International Research Journal Of Economics and Finance

Vol 5, Issue 3, pp 1-11, July 10, 2023, © International Research Journal Publishers, ISSN 2710-2742 (online) www.irjp.org

EFFECT OF TECHNOLOGICAL INNOVATION ON FINANCIAL PERFORMANCE OF MICROFINANCE INSTITUTIONS IN KISII CENTRAL SUB-COUNTY KISII COUNTY, KENYA

[1*]Abel Kyana Mainga, [2]Dr. Kennedy Nyariki

[1]Scholar, Mount Kenya University
[2]Lecturer, School of Business & Economics, Department of Economics, Mount Kenya University

Accepted July, 7th, 2023

Abstract

Many Rural Credit Schemes have sustained heavy losses because of poor Loan collection delinquency/default and yet a lot more have been dependent on Government subsidy to financially cover the losses they faced through delinquency/default. A delinquent loan becomes a defaulted Loan when the chance of recovery becomes minimal. The main objective of this study is the assessment of loan default determinants on financial performance of microfinance institutions in Kisii Central Sub-County. It's worth noting that micro-finance institutions are of two categories; formal and informal. Formal are those Microfinance Institutions which are registered as under the legal and regulatory frameworks while the informal Microfinance Institutions are unregistered and operate like shylocks. This study concentrated on the formal Microfinance Institutions in Kisii Central Sub-County. Specific objective was to assess how technological innovation determines the performance of MFIs in Kisii Cental Sub- County. The target population comprised a total of one hundred and twenty loan borrowers, one hundred Microfinance Institutions officers and twenty-five micro-finance institutions out of which a sample of twelve were picked using simple random sampling for each stratum which enabled every member of the population have an equal and independent chance of being selected as respondent and also, simplest most convenient and bias free selection method. The study adopted 25% sample size of the target population, in total, a sample of 220 members were drawn from 880 members. The data was collected by use of structured and semi-structured questionnaire. The study adopted a descriptive correlation research design. The data was analyzed using descriptive and inferential statistics. The descriptive statistical analysis included frequencies, mean and standard deviation while the inferential statistics analysis included Pearson correlation and regression analysis. The study found a statistically significant strong positive correlation between technological innovation and the financial performance of the Microfinance Institutions. The study recommended proper, improved and thorough screening of borrowers and Microfinance Institutions staff.

Keywords: *Technological Innovation, Financial Performance, Microfinance Institutions*

INTRODUCTION

International Organizations are coming to the realization that MFIs are veritable and effective channels to ensure programme implementation effectiveness, particularly in poverty alleviation projects and firsthand knowledge of the needs and interest of the poor (Okumuadewa, 2018). According to Chossudovsky (2018), the world Bank sustainable banking with the poor project (SBP) in mid-1996 estimated that there were more than 1000microfinance institutions in over 100 countries each having a minimum of 1000 members and with 3 years of experience in a survey of 2006 of such institutions, 73 percent were NGO's 13 percent credit unions, 7.8 per cent banks and the rest savings unions. According to Mohd (2018), microfinance (MFIs) is increasingly a central source of credit for the poor in many countries. Weekly collection of repayment installments by bank personnel is one of the key features of micro-finance that is believed to reduce default risk in the absence of collateral and make lending to the poor viable.

The government of Kenya recognizes that access to financial services is key to growth and development in any enterprise and more so micro and small enterprises (Okello et al., 2017). This is because MFIs have been seen as tools to eradicate poverty in the sub-Saharan Africa. As microfinance becomes more widely accepted and moves into the main stream, the supply of services to the poor might increase, improving efficiency and outreach while lowering costs. The greatest contribution of MFIs is that it empowers people both financially and boosts their self-esteem as well as confidence. MFBs practice both individual and group lending mechanism. In a group lending mechanism, the individuals in the group provide collateral or loan guarantee to any member of the group who applies for a loan. The members monitor each other and exclude risky borrowers from participating hence making prompt loan repayments (Page & Pande, 2018). In the event one member doesn't repay his/her loan installment, the group members raise the installment (Kassim & Rahman, 2018). This mitigates the risk involved in the group lending mechanism.

Microfinance has established itself, in emerging and developing countries, as an integral part of their financial sector policies (Nugroho et al., 2017). However, it is considered as one of the most promising tools in focusing on poverty, and small and medium enterprises in different developing countries. Yet, poverty in Africa is its main problem, especially in sub-Saharan Africa. In the DRC, the poverty rate has been decreasing since 2005 to 2012 from 71% to 64% (World Bank, 2019), but remains among the highest in the world. The country is among the poorest in the world with a ranking of 176 out of 187 countries on the United Nations Human Development Index in 2015 (World Bank, 2019). The United Nations declared 2005 the international year of micro credit when there were approximately 3313 microfinance institutions reaching approximately 113261 beneficiaries worldwide (Mutia, 2018). Following this notion, microfinance institutions continued to grow in vast parts of the world which included India, Brazil and Africa. Institutions like Bancosol in Brazil, K-REP and Equity Bank in Kenya came up and are still excelling their operations (Sanchez, 2017).

Microfinance in Africa could be traced from different origins. Therefore, the history of microfinance in Africa is analyzed in different nations on how it evolved in these nations. Microfinance institutions in Kenya emerged to address poverty and poverty alone (Okibo & Makanga, 2014). Between 1980 and 2000, NGO's and multinational agencies supported many microfinance institutions by then. Their major aim was poverty alleviation and employment creation, Okibo & Makanga, (2014) adds that microfinance institutions like Kenya Women Finance Trust (KWFT), Kenya Rural Enterprise Program (K-REP), Faulu Kenya and Family Finance were the mostly existing microfinance institutions in Kenya between 1980's and 1990's up to now most of these institutions like Family Finance and also Faulu Trust have started operating as fully fledged banks. Their interests have now changed from poverty alleviation to interest oriented where they charge very high interest to the

borrowers (Okibo & Makanga, 2014). The record of microfinance in Zimbabwe is known from 1960's with the commonly known savings clubs. But before this, people could get credit from friends, relatives and neighbors. Raymond and Adams 2008 assert that informal credit sources that include friends, family member, money lenders, commercial agents and group based rotating services and credit associations (ROSCA) have provided the poor with credit. According to Benda (2013), microfinance in Zimbabwe was initiated by the Catholic missionaries where they started savings development movements (SDM) which focused on savings mobilization by the local women. The savings were supposed to be done in groups hence in the end forming saving clubs which were supposed to be sustained by the money collected as savings of the clubs.

International evidence

Most countries in sub-Sahara African face problems in microcredit debt payment and as a result of these MFIs in SSA, their financial performance recorded showed the following challenges, (a) falling returns especially east Africa and south African (b) high operating expenses as a result of high staff expenses high outstanding loans, high transaction costs and management costs (Olaosebikan & Adams, 2014). Moenga (2015) noted that the proper client selection is an important tool in the control of loan defaults in micro financing institutions just like any other business. In a study conducted by Anangwe (2014), it was noted that competition amongst MFIs and the utilization of borrowed funds in the intended purpose ensures rapid growth hence reduces the amount of loan defaults in MFIs. In yet another significant study by Aspiranti, (2020), positive economic growth in a nation will lead to proper circulation of currency that contributed to the expansion of the MFIs market share, number of clients earnings ratio hence payment of loans without difficulty.

In Kenya, MFIs are supervised by a body called association of microfinance institutions Kenya (AMFIK) which was registered in 1999 to ensure quality service provision to the low-income people and assist MFIs in building their capacity (Muithya & Muathe, 2020). These institutions are rated internationally by an agency called micro finanza rating. AMFIK has four strategic pillars namely: policy advocacy and lobbying, capacity building, networking and linkages, research and knowledge management. These institutions have registered a gradual growth for the last three years amounting to 298.4 billion by December 2012. The active clients, in the sector start at 1,732,290 and excluding banks clients total is 914,859 (ibid). The dominant banks are equity bank which consists of 72% total assets, the rest are k-Rep (Sidian) bank, post bank and Jamii Bora bank. KWFT became a fully pledged bank named Kenya women finance bank in 2014, others are still deposit taking microfinance (DTMs) such as SMEP, Uwezo REMU and Faulu. The microfinance institutions have received substantial support from both bilateral and multilateral donors (Simpasa, 2015).

