

# Effects of Community Currency Systems on Economic Growth Dynamics of Small-Scale Traders in Kibuye Market, an Informal Urban Settlement

Nancy Njeri Muchai<sup>1,\*</sup>, Maria Onyango<sup>1,\*</sup>, Richard Odongo<sup>1,\*</sup>, Vitalis Mogwambo<sup>1</sup> and Michael Oloko<sup>2</sup>

<sup>\*</sup>School of Business and Economics, Jaramogi Oginga Odinga University of Science and Technology, P. O. Box 210-40601, Bondo-Kenya

<sup>#</sup>School of Engineering and Technology, Jaramogi Oginga Odinga University of Science and Technology, P. O. Box 210-40601, Bondo-Kenya

**Abstract:** Most small-scale businesses have unstable and weak economic stabilities that negatively impact their livelihoods. The general study objective was to explore the effects of community currency on small-scale businesses in informal urban settlements in Kisumu City, Kenya. The research sought to determine the effect of Community networks on the growth of small-scale businesses in informal settlements, evaluate the effect of financial Services Innovations on the growth of small-scale businesses in informal settlements, and determine the effect of social innovations on the growth of the small-scale businesses in the informal settlements within Kisumu city. The study adopted the consumer choice theory, social capital theory and the SCALERS Model. Moreover, the participatory action research (PAR) design was also employed. A population of 5,000 traders in the Kibuye market were targeted, giving a sample size of 678 small-scale traders. Quantitative data were analyzed using descriptive statistics and inferential analysis, while qualitative data were analyzed thematically. The results showed that Community networks positively impacted the growth of small-scale businesses with  $r = 0.784$ . Financial Services Innovations registered a positive effect at  $r = 0.806$ . At the same time, the social innovations exhibited a positive effect with  $r = 0.760$ . The entrepreneurial networks as a moderating variable had a small positive effect at  $r = 0.268$  on the growth of the small-scale businesses in the informal settlements of Kisumu County. CC is a significant factor in enhancing financial innovation and could be a key catalyst to propel small-scale trading activities within the informal urban settlements in Kenya. The study outcomes will help strengthen the community's social and financial growth, helping reorganize governance structures and participatory capacities of communities and local governments to boost their adoption of community currency systems.

**Keywords:** *Community Currencies System, Social Innovation, Financial Innovation*

## I. Introduction

Kenya has witnessed rapid growth since its independence, and the growth rate is estimated at 6% (Mireri, 2005). Moreover, the face of poverty in Kenya is changing, and the country is facing a new urban crisis; for instance, the Kenyan capital, Nairobi, is rapidly urbanizing, and the disparity between the rich and the poor is huge, with over 60% of the resident reside in informal settlements (Gb & Note, 2009). To improve the livelihood of the informal dwellers, an enabling environment for business is critical; however, the conventional form of money flow is highly restricted due to the purchasing power of the majority, and therefore, the introduction of cryptocurrency is a sure way to boost economic and livelihood of the urban poor. Research done by Zeller (Zeller, 2020) found that businesses with local networks were more willing to use community currencies (CCs), Businesses with small or no neighborhood systems were less likely to utilize a neighborhood CC indeed when the business is locally possessed and a co-op and an upmarket grocery store declined to use the CC because their suppliers were not part of the local network. It would cost them 10% to exchange the BerkShares. North concluded that businesses with local networks were more willing to use CCs. Businesses with small or no neighborhood systems are less likely to utilize a neighborhood CC. North tried to understand the usage of the Brixton Pound, which is used in an informal settlement in London. However, the study did not show how the measure and enrolment to the local/ foreign business network affected the actual usage of these currencies. (Javier,

Pablo-valenciano & Mil, 2020) Tried to understand the usage of the Brixton Pound, which is used in an informal settlement in London.

A study by Kurita et al. (Kinds et al. 2015) found that the proportion of those with a no-reward orientation was somewhat higher than the reward. Therefore, reward orientation did not affect the choice of CCs. The study further revealed that approximately half of those with a reward orientation would feel more motivated if they received cash rather than CCs. It concluded that CCs might enhance motivation in those with a reward orientation as compared to those with a no-reward orientation. However, there is a need for further examination of how people with a no-reward orientation perceive CCs.

