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Institutional Conditions and Equitable Access to Digital Credit: The Differential Roles of Accessibility, Affordability, Financial Literacy, and Regulatory Environment in Nairobi City County

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Abstract

The purpose of this article is to assess the effect of institutional characteristics of digital credit provision, specifically accessibility, affordability, financial literacy, and regulatory conditions, on equitable access to digital credit in Nairobi City County. Institutional factors, system-level conditions shaping digital credit provision, use, and experience, are examined as direct and indirect predictors of equitable access through users' decision to use digital credit. The study employed a quantitative, cross-sectional survey design with a sample of 415 digital credit users in Nairobi City County. Data were analysed using Covariance-Based Structural Equation Modelling (CB-SEM) in AMOS 27.0, which was selected for its suitability in simultaneously testing multiple direct and indirect relationships among latent constructs. Findings indicate that accessibility, affordability, and financial literacy demonstrate significant direct effects on equitable access ($\beta = 0.174, p < .001$; $\beta = 0.238, p = .009$; $\beta = 0.341, p < .001$, respectively), while the regulatory environment influences digital credit use behavior ($\beta = 0.621, p < .001$) but not directly on equitable access. These results refine Financial Inclusion Theory by distinguishing between behavioural determinants and structural conditions in shaping equitable access outcomes. The study concludes that structural and institutional factors play a decisive role in determining equitable access, operating through both direct pathways and indirect mechanisms via borrowing decisions. This finding has important policy implications for digital credit regulation and financial inclusion initiatives in Kenya.

Key words: Digital credit, equitable access, financial inclusion, institutional factors, regulatory environment.



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INTRODUCTION

The rapid expansion of digital credit in Kenya has increased the availability of short-term formal borrowing, particularly in urban areas such as Nairobi City County. Digital credit products have lowered traditional barriers by removing requirements for physical collateral, face-to-face interactions, and extensive documentation. Nevertheless, institutional characteristics of digital credit provision remain central to determining the quality of access experienced by users. Despite the growing use of digital credit, limited empirical attention has been given to how specific institutional conditions jointly shape equitable access outcomes, particularly within urban settings such as Nairobi City County. Existing studies have largely focused on credit uptake and financial inclusion in general, leaving a gap in understanding how structural features influence the fairness, affordability, and sustainability of users' borrowing experiences (Central Bank of Kenya, Kenya National Bureau of Statistics, & Financial Sector Deepening Kenya, 2022; World Bank, 2021).

Institutional factors examined in this study include accessibility, understood as the ease of reaching digital platforms and the simplicity of application processes; affordability, referring to the manageability of total borrowing costs relative to repayment capacity; financial literacy, which reflects users' understanding of loan terms, pricing structures, and consequences; and regulatory conditions, which relate to perceptions of borrower protection, transparency, and accountability. These dimensions collectively shape the structural environment within which digital credit is provided and experienced.

In Nairobi City County, despite substantial digital infrastructure and mobile money penetration, concerns have emerged regarding high effective borrowing costs, short repayment periods, and insufficiently transparent fee structures (Central Bank of Kenya, Kenya National Bureau of Statistics, & Financial Sector Deepening Kenya, 2022; World Bank, 2021). Such institutional conditions influence whether users experience equitable access, understood as fair, affordable, transparent, and sustainable borrowing outcomes, rather than mere credit availability (Demirgüç-Kunt et al., 2022).

This article assesses the effect of institutional characteristics of digital credit provision, specifically accessibility, affordability, financial literacy, and regulatory conditions, on equitable access to digital credit

in Nairobi City County. The analysis focuses on the structural features that determine the fairness and quality of users' digital borrowing experiences in this context.

LITERATURE REVIEW

Institutional and regulatory factors feature prominently in the digital credit literature. Studies examining digital lending markets emphasise the role of pricing structures, transparency of loan terms, financial literacy, data governance, and consumer protection mechanisms in shaping borrower experiences and outcomes (World Bank, 2021). Institutional factors include accessibility of digital platforms, affordability of loan products, levels of financial literacy, and the strength of regulatory oversight. These dimensions collectively shape the structural environment within which borrowing occurs.

