EFFECTS OF DIGITAL CREDIT PROVIDERS ON FINANCIAL INCLUSION OF LOW-INCOME YOUTH IN NAIROBI AND THE NEED FOR GOVERNMENT REGULATION

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ABSTRACT

This study researched on the effects of Digital Credit Providers (DCPs) on financial inclusion among the low-income youth in Nairobi, Kenya, and the need for Government regulation in the sector. The study was guided by three dependent variables and one moderating variable. Employing a descriptive research design and quantitative methodology, the study collected data from 380 participants from ten wards in Nairobi drawn from a youth population of 338,669 from the same wards. The data analysis employed descriptive statistics on frequency distributions, means, and standard deviations to analyse the direct effects of DCPs on financial inclusion, the positive and negative impacts/ spillover effects of DCPs, and justification for Government regulation. The findings revealed male youths aged between 18 to 25 years were predominately engaged in digital borrowing to meet their day-to-day and lifestyle needs. Respondents largely perceive digital credit providers as catalysts for improved financial inclusion, especially for youth marginalized by traditional banking systems. Additionally, many youth respondents acknowledged positive impacts such as increased access to financing, employment opportunities, and enhanced financial autonomy as some of the effects of digital credit. One negative impact, the study identified punitive cost of credit, punitive cost of default, moral hazard, and over-indebtedness as the negative impact of digital credit among low-income youth. A significant portion of respondents held multiple digital loans, with many listed in Credit Reference Bureaus (CRBs) due to defaults while others reduced their spending and borrowed from family and friends to repay digital credit. Finally, the study advocates for government regulation to safeguard consumers from potential exploitation by DCPs, improve data protection and transparency and promote sustainable financial inclusion. Whereas non-regulation or regulatory gaps may favour DCPs, they can expose youths in Nairobi to financial exploitation by the DCPs and reliance on debt to survive and meet their personal needs. Government regulation and supervision are important to establish minimum standards ensuring consumer protection, and ways of working, and provide legal recourse to aggrieved youth customers. The study also contends that regulatory frameworks should be flexible to accommodate digital credit technology advancements and the development of products for diverse consumer needs, thereby promoting responsible lending practices and financial inclusion.

Keywords: Digital channels, Digital Credit, Digital Financial Services, Financial Inclusion, Fintech, Credit, Digital Credit Providers (DCPs).

INTRODUCTION

The World Bank Group (2022) defines financial inclusion as access to productive and affordable financial products and services by individuals and businesses. These financial products should meet their needs; transactions, payments, savings, credit, and insurance and should be delivered responsibly and sustainably. Access to affordable financial services is essential for poverty reduction and eco-

nomic growth. Countries with developed and integrated financial systems have higher economic growth, and better financial management systems that facilitate the reductions in poverty and income inequality. For developing countries, this access to basic financial services can improve incomes, broaden access to credit, and improve the lives of its citizens (Pazarbasioglu, Mora, & Uttamchandani, 2020). 45% of adults in the developing world lack access to basic formal transaction accounts that would allow them to send and receive payments safely and easily, much less the savings, insurance, and credit services that would help them expand their businesses, effectively plan their finances, and plan for their futures The World Bank Group (WBG, 2020).

Kenya reported a growth in its financial inclusion metric at a national level, with about 84% of the adults using commercial banks to access financial services in 2021 compared to 27% in 2006. Financial inclusion surveys in 2009, 2013, and 2015 demonstrate the introduction of digital banking channels such as online banking and mobile money technology supported by telecommunication companies has accelerated financial inclusion in Kenya Central Bank of Kenya, Kenya National Bureau of Statistics, and Financial Sector Deepening-Kenya (CBK, KNBS, and FSD-Kenya, 2022). Capitalising on this progress, the strategic emphasis of Kenya's financial inclusion agenda has shifted from number of adults with bank accounts to the quality usage of financial products and services, savings, access to credit and the benefits these deliver (CBK, KNBS, and FSD-Kenya, 2022). In 2022, loan accounts in commercial banks were 499.3 number per thousand adults or 49.93% of total adults in Kenya Emerging Markets Group (ISI, 2022).