Moreover, there is also a need to find out whether a perception of reward can change once it has been formed. Furthermore, the factors that affect people's perception of rewards are not yet fully explored, which is the main focus of the present study. Tichit et al. (Tichit 2017) reported that Banking sums of money were the center of gravity, the central semantic reference to non-bank currencies. A qualitative study conducted by Smith and Lewis (Lewis & Smith, 2014) found that Group members used both the act of giving and receiving secure personal resilience against social isolation and economic hardship.

Moreover, Schroeder (Schroeder, 2015) found out that running complementary currencies required hardly any investment in assets. Similarly, Tichit (Tichit, 2017) reported that participants in the project associated the currency with social phenomena, such as debt and poverty, by departing from the idea that currency is neutral. Moreover, Mehmet (Civelek, 2020) confirmed that potential users with more trust in local currencies tended to demand higher discount rates.

Reppas (Reppas, 2019) reported that there is room for optimism that CCs may ease negative aspects of traditional financial exchange by serving those on the fringes of and/or excluded from formal economies without necessarily competing with public or private traditional banking institutions. Although this reviewed study is conceptual, it offers a meta-analysis of many case studies of CCs. It suggests that CCs can be an effective tool for lessening some of the harmful impacts of the dominant economic relations in today's globalized world. However, the reviewed study was based on a review of previous studies, while the present study will be empirical; hence current study's findings are likely to be more accurate. According to the study by Adesete et al (Adesete, Auwal & Risikat, 2020), financial innovation had a very high explanatory power to the growth of the Nigerian economy. Bara and Mudzingiri (Management, Bara & Mudzingiri, 2016) study in Zimbabwe found that an increased financial innovation in Zimbabwe might have significantly driven economic growth in the long run. It concluded that both growth in banking sector credit to the private sector (LBCP) and the ratio of broad to narrow money (LM2/M1) positively affected economic growth in the long run. This study highlighted the relationship between financial innovation and economic growth.

Nonetheless, data on other variables of innovation are still scanty. Based on the research conducted by Wheatley and Bickerton (Wheatley & Bickerton, 2017), the study concluded that although employment had a negative association with leisure satisfaction, engagement in leisure activities was not found to spill over into job satisfaction. The paper focused on satisfaction associated with leisure, arts, culture and sporting activities; however, data relating to the above activities are still scanty. According to Seyfang and Smith (Seyfang

& Smith, 2007), technological innovation and Community action are important strands of sustainable development that are rarely linked. However, the grassroots is a neglected site of innovation for sustainable development; hence more research still needs to be explored.

According to the research conducted by Gauthier et al. (2018) concluded that the development of alliance-building capabilities should focus not strictly on the selection of potential allies but also on effective implementation. Although case study research is well-established as a means of developing and extending theory through an inductive, contextualized investigation, generalizability is a limitation. To date, research in social entrepreneurship has been constrained by the lack of available large samples to conduct quantitative research. Furthermore, research on community currency is still scanty.

A study by Haslam et al. (Haslam et al., 2009) concluded a dramatic upsurge of interest in the study of social identity processes in applied contexts and the extension of insights from the corpus of work in the social identity tradition to areas of applied psychology. A lot of work was done on social identity and well-being. However, the data on the impact of community currency on the social well-being of the people is still scanty. Holm and Østergaard (Holm & Østergaard, 2015) concluded that Regional industrial resilience involved adapting in times of crisis and evolving into a structure that allowed such systems to continue to survive and grow under new conditions. The study analyses changes in

employment in a single sector within particular regions concerning changes in the business cycle following a major shock. However, the results of the reviewed study do not reveal the regions' ability to generate new industries as a response to a shock. Use of community currency can be a panacea to this problem by finding out how efficaciousness of the benefits derived by the local communities using the local currencies.

## **II. Research tools and methods**

### **Research design**

The study used a Participatory Action Research (PAR) design which emphasized the collaborative participation of trained researchers as well as local communities in producing knowledge relevant to the stakeholder community ((Oaks, 2015)). Participatory action research (PAR) differs from most other approaches because it is based on consideration, data collection, and action that aim to improve livelihoods by involving the people who, in turn, take actions to improve their own lives ((Baum, MacDougall & Smith, 2006)). PAR has been considered a qualitative inquiry that is equitable, democratic, liberating, and life-enhancing qualitative, remaining distinct from other qualitative methodologies ((Macdonald, 2015)). This study considers information on the status of community currencies and promotes potential for uptake among small-scale traders to better their income, sense of worth and investment capacity.

### **Area of Study**

Kisumu County is one of the 47 counties in Kenya located in the western part of Kenya and forms a trading block known as the lake basin regional block. The capital of the administrative unit of Kisumu County is in Kisumu city, the 3rd largest city in Kenya after Mombasa and Nairobi. It has a population of 1,155,574 with a total land area of 2,085 square kilometers. The city is technically known as the regional headquarter of east African countries due to its strategic location, with Uganda and south Sudan on the western side and Tanzania's South part. Moreover, the city is. It is also served by one major international airport, with a very good road network, which connects the city to other neighboring county headquarters such as Nyamira, Kisii, Kericho, Kakamega and Busia. Communication penetration through mobile phones is high, as evidenced by the presence of major national networks such as Safaricom, Airtel and Telkom.

### **Target population, sample size and sampling techniques**

Population refers to the total number of possible units or elements included in the study (Gray, 2019). The target population/ sampling frame comprised 5,000 traders in the Kibuye market. The number was obtained from the focus group discussion, the Kisumu chamber of commerce, and the Ministry of labour and social services. The traders were mapped using location GPS coordinates.

A sample is a subset of the population selected to represent the larger population (Alvi, 2016). Moreover, a sample is a procedurally selected smaller group representing an accessible target research population (Muchelule, 2018). The sample was selected from the target population, and sampling was done through stratified random sampling. The stratification was based on geographical considerations (wholesaler unit, Kibuye central and lower Kibuye).

### **Data collection tools**

The research instruments used for the data collection were Questionnaires, interview schedules, document analysis guides and group discussion guides. Questionnaires were used due to the wide-ranging variables, self-administration and also due to their anonymous nature. On the other hand, interviews provide contexts where participants can ask for clarification, elaborate on ideas or explain perceptions in their own words. Focused group discussions were used to obtain data from community groups and administrators. Document analyzed gave the true details of the accounts, while group discussions reflected on the reality trader's face using CC.

### **Data analysis**

For quantitative data, the numerical summary statistic was obtained by computing mean (a measure of central tendency) around which measurements denoted growth of small-scale businesses assessed by profitability (savings), market share, employment level and business value. Similarly, standard deviation (spread) was computed to illustrate

how far away the individual measurements are from the center. Measures of frequencies and Chi-square tests were used to assess the level of association involving individual categorical outcome (dependent) variables and individual categorical independent variables. Correlation analysis was conducted to determine the relationships between the dependent and independent variables. Correlation analysis was used to determine the existence and strength of association between variables. Such an analysis was done before conducting regression analysis or model estimation.

Given that this study sought to establish the relationship between risk management and financial performance, Pearson (r) correlation coefficient was computed given the interval nature of the data and the need to test the direction and strength of association among the study variables. Moreover, ANOVA was used to determine the variability's between the variable. A regression model was considered to model dependent variables. It describes data and explains the relationship between one dependent variable and one or more nominal, ordinal, interval or ratio-level independent variables.

**Model assumptions:** The dependent variable should be dichotomous, e.g.; (Mound ownership, Yes/No, harvesting, Yes or No, consumptions, Yes or No, etc.); there should be no outliers in the data, which can be assessed by converting the continuous predictors to standardized scores; and there should be no correlation (multicollinearity) among the predictors. A correlation matrix correlation matrix among the predictors.

Mathematically, regression estimates in a multiple linear regression function are defined as;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Where: Y = Growth

- Community networks
- Financial services innovations
- Social Innovations
- Constants
- e - Error term

Qualitative data collected were analyzed using a thematic approach, according to Braun and Clarke (2006). Themes are recurrent patterns in data that represent a concept (Wang, 2015)