Empirical evidence documents that many digital credit products are associated with high effective borrowing costs, opaque pricing structures, short repayment periods, and limited borrower understanding of loan terms (Central Bank of Kenya, Kenya National Bureau of Statistics, & Financial Sector Deepening Kenya, 2022; Kaffenberger & Totolo, 2018). Financial literacy concerns users' understanding of basic financial concepts related to borrowing, including loan terms, repayment obligations, pricing structures, and the potential consequences of digital credit use. The regulatory environment refers to the rules, guidelines, and oversight mechanisms governing digital credit provision, operationalised through users' perceptions of borrower protection, transparency of digital credit practices, and accountability of digital credit providers (Demirgüç-Kunt et al., 2022).

Financial Inclusion Theory conceptualises access to financial services as a multidimensional phenomenon encompassing not only availability and use, but also affordability, quality, and service suitability (Sarma, 2008). When applied to digital credit, this perspective highlights the importance of pricing structures, disclosure practices, financial literacy, and consumer protection mechanisms in shaping access outcomes, particularly in environments characterised by information asymmetries and weak regulatory oversight (World Bank, 2021; CGAP, 2020).

In Nairobi City County, despite substantial digital infrastructure and mobile money penetration, concerns have emerged regarding high effective borrowing costs, short repayment periods, and fee structures that are not

always transparent at the point of loan acceptance (Central Bank of Kenya, Kenya National Bureau of Statistics, & Financial Sector Deepening Kenya, 2022; World Bank, 2021). These institutional conditions influence whether users experience equitable access to digital credit, defined as access that is fair, affordable, transparent, and sustainable, rather than mere credit availability.

Although institutional dimensions are widely acknowledged in the literature, they are often examined separately from behavioural or socio-economic elements. This article assesses the effect of institutional characteristics of digital credit provision, specifically accessibility, affordability, financial literacy, and regulatory conditions, on equitable access to digital credit in Nairobi City County. The analysis focuses on these structural features as key determinants of the quality and fairness of users' digital borrowing experiences in this urban context.

METHODOLOGY

This study was grounded in a positivist research philosophy and adopted a deductive quantitative approach. The target population for the study comprised all digital credit users residing in Nairobi City County who had accessed digital credit services within the previous twelve months. A cross-sectional survey design was used, with data gathered through a structured online questionnaire distributed via Google Forms. The key institutional constructs, accessibility, affordability, financial literacy, and regulatory environment, were measured using multiple reflective items on seven-point Likert scales. All items were set as mandatory to ensure complete responses.

A total of 622 questionnaires were received during the data collection period. An eligibility screening question at the start of the questionnaire confirmed whether participants had used digital credit within the previous twelve months. Based on this criterion, 472 respondents who reported recent usage were retained for analysis. Mandatory response settings, by design, eliminated item-level missing data. During confirmatory factor analysis and structural modelling in AMOS, 57 cases were identified as multivariate outliers and removed, resulting in a final analytical sample of 415 observations. This sample size exceeded the minimum required by Cochran's formula and was adequate for structural equation modelling involving multiple predictors, mediation, and moderation. Preliminary data screening

was conducted in SPSS, including assessments of normality using skewness and kurtosis statistics and checks for multicollinearity. The measurement model was evaluated using confirmatory factor analysis (CFA), followed by covariance-based structural equation modelling (CB-SEM) with maximum likelihood estimation in AMOS.

This analytical framework allowed for a detailed examination of the effect of institutional characteristics of digital credit provision, specifically accessibility, affordability, financial literacy, and regulatory conditions, on equitable access to digital credit in Nairobi City County. Ethical considerations included securing electronic informed consent, maintaining anonymity and confidentiality, and ensuring voluntary participation. No personally identifiable information was collected.