The provision of DFS in Kenya began in 2010 with a joint venture between Safaricom PLC and Equity Bank PLC called M-Kesho®, which leveraged the transactional rails of M-Pesa® to offer full-fledged savings accounts and small-scale loans to mobile money account holders, with no account opening fees, no minimum balances, and no monthly charges. The small-scale loans ranged from USD 1 to USD 50, and although the uptake of this product was poor, it laid the base for future innovations to deliver digital credit in Kenya, Kenya Bankers Association (KBA, 2019). A key driver for the rapid growth of DCPs in Kenya is the availability of payment platforms offered by telecommunication companies in Kenya. One key prolific platform is M-Pesa®, offered by Kenya's largest telecommunication company, Safaricom PLC. These platforms not only facilitate cost-effective means of loan disbursement and repayments but also provide transaction data used to assess borrowers' creditworthiness. These loans are offered as microcredits, where microcredit is a subset of microfinance and is defined as the provision of small loans to individuals to promote economic empowerment (Biallas, Aijazuddin, & Opem, 2019). The latest FinAccess survey conducted between October and November of 2019 found that 13.6 % of youth (3.42 million adults) had used a digital loan in the year. In contrast, only 9 % of youth reported using a traditional loan from a commercial bank within the same period (FSD-Kenya, 2019).

Statement of the Problem

Ahmad & Green (2020), infer that access to financial services is paramount to financial inclusion and sustainable economic performance in any country. To achieve this goal, DFS serve a key role in promoting financial inclusion and negating the harmful effects of poverty among the youth (Asuming, Osei-Agyei, & Mohammed, 2019). Digital technologies have revolutionised how borrowers interact with financial service providers and how DCPs target possible customers, especially the youth who have limited access to credit from commercial banks (Gubbins & Totolo, 2018). Digital tools have enabled lenders and borrowers to disburse and repay loans electronically, making the loan system "instant, automated, and remote", facilitating financial inclusion (Ozili, 2018).

In Sub-Saharan Africa, DCPs disburse loans through mobile money platforms supported by telecommunication companies (Wathome, 2020). Robinson, Park, & Blumenstock (2022) report that

there is a great demand for digital loans with millions of people having taken these loans, despite significant questions being raised regarding the effectiveness of these loans to the users and the information transparency provided by lenders to their consumers. In Kenya, over 8.2 million people had digital loans as of May 2018 and most borrowers used the loans to meet emergencies, business, and day-to-day needs. Many of these borrowers do not fully understand the terms and conditions of the digital credit they received. Instead of building positive credit histories, half of all digital borrowers in the country are now officially considered defaulters and are ineligible for additional formal credit (Biallas, Aijazuddin, & Opem, 2019).

DCPs offer low-value loans and the youth are attracted to these loans as they meet their immediate and day-to-day needs. These loans range from USD 1 to USD 30,000. The average loan limit across all providers is USD 4,000. Furthermore, 68% of mobile loan accounts at DCPs are for loans between USD 1 to USD 50, while only 32% of accounts are for loans more than USD 50. Out of the 68%, the youth accounted for 74% of the low-value loans (CBK, KNBS, & FSD-Kenya, 2021). 69% of digital loans are issued to youth. Due to a lack of financial literacy and high hidden costs, many of them have been listed on the Credit Rating Bureau (CRB) due to failure to repay these loans. Consequently, barring them from accessing financial assistance from any accredited financial institutions or the government (Wameya, 2019).

A survey on the quality of financial inclusion offered by DCPs conducted by (CBK, KNBS, & FSD-Kenya, 2021) assessed financial literacy and consumer protection and reported that 70% of youth respondents relied on friends and family members to get financial advice. Some of the challenges cited by the young respondents included fraud through loss of money, unexpected transaction charges, lack of transparency in the pricing of financial services and products, in addition to system downtime that affected the quality of services received.

Although the DFS provided by DCPs in developing countries are typically simple and involve small amounts of money, they are nonetheless vulnerable to fraud and other financial crimes. Successful implementation of sustainable financial inclusion requires a suitably regulated and supervised legal framework (Gibson, Lupo-Pasini, & Buckley, 2017). Fintech lending in unbanked markets, where millions are excluded from mainstream financial services due to a lack of account history of credit score, has exploded. However, it has created real power differentials between suppliers and customers. These sectors have a growing reputation for taking advantage of customers with limited financial literacy and charging exorbitant rates. These providers have also violated implied privacy laws, by harvesting data from phones, with reports of even pressuring debtors by calling friends and family members to embarrass them (RBI, 2022).

Despite the rapid technological innovations in the digital credit environment, the Kenyan legal and regulatory framework has not responded to the changes on time. The Government enacted the Central Bank Amendment Act (CBK) in 2022 giving CBK powers to regulate digital lenders despite these actors having been in the market for several years Kenya Bankers Association ((KBA, 2023). The Act, however, does not provide CBK with the mechanisms, legal recourse, and authority to shut down unregistered DCPs. Additionally, the Act lacks a clear provision in law that expressly prevents unregistered DCPs from operating until they are licensed. Unregistered DCPs have exploited this loophole by continuing to operate outside the purview of the government.

