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INVESTIGATING THE IMPACT OF COMPLEMENTARY CURRENCIES ON BUSINESS GROWTH IN INFORMAL ECONOMIES: CASE OF LINDI-PESA IN LINDI, KIBERA SLUM, NAIROBI COUNTY

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LIST OF ABBREVIATIONS

CC(s)	Community Currency(s)
CCS(s)	Community Currency System
LP(s)	Lindi-Pesa
Ksh(s)	Kenya shillings
LBN	Lindi Business Network

ABSTRACT

This study sought to investigate the role of complementary currencies in promoting business growth in an informal area, the case of Lindi-Pesa in Lindi Location, Kibera Slum, Nairobi County. The methodology that was undertaken to address the objectives was a Census Survey study. Three research instruments, namely; questionnaire, interview schedule and observation were used. The number of people that participated in the study was: one hundred and twenty three traders and twelve informants.

With respect to the role Lindi-Pesa plays in promoting access to finance, all the respondents indicated that the use and adoption of the program had provided the respondents with an avenue of savings. The traders were able to gain financial assistance through merry-go-rounds. The LBN also introduced some of their members to banks and microfinance institutions for funding. All the traders agreed that the program had been able to increase their sales and profitability, thereby boosting their business growth. All the participants viewed Lindi-Pesa as a sustainable program, mostly due to the aspect of promoting community cohesiveness. A Pearson Correlation Coefficient Matrix was carried out to identify the strength of relationships between the dependent and independent variables. It revealed that there exists a strong positive relationship between business growth and the dimensions that promote trade and business support services.

The study concludes that promotion of trade and the enhancement of business support significantly increased business growth whereas the contribution of Lindi-Pesa to access to finance had no significant effect on business growth in the area. The study recommends further research to find the price formation/setting mechanisms that apply in community currency systems.

1. INTRODUCTION

1.1.Background to the Study

A complementary currency (CC) is a specific unit (or system) of account that complements the official currency and has been developed on the initiative of a group of agents (individuals, enterprises, NGOs, associations, foundations) that have formed a network or operate in a defined territory, with a view to accounting for and regulating exchanges of goods and services (Marie Fare, 2014). The Lewes Pound 'How To' manual defines a local currency as a currency that operates in a complementary manner to the official currency. It is usually only accepted by local traders rather than chains or supermarkets and gives local residents an incentive to shop locally. As a result, it helps communities strengthen their local economy, build community spirit and reduce its carbon footprint.

Their use has been more pronounced during times of financial crises and economic downturn when world economies or national currencies are experiencing the effects of war, economic shocks or stagnation that threaten future development (Liubertas, 2012; Schroeder, 2006). In developing countries, CCs are used in depressed communities, especially slums, as a way of rejuvenating their economies through improved trade (Ruddick, Richards and Bendell, 2013), reducing unemployment (Ruddick, 2011), tackling welfare problems (Miller, 2008), and protecting community values and the environment (Joachain and Klopfert, 2012). The Great Depression of the 1930s and the 2007 Global Economic Crises are important reference points (Lietaer and Hallsmith, 2006; Liubertas, 2012; Schroeder, 2013; Stodder, 2009).

Kenya faces great poverty with 54.4% of the population living in abject poverty although it has been seen as a logistical and technological hub for East Africa. Lack of rights to property, poor levels of education and training; glaring socio-economic marginalization; infrastructure, health and social services constraints are some of the challenges Kenyan population faces. Complementary currencies are best suited to address some of these challenges, more so within the informal areas. Complementary currencies can bring about huge benefits to informal areas due to their density and diversity of businesses, severe scarcity of a medium of exchange, lack of stable markets and absence of or poor public services (Bendell, Richards & Ruddick, 2015).

Complementary Currency in Kenya – A Case of Lindi-Pesa

Lindi-Pesa is a complementary currency that was introduced in Kibera slum in Nairobi County, Kenya. It was introduced in August 2015. Lindi-Pesa comes from the Lindi-Location inside East Africa's largest slum – Kibera. Lindi-Pesa as a medium of exchange is accepted only within Kibera. It acts as a voucher that is used to do business by traders and service providers. Unlike coupons that are used for specific goods or services, Lindi-Pesa vouchers are used for many transactions representing a complementary currency that acts as a means of exchange in the slum. With a shifting and growing population, Kibera is reported to house up to half a million people, living in extremely harsh conditions. The Lindi Business Network consists of several schools, nurseries and more than 100 small businesses. This group of over 90% women run businesses has already taken the community currency concept and run with it.

One unit of Lindi-Pesa is equivalent to one unit of the Kenya Shilling. Lindi-Pesa is an element of credit within the mutual exchange system of barter or credit clearing that gives traders a means of making payments equal or that complements actual money. Therefore, it restores stability allowing the community to carry out trade when the national currency is volatile.

To join the network, an interested member (and who must be a trader) fills a registration form and is required to marshal the endorsement of four members from the network. The four act as guarantors and are responsible for the persons conduct within the group. After reviewing the application and list of guarantors, a committee evaluates the application and can accepts or rejects it. If accepted, the new member is trained on how the LBN operates and is then allotted Lindi-Pesa which one commits to back with goods and services according to the statues of the network. Members are mandated to spend and receive Lindi-Pesa locally for goods and services only within members of the network.

Community currency is legalized in Kenya since it does not replace but complements the national currency. It represents the foundation of what is rapidly becoming a global

movement toward democratic and decentralized monetary systems. (Grassroots Economics, 2015).

Community currencies are gradually shaping trade in the informal areas with high population where most people are running small business enterprises.

1.2.Problem Statement

Previous studies at a global level have explored the impact of CCs suggesting that these initiatives have been shown to tackle social exclusion and unemployment (Williams et al., 2001; Pearson, 2003; Seyfang, 2001b, 2002, 2003, 2004); localise economies and improve resilience (Graugaard, 2012; Gregory, 2009); build social capital, and civic engagement and participation (Seyfang & Smith, 2002; Collom, 2008); promote sustainable consumption (Briceno & Stagl, 2006; Seyfang, 2001a, 2006), and alternative social movements (North, 2007; Collom, 2011).

There has been no study done on the impact of complimentary currency on business growth. In the past few decades, there have been concerted efforts to improve the business environment in Kenya in order to spur economic growth and reduce the levels of poverty within the country.

Nonetheless, the country continues to face economic hardships attributed to many factors, among them is an underdeveloped private sector which accounts for most of the employment. Faced with a dense local business trading and periodic currency scarcity, the Lindi Location in Kibera has been a prime target for the introduction of a complementary currency: the Lindi-Pesa.

This study was founded on the premise that there are many unanswered questions regarding the role played by complementary currency in Kenya and the lack of sufficient literature on the same.