FINDINGS AND DISCUSSION

This study assessed the effect of institutional characteristics of digital credit provision, specifically accessibility, affordability, financial literacy, and regulatory conditions, on equitable access to digital credit in Nairobi City County. Using CB-SEM with a sample of 415 digital credit users, the findings reveal differential effects across institutional determinants.

Model Fit Assessment

Model fit was evaluated using multiple complementary fit indices. The measurement model achieved acceptable fit, with a normed chi-square (CMIN/DF) of 2.890, a Comparative Fit Index (CFI) of .941, a Tucker-Lewis Index (TLI) of .933, and a Root Mean Square Error of Approximation (RMSEA) of .068. Collectively, these indices indicate that the measurement model provides an acceptable representation of the observed covariance structure and satisfies recommended thresholds for covariance-based SEM in applied behavioural research.

The structural model also demonstrated acceptable fit to the data (CMIN/DF = 2.947, CFI = .938, TLI = .930, RMSEA = .069), supporting the interpretation of the structural path coefficients presented below.

Institutional Determinants and Decision to Use Digital Credit

Contrary to expectations, three of the four institutional characteristics did not demonstrate statistically significant direct effects on the Decision to Use Digital Credit. Accessibility showed a negligible positive effect ($\beta = 0.018$, $p = .690$), Affordability exhibited a negative

but non-significant effect ($\beta = -0.088$, $p = .413$), and Financial Literacy demonstrated a negative but non-significant effect ($\beta = -0.065$, $p = .394$). These results suggest that, within the structural model, these institutional factors do not independently drive adoption decisions when behavioural factors and regulatory conditions are taken into account.

In contrast, the Regulatory Environment demonstrated a strong, positive, and statistically significant effect on Decision to Use Digital Credit ($\beta = 0.621$, $p < .001$). This finding indicates that perceived regulatory conditions, including consumer protection, transparency, and dispute resolution mechanisms, substantially influence users' adoption decisions.

Institutional Determinants and Equitable Access

When examining direct effects on Equitable Access to Digital Credit, a different pattern emerged. Accessibility demonstrated a positive and statistically significant direct effect ($\beta = 0.174$, $p < .001$). Affordability also showed a positive and significant direct effect ($\beta = 0.238$, $p = .009$). Financial Literacy exhibited the strongest direct effect among institutional characteristics on equitable access ($\beta = 0.341$, $p < .001$). However, the Regulatory Environment did not demonstrate a statistically significant direct effect on equitable access ($\beta = 0.002$, $p = .990$) when the Decision to Use Digital Credit was included in the model.

Summary

These findings indicate that institutional characteristics influence equitable access through distinct pathways. Accessibility, affordability, and financial literacy operate primarily through direct effects on equitable access outcomes, while regulatory conditions influence equitable access indirectly through their strong effect on the decision to use digital credit. The model achieved excellent explanatory power for Equitable Access ($R^2 = .942$), confirming the collective importance of institutional characteristics alongside behavioural factors.

Discussion

The empirical findings reveal an important distinction between structural conditions influencing behavioural engagement and those shaping access outcomes. Specifically, accessibility, affordability, and financial literacy do not demonstrate statistically significant direct effects on the decision to use digital credit, whereas the regulatory environment exerts a significant positive influence on the decision construct.

The absence of significant effects for accessibility and affordability on the decision to use digital credit suggests a meaningful theoretical refinement. Financial Inclusion Theory traditionally conceptualises access and affordability as foundational determinants of financial inclusion. However, the present findings indicate that within a mature digital financial ecosystem such as Nairobi City County, these structural attributes may no longer function as primary drivers of initial borrowing behaviour. Instead, accessibility appears to operate as a baseline condition rather than a differentiating factor. The widespread diffusion of mobile financial services, high mobile penetration, and familiarity with digital platforms may have reduced infrastructural access barriers to a level where variation in usage decisions is explained more by behavioural orientation than by access constraints.

Similarly, affordability does not significantly influence the decision to use digital credit. This finding suggests that immediate liquidity needs may override cost considerations at the point of borrowing. Behavioural finance perspectives indicate that individuals experiencing short-term financial pressure often prioritise immediate cash availability over future repayment costs. Within this context, borrowers may proceed with digital loans despite awareness of associated fees or interest rates, highlighting the role of short-term decision-making dynamics in digital credit engagement.

Financial literacy also fails to demonstrate a statistically significant direct influence on the decision construct. This outcome challenges assumptions that higher levels of financial knowledge necessarily translate into more cautious borrowing behaviour. While financial capability is widely associated with improved financial decision-making, the present findings suggest that knowledge alone may not substantially alter immediate borrowing decisions under conditions characterised by income uncertainty or urgent financial needs. In digital credit environments, streamlined interfaces and rapid algorithm-driven approvals may further reduce the extent to which borrowers engage in detailed financial evaluation prior to borrowing.

In contrast, the regulatory environment demonstrates a statistically significant positive influence on the decision to use digital credit. This finding indicates that perceptions of institutional oversight, legitimacy, and consumer protection play an important role in shaping behavioural engagement. The introduction of Digital

Credit Provider regulations in Kenya may have enhanced user confidence in formal digital lending platforms, thereby encouraging participation. Even where regulatory enforcement may vary, the perception of structured oversight appears to contribute positively to adoption decisions.

Taken together, these findings refine the application of Financial Inclusion Theory by distinguishing between structural preconditions and behavioural triggers. Accessibility, affordability, and financial literacy may shape broader access outcomes and long-term financial effects, yet they do not independently drive initial engagement with digital credit platforms. Instead, regulatory legitimacy, combined with behavioural orientation, emerges as a more immediate determinant of usage. This distinction highlights the importance of separating infrastructural inclusion from behavioural adoption when analysing digital credit systems in urban digital economies.

CONCLUSION AND RECOMMENDATIONS

Conclusion: The study concludes that structural and institutional determinants play a decisive role in shaping equitable access to digital credit, although their influence differs across behavioural and outcome stages of the model. Specifically, accessibility, affordability, and financial literacy do not significantly determine the decision to use digital credit within the urban context of Nairobi City County. This indicates that in a digitally mature environment where mobile financial infrastructure is widely available, structural availability alone is insufficient to explain behavioural engagement. However, the findings confirm that structural factors significantly influence equitable access outcomes directly. Affordability and financial literacy, in particular, contribute meaningfully to the fairness, sustainability, and manageability of borrowing experiences. These results suggest that while structural

conditions may not trigger borrowing decisions, they strongly determine whether digital credit usage translates into equitable outcomes for users.

The study further concludes that the regulatory environment influences behavioural engagement with digital credit by enhancing perceptions of legitimacy and trust, thereby encouraging participation. Nevertheless, regulation does not directly determine equitable access outcomes, indicating that regulatory presence primarily shapes entry into digital credit systems rather than the equity of outcomes experienced by borrowers.

Overall, the conclusion is that structural and institutional determinants operate through differentiated pathways. Structural conditions function as outcome-shaping mechanisms rather than behavioural triggers, reinforcing the distinction between access expansion and access equity. This finding refines Financial Inclusion Theory by demonstrating that infrastructural availability and institutional conditions must be evaluated in relation to outcome quality rather than participation alone.

Recommendations: Future research should extend the examination of institutional characteristics by adopting longitudinal designs to assess how accessibility, affordability, financial literacy, and regulatory conditions influence equitable access outcomes over time. The cross-sectional nature of the present study limits understanding of how these structural factors evolve with repeated engagement. Comparative and multi-site studies are also recommended to strengthen external validity across different regulatory and infrastructural contexts. Such research would help distinguish context-specific institutional effects from more universal determinants of equitable access.

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