### **III. Results and discussion**

Before testing hypotheses, the study sought to examine how the relationships between the variables; Community Networks, Financial Services Innovations, Social Innovations, Entrepreneurial Networks and Growth of small-scale business were related. The analysis was done using Pearson product-moment correlation. The results showed that small-scale business growth was positively correlated with community, social, entrepreneurial, and financial innovation. This positive correlation showed that community currency directly affects the growth of small-scale businesses within the informal settlements. There was a strong and positive correlation between community innovations and the growth of the small-scale business, which was statistically significant (Pearson's  $r = 0.784$ ,  $p = 0.000$ ,  $p < 0.05$ ); hence improving community innovations facilitated an increase in the growth of small-scale businesses in informal settlements. The results further revealed a significant and positive correlation between financial services innovation and the growth of the small-scale business (Pearson's  $r = 0.760$ ,  $p = 0.000$ ,  $p < 0.05$ ). The positive correlation leads to the improvement of financial services in turn creates positive growth of small-scale business in the urban settlement. On social innovations, there was a positive and significant correlation with small-scale business, which is significant (Pearson's  $r = 0.806$ ,  $p = 0.000$ ,  $p < 0.05$ ); hence improving social innovations leads to an improvement and increase in small-scale business. From the findings above, it's clear that the moderating variable entrepreneurial network had a positive and significant relationship with the growth of the small-scale business (Pearson's  $r = 0.268$ ,  $p = 0.000$ ,  $p < 0.05$ ). According to (Ruddick, Richards & Bendell, 2015), community networks, financial services, and social innovations positively impact small small-scale businesses that embrace CC (Table 1). Informal settlements within the urban centers face many issues, including health, education, financial and social aspects. The study area's sanitation was poor, and financial flow was not high. The finding was in agreement with previous research which stated that the compound level, in which the compound refers to the area of residence, lacked infrastructural services such as water, sanitation and solid waste disposal. Where they are available, these services are located in areas which are communally used (Simiyu, Cairncross & Swilling, 2019).

**Table 1. Correlation Analysis of Study Variables**

Correlations		Community network	Social innovation	Growth Small-scale	Entrepreneurial Network	Financial innovation
Community network	Pearson Correlation	1	.737	.784	.165	.761
	Sig. (2-tailed)		.000	.000	.000	.000
	N	464	426	410	463	429
Social innovation	Pearson Correlation	.737	1	.806	.143	.735
	Sig. (2-tailed)	.000		.000	.002	.000
	N	426	449	404	448	423
Growth of small-scale	Pearson Correlation	.784	.806	1	.268	.760
	Sig. (2-tailed)	.000	.000		.000	.000
	N	410	404	435	435	407
Entrepreneurial network	Pearson Correlation	.165	.143	.268	1	.091
	Sig. (2-tailed)	.000	.002	.000		.053
	N	463	448	435	612	455
Financial innovation	Pearson Correlation	.761	.735	.764	.091	1
	Sig. (2-tailed)	.000	.000	.000	.053	
	N	429	423	407	455	456

\*\* . Correlation is significant at p= 0.01 level (2-tailed).

**Test the Community networks' hypothesis on the small-scale business growth in the informal settlement.**

The study sought to examine the effect of Community networks on the growth of the informal settlement's small-scale business. It was hypothesized (hypothesis H<sub>01</sub>) that Community networks have no significant influence on the growth of the small-scale business in the informal settlement in Kisumu County when moderated by Entrepreneurial Networks. The analysis was done using hierarchical stepwise multiple regression. The R Square for Model 1 was 0.615, indicating that 61.5% of the variation in the growth of small-scale businesses in an informal settlement is explained by variation in the independent variable community networks. In model 2, the interaction term between Community Network and Entrepreneurial Network (Community Network\* Entrepreneurial Network) was introduced, revealing that after the moderating variable (Entrepreneurial Network) was added to the model, R square increased to 0.633, which implies that the moderator variable entrepreneurial network, the interaction term and the independent variable community network explain 63.3% of the variance in the growth of the small-scale business. This shows that when the moderating variable is added to the model, an additional 1.9% variance in the growth of small-scale businesses in the informal settlement is explained by the model (R square change= 0.019) (Table 2).

**Table 2. Model Summary of the Effect of Community Network and Entrepreneurial Networks on the Growth of small-scale business**

Model Summary												
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics							
					R Square Change	F Change	df1	df2	Sig. Change	F		
1	.784 <sup>a</sup>	.615	.614	.46721	.615	650.947	1	408	.000			
2	.796 <sup>b</sup>	.633	.632	.45635	.019	20.651	1	407	.000			

a. Predictors: (Constant), Community network

b. Predictors: (Constant), Community Network, Entrepreneurial Network

Analysis of variance indicated that the two variables community network and the moderator Entrepreneurial Network in model 2, achieved a high degree of fit, which was statistically significant with R Square of 0.633 ( $F = 351.475, p = 0.000, p < 0.05$ ) and could therefore be used to predict the growth of small-scale business in the informal settlement in Kisumu County (Table 3).

**Table 3. ANOVA of the Effect of Community Network and Entrepreneurial Networks on the Growth of small-scale business**

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	142.090	1	142.090	650.947	.000 <sup>b</sup>
	Residual	89.059	408	.218		
	Total	231.149	409			
2	Regression	146.390	2	73.195	351.475	.000 <sup>c</sup>
	Residual	84.758	407	.208		
	Total	231.149	409			

a. Dependent Variable: Growth small-scale

b. Predictors: (Constant), Community network

c. Predictors: (Constant), Community network, Community Network\*Entrepreneurial Network

#### IV. Regression analysis

The standardized regression coefficients shown in Table 4, for model 1 revealed that for every unit increase of Community Network, small-scale business increased by 0.784 ( $\beta = 0.784$  and was statistically significant ( $p = 0.000, p < 0.05$ ). Therefore, Model 1 can be written as:where:

$$X_{it} = \text{Community Network}$$

This shows that the Community Network dimension was positively correlated with the growth of small-scale businesses in informal settlements in Kisumu. Regarding the relative effect of the predictor variable and interaction term in explaining variation in the growth of the small-scale business, standardized coefficients in Model 2 revealed that the predictor variable Community Network had a greater effect ( $\beta = 0.772, t = 25.608, p = 0.000, p < 0.05$ ) than the interaction term ( $\beta = 0.137, t = 4.544, (p = 0.000, p < 0.05)$ ). Therefore.

Where:

$Y_{it}$  = growth of small-scale business

$X_{it}$  = Community Network

$EN_{it}$  = Entrepreneurial Network

Further, the standardized coefficients show that the predictor variable has a significant and positive effect on the growth of the small-scale business. Similarly, the interaction term significantly positively affected the growth of small-scale businesses in the informal settlement in Kisumu County. The results indicate that the Entrepreneurial network as a moderator is a statistically significant moderator of the relationship between the Community network and the growth of small-scale business hence rejecting hypothesis  $H_{01}$ , which hypothesized that the Community network has a significant influence on the growth of a small-scale business when moderated by the entrepreneurial network.

**Table 4. Hierarchical Regression results for Moderating Entrepreneurial network on the relationship between Community network and growth of small-scale business**

Coefficients						
Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients		
				Beta		
1	(Constant)	.631	.135		4.667	.000
	Community Network	.839	.033	.784	25.514	.000
2	(Constant)	.266	.155		1.721	.086
	Community Network	.826	.032	.772	25.608	.000
	Community Network*Entrepreneurial Network	.109	.024	.137	4.544	.000

a. Dependent Variable: Growth of small-scale

**Test of the hypothesis of the effect of financial service innovation on the growth of the small-scale business in the informal settlement.**

The investigation was done to determine the effect of financial service innovation on the growth of the small-scale business in the informal settlement it was hypothesized (hypothesis  $H_{02}$ ) that financial service innovation has no significant effect on the growth of small-scale business in the informal settlement in Kisumu County. The analysis was done using hierarchical stepwise multiple regression. As shown in Table 5, the R Square for Model 1 was 0.577, indicating that 57.7% of the variation in growth of small-scale businesses in an informal settlement is explained by variation in the independent variable Financial Service innovation. In model 2, the interaction term between Financial service innovation and Entrepreneurial Network (Financial service innovation \* Entrepreneurial Network) was introduced, revealing that after the moderating variable (Entrepreneurial Network) was added to the model, R square increased to 0.606, which implies that the moderator variable entrepreneurial network, the interaction term and the independent variable Financial Service innovation, explains 60.6% of the variance in the growth of the small-scale business. This shows that when the moderating variable is added to the model, an additional 3.1% variance in the growth of small-scale businesses in the informal settlement is explained by the model (R square change= 0.031).

**Table 5. Model Summary of the Effect of Financial Service innovation and Entrepreneurial Network on Growth of small-scale business**

Model Summary													
Model	R	R Square	Adjusted Square	R Std. Error of the Estimate	Change Statistics								
					R Change	Square	F Change	df1	df2	Sig. Change	F		
1	.760 <sup>a</sup>	.577	.576	.48349	.577		553.314	1	405	.000			
2	.780 <sup>b</sup>	.608	.606	.46617	.031		31.650	1	404	.000			

a. Predictors: (Constant), Financial Service innovation

b. Predictors: (Constant), Financial Service innovation, Community Network\* Entrepreneurial Network

### V. Conclusion

In conclusion, community network contributes greatly to the growth of the small-scale business. This is because there is a positive relationship between the growth of small businesses and community networks using CC. Secondly, financial services innovations positively affect small-scale businesses as they lead to growth. Social innovation also has a positive effect and should be encouraged among small-scale business owners. Lastly, when these factors are moderated with entrepreneurial networks, the variation variance was found to increase, implying that it had a greater effect in explaining the growth of the small-scale business.

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