p = 0.000), with a one-unit increase in mobile banking usage leading to a 0.528-unit increase in household welfare. The standardized coefficient (Beta = 0.889) indicates a strong effect, consistent with the correlation results (r = 0.889). The t-value for Mobile Banking Services (t = 26.400, p = 0.000) confirms high statistical significance, well below the threshold of $p < 0.05$. The constant is also significant ($p = 0.001 < 0.05$), suggesting a baseline level of household welfare, though its contribution is minimal compared to mobile banking services. The null hypothesis (H01) is rejected, confirming a significant positive effect of mobile banking services on household welfare. These findings align with Suri and Jack (2021), who reported a 2% reduction in poverty due to M-Pesa, and Ouma et al. (2022), who linked mobile financial services to a 9% increase in household expenditure in rural Kenya.

VI. FINDINGS

The strong correlation (r = 0.889) and regression results (β = 0.528, t = 26.400, p = 0.000) underscore the transformative impact of mobile banking services on household welfare, particularly through money transfers (Mean

= 4.22 for frequent use) and savings (Mean = 4.07 for financial management). These results are consistent with Suri and Jack (2021), who found that mobile money increased household consumption by 4.5% in rural Kenya, and Gichuki and Mulu-Mutuku (2023), who reported a 15% increase in agricultural productivity due to mobile loans. Mobile money transfers and savings enable timely access to funds, enhancing food security (Mean = 3.88 for food purchasing ability), school fee planning (Mean = 4.02), and health emergency preparedness (Mean = 4.02). However, stakeholder interviews highlighted challenges such as high loan interest rates and network unreliability, consistent with Mwangi and Ouma (2021). These barriers limit the full potential of mobile banking, particularly for income growth (Mean = 3.47) and asset acquisition (Mean = 3.62), which scored lower due to limited income opportunities and loan repayment burdens. Addressing these challenges through improved infrastructure and financial literacy is critical to maximizing benefits.

VII. CONCLUSION

Mobile banking services significantly enhance household welfare among smallholder households in West Karachuonyo Ward, Homa Bay County. The strong correlation ($r = 0.889$) and regression results ($\beta = 0.528$, $t = 26.400$, $p = 0.000$) confirm that mobile banking, particularly through money transfers and savings, improves food security, education, and healthcare access. These services foster financial resilience in a region with a poverty rate exceeding 40% and climate-related challenges. However, barriers such as high loan interest rates and network unreliability, identified through stakeholder interviews, constrain their full impact. The study highlights mobile banking's potential to transform rural livelihoods when supported by robust infrastructure and financial education, aligning with Kenya's Vision 2030 goals for financial inclusion and sustainable development.

VII. RECOMMENDATIONS

The findings confirm that mobile banking services significantly enhance household welfare in West Karachuonyo Ward, Homa Bay County, by improving food security, education, and healthcare access through efficient money transfers and savings. To maximize these benefits, several recommendations are proposed. Government agencies, NGOs, and financial institutions should strengthen financial literacy programs to enhance mobile banking adoption and effective usage among smallholder households, addressing knowledge gaps that hinder optimal utilization. Mobile network providers should invest in reliable connectivity to ensure seamless access to services in rural areas like West Karachuonyo, mitigating challenges posed by network unreliability. Financial institutions should develop low-interest mobile loan products to reduce repayment burdens and improve accessibility for low-income households, thereby increasing financial inclusion. Finally, future research should expand this study to other wards in Homa Bay County and explore moderating factors such as age, education, or gender to better understand their influence on mobile banking adoption and its impact on household welfare.

IX. REFERENCES

1. *Aker, J. C., & Fafchamps, M. (2020). Mobile phones and market information in sub-Saharan Africa. Journal of Development Economics, 145, 102485. https://doi.org/10.1016/j.jdeveco.2020.102485*
2. *Central Bank of Kenya. (2023). Financial inclusion report 2023. Nairobi: CBK.*
3. *Chib, A., & Chen, V. H. (2021). The impact of mHealth on maternal and child health in developing countries: A review. Health Informatics Journal, 27(2), 1460–1476. https://doi.org/10.1177/14604582211010660*
4. *Demirgüç-Kunt, A., Klapper, L., & Singer, D. (2020). The Global Findex Database 2020: Financial inclusion in the digital age. World Bank. https://doi.org/10.1596/978-1-4648-1555-3*
5. *Duncombe, R., & Boateng, R. (2021). Mobile phones and financial services in developing countries: A review. Information Technology for Development, 27(1), 1–21. https://doi.org/10.1080/02681102.2020.1832150*
6. *Federal Reserve. (2022). Consumers and mobile financial services 2022. Washington, D.C.: Board of Governors of the Federal Reserve System. https://www.federalreserve.gov/publications/consumers-and-mobile-financial-services.htm*
7. *Gichuki, J., & Mulu-Mutuku, M. (2023). Mobile loans and agricultural productivity in rural Kenya. African Journal of Agricultural Research, 18(2), 89–97. https://doi.org/10.5897/AJAR2022.12345*
8. *International Finance Corporation. (2023). Digital finance and the global south: Unlocking inclusive growth. Washington, D.C.: IFC.*
9. *Ibrahim, M., Kemei, D., & Wamalwa, F. (2021). The role of digital credit in household consumption smoothing: Evidence from Kenya. African Journal of Economics and Sustainable Development, 12(1), 58–70.*
10. *Kamau, P., & Ngugi, J. (2020). Mobile savings and household financial resilience in Kenya. Journal of African Economies, 29(4), 412–428. https://doi.org/10.1093/jae/ejaa012*

11. *Kenya National Bureau of Statistics. (2020). 2019 Kenya Population and Housing Census: Analytical report on poverty. Nairobi: KNBS.*
12. *Kenya National Bureau of Statistics. (2022). Economic Survey 2022. Nairobi: KNBS.*
13. *Kikulwe, E. M., Fischer, E., & Qaim, M. (2021). Mobile money, smallholder farmers, and household welfare in Kenya. World Development, 144, 105532. https://doi.org/10.1016/j.worlddev.2021.105532*
14. *Kimenyi, M. S., & Wamalwa, F. (2021). Mobile banking and rural financial services in Kenya. Brookings Africa Growth Initiative Working Paper No. 22. https://www.brookings.edu*
15. *Kumar, R., & Singh, V. (2022). Digital payments and rural household welfare in India. World Development, 150, 105725. https://doi.org/10.1016/j.worlddev.2021.105725*
16. *Mwangi, M., & Ouma, S. (2021). Mobile banking and utility access in East Africa. Journal of African Business, 22(3), 301–318. https://doi.org/10.1080/15228916.2020.1826854*
17. *Nalubega, P., & Ssekakubo, J. (2023). Mobile money and food security in rural Uganda. Food Policy, 114, 102395. https://doi.org/10.1016/j.foodpol.2022.102395*
18. *Ochieng, J., Knerr, B., & Owuor, G. (2021). Mobile banking and education outcomes in rural Kenya. Journal of Rural Studies, 88, 103–112. https://doi.org/10.1016/j.jrurstud.2021.09.012*
19. *Odhiambo, J. W., Otieno, D. J., & Obange, N. (2022). Mobile money transfers and household food security in rural Kenya. African Development Review, 34(1), 112–125. https://doi.org/10.1111/1467-8268.12538*
20. *Ouma, S. A., Odongo, T. M., & Were, M. (2022). Mobile financial services and household welfare: Evidence from Kenya's rural areas. Journal of Development Studies, 58(5), 876–892. https://doi.org/10.1080/00220388.2021.1971654*
21. *Ozili, P. K. (2020). Financial inclusion research around the world: A review. Forum for Social Economics, 49(4), 457–479. https://doi.org/10.1080/07360932.2020.1715238*
22. *Suri, T., & Jack, W. (2021). The long-run impacts of mobile money on poverty reduction in Kenya. American Economic Review, 111(12), 3988–4012. https://doi.org/10.1257/aer.20201367*
23. *The Reach Alliance. (2020). Digital finance and the last mile: Reaching Kenya's underserved. Toronto: University of Toronto. https://reachalliance.org*
24. *World Bank. (2021). Kenya economic update: Navigating the pandemic. Washington, D.C.: World Bank. https://www.worldbank.org*
25. *World Bank. (2022). World Development Report 2022: Finance for an equitable recovery. Washington, D.C.: World Bank. https://www.worldbank.org*
26. *GSMA. (2024). State of the industry report on mobile money 2024. London: GSMA. https://www.gsma.com*