1.3.Research Objectives

1. Examine the kind of business support services offered within the LBN.
2. Establish how the use of Lindi-Pesa promotes access to financing for members of the LBN.
3. Determine ways in which adoption of Lindi-Pesa promotes trade for members of the LBN.
4. Determine the threats and opportunities presented by the adoption of Lindi-Pesa.
5. Evaluate the sustainability of Lindi-Pesa as a complementary currency

1.4.Research Questions

1. Which are the business support services offered by the LBN?
2. How does the use of Lindi-Pesa promote access to financing for members of the LBN?
3. In what ways does the adoption of Lindi-Pesa promote trade for members of the LBN?
4. What threats and opportunities are presented by the adoption of Lindi-Pesa?
5. Is Lindi-Pesa sustainable as a complementary currency?

1.5. Justification of the Study

The study was meant to establish the use of complementary currency and its contribution to business growth. The study solicited views from various respondents who have used the complimentary currency (Lindi-Pesa). It began by noting that the complementary currency has done well since its inception in late 2015 to date. The study included interviews with the Lindi-Pesa Business Network officials.

The information collected from this study would contribute to the broader understanding of complementary currency, the role of complementary currency in Kenya and how it drives business growth. It may also provide a basis for formation of a policy framework to guide the circulation and usage of complimentary currency in Kenya.

2. LITERATURE REVIEW

2.1.Overview of the Literature Review

The chapter gives a review of existing literature on CCs, the idea behind it and its usage from local and global perspectives. At the international level, CC in
Brazil represents the developing countries. In the local context, the case of Lindi-Pesa in Kibera, Nairobi County is reviewed. The conceptual framework and theories that guided the study are also discussed.

2.2. Theoretical Framework

A theoretical framework is as a collection of interrelated concepts that guide a research work. It gives direction on the items for measurement and the statistical relations being studied. It can also be defined as a reasoned statement or group of statements, which support the evidence meant to explain a given phenomenon (Gary & Kotler, 2015). In the development of this literature review this study has found the concept of use of complementary currency in Kenya as one that is best analyzed through the Resource Mobilization Theory (RMT).

2.2.1. Resource Mobilization Theory

According to McClanahan (2003), CCs form from the personal grievances that arise from structural and social changes in a community. Resource mobilization indicates that the major factor that leads to formation of social movements is the availability of resources and opportunities for group action (Jenkins, 1983). According to Jenkins, the theory has five principles; that the actions of social movement members and participants are rational, the actions of social movements are strongly influenced by institutionalized power imbalances and existing conflicts of interest. The power imbalances and conflicts of interest are adequate to generate grievances that lead to the mobilization of social movement's intent on changing the distribution of resources and organization. Centralized and formally structured social movements more effectively mobilize resources and achieve goals of change than decentralized and informal social movements. The success of social movements relies heavily on the group strategy and the political climate (Jenkins, 1983).

In this study the RMT has been used to analyse and explain the adoption and use of Lindi-Pesa and its contribution to trade from the experiences of the LBN members. Understanding Lindi-Pesa can best be undertaken through the concept of the social movement in this case the LBN. By using the RMT, the study was able to bring out the rationale of the actions of social movement members and participants. The role of LBN in enhancing the adoption and use of Lindi-Pesa was viewed from the second principle of the RMT. The formation of Lindi-Pesa and the woes that have befallen the proponents of the initiative is one that has strongly been influenced by institutionalized power imbalances and existing conflicts of local authorities. The sustainability of Lindi-Pesa is seen as a resource mobilization initiative that is meant to achieve given goals amongst its users. Thus its success relies on the strategy that the group has adopted which in this case focuses on the threats and opportunities, and highly dictated by the economic environment.

2.3. Business Growth

Storey (1994) states that business growth is categorized by the combination of three components; the entrepreneur, the firm and the strategy. According to Storey (1994), all the three components need to combine appropriately for a firm to achieve rapid growth. Nkonoki (2010) on the other hand argues that factors limiting business growth are usually inherent in the characteristics and attitude of the entrepreneur(s) and the firm. These factors can be impacted by the decisions within the firm and range from; absence of drive and motivation; lack of or poor experience in running and managing a business; lack of capital or finances; absence of or poor vision and business plans; absence of trust in business; pilferage/theft/cheating; absence of or poor management skills in running informal or unregistered enterprises, keeping good records; insufficient training and education; poor talent and social skills; lack of proper consultation and professional advice.

In this study, each component provides a distinctive contribution to our understanding of the growth of small firms and the role of complementary currency in promoting this growth. The study brings out the role of Lindi-Pesa and LBN in shaping the entrepreneur

(in this case the users), in supporting the firm (in this case the business) and in the strategy. Thus business growth is viewed from this perspective in this study.

2.4. Complementary Currencies

2.4.1. Definitions of Complementary Currency

A complementary currency (CC) is a specific unit (or system) of account that complements the official currency and has been developed on the initiative of a group of agents (individuals, enterprises, NGOs, associations, foundations) that have formed a network or operate in a defined territory, with a view to accounting for and regulating exchanges of goods and services (Marie Fare, 2014). The Lewes Pound 'How To' manual defines a local currency as a currency that operates in a complementary manner to the official currency. It is usually only accepted by local traders rather than chains or supermarkets and gives local residents an incentive to shop locally. As a result, it helps communities strengthen their local economy, build community spirit and reduce its carbon footprint.

2.4.2. Concepts and Functionality of CCs

According to Quintiliani (2002), complementary currencies can either be implemented as a fiat currency or a mutual credit. As a fiat currency, it is created and distributed by a designated authority while as a mutual credit system; the transaction participants create it as a simultaneous debit and credit. A case in point of mutual credit system is the Local Exchange Trading System (LETS) in Vancouver, Canada which is membership based. The members list the goods and services offering in LETS currency though in certain instances a combination of LETS currency and the national currency is adopted. Members have a zero balance by the time of joining and debt is incurred when the member buys a service with LETS currency and in return receives a credit when selling the good and/or service. An important aspect of the LETS is that all members' outstanding debit or credit balance is known to the public and thus making it a self-policing process against abuse of the system by individuals (Quintiliani, 2002).

2.4.3. Business Support Services Offered by Complementary Currency Networks

One of the most notable features of CC is the creation of social wealth. Lietaer and Hallsmith (2011) reveal that CC provides communities within a given region to create real wealth in their local economy. This is done by matching the communities unmet needs by building capacity to tap into their underutilised resources. Usually, this is done through networking and educating the masses on their potential.