Specific Objectives

The specific objectives are:

a. To define the effect of fintech-facilitated digital credit on the financial inclusion of low-income youth borrowers in Nairobi, Kenya.
b. To identify the positive impact of digital credit on the financial inclusion of low-income youth in Nairobi, Kenya.
c. To identify the negative impact of digital credit on the financial inclusion of low-income youth in Nairobi, Kenya.

d. To investigate the moderating effect of Government regulations on the relationship between DCPs and financial inclusion among the low-income youth in Nairobi.

LITERATURE REVIEW

Theories of Financial Inclusion

According to Ozili (2020), financial inclusion refers to the access and ease of use of basic financial services by society (Ozili, 2020). Governments in developing and emerging countries have set policies to improve financial inclusion for their citizens. Studies have demonstrated that access to sustainable financial inclusion can improve the lives of marginalised persons by ensuring they have access to regulated and useful financial products and services (Demirguc-Kunt & Klapper, 2018).

Studies of successful implementation of financial inclusion programmes have been reported with notable examples in India (Nimbrayan, Tanwar, & Tripathi, 2019), Rwanda (Lichtenstein, 2018); (Otioma & Madureira, 2019), and Kenya (Hove & Dubus, 2019); (Wamuyu & Jagongo, 2022). In India, the Pradhan Mantri Jan Dhan Yojana (PMJDY) initiative improved financial inclusion and the financial lives of the PMJDY members, achieving growth and financial independence in its initial years (Central Bank of India, 2019).

Punitive Cost of Credit

In a study conducted by Kiiti & Hennink (2017), on first-hand experiences of Jua Kali artisans (informal traders) with M-Shwari evaluated M-Shwari's cost of credit and its effect on their financial situation. The study combined quantitative and qualitative data collection methods to conduct sampled interviews, focus group discussions, and surveys from eight urban areas from four counties in Kenya. The findings noted that M-Shwari loans were priced at punitive rates and had not benefited the Jua Kali artisans. Table 4.1 displays the maximum loan values offered by selected digital credit providers.

Table 4.1: Sample of Digital Credit Providers in Kenya and their respective APRs.

Digital Credit Providers	Loan Range in USD*	Fee/Nominal Interest Rate	Tenure in Days	APR**
1. Branch	10 - 700	8%–14% monthly	30–485	10% - 180%
2. Equity Eazzy Loan	a. 10 - 2,000 b. 10 - 30,000	1.01% fee plus 6.12% monthly	a. 30 b. 365	79%
3. Jumo/ Airtel Kopa Cash	5 - 200	13.5%, 17%	7, 14	121% - 185%%
4. KCB MPESA	1 - 1,000	2.5% fee plus 4.08% monthly	30, 90 or 180	40.8% - 132%
5. Kopa Chapaa	5 - 1,000	0.85%–0.98% daily	10	310%
6. M-Coop Cash	10 - 1,000	8% fee plus 3.9% monthly	30	50%
7. NCBA M-Shwari	1 - 500	7.5% monthly	30	91.50%
8. Pesa na Pesa	5 - 100	10% fee	10	304%
9. Pesa Pata Peer	20 - 200	5%–10% monthly	28	365%

Digital Credit Providers	Loan Range in USD*	Fee/Nominal Interest Rate	Tenure in Days	APR **
Lending				
10. Tala	30 - 500	5%–15% monthly	30	195 %

**Kenyan shilling, **Annual percentage rate*
Source: IFC

Positive Impact of Digital Credit on Financial Inclusion

Husted et al, (2012) referred to positive impact/ spillovers as externalities and occurrences that happen and have an inadvertent favourable bearing on third parties. Positive externalities occur when digital credit providers create benefits to others without them paying. The following are the researched benefits: Employment Creation, Financial Literacy and Security.

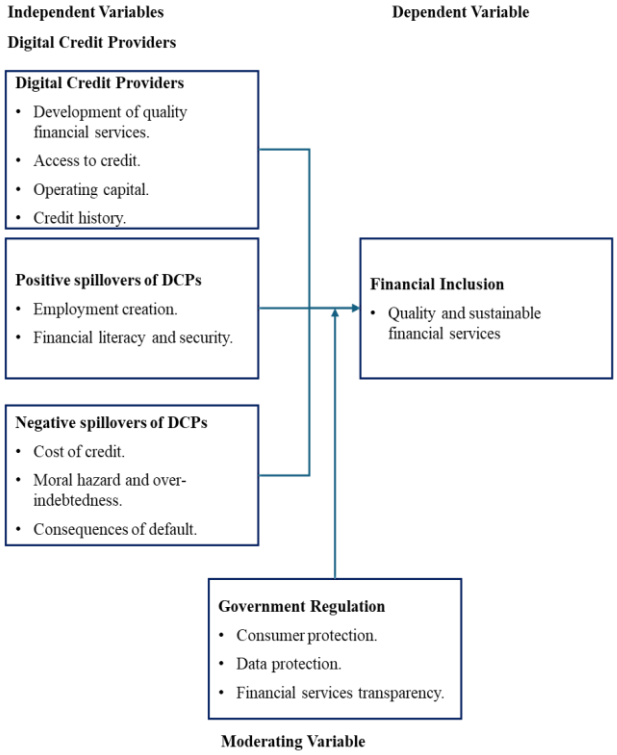
Negative Impact of Digital Credit on Financial Inclusion

Negative impacts/ spillover effects from digital credit providers arise when the use of digital credit products imposes inadvertent consequences and costs on borrowers and other related parties (Ababio, et al., 2020). These negative consequences can be attributed to the Asymmetric Information Theory. The theory was originally proposed by Akerlof in 1970 and hypothesized that one party in a financial contract or transaction may possess more information about the financial transaction than the other party and exploit this advantage.

Moral Hazard and Over-indebtedness

Moral hazard is a problem caused by financial inclusion and occurs when a digital credit borrower's option to default on their debt outweighs the repercussions of credit default (Zeljko, 2023). Digital credit is expected to enhance the well-being of youth; however, it also exposes lenders to moral hazards, which could negatively impact a credit provider's loan portfolio and financial stability in the long run, The World Bank (WBG, 2020)

The Conceptual Framework



METHODOLOGY

Research Design: This study employs a Correlational Research Design and according to Mekonnen (2020), correlational research design is a type of non-experimental research method that measures two variables, understands, and assesses the statistical relationship between them with no influence from any extraneous variable. It is designed to test research hypotheses in cases where it is not possible or desirable to experimentally manipulate the independent variable of interest. It is also desirable because it allows the investigation of behaviour in naturally occurring situations. This study focuses on evaluating the relationship between digital credit providers and financial inclusion among the youth digital loan borrowers in Nairobi and the need for government regulation.

Target Population: The population of interest refers to the study's target population it intends to study or treat (Pickard, 2013). A population must be defined in very specific terms to include only

those sampling units (items) that possess the characteristics that are relevant to the problem (Fowler, 2014). The target population for this study is youth digital credit consumers residing in Nairobi. For this study, the youth are a demographic of people between the ages of 18 years to 35 years as per Article 260 of the Constitution of Kenya (2010).

According to the latest census report by the Kenya National Bureau of Statistics (KNBS) (2019), 4,337,080 people are living in Nairobi, with the youth constituting 1,734,832 people or 40% of this population. We can therefore assume a target population of 1,734,832 youth in line with the figures from the KNBS.

Sampling Frame & Size: The study's sampling frame will comprise of former and present users of digital credit aged between 18-35 years, residing in Nairobi. The former users will have to have used digital credit within the study's scope period. The list was obtained from the Kenya National Bureau of Statistics (KNBS) for Nairobi County. The sample size for this study was 380 respondents

RESULTS AND DISCUSSION

Digital Credit Providers Used by the Participants

This section of the questionnaire assessed the types of DCP applications used by the respondents. The results and responses, as summarised in table 4.1 indicated that most respondents had used more than one DCP within the study's scope period.

Table 4.1: *Types of DCPs used and number of users.*

DCP	Number of users from respondents	Percentage (%)
1. M-Shwari.	203	76%
2. Eazzy loan (Equity).	58	22%
3. M-Coop Cash.	76	29%
4. KCB M-Pesa.	190	71%
5. Tala.	95	36%
6. Branch.	43	16%
7. OKash.	62	23%
8. Airtel Kopa Cash.	47	18%
9. Fuliza.	231	87%
10. Others.	78	29%

Limitation: The questionnaire was unable to precisely assess the frequency of DCP usage, as many respondents struggled to recall the exact number of times they utilised the DCP during the study's defined timeframe.

Reliability Test

A pilot test was conducted using the first draft of the questionnaire on a sample of 20 participants (8% of total respondents) to assess the effectiveness, comprehensiveness, and ease of use of the instrument. The results of the pilot test were utilised in running the coefficient alpha reliability test. Amirrudin et al, (2020) recommend an Alpha score of above 0.7 is a reliable score. The findings of the reliability test are shown in Table 4.2 below.

Table 4.2: Cronbach's Alpha Reliability Tests

Variable	Cronbach's Alpha	No of questions	Decision
1. Effect of digital credit providers	0.941	5	Acceptable
2. Positive impact	0.947	5	Acceptable
3. Negative impact	0.920	5	Acceptable
4. Government regulation	0.882	5	Acceptable

Direct Effects of Digital Credit on Financial Inclusion of the Low-Income Youth in Nairobi

The study sought to establish the direct effects of digital credit on the financial inclusion of the low-income youth in Nairobi. All the data relating to the four research objectives was collected using a five-point Likert scale whose responses ranged from 1: 1-strongly disagree, 2- agree, 3- neutral, 4- Agree, and 5-Strongly agree.

Table 4.3: *Effects of Digital Credit on Financial Inclusion of the Youth in Nairobi.*

Statement	Mean	Standard Deviation
1. Digital credit grants me access to loans which I was not able to access through the bank.	4.237	0.901
2. Digital credit does not require collateral to access credit.	4.098	1.185
3. Digital credit offers speed and ease of access to loans.	4.267	0.897
4. Digital credit is my source of operating capital for my business.	4.053	1.133
5. Digital credit has enabled me to build a credit history which has helped me access future loans.	4.143	0.824

Regression Analysis between Digital Credit Providers and Financial Inclusion among the Low-Income Youth

The research utilised a regression analysis to determine the nature of the relationship between financial inclusion and DCPs. The findings of this analysis are presented below in table 4.4:

Table 4.4*: Regression Analysis Testing the Relationship between DCPs and their Effect on Financial Inclusion.*

Model Summary					
1	Multiple R	R Square	Adjusted R Square	Standard Error	Observations
	0.973	0.946	0.919	4.160	266

a. Predictors: (Constant), Digital credit providers

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	9116.45	9116.45	34.90886	0.027471
Residual	2	522.39	261.15		
Total	3	9638.75			

Coefficients

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	12.7	1.553	9.189	0.045
1	1.47	0.227	11.908	0.027

Following descriptive analysis of the survey results in table 4.4, a regression analysis model was done to testing the relationship between DCPs and their effect on financial inclusion. The regression model above indicated that digital credit providers did have a significant effect on financial inclusion among the youth in Nairobi. The model reported an R-Squared result, 0.9458, which suggests that 94.58% variation in financial inclusion among the youth can be explained by changes in digital credit and digital credit providers. Additionally, the coefficients analysis indicated that both the intercept ($\beta = 12.7$, $p = 0.045$) and the coefficient for variable 1 ($\beta = 1.47$, $p = 0.027$) supported the first objective and noted a relationship and effect of DCPs on financial inclusion among the youth in Nairobi.

Regression Analysis between Positive Impact of Digital Credit Providers and Financial Inclusion among the Low-Income Youth

The research utilised a regression analysis to determine the nature of the relationship between financial inclusion and DCPs. The findings of this analysis are presented below in table 4.5:

Table 4.5: Regression Analysis Testing the Relationship between DCPs and their Positive Impact.

Model Summary					
1	Multiple R	R Square	Adjusted R Square	Standard Error	Observations
	0.882	0.933	0.901	5.003	266

Predictors: (Constant), Digital credit providers

CONCLUSION AND RECOMMENDATIONS

Summary

This study revealed issuance of digital credit to low-income youth has notably increased their access to and utilisation of credit. These findings aligned with previous research by Pati & Roy (2018) that highlighted the importance of credit access in improving the financial lives of citizens in any country. Additionally, Hwang & Tellez (2016) emphasized the role of digital credit in expanding financial inclusion by extending their services to underserved populations. The study adopted a descriptive research design utilising a quantitative approach through a cross-sectional survey. The target population was young digital credit users in Nairobi, from this target population, a sample of 10 wards within Nairobi were selected, these wards had an approximate total of 338,669 youth. The study used the Gill & Johnson (2010) sample size formula to select 380 respondents for this study; however, the study achieved a 70% response rate. Blumberg et al, (2014) have argued that a response rate above 60% is adequate and reliable for drawing inferences for the whole population when conducting quantitative analysis. Hence this response rate was selected for use in the current research.

Conclusion

The results of this study have concluded that digital credit providers (DCPs) do have a direct effect on financial inclusion among the low-income youth in Nairobi. The ease of accessing loans previously out of their reach, coupled with the quick access to credit to manage income fluctuations and emergencies are key factors enhancing the association between DCPs and financial inclusion. Additionally, the emergence of digital credit rating models that bypass traditional commercial bank requirements such as bank account ownership, credit history, and collateral further promote financial inclusion.

This study concludes that Digital Credit Providers (DCPs) present positive impacts/ spillover effects to low-income youth in Nairobi and enhance their financial inclusion in Kenya. DCP platforms, whether bank, telecom, or FinTech facilitated, have increased the youths' ability to access financial services and participate more actively in the economy while supporting their needs to take advantage of various financial opportunities. One of the positive impacts of DCPs in Nairobi is the creation of employment for youths. The respondents of the survey reported that digital credit had allowed them to access funds to start their micro and small enterprises (MSEs) or supplement their employment income by initiating income-generating projects commonly known as *'side hustles'* in Kenya.

This study concludes that access to digital credit has led to irresponsible financial behavioural patterns and punitive consequences thereof. These negative behaviours include over-indebtedness, the use of digital loans to finance unaffordable lifestyles and excess loan defaults leading to widespread credit reference bureau (CRB) blacklisting.

Recommendations

The study suggests that in order to expand the development of healthy and sustainable digital financial services, increase the range of services offered,

and reach more underserved citizen classes and categories, digital credit providers should allocate resources to research and development. Providing affordable and accessible platforms of financial inclusion and enabling the unbanked youth to obtain sustainable financial services will not only help them manage sporadic income and unexpected expenses, but it will also help them establish reliable credit history, improve their financial literacy which in turn will enable them to obtain financial services elsewhere. It is also advised that these providers who majorly utilise the M-Pesa money transfer platform, diversify their loan disbursement channels to mitigate and reduce operational risk. As the youth are the majority consumers in Kenya, DCPs should use social media platforms to promote their services and educate the youth about various aspects and uses of their products. Social media discussions and direct engagements can help DCPs understand their clients better and refine their products and services to meet the market demands.

From the results of this study, it is concluded that the youth in Nairobi utilise digital credit to meet their basic, personal, and lifestyle financing needs such as coping with emergencies and financing day-to-day expenses. This study recommends that DCPs work with the government, policymakers, and other stakeholders to provide the youth with financial literacy education on the use of digital finance to build income-generating ventures. The study also recommends that the youth embrace the use of digital banking as it will help them reduce poverty by using digital loans to create employment and generate income by financing micro businesses using this credit. DCPs should integrate financial management tools in their mobile applications providing the youth with tools to their borrowing and repayment activities effectively as well as plan their finances accordingly.

Further Research Recommendations

This study recommends more post-graduate, researchers, students, and the academic fraternity should consider using this research as a baseline to conduct quantitative analyses assessing the impact of digital credit providers on youth and the broader Kenyan economy. The report suggests more research should be done exploring how digital credit utilisation is helping Kenyan business owners meet their operating capital needs. Kenyan is a mature digital credit market with over 40 banks and 300 FinTech companies offering digital services, some tailored to business owners, formally employed persons, and social organisations.

DECLARATION

We (Wesley & Nicholas) confirm that this is my sole research and hasn't been submitted for any examination. We did self-funding and data collected are available.

REFERENCES

Ababio, J. O.-M., Attah-Botchwey, E., Osei-Assibey, E., Barnor, Charles, & Barnor. (2020). Financial inclusion and human development in frontier countries. *John Wiley and Sons*, 19-24.

AFI. (2014). *Rwanda's Financial Inclusion Success Story: Umurenge SACCOs.* Bangkok, Thailand: Alliance for Financial Inclusion.

Ahmad, A. H., & Green, C. (2020). Mobile money, financial inclusion and development: A review with reference to African experience. *Journal of Economic Surveys*, 753-792.

Amirrudin, M., Nasution, K., & Supahar, S. (2020). Effect of Variability on Cronbach Alpha Reliability in Research Practice. *Jurnal Matematika, Statistika dan Komputasi (JMSK)*, 34-39.

Asuming, P. O., Osei-Agyei, L. G., & Mohammed, J. I. (2019). Financial inclusion in sub-Saharan Africa: Recent trends and determinants. *Journal of African Business*, 112-134.

Biallas, M., Aijazuddin, M., & Opem, L. C. (2019). *The Case for Responsible Investing in Digital Financial Services.* New York: IFC, a member of the World Bank Group.

Blumberg, B., Cooper, D., & Schindler, P. (2014). *Business Research Methods.* London: McGraw Hill Publishers.