Statement of the Problem

The provision of credit is seen as a way to generate good returns, but it also carries significant risks due to various factors, including fraudulent behavior. Microfinance Institutions (MFIs) heavily rely on loan recovery to ensure their sustainability. The establishment of the Grameen Bank, dedicated to serving the unbanked, marked a significant development in microfinance. Microfinance targets the poorest individuals who lack collateral and provides financial services to workers in small enterprises or those deemed high risk by traditional banking sectors (Abbas & Shirazi, 2015). The financial viability and sustainability of MFIs largely depend on their ability to efficiently collect loans and maintain high portfolio quality with low delinquency and default costs. Credit risk, particularly default risk, is a major concern for MFIs since most lending is unsecured and lacks traditional collateral (Kodongo & Kendi, 2013). Over-indebtedness and multiple borrowing by marginalized borrowers pose significant challenges to the growth of the microfinance industry. The risk of bad debts increases due to the absence of collateral for small loans.

In Kisii Central Sub-County, where there is a strong presence of traditional banks, MFIs face competition and struggle to match their financial success. High interest rates charged by MFIs compared to commercial banks contribute to this disparity. Lack of financial awareness among the population, especially in rural areas with high illiteracy rates, hinders access to MFIs and perpetuates financial exclusion. Insufficient knowledge about MFI policies and products creates difficulties in sustaining their operations in highly competitive environments. Regulatory issues also pose challenges for MFIs, as the regulatory framework sometimes leaves certain issues unaddressed, making sustainability a struggle. Furthermore, stiff competition from various financial institutions in Kisii Central Sub-County, such as commercial banks and Saccos, affects the performance of MFIs (Rapando & Achieng, 2021). The rivalry, competition, high interest rates, and regulations that favor large banks have led to losses for deposit-taking MFIs. Regulating the microfinance sector presents challenges for bank regulators worldwide. Balancing the growth of the MFI industry, the security of small savers' interests, and overall financial industry integrity requires sound guidelines (Singhe & Louche, 2020). Credit risk management is crucial for MFIs, but inefficient procedures and inadequate client information gathering contribute to high default rates and financial instability (Fernando, 2017). Competition in the financial industry can have positive effects, such as lower production costs and the development of efficient technologies. However, it can also lead to lower borrower selection standards, weakened customer relationships, multiple borrowing, and high defaults (Mawardi, 2020; Kasman, 2021).

Purpose of the Study

To assess how technological innovation determines the financial performance of MFIs in KCSC.

LITERATURE REVIEW

Empirical Literature

In the pursuit of defining technology, Mashiya (2016) proposed a comprehensive perspective. According to them, technology encompasses various stages, including ideation, appraisal, selection, and development, ultimately leading to the creation of new or improved services and products. This definition highlights the dynamic and iterative nature of technological advancement within organizations. Furthermore, Wasike (2017) provided insight into innovation, describing it as the introduction of any new or significantly improved product that an organization develops or adopts from external sources. For an innovation to be considered successful, it must generate commercial value or profit.

Mu (2015) emphasized the importance of aligning new product and service development with the expectations of knowledgeable and demanding markets. In such markets, where customer preferences play a vital role, organizations must ensure that their innovations meet customer expectations throughout the product life cycle. This customer-centric approach is crucial for sustaining competitiveness and ensuring the success of technological innovations.

Discussing the impact of ICT, Anangwe highlighted its profound influence on the service industry's remarkable growth. The presence and expansion of Information and Communication Technology (ICT) have revolutionized the way services are delivered. Through the utilization of digital tools and platforms, organizations have enhanced efficiency, expanded reach, and improved customer experiences. This digital transformation has been a key driver of growth and innovation within the service industry.

Nwala et al. (2020) conducted research that revealed a positive relationship between investment in ICT and financial performance. Organizations that have invested in ICT infrastructure have experienced higher revenue and subsequently achieved higher returns on assets. These findings highlight the potential benefits of embracing technological advancements and leveraging ICT to enhance operational processes, communication, and overall performance.

However, Koch, Mayper, and Wilner (2019) presented a contrasting perspective. Their study suggested that investment in ICT did not necessarily result in a significant increase in productivity. They argued that while ICT can provide valuable tools and capabilities, it can also create a challenge by requiring highly skilled individuals who demand higher salaries. This phenomenon could potentially inflate wage bills without proportional gains in productivity. Hence, they emphasized the importance of carefully managing ICT investments and ensuring alignment with organizational goals.

Haldorai (2022) emphasized the significance of human capital in maximizing the benefits of ICT investments. Rather than attributing profitability failures solely to ICT investments, Haldorai advocated for the simultaneous development of human capabilities. By investing in human capital and fostering a culture of ICT adoption and proficiency, organizations can effectively harness the potential of technology and achieve sustainable financial performance.

Shifting focus to the microfinance industry, Ussif (2020) highlighted the informal money lending sector in Ghana as a source of innovation for formal Microfinance Institutions (MFIs). The informal sector has been instrumental in developing innovative financial products and practices, some of which have been adopted by formal MFIs. This exchange of ideas and practices has facilitated the growth and development of the microfinance industry as a whole.

Moreover, the digital revolution has significantly impacted financial institutions, with many transitioning to digital operations. Ombachi and Deya, (2022) noted that organizations have embraced innovative processes to increase profitability, enhance the quality of personnel, save costs, and enhance competitiveness. The adoption of digital lending platforms and technologies has streamlined loan application and disbursement processes, improving efficiency and customer experience. These digital innovations have led to an aggregate growth of financial institutions in terms of the number of products offered, market share, loan scales, and overall profitability.

Credit Risk Theory

Melton (1974) introduced the credit risk theory otherwise called the structural theory. Although people have been facing credit risk ever since early ages, credit risk has not been widely studied until recent 30years. Early literature on credit uses traditional actuarial methods of credit risk, whose major difficulty lies in their complete dependence on historical data. Up to now, there are three quantitative approaches of analyzing credit risk: Structural approach, reduced from appraisal and incomplete information approach. Default events derives from affirms asset evolution modelled by a diffusion process with constant parameters. Such models are commonly defined structural model and based on variables related a specific issuer. An evolution of this category is represented by asset of models where the loss conditional on default is exogenously specific. In this model, the default can happen through all the life of a corporate and not only in maturity, (Zamore et al., 2018).

Credit Risk Theory posits that the likelihood of loan defaults and delinquencies is influenced by various factors, including the creditworthiness and repayment capacity of borrowers. Technological innovation can play a significant role in assessing and managing credit risk within MFIs (Çallı & Coşkun, 2021). Technological innovations can enhance the accuracy and efficiency of credit assessment processes. Advanced data analytics, machine learning algorithms, and alternative credit scoring models can provide more comprehensive insights into borrowers' creditworthiness, enabling MFIs to make more informed lending decisions and reduce the risk of default. Technological tools such as mobile banking, digital platforms, and real-time data monitoring systems can facilitate regular communication and monitoring between MFIs and borrowers. This improved communication enables early identification of potential repayment issues and allows MFIs to take proactive measures to mitigate credit

risks, such as offering financial education, reminders, or restructuring options (Brown & Moles, 2014).

METHODOLOGY

The research study was carried out in Kisii Central Sub County. The study adopted a descriptive research design. The study targeted 12 licensed MFI's operating in Kisii Central Sub-County and 10 clients from each microfinance institution were selected randomly implying that one hundred and twenty clients were under study. A sample of 10 clients from each Microfinance institution were chosen because it was a physical representation of the target population and comprised all the units that were potential members of a sample The researcher used simple random sampling method since it was the most /simplest convenient and bias free selection method. The researcher therefore conveniently conducted the research on the 12 MFIs operating in Kisii Central Sub-County. The management team especially branch managers, operations officers, credit officers, compliance officers, collections officers, customer service and clients, a total of 100 officers and 120 clients were served with questionnaires. Descriptive statistics and inferential analysis using correlation and regression models were used to analyze data. Pearson correlation was used to measure the relationship between the effect of technological innovation on the financial performance of MFIs. Linear regression analysis was applied to evaluate the statistical significance on the relationship that existed between technological innovation and financial performance of MFIs.

FINDINGS

Descriptive Analysis

This section sought to establish the relationship between technological innovation and the financial performance of MFIs from the respondents. Technological innovation was measured by six items namely, screaming of borrowers, technological incentives, service innovation, Automation, online banking and technological charge. These items measured how technological innovation determines the financial performance of MFIs in Kisii Central sub-county.

Table 1: Descriptive statistics for the effect of technology on the financial performance of MFIs

Statements	% F	1	2	3	4	5	Total	M	SD
Screaming of borrowers has affected the performance of asset value of MFI	%	17	10.2	21	20.3	45.5	100	44.9	0.655
	F	7	4	51	62	76	200		
Technological incentives had affected the financial performance of market share	%	9	10.3	10.7	20	50	100	48.5	0.702
	F	5	22	40	52	81	200		
Service innovation had an effect on profit margin on financial performance of MFIs.	%	4.4	19.2	20	5.7	50.7	100	47.1	0.540
	F	23	25	36	44	72	200		
Automation had an effect of market share on financial performance of MFIs.	%	5.8	8.2	9	28	49	100	42.0	0.851
	F	20	39	26	31	84	200		
Online banking had an effect on profit margin on financial performance of MFI	%	4.7	18.3	18	10.8	48.2	100	45.4	0.787
	F	35	36	40	21	68	200		
Technological change determines turnover on financial performance of MFI	%	8	12	14	10	56	100	48.1	0.750
	F	25	25	37	36	77	200		

The result indicates that 45.5% of the respondents felt that screaming of borrowers had Avery high effect on the performance of asset value in their MFI, while 10.2% of the respondents felt that it had a low effect on financial performance, (M=44.9, SD=0.655). The respondents who felt that technological incentives had affected the performance of market share in their MFI moderately accounted for 10.7% while 50% of respondents agreed highly with the statement (M=48.5, SD=0.702). The respondents who felt that service innovation had a high effect on the performance of profit margin in their MFIs accounted for 5.7% while 50.7% of respondents agreed highly with the statement (M=47.1, SD=0.540). The respondents who felt that automation had Avery high effect on the financial performance of market share in their MFI accounted for 49% while 5.8% of respondents felt it had Avery low effect .(M=42.0, SD=0.851). The respondents who felt that online banking had Avery high effect on the financial performance of profit margin in their MFI accounted for 48.2% while 4.7% of respondents felt it had Avery low effect (M=45.4, SD=0.787). The respondents who felt that Technological change had Avery high effect on the financial performance of turnover of your MFI accounted for 56% while 10% of respondents agreed with the statement(M=48.1, SD=0.75).

Correlation between technological innovation and the financial performance

Pearson correlation test was used to test the relationship between technological innovation and the financial performance of MFIs.

Table 2: Correlation between technical innovation and financial performance of MFIs

Variables	Test	Technological innovation
Performance of MFI.	Pearson correlation	0.718
	Sign. (2tailed)	.000
	N	200

Correlation is significant at 0.05 level (2tailed).

The results indicates that there was a statistically significant strong positive correlation between technological innovation and the financial performance of MFIs, r (200) =0.718, P<0.05.

Regression analysis between technological innovation and the financial performance

Table 3: Model Summary

Model	R	R Square	Adjusted R square	St. Error of the estimate
1	0.718	0.516	0.483	.30267

A simple linear regression analysis was conducted to establish the extent to which regulation affected the financial performance of MFIs. The findings of the model summary indicates that technological innovation explained about 51.6% of the variability in the financial performance of MFIs.

Table 4: ANOVA

Model	Sum of squares	df	Mean square	F	Sig
Regression	107.496	1	107.496	52.131	0.000[b]
Residual	408.282	198	2.959		
Total	515.778	199			

Findings show the F value was 52.131 and was significant (p = 0.000) at 95%. This means that Technological innovation was a significant in predicting financial performance of MFIs in Kisii Central Sub County.

Table 5: Coefficient

	Unstandardized Coefficients		Standardized Coefficients		
Model	**B**	**Std. Error**	**Beta**	**t**	**Sig.**
1 (Constant)	2.121	0.537		3.950	.000
Technological innovation	0.328	0.104	0.301	3.154	.000

a. Dependent Variable: Financial performance

Technological innovation has a positive and statistically significant effect on the financial performance of MFIs as shown by a coefficient of 0.328 and p-value of 0.000. This shows that an increase in Credit services increases the financial performance of MFIs in Kisii Central Sub County by 0.328 units.

Conclusions

Both Pearson correlation and regression analysis revealed that there was a statistically significant positive relationship between technology and the financial performance in Kisii central sub county in Kisii county. Screening of borrowers was important to MFIs and it had a strong effect on asset value of the MFIs. System automation was essential and it had a strong effect on market share of the MFIs and finally online banking enabled MFIs to increase their market share as well improve profit margin. Critically the study concluded that technological innovation played critical role towards the financial performance of the FMIs

Recommendations

The study findings showed that, to embrace technology in the MFIs resulted to growth in asset value, growth in profit margin a wider market share and improved turnover of the MFIs. The study recommended proper, improved and thorough screening of borrowers and MFIs staff. The study also recommended that automation and online banking was a plus as it reduces customer traffic in the banking hall. Also, online banking results to growth of non-interest income of the MFIs

REFERENCES

Abbas, K., & Shirazi, N. (2015). The key players' perception on the role of Islamic microfinance in poverty alleviation: The case of Pakistan. *Journal of Islamic Accounting and Business Research*, *6*(2), 244-267.

Anangwe, L. M. (2014). *The effect of competition and technology on growth of micro-finance institutions in Kenya* (Doctoral dissertation, University of Nairobi).

Aspiranti, T., Amaliah, I., Mafruhat, A. Y., & Kassim, R. S. R. (2020). Dynamic behaviour model: a sustainable SMEs development. *Polish Journal of Management Studies*.

Benda, C. (2013). Community rotating savings and credit associations as an agent of well-being: a case study from northern Rwanda. *Community Development Journal*, *48*(2), 232-247.

Brown, K., & Moles, P. (2014). Credit risk management. *K. Brown & P. Moles, Credit Risk Management*, *16*.

Çallı, B. A., & Coşkun, E. (2021). A longitudinal systematic review of credit risk assessment and credit default predictors. *Sage Open*, *11*(4), 21582440211061333.

Chossudovsky, M. (2018). Global Poverty in the late 20th Century. *Journal of International Affairs*, 293-311.

Fernando, N. A. (2017). Managing microfinance risks: Some observations and suggestions. *Asian Journal of Agriculture and Development*, *4*(1362-2016-107683), 1-22.

Haldorai, K., Kim, W. G., & Garcia, R. F. (2022). Top management green commitment and green intellectual capital as enablers of hotel environmental performance: The mediating role of green human resource management. *Tourism Management*, *88*, 104431.

Kasman, A. (2021). Competitive conditions in the Turkish banking industry. *Ege Academic Review*, *1*(2), 72-82.

Kassim, S. H., & Rahman, M. (2018). Handling default risks in microfinance: the case of Bangladesh. *Qualitative Research in Financial Markets*, *10*(4), 363-380.

Koch, B. S., Mayper, A. G., & Wilner, N. A. (2019). The interaction of accountability and post-completion audits on capital budgeting decisions. *Academy of Accounting and Financial Studies Journal*, *13*, 1.

Kodongo, O., & Kendi, L. G. (2013). Individual lending versus group lending: An evaluation with Kenya's microfinance data. *Review of Development Finance*, *3*(2), 99-108.

Mashiya, G. (2016). *Factors That Determine Financial Performance of Micro-finance Institutions* (Doctoral dissertation, University of Nairobi).

Mawardi, W. (2020). Competition and financial effects between islamic and conventional banking. *WSEAS Transactions on Business and Economics*, *17*, 101-111.

Merton, R.C. (1974). "On the Pricing of Corporate Debt: The Risk Structure of Interest Rates". *Journal of Finance*. 29 (2): 449–470.

Moenga, G. O. (2015). *The effect of corporate governance on the financial performance of micro finance institutions in Kenya* (Doctoral dissertation, University of Nairobi).

Mohd, S. (2018). A study on the performance of microfinance institutions in India. *International Academic Journal of Accounting and Financial Management*, *5*(4), 116-128.

Mu, J. (2015). Marketing capability, organizational adaptation and new product development performance. *Industrial Marketing Management*, *49*, 151-166.

Muithya, V., & Muathe, S. (2020). Dynamic capabilities and performance in the context of microfinance institutions in Kenya: An exploratory study. *Journal of Business, Economics and Management Works*, *7*(08), 15-29.

Mutia, A. E. (2018). *Factors Affecting the Perfomance of Micro Finance Institutions in the Eradication of Poverty in Migwani Sub- County of Kitui, Kenya* (Doctoral dissertation, University of Nairobi).

Nugroho, L., Utami, W., Akbar, T., & Arafah, W. (2017). The challenges of microfinance institutions in empowering micro and small entrepreneur to implementating green activity. *International Journal of Energy Economics and Policy*, *7*(3), 66-73.

Nwala, M. N., Abubakar, I. A., & Onibiyo, E. R. (2020). Effect of investment in information and communication technology on financial performance of listed insurance companies in Nigeria. *Journal of Economics and Allied Research*, *4*(3), 125-139.

Okello Candiya Bongomin, G., Mpeera Ntayi, J., Munene, J. C., & Akol Malinga, C. (2017). The relationship between access to finance and growth of SMEs in developing economies: Financial literacy as a moderator. *Review of International Business and strategy*, *27*(4), 520-538.

Okibo, B. W., & Makanga, N. (2014). Effects of micro finance institutions on poverty reduction in Kenya. *International Journal of current research and Academic Review*, *2*(2), 76-95.

Olaosebikan, O., & Adams, M. (2014). Prospects for micro-insurance in promoting micro-credit in sub-Sahara Africa. *Qualitative Research in Financial Markets*, *6*(3), 232-257.

Ombachi, D. M., & Deya, J. (2022). Influence of corporate culture on strategy implementation: A survey of commercial banks in Kenya. *International Academic Journal of Human Resource and Business Administration*, *4*(1), 346-362.

Page, L., & Pande, R. (2018). Ending global poverty: Why money isn't enough. *Journal of Economic Perspectives*, *32*(4), 173-200.

Rapando, R., & Achieng, L. (2021). Contribution of Youth Bunge Savings and Credit Cooperative Societies on Economic Empowerment of Youth in Kisii County, Kenya. *Journal of African Interdisciplinary Studies*, *5*(8), 173-188.

Sanchez, T. W. (2017). *Assessing the Effectiveness of the Microcredit and Integrated Asset Building as a Social Approach to Poverty Reduction in Kinshasa, Democratic Republic of Congo* (Doctoral dissertation, Virginia Polytechnic Institute and State University).

Simpasa, A., Shimeles, A., & Salami, A. O. (2015). Employment effects of multilateral development bank support: The case of the African development bank. *African Development Review*, *27*(S1), 31-43.

Singhe, S. S., & Louche, C. (2020). The development of microfinance in Cameroon: Focus on regulation. *Strategic Change*, *29*(3), 341-353.

Ussif, R. (2020). Microfinance institutions challenges in poverty and unemployment reduction in Ghana. *International Journal of Engineering and Information Systems*, *4*(7), 114-123.

Wasike, B. (2017). Africa Rising: An Analysis of Emergent Africa-Focused Mass Communication Scholarship from 2004–2014. *International Journal of Communication*, *11*, 22.

World Bank. (2019). The World Bank Annual Report 2019: Ending Poverty, Investing in Opportunity.

Zamore, S., Ohene Djan, K., Alon, I., & Hobdari, B. (2018). Credit risk research: Review and agenda. *Emerging Markets Finance and Trade*, *54*(4), 811-835.