In the United Kindgdom, Tesco has grown to become the largest supermarket chain store by tapping into the potential of its loyalty currency which it developed into a fully-fledged complementary currency system. By building on the strength of the community, and raising awareness on issues facing them and how they could be addressed, while offering a complementary currency roadmap, Tesco was able to rise into a giant store (Lietaer & Hallsmith, 2011).

2.4.4. Ways in which Complementary Currency supports Access to Financing

Although complementary currencies have different forms and uses, their existence is centred on facilitating exchange within a given community. According to Smid (2013), in cases where the rates of unemployment are high and spending money is scarce, CCs can equal the needs that are not met with the resources of local government not used. The Berkshare Model is seen as one of the best models where complementary currency can increase access to financing hence promoting local businesses. In the Berkshire region of western Massachusetts, locals are able to exchange their federal dollars for the Berkshare at a participating bank. The users are then able to spend the money at participating shops listed in the local directory and advertised by a "BerkShares Accepted Here" sign on shop windows. This incentivizes the citizens and visitors to use the BerkShares, thus keeping them in circulation. By so doing, the local economy is strengthened as it encourages citizens to use services and shops run and owned by members of the local community (Smid, 2013).

2.4.5. Role of Complementary Currency in Promoting Trade

According to Hoffman (2010), complementary currency can assist in creating an economic resiliency for a given community; especially during times of monetary decline when local businesses and economies often struggle to maintain financial viability. Local currencies can help stimulate local economies and increase their resiliency by encouraging local spending, thus retaining money within a community, increasing the speed at which it circulates within a community, and identifying unfilled niche markets.

The use of complementary currency helps strengthen social relationships. Soder (2008) notes that use of CCs helps increase social interaction; as it is specific to a given demographic area, it promotes the building of social capital and collective action. According to Cahn (2001), CCs help bridge the divide between socioeconomic groups by making otherwise undervalued jobs viable. Thus local currencies create a sense of belonging to the members of a given community.

Various benefits can be drawn from the use of complementary currencies. According to Soder (2008), the use of complementary currencies promotes consumption amongst local communities, enhances resource mobilization and creates new jobs and employment for the local community. This often leads to the growth and development of micro entrepreneurs and extra economic values. Furthermore, use of complementary currencies promotes social and community links (Soder, 2008).

Gomez (2009) and Alridge and Patterson (2003) inform that the use of complementary currency promotes the growth of local authorities and more revenue for local authorities. The use of LETS in Canada led to an increase in revenue collection capacity for the local community. According to Lietaer and Hallsmith (2011), an additional positive aspect of the LETS was that the use of green dollars freed up more Canadian dollars for other uses. The LETS network was also an efficient and inexpensive way for local businesses to advertise.

2.4.6. Challenges, Opportunities and Sustainability of Complementary Currency

Successful implementation of a complementary currency requires significant resources, mainly time and money. Collom (2005), in his study of local currencies in 2005, identified 82 currencies that were started in the USA since 1991. In 2005, he found that only 20.7% or 17 systems were still operating. Cities and towns with economic marginality, higher education rates, higher self-employment and younger demographics seemed to experience more success with local currencies. According to Collom (2005), the most frequent causes of decline in local currencies were leadership burnout and limited participation.

The sustainability of complementary currencies is hindered by variety of factors and variables. Blanc (1998) and Blanc (2006) state that, complementary currencies are hindered by a limited purchasing power in market places. Complementary currencies are constrained to specific geographical areas which limit its impact to the local community, its circulation and valuation can therefore be perceived and measured with local parameters. They could also be constrained to the purchase of a few and specific products and services (Blanc, 2006).

The sustainability of complementary currency is also limited due to its time limits. According to Gessell (2010), complementary currency fades in value, rusts and dissolves in the short term between 3 – 6 months. Furthermore, the fees and charges on conservation of complementary currencies often lead to decrease in its sustainability in the long and short term. Gesell (2010) and Gatch (2012) note that complementary currencies often become perishable like goods and labour.

Smid (2013) informs that for complementary currency to succeed, they need to fund to cover all the costs associated with their production. At the same time it requires democratic governance, transparency and accountability in order to succeed. It also needs to be professionally managed in order to support the public good and entice more people to adopt it. Where these lack, the sustainability of such initiatives become threatened (Smid, 2013).

In addition, Cato and Suarez (2012) and Gatch (2012) state that complementary currencies appear during periods of monetary crisis and economic crisis but often disappear after the economic and monetary position of the community improves. Consequently, if a community was using a complementary currency and their economic status improves, then the complementary currency often disappears.

2.5. Global Experiences with Complementary Currency

2.5.1. The The Case of Curitiba in Brazil

Curitiba, in Brazil, is known for its use of CC. The town is located in the state of Parana. Use of complementary currency in Curitiba began in 1991 as a solution to waste management after waste collection trucks found it difficult to access shantytowns. This triggered the mayor, Jaime Lerner, to come up with a solution to the accumulating waste that posed a health risk to the community of Curitiba. Lerner launched the "Cambio Verde" (green exchange) programme to incite people to bring waste to containers outside the shantytowns in return for food or bus tickets. Since 1991, the Green Exchange has collected and recycled 45,125 tons of trash, thereby saving 195,252,646 litres of water. It also recycled 15,793 tons of scrap iron and 4,523 tons of paper. Cambio Verde helps strengthen both social and economic performance at city level and catalyzes the link between essential needs such as food, waste management and underutilized resources such as excess production, citizen capacity to recycle (Vitola, 2007).

According to Rabinovitch and Leitmann (1996), the introduction of Curitiba as a complementary currency was able to help the residents, most of whom were impoverished, leverage on their untapped resources, with the parents gaining access to tokens that they used for paying transport.

Eventually, most people were able to use the tokens to go to downtown where most of the jobs were drawing them into the formal economy. Overtime, these people had more money to use in the local economy which boosted trade in the town. It is estimated that the average income per person in Curitiba is 66% greater than that of the average

Brazilian; a fete attributed to the integration of complementary currency into community development.

2.6. The Metamorphism of Lindi-Pesa in Kenya

The first complementary currency in Kenya circulation was the Eco-Pesa which was launched in August 2010 and came after a 3 month design and community assessment which had begun in May 2010. The implementation of Eco-Pesa was carried out in Bangladesh, Mombasa County (Ruddick, 2011). According to Devas, Gataboki and Rakodi (2000), the residents of these three slums live under extreme impoverishment and businesses in the area experience low amounts of local trade. On the other hand, the residents are faced with challenges of being unable to obtain loans from financial institutions and suffer from high rates of unemployment and lack of social services such as waste management.

The concept of Eco-Pesa was first introduced by Ruddick (2011), who introduced it as a way of facilitation and promotion of environmentally targeted social service work and economic development activities in Kenyan informal settlements. The initial target for the currency was to address the lack of waste management that characterized these informal settlements. To Ruddick, paying residents with Eco-Pesa was going to assist in waste collection by providing a cost effective means of removing the waste while also getting the entire community involved.

Thereafter, Eco-Pesa could then be used at local small businesses in the community, who in turn could continue using it at other businesses, in this way, creating local circulation and boosting local trade. After being able to collect 20 tonnes of waste from the community, the programme began youth-led tree planting operations and they were paid with Eco-Pesa Currency in order to assist in local reforestation and beautification (Ruddick, 2011).

Ruddick (2011) notes that initially the introduction of Eco-Pesa was faced with resistance from the locals but this disappeared when waste collection events started. Local entrepreneurs became eager to adopt Eco-Pesa as they begun to trust in its value. Eco-Pesa as a backed currency model – was a one-off program that lasted a year. According to Ruddick (2011), residents and businesses alike took pride in having their

own currency and this led many locals into adopting it and went ahead to christen it as "Bangla-Pesa". The programme was able to create a stronger and more positive community identity.

Despite having run for a while, the pioneers of the programme were arrested and arraigned in court early 2013 for advancing Bangla-Pesa, an "illegal currency". Nevertheless, they were set free when the courts ruled in their favour and stated that there was need for the legislative arm of government to understand the concept of Bangla-Pesa.

Lindi-Pesa was introduced in Kibera slum in Nairobi County, Kenya in August 2015.

2.7. Conceptual Framework

According to Balachander and Ghose (2003), a conceptual framework is a group of concepts that are systematically organized to provide a focus, rationale and a tool for interpretation and integrations of information. This study notes that the provision of complementary currency is heavily underpinned within a given network, in this case the LBN. In order to promote the use and adoption of their set of complementary currency, such networks engage in various activities in order to add members. Such activities include business support services, providing access to financing and promoting trade for the members. These variables form the independent variables for this study. The study notes that provision of business support services, increasing access to financing and promoting trade for members is a prerequisite for business growth, which is the dependent variable in this study.

The experiences with complementary currency across the globe have been met with various challenges that have affected their sustainability. Thus, the study was able to explore the challenges and opportunities presented through the use of complementary currency, in this case Lindi-Pesa in order to inform on its sustainability.

2.8. Research Gap

Not much research has been conducted on the role of complementary currency in driving business growth and where the research work exists; it is skewed towards the usage of

complementary currency and is more qualitative than quantitative. Therefore, there is a scarcity in knowledge in regards to complementary currency and business growth.

3.0. METHODOLOGY

3.1. The Model Setup/ Research Design

According to Cooper and Schindler (2013), research design is a complex concept that may be viewed from different perspectives. This study adopted a descriptive explanatory research design that sought to examine the role of Lindi-Pesa in promoting business growth. Descriptive statistics were used to analyse the variables of the study in order to gather insights of the entrepreneurs within the LBN. The independent variables for this study were; Business Support Services, Trade Promotion and Access to Financing. The dependent variable for this study was business growth in terms of number of employees, sales, profits, turnover and new products and services. The explanatory part attempted to show the relationship between the independent and dependent variables. In addition, data used was cross-sectional because it was collected by observing many subjects (traders) at the same point of time and without regard to differences in time (Beck, 2004).

Birks and Malhotra (2003) state that there are two types of surveys; sample and census survey. This study targeted all the traders within the LBN, essentially making it a census survey as it targeted an entire population. The study used a detailed questionnaire and interviews schedule.

3.2. Population and Sampling

3.2.1. Target Population

The target population of this study was all traders within the LBN. The traders operate their businesses in the Lindi location, Kibera Slum in Nairobi County. The traders operate under the umbrella of Lindi Business Network that serves all the residents of this area. In the context of this study, the location was on record as having made use of

Lindi-Pesa as a community currency. Therefore, the study was a cross sectional survey of all businesses that accept Lindi-Pesa as a transacting currency. At the time of this study there were at least 200 businesses that met this criterion. The number was deemed manageable, hence the need for a census study. The informants in the study were officials within the LBN network and key community actors. These informants were selected on the assumption that they had deeper knowledge of the topic under study.

3.3. Data Collection Instruments

The study employed the use of three sets of instruments, namely; questionnaires, interview schedules and observation. These instruments were used to gather the primary data relied on this study. In this study, data was mainly primary collected from primary sources using interview guides, questionnaire and observations.

3.3.1. Questionnaire

A questionnaire is a research instrument that enables researchers to gather data over a large sample. As stated by Orodho (2004) a questionnaire has a diverse number of merits upon which a researcher may opt to use it as an instrument to collect data. In this research, a structured questionnaire was used for the collection of data from the traders. The questionnaires were developed in such a way that each item addressed a specific objective and answered a specific research question. This questionnaire offered a large coverage enabling the gathering of data from the target population. The questionnaire was divided into four sections: the first section will be used to get the demographics of the respondents while the other three sections were aligned along the objectives of the study.

3.3.2. Interview Schedule

The study employed the use of this instrument to collect information through personal interviews using a set of predetermined questions. The researcher was able to probe the participants, giving explanations and clarification where necessary regarding the issue of Lindi-Pesa.

3.3.3. Observation

Direct observations were relied upon to come up with a clear picture of the Lindi Location and to capture the Lindi-Pesa vouchers as well the nature of businesses transacting with the vouchers. The observation technique focused on the members of the LBN.

3.4. Data Collection Procedures

The study was greatly aided by the services of one local research assistant that was adept at the process of gathering data by use of questionnaires. The assistant helped the researcher in the administration of questionnaires. Interview schedules with key informants were undertaken personally by the researcher. Data was collected for a period of six (6) months in the year 2016.

3.5. Piloting of the Instruments

Prior to the main study, a pilot study was carried. In the pilot study the entire research procedure was carried out, including analysis of the data collected, following closely the procedure planned for the study. According to Cooper and Schindler (2013), pilot studies are carried out with fewer subjects than the one employed in the main study. The essence of the pilot study is to determine the instruments' validity and reliability. For this study, the pilot study was carried out with four traders and who did not eventually participate in the main study.

3.5.1. Validity of the Research Instruments

Validity is the ability to measure what it is intended to measure. Instrument validity concerns with the level of accuracy to which the particular instrument actually measures what it is meant to measure (Meyers, Gamst & Guarino, 2006).

The pilot study helped to enhance construct validity of the research instruments. It gave the projection of the content validity. The study adopted the data triangulation technique by using a combination of data sources with the effect that the strengths and weaknesses in each source were going to be compensated when used together (Creswell, 2013). The aim was to improve the validity of the research instruments. The research instruments were developed in close consultation with the supervisor who guided on the relevance of

the content on the instrument in relation to the purpose, objectives and research questions.