CBK, KNBS, & FSD-Kenya. (2021). 2021 FinAccess Report - Household Survey. *Kenya Financial Inclusion Report*. Retrieved from https://www.centralbank.go.ke/wp-

content/uploads/2022/08/2021-Finaccesss-Survey-Report.pdf

CBK, KNBS, and FSD-Kenya. (2022). *FinAccess Household Survey - County Perspective.* Nairobi: FSD Kenya.

Central Bank of India. (2019). PMJDY Success Story. *Government White Papers - Central Bank*, 2-3. Retrieved from https://www.pmjdy.gov.in/files/stories/Central-Bank-of-India.pdf

Central Bank of Kenya. (2022, March 18). *Digital Credit Providers*. Retrieved from Central Bank of Kenya: https://www.centralbank.go.ke/2022/03/21/central-bank-of-kenya-digital-credit-providers-regulations-2022/

Constitution. (2010). *Consumer protection Act No 46 of 2012.* Nairobi, Kenya.

Creswell, J. (2021). *A Concise Introduction to Mixed Methods Research* (Second Edition ed.). New York: SAGE Publications, Inc. Retrieved January 24, 2024, from https://us.sagepub.com/en-us/nam/a-concise-introduction-to-mixed-methods-research/book266037

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research (4th ed.).* Boston, MA: Pearson Publishers.

Demirguc-Kunt, A. F., & Klapper, L. (2018). The Foundations of Financial Inclusion: Understanding Ownership and Use of Formal Accounts. *Journal of Financial Intermediation, 27*, 1-30.

Demirguc-Kunt, A., & Singer, D. (2013b). *Financial inclusion and legal discrimination against women: evidence from developing countries.* New York, USA: The World Bank.

Dupas, P., Robinson, J., & Brailovskaya, V. (2022). The impact of digital credit in low-income countries. *The Centre for Economic Policy Research*, 91-93.

Fowler, F. J. (2014). *Survey Research Methods* (First Edition ed.). New York: SAGE Publications, Inc.

Francis, E., Blumenstock, J., & Robinson, J. (. (2017). Digital credit: A snapshot of the current landscape and open research. *Bureau for Research and Economic Analysis of Development*, 516.

FSD-Kenya. (2019). Digital Credit in Kenya. *Digital Credit in Kenya: Facts and Figures from FinAccess 2019*, 2-10.

FSD-Kenya; CBK. (2022). FinAccess Household Survey. *FSD-Kenya White Paper*, 106-109.

Ghosh, S., & Vinod, D. (2017). What constrains financial inclusion for women? Evidence from Indian micro data. *World Development*, 60-81.

Gibson, E., Lupo-Pasini, F., & Buckley, R. P. (2017). regulating digital financial services agents in developing countries to promote financial inclusion. *Singapore Journal of Legal Studies*, 26-45.

Government of Kenya. (2012). *The Consumer Protection Act.* Nairobi: Government of Kenya.

Government of Kenya. (2015). *The Banking Act, Cap 488.* Nairobi: Government of Kenya.

Government of Kenya. (2022). *Digital Credit Providers Regulations.* Nairobi: Government of Kenya.

Gubbins, P., & Totolo, E. (2018). *Digital credit in Kenya: Evidence from demand-side surveys.* Nairobi: FSD-Kenya.

Husted, Bryan, & Allen, D. B. (2012). *Corporate Social Strategy: Stakeholder Engagement and Competitive Advantage.* Cambridge: Cambridge University Press.

Hwang, B.-H., & Tellez, C. (2016). The Proliferation of Digital Credit Deployments. *World Bank Publications*. Retrieved from https://ideas.repec.org/p/wbk/wboper/24567.html

IFC. (2018). Banking on the Future: Youth and Digital Financial Services in Sub-Saharan Africa. *IFC; Partnership for Financial Inclusion*, Field Note 9.

ISI. (2022). *CEIC Data*. Retrieved from CEIC Data: https://www.ceicdata.com/en/indicator/kenya/total-loans#:~:text=in%20Dec%202022%3F-,Kenya%20Total%20Loans%20was%20reported%20at%2050.630%20USD%20bn%20in,table%20below%20for%20more%20data.

KBA. (2019). Digital Credit, Financial Literacy and Household Indebtedness. *Centre for Research on Financial Markets and Policy*, 5-7.

KBA. (2019, August). Digital Credit, Financial Literacy and Household Indebtedness. (P. Wamalwa, I. Rugiri, & J. and Lauler, Eds.) *Centre for Research on Financial Markets and Policy*, 9. Retrieved from https://www.kba.co.ke/wp-content/uploads/2022/05/WPS-08-2019.pdf

KBA. (2023). Legal & Regulatory Framework for Digital Financial Services in Kenya – A Case for Urgent Reforms. *KBA Centre for Research on Financial Markets and Policy*, 3.

Kiiti, N., & Hennink, M. (2017). Reflections On Collecting And Disseminating Research Data: A Journey Through Kenya. *The Journal of Development Communication*, 90-94.

KIPPRA. (2023, October 26). *Regulation of Digital Credit Providers in Kenya: Policy Issues and Options*. Retrieved from KIPPRA: https://kippra.or.ke/regulation-of-digital-credit-providers-in-kenya-policy-issues-and-options/#:~:text=The%202021%20FinAccess%20Household%20Survey%20indicates%20that%2050.9%20per%20cent,reported%20to%20have%20defaulted%20repayment.

KNBS. (2019). *2019 Kenya Population and Housing Census.* Nairobi: Kenya National Bureau of Statistics.

Mekonnen, W. (2020, July 6). Review on Correlation Research. *Academic Research Journals*, 99-106. Retrieved from https://www.academicresearchjournals.org/IJELC/PDF/2020/July/Wubante.pdf

Nimbrayan, P. K., Tanwar, N., & Tripathi, R. K. (2019). Pradhan mantri jan dhan yojana (PMJDY): The biggest financial inclusion initiative in the world. *Economic Affairs, 63(2)*, 583-590.

Osei, A. A., Kissiwaa, A. T., Nyeadi, J. D., Amoah, J. O., Appau, A. N., & Kissiwaa, A. (2022). The Role of Mobile Money Banking Service in Financial Development: Evidence from Ghana. *African Review of Economics and Finance*, 12-14.

Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability. *Borsa Istanbul Review*, 329-340.

Ozili, P. K. (2020). Theories of financial inclusion. *SSRN Electronic Journal*, 1-2.

Pati, A., & Roy, P. (2018). Double bottom-line commitments of microfinance: evidence from Indian institutions. *International Journal of Social Economics*.

Pazarbasioglu, C., Mora, A. G., & Uttamchandani, M. (2020). *Digital Financial Services and Financial Inclusion.* Washington DC: The World Bank Group.

Pickard, A. J. (2013). *Research Methods in Information* (Second ed.). Chicago: ALA Neal-Schuman. Retrieved January 24, 2024, from https://www.routledge.com/Research-Methods-in-Information/Pickard/p/book/9781856048132#

RBI. (2022, March 14). *Digital Lending: Regulatory trends*. Retrieved from https://www.retailbankerinternational.com/: https://www.retailbankerinternational.com/comment/digital-lending-regulatory-trends/

Robinson, J., Park, D. S., & Blumenstock, J. E. (2022). The Impact of Digital Credit in Developing Economies: A Review of Recent Evidence. *University of Carlifornia, Berkeley - Center for Effective Global Action*, 12-15. Retrieved from https://escholarship.org/uc/item/3d31p39h

Saunders, M. N., & Thornhill, A. (2012). *Research Methods for Business Students.* New York: Pearson Higher Education, 2012.

Wameya, S. M. (2019). *Personal Debts and Long-run Sustainability among Youths in Kenya.* Nairobi: Research Gate; Kenyatta University; Economics Journal Watch.

Wamuyu, V., & Jagongo, A. P. (2022). Digital Credits and Financial Inclusion among the Youth in Kibera. *African Journal of Emerging Issues*, 35-37.

Wathome, F. N. (2020). Effects of Digital Credit on Financial Inclusion of the Youth in Kenya: A Survey of Kangemi, Nairobi County. *United States International University-Africa.*, 19.

WBG. (2016). *Enabling Digital Development: Digital Finance.* Washington D.C.: The World Bank Group. Retrieved from https://documents1.worldbank.org/curated/en/896971468194972881/310436360_20160263021313/additional/World-development-report-2016-digital-dividends.pdf

WBG. (2020). *Financial Inclusion and Fintechs.* Washington DC: The World Bank Group.

WBG. (2021). Financial Inclusion and Financial Regulation. *The World Bank Reports*, 3-6.

WBG. (2022, March 29). *Financial Inclusion*. Retrieved from The World Bank: https://www.worldbank.org/en/topic/financialinclusion/overview

Zeljko, J. (2023). Drivers of moral hazard in banks. *Acta Oeconomica: Periodical of the Hungarian Academy of Sciences* , 3-6.