3.6. Data Analysis

The data was generated by questionnaires, interviews and observation. Schedules were checked, edited, organized and computer coded. The coded data was then analysed using the Statistical Package for Social Sciences (SPSS) 19.0. SPSS was helpful in generating tables and graphs that allowed for ease of interpretation, and finally conclusion and recommendations. The research questions giving qualitative data were analysed using content analysis procedures. Analysed data was then summarized using frequencies and percentages and presented in tables, multiple regression and correlation analysis. Frequencies and percentages were adopted to present, discuss and interpret findings obtained and formed the basis for the research findings, conclusion and recommendations.

3.6.1. Multiple Regression Analysis

Multiple Linear Regression based on 'Ordinary Least Squares' (OLS), which means that the model will be fit so that the differences of sum-of-squares in terms of observed and predicted values will be minimized (Anderson et al., 2010) was used. The predictive power of the independent variables was estimated. The general form of the multiple linear regression is presented in the equation below.

From the regression model the following regression equation was derived:

$$Y = \beta 0 + \beta 1\ X1 + \beta 2X2 + \beta 3X3$$

Where;

Y= Business Growth

X1= Promoting Trade

X2= Business Support Service

X3= Access to Financing

ε = Error term

$\beta 0$ is the intercept or constant, $\beta 1 - \beta 3$ are coefficient

The ε = error term represents all the factors or variables that affect the dependent variable but were not included in the model either because they were difficult to measure or not known.

3.6.2. OLS (Ordinary Least Squares)

Multiple Linear Regression based on 'Ordinary Least Squares' (OLS), which means that the model will be fit so that the differences of sum-of-squares in terms of observed and predicted values will be minimized (Anderson et al., 2010) was used. As suggested in Coakes & Ong (2011) and Pallant (2007), basic assumptions underlying application of OLS analysis were evaluated because the violation of these assumptions may affect the integrity of the regression result. The researcher believed that the OLS regression largely depends on the assumptions hence, the assumptions by Gauss-Markov that dependent and independent variables are closely related, independent variables are not endogenous and the estimators of e and βi are not biased such that errors cancel out were considered.

In addition, the assumptions under Best Linear Unbiased Estimate (BLUE) which are: model is complete, linear relationship and additive; variables are measured on a ratio or interval scale without error; regression error term is normally distributed and has an expected value of zero and sample is unbiased were not violated (Coakes & Ong, 2011).

3.6.3. Tests of Significance

T-tests were used to test the significance of the relationship between the independent variables (promoting trade, business support services and access to financing) and business growth. Significance test – rule of thumb: if the regression-coefficient (beta) is at least twice as large as the corresponding standard error of beta, the result is statistically significant at the 5% level.

A key statistic is R2 which is a measure of goodness of fit showed the percentage variance in the dependent variable (Business Growth) that can be explained by the

independent variables (Promoting Trade, Business Support Service and Access to Financing). Also, the F-Statistic (ANOVA table) was used to show how independent variables significantly explain the variance in business growth. The F critical at 5% level of significance was compared with F calculated and in this study since F calculated was greater than the F critical (4.242>2.412), this showed that the model was significant and that the independent variables (promoting trade, business support services and access to financing) were able to explain the variance in dependent variable. The significance level at .001 is less than 0.05, thus indicating that the predictor variables strongly explain the variation in the dependent variable.

In addition, correlation analysis was done in order to check the strength of the relationship between independent variables and dependent variable. The Pearson correlation coefficient is a measure of the strength of a linear association between two variables and is denoted by *r*. Pearson correlation coefficient, *r*, can take a range of values from +1 to -1 with 0 showing no association, value more than 0 shows a positive association while a value less than one indicates a negative association (Laerd Statistics, 2013).

3.7. Ethical Considerations

The participants in this study did so out of their own volition. Their right to refuse to either be interviewed or to answer all or some of the questions given was respected. At the same time all the information gathered during the time of this study was considered and treated as confidential and was only used in meeting the research objectives.

4.0. DATA ANALYSIS, FINDINGS AND PRESENTATION

4.1. Introduction

This section outlines the findings, analysis and interpretation of the data collected during the field study. The data was collected through questionnaires that were administered to traders in the LBN, sampling of the officials of the LBN and observation.

4.2. Participation Rate

In total, the traders that answered the questionnaires were one hundred and twenty three. This gave a participation rate of 66.5% out of the total of one hundred and eighty five traders at the moment of the study.

4.3. Demographic Information

This section highlights the demographic characteristics of the respondents and their businesses.

The demographics include aspects pertaining to the gender of respondents, nature and type of business and the monthly turnover of the business among others.

4.3.1. Gender

According to the study findings, most of the respondents (70.7%) were females while the males were 29.3%.

4.3.2. Education Level of Respondents

The findings of the study indicate that most of the respondents (37.4%) had attained primary education while 26% had no formal education, 25.2% had attained secondary education and 11.4% tertiary education.

According to Kangasharju and Pekkala (2002), higher education contributes to higher business growth.

4.3.3. Type of Business

The findings of the study reveal that most of the businesses operating in the LBN and which accepted Lindi-Pesa were small scale traders. Majority (86.4%) were in retail trading with many engaging in the sale of food commodities. The other 13.6% were in the service industry providing services such as courier, water vending, sewing and carpentry among others.

4.3.4. Length of Time Business has been in Operation

The findings of the study show that most of the traders had been operating their business in the Lindi area for between 4 to 6 years while 29.3% for over 6 years, 22.8% for between 2 and 6 years and 14.6% for less than 2 years.

Cumulatively, 85.4% of the traders had been in business for more than two years, an indication that most of the study respondents had been in operation before the Lindi-Pesa initiative was initiated in the Lindi area. The respondents were therefore in a vantage position of providing valuable information based on their experiences before and after the introduction of Lindi-Pesa, hence an advantage to the study.

4.3.5. Monthly Turnover of Business

From the findings of the study, most of the respondents had a monthly turnover of between Kshs 10,001 and Kshs 25,000. Thirty nine percent (39%) of the respondents earned between that range while 30.1% earned less than Kshs 10,000, 25.2% between Kshs 25,001 and 50,000 and 5.7% between Kshs 50,001 and 100,000. There were no respondents who indicated that they had a monthly turnover higher than 100,000.

On average, the businesses had a monthly turnover of Kshs 15,480 or a daily turnover of Kshs 516. During the study, the researcher noted that most of the respondents engaged in small businesses, whereby for some the businesses were a means of meeting their daily basic needs; food being the primary need.

Most of the respondents indicated that they had no employees and business was carried out with the help of the family members, mainly the children. In total, 79.7% of the respondents indicated that they did not have any employees to assist them in their businesses. On the other hand, those who had employees had on average only one employee with the range being 1 – 2 employees.

4.3.6. Tenancy

The study findings reveal that most of the business premises were not rented. 70.7% of the respondents were operating from premises that were not rented while 29.3% operated from rented premises. Most of those who were not operating from rented premises carried out their businesses from *kiosks* and *vibandas* located by the roadsides.

Majority of those who were in rented premises operated shops while a few were hair salons, movie stores, cyber cafés, a dispensary among others.

The monthly rent for the business premises ranged from Kshs 1,500 to Kshs 20,000. It is important to note that only two respondents indicated that their rental charge was Kshs 20,000. On average the monthly rent for the businesses premises was Kshs 4,550.

4.4. Business Support Offered within the LBN

4.4.1. Importance of Training

In this study most of the respondents placed an importance on training as a necessary tool of enhancing business growth. When asked if they placed an importance on training, the majority 83.7% were positive. Only a small percentage of 16.3 did not place importance on training.

According to Patel (1985), training is important as it allows entrepreneurs to explore the environment and identify the various opportunities for improvement, hence mobilize resources and be able to implement actions that maximize those opportunities.

4.4.2. Forms of Training offered within the LBN

All the respondents in this study indicated that they received business training through the LBN. First, findings of the formal business training offered are given. Most of the respondents (61%) had received training on time management. 30.1% received technical training while 18.7% on record keeping and a similar percentage on management training. 14.6% had received training on marketing management.

The LBN members usually met once a week (Saturday) and it is from such meetings that the member's needs would be discussed and training organized. Although all the respondents indicated that there was need for more training they were satisfied with the training offered noting that it was catering for their needs towards growing their businesses.

Grassroots Economics Foundation helps train the community and verifies the vouchers are being used properly and there are enough businesses in the network to back the voucher. However, most of the training was done through peer to peer training.

4.5. The Role of Lindi-Pesa in Promoting Access to Financing

All the respondents in this study indicated that the adoption of Lindi-Pesa had provided them with an avenue to utilize excess stock which would have previously not have been utilized, providing an opportunity for savings. Majority of the respondents (73%) had been able to join LBN chamas which operated as merry go round schemes that helped the entrepreneurs to access financing from the chamas and from banks and microfinance institutions.

According to one of the officials of the Lindi-Pesa Initiative, Lindi-Pesa had allowed people to barter more effectively and pay for basic needs including education for local students. It had also provided funding for community service work like waste collection and sports.

4.6. Ways in which Lindi-Pesa Promotes Trade

4.6.1. Types of Goods and Services bought by Lindi-Pesa

The study found out that most of the goods that were purchased using Lindi-Pesa were mainly foodstuffs such as; sugar, fish, porridge, potatoes, githeri, maize flour, cooking oil, milk and bread.

The most accessed services by use of Lindi-Pesa were courier services which were mainly procured by the traders for transportation of their goods from the nearby market to their business premises. Other services included carpentry works, hair dressing, tailoring and school tuition for children among a few others.

On average, the respondents revealed that they carried out an average of six transactions on a daily basis using Lindi-Pesa. The number of transactions taking place in a day ranged from three to twelve.

4.6.2. Contribution of Lindi-Pesa to the Lindi Community

All the respondents in this study noted that the use of Lindi-Pesa had contributed positively to their businesses. Several of them noted that Lindi-Pesa had improved their standards of living and was a great means of poverty eradication within the area and where many of the residents were living in squalid conditions. The respondents also

revealed that Lindi-Pesa had allowed more trade between the members, providing a stable customer base and an avenue of free advertisement.

The acceptance of Lindi-Pesa by schools ensured parents were able to pay part of their children school fees with Lindi-Pesa hence allowing them to reinvest in their businesses the money they would have used to undertake the same. To the respondents, this had made their operating capital to increase.

The researcher was also able to elicit more opinions from the respondents by the use of a Likert Scale with 11 dimensions on the contribution of Lindi-Pesa and which the respondents were expected to rate on a scale of 5 (Strongly Disagree, Disagree, Neither Disagree nor Agree (neutral), Agree and Strongly Agree). The greatest contribution of Lindi-Pesa was that it had increased interactions between community members. Forty seven point two percent (47.2%) of the respondents agreed to this while 39% strongly agreed, cumulatively giving an 86.2% response of those who agreed and strongly agreed. This was followed by Lindi-Pesa having improved daily sales with 39.8% of the respondents agreeing and 39% strongly agreeing; a cumulative figure of 78.8%. Reduction of poverty followed with 34.1% agreeing, 31.7% strongly agreeing while 9.8% neither agreed nor disagreed. With regard to Lindi-Pesa contributing to business growth, 36.6% of the respondents agreed, and 27.6% strongly agreed whereas 18.7% neither disagreed nor agreed.

Another aspect was Lindi-Pesa having opened new opportunities to the community with 39.8% of the respondents agreeing, 23.6% strongly agreeing and 22.8% neither disagreeing nor agreeing.

Regarding providing members with access to social services, 36.6% of the respondents agreed, 24.4% strongly agreed, 22.8% neither disagreed nor agreed while those who disagreed and strongly disagreed were 16.2%.

On having increased community empowerment, 33.3% agreed, 25.2% strongly agreed, 10.6% neither disagreed nor agreed while those who disagreed and strongly disagreed were 17.9%.

The least contribution of Lindi-Pesa was that of opening doors for accessing financial lending with majority of the respondents (38.2%) disputing this while 31.7% were on the affirmative.

4.7. Threats to Lindi-Pesa and how to overcome them

4.7.1. Threats

From the findings of the study, all the respondents in the study concurred that the idea of Lindi-Pesa was very new and as such was prone to many misconceptions. One reported challenge of Lindi-Pesa was that of businesses accepting too much Lindi-Pesa, such that they can't meet their stock requirements. At the same time, nonmembers could be coerced to accept the vouchers and not understand where to spend them or how to use them. To address this, members are given the criteria not to accept a balance of more than 400 Lindi-Pesa and to spend as fast as they receive - and not trade with non-members.

The security features on the vouchers such as metallic foiling, serial numbers, ultra violet ink and specialty were quite expensive and thus their enhancements as well. As a result, the printing costs are high. Thereby, loss or damage of the voucher does a disservice to the network. Although the voucher has security features, the risk of counterfeiting was a concern to the members of the LBN. To address this, the organization limits trade of Lindi-Pesa within its members.

4.7.2. Ways in which Regulatory Authorities and Financial Institutions can enhance the adoption of Complementary Currency in the Country

Most of the respondents (55%) in this study felt that there was need for complementary currencies to be enhanced within the country, especially within slum settings where majority of the people are suffering from abject poverty. One of the ways in which both the local and national government could enhance the usage of these currencies was through non-interference. The respondents noted that when the government interferes with such operations users end up getting scared and thus pulling aware from such initiatives.

Increasing awareness campaigns was another avenue the respondents felt would go a long way in enhancing the adoption of Lindi-Pesa. Through extensive media campaigns for complementary currencies, the government and its agencies would create faith of users hence allowing for more to be drawn in.

On the other hand, a few respondents indicated that there was need for the Central Bank of Kenya (CBK) to come up with regulatory measures governing the adoption and use of complementary currency in Kenya. Such measures it was suggested should include aspects such as; registration of each given complementary currency and documenting on the operations, security features and locality of the currency.

There were also a few users who argued that there was need for government initiatives to give a priority to groups such as the LBN when it came to public funding. Since LBN was already in existence, the respondents were of the view that funding of the group would be a worthwhile venture of alleviating poverty and empowering the locals.

Most of the respondents (80.5%) did not believe that the regulatory authorities and financial institutions had played a positive role towards the adoption of Lindi-Pesa. Those that indicated that regulatory authorities and financial institutions had played a role towards the adoption of Lindi-Pesa were 19.5%.

On the other hand, those who indicated that the regulatory authorities and financial institutions had played a role lauded the County Government of Nairobi for having been interested and having shown support in the initiative.

4.8. Sustainability of Lindi-Pesa

4.8.1. Sustainability of the Mission of Lindi-Pesa

Lindi-Pesa is a voucher for goods and services of members of the Lindi Business Network. Its circulation and mutual-credit nature make it a community currency. The founder started the initiative as means of empowering the community of Lindi Location to pull themselves out of abject poverty through the developing and managing their own community currency. Lindi-Pesa acts as a means of exchange complementary to the Kenyan Shillings when Kenyan Shillings are scarce, enabling trade when it would otherwise be stopped. Lindi-Pesa is regulated by the Lindi Business Network, LBN in coordination with Grassroots Economics Foundation and local government.

Based on this background information, the mission of the initiative is sustainable and is a worthwhile venture. All the respondents in this study agreed that the intention of Lindi-Pesa in its very nature was sustainable as the problems in the slums were endemic, and would persist for as long as slums were in existence.

4.8.2. Economic Sustainability of Lindi-Pesa

Similar to the sustainability of the mission of Lindi-Pesa, all the respondents were of the view that it was economically sustainable as well. Many noted that more people were embracing the initiative and registering to become members of the LBN. The group officials felt that with increasing membership the economic sustainability of Lindi-Pesa was assured.

Therefore, just like in the case of Lindi-Pesa, complementary currency allows for people to barter trade more effectively and pay for basic needs including education for local students. It has also enabled LBN members to save more Kenyan Shillings in the form of merry go-rounds and also provided funding for community service work like waste collection and sports.

Thus the benefits it presents were the foundation of its sustainability economically.

The study was also able to elicit more opinions on factors affecting the sustainability of Lindi-Pesa through a Likert Scale with 6 dimensions affecting its sustainability. Respondents were expected to rate each on a scale of five (Strongly Disagree, Disagree, Neither Disagree nor Agree (Neutral), Agree and Strongly Disagree).

From the findings, government interference emerges as the fact that has the most influence on the sustainability of Lindi-Pesa. The respondents make it clear that government interference could cripple the Lindi-Pesa initiative with 50.4% of the respondents strongly agreeing and 49.6% agreeing. Equally important was the support that Lindi-Pesa was receiving from the users. Most of the respondents were in support of the officials of Lindi-Pesa. This is captured in the findings where 42.3% of them strongly agreed to this while 44.7% agreed, 8.9% neither agreed nor disagreed and 4.1% disagreed. Another aspect was Lindi-Pesa becoming stronger every day. On this, 41.5% of the respondents strongly agreed, 46.3% agreed, 7.3% neither agreed nor disagreed while 4.9% disagreed. With regard to the educated community members being in

support of Lindi-Pesa, 24.4% agreed, 19.5% strongly agreed while 21.1% neither disagreed nor agreed, 17.9% disagreed and 17.1% strongly disagreed. As for the youth in the community being committed to the success of Lindi-Pesa, most of the respondents, 25.2%, neither disagreed nor agreed followed by 23.6% who agreed, 19.5% who disagreed, 16.3% who strongly disagreed and 15.4% who strongly agreed. Cumulatively, 39% of the respondents (Strongly agreed and agreed) believed that the youths were committed to the initiative while 35.8% (Strongly disagreed and disagreed) were of the contrary opinion. On Lindi-Pesa creating conflicts within the community, most of the respondents showed disrepute with 25.2% strongly disagreeing and 37.4% disagreed while 17.9% neither disagreed nor agreed with a similar number agreeing and 1.6% strongly agreeing.

The findings show that Lindi-Pesa was still exposed to various threats. The next section discusses some of the threats to Lindi-Pesa and complementary currency in Kenya. Finally, lack of a legal framework governing the use of complementary currency in Kenya was also cited as a major threat to the sustainability of Lindi-Pesa. Officials of the LBN were worried that without a comprehensive structure governing the use of such community currencies hindered the successful growth of initiatives such as Lindi-Pesa.

Discussions from the officials of Lindi-Pesa revealed that they would greatly welcome any initiative geared towards establishing structures and legal frameworks governing the use of complementary currency in Kenya. The officials further noted that out of the experiences of Lindi-Pesa, policy makers in the national and county government could gain valuable lessons that can be relied on when formulating polices towards the same.

4.9. Statistical Outcomes

A correlation matrix was constructed using the variables in the questionnaire to show the strength of relationship among the variables. To establish a correlation matrix, the standard deviation and means of the variables were calculated and grouped into four dimensions; Business Growth (BG), Access to Financing, Business Support Service (BSS), and Promotion of Trade (PT).

In this study, regression and correlation analysis have both been employed to quantify the relationship between the independent variables and dependent variables and also measure the strength of the relationship.

4.9.1. Pearson Correlation Coefficient matrix

To identify the strength of relationships between the dependent and independent variables, a Pearson Correlation Coefficient Matrix was carried out. This was also helpful in determining the strength of the relationship between independent variables (promoting trade, business support services and access to financing) and the dependent variable (business growth). Pearson correlation (p) value close to one means a very strong relationship and a p value closer to -1 means a weak relationship.

The table below indicates the Pearson Correlation Coefficient matrix between business growth, Business Support services, promoting trade and access to finance. The findings reveal that there is a strong positive relationship between business growth and the dimensions that promote trade and business support services of magnitude 0.885 and 0.862 respectively. The strong positive correlation was found to be significant with a P value of 0.026 and 0.047 respectively. On the other hand, there existed a weak but positive correlation between business growth and access to financing with a p value = 0.046.

		Business Growth	**Promoting Trade**	**Access to Financing**	**Busir Supp Servi**
Business Growth	**Pearson Correlation**	1	.885	.372	.862
	Significance		.026	.046	.047
Promoting Trade	**Pearson Correlation**	.885	1	-.120	.390
	Significance	.026		.379	.003

Access to Financing	**Pearson Correlation**	.372	-.120	1	.025
	Significance	.066	.379		.853
Business Support Services	**Pearson Correlation**	.862	.390	.025	1
	Significance	.047	.003	.853	

These results reveal that, the greatest contribution that the LBN had through the Lindi-Pesa towards business growth was that of promoting trade for the members and provision of business support services. On access to financial services, the results indicate that it had not contributed greatly to the business growth within members of the LBN network.

4.9.2. Test for Multicollinearity

There exists a multicollinearity problem when some independent variables are highly related (Pallant, 2007). To detect multicollinearity problem, Anderson et al. (2010) suggests the use of tolerance and variance inflation factor (VIF) which is part of the regression process. They recommend that multicollinearity with a tolerance value within the threshold of .10, which equal to a VIF of 10, is acceptable. Alternatively, Meyers (Gamst and Guarino (2006) opine that there exists multicollinearity problem when correlation between variables is more than .90. The results of multicollinearity for the variables in the main effect and joint moderating effect are documented in the table below. In all cases, the values of tolerance and VIF for each independent variable were within the threshold of .10 and 10 suggesting that multicollinearity did not pose any problem in the study.

The correlation analysis above equally indicates a similar result as highest correlation is .885.

	Business Growth	
Variables	**Tolerance**	**Variance Inflation Factor**
Promoting Trade	.942	3.827
Access to Financing	.261	1.066
Business Support Services	.938	1.062

4.9.3. Heteroskedasticity test

Heteroskedasticity test was performed where the variance of the error term is not constant in each observation but dependent on unobserved effects; not controlling for this problem violates one of the basic assumptions of linear regressions that a regression error term is normally distributed and has an expected value of zero and renders the estimation results inefficient (Kunst, 2012). One of the possible causes is omitted variables hence the researcher ensured that all key variables were captured in the model with others that were unknown captured under the error term. The normal probability and scatter plots gave an indication that heteroskedasticity was absent. In order to test heteroskedasticity statistically, breusch pagan test was applied where the dependent variable was replaced by R squared residuals (Kunst, 2012). The results showed absence of heteroskedasticity since significance level using breusch pagan test was more than 0.05 i.e. P>0.05 accepting heteroskedasticity null hypothesis.

4.9.4. Summary of descriptive statistics

Descriptive statistics was used to reduce the data to a manageable size and to provide insights into the pattern of the trend of the data. The descriptive statistics techniques used in the study include range, sum, mean and standard deviations on a scale of 1-5. The descriptive statistics for the respondents are presented in the table below. The descriptive statistics show the extent to which Lindi-Pesa has contributed to business growth in terms of promoting trade, access to financing and business support services on a scale of 1-5 where 1=not at all, 2=very small extent, 3=small extent, 4=great extent and 5=very great extent. Promoting trade ranged from 3 to 4 with a mean of 3.67 meaning that most respondents agree that Lindi-Pesa is important in enhancing business

growth in terms of promoting trade to a great extent. The survey also shows that business support services, with a mean of 3.17, contributes to business growth to a small extent and lastly access to financing, with a mean of 2.92, showing it contributes to business growth also to small extent.

Main Variables	Minimum	Maximum	Mean	Std Dev
Promoting Trade	3	4	3.67	.476
Access to Financing	2	4	2.92	.647
Bus. Support Services	2	4	3.17	.694

4.9.5. Reliability Test

A reliability test was done using Cronbach's alpha test. The main reason for this test was to measure the internal consistency of the study components, which is, how closely related a set of components are as a group. The Cronbach's alpha values for this research are as indicated in the table below. The findings suggest that most of the components have relatively high internal consistency. The Cronbach's test yielded a value of 0.7. According to Cronbach (1951), a reliability coefficient of 0.70 is considered "acceptable" in most social science research situations.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.818(a)	.649	.635	.5127

a: predictor variables

4.10. Multiple Regression Analysis

The relationship between business growth as the dependent variable and the independent variables (promoting trade, access to financing and business support services) were estimated using OLS (Ordinary Least Squares). A standard regression was carried out between business growth as the response variable and promoting trade, access to financing and business support services as the predictor variables.

The table below shows the results for variations between the dependent and independent variables. R2 is the coefficient of determination and shows how business growth is influenced by promoting trade, access to financing and business support services. With R2 of .649 for the model, this means that the independent variables in the model i.e.

promoting trade, access to financing and business support services could offer about 64.9% explanation of the variance in the dependent variable business growth. This implies that variations in independent variables causes 64.9% change in dependent variable (growth of SMEs). However, the conservative explanation offered by adjusted R square was 63.5%.This is a strong relationship such that the predictors identified in this study are great influencers of business growth. The 35.1% remaining implies that there are other factors that affect business growth other than the three independent variables (promoting trade, access to financing and business support services).
Thus, this implies that business growth exists as a result of Lindi-Pesa role in business support services, promotion of trade and access to financing. This numerical evidence is one strong enough to support the notion that there exists a strong relationship between the study variables.

Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Significance**
Regression	9.412	4	.697	4.242	0.001b
Residual	10.463	119	.568		
Total	19.875	123			

b: predictor variables

Critical value: 2.412

The ANOVA analysis is intended to investigate the variation in variables; the independent variables explain the observed variance of the outcome of the study and outcome level of business growth. The ANOVA statistics indicate that the regression model had a significance level of 0.1% indicating that the model was ideal for making a conclusion on the population parameters as the value of significance (p-value) was less than 5%.

Moreover, the coefficient of determination (the percentage variation in the dependent variable being explained by the changes in the independent variables) R2 equals 0.649, that is, the independent variables with only 35.1% are unexplained. The ANOVA results indicate that the independent variables significantly (F=4.242, p=0.001) explain the variance in business growth i.e. Lindi-Pesa initiative enhanced business growth through promoting trade, business support service and access to financing.

The F critical at 5% level of significance was 4.242. Since F calculated is greater than the F critical (4.242>2.412), the overall model was significant i.e. independent variables are strong predictors of variance in business growth. The significance level of the independent variables is less than 0.05.

The model shows a statistically significant positive relationship between promoting trade (β = .879, t= 2.411, $p<0.05$) and business growth. There is also a statistically significant positive relationship between business support service (β = .655, t= 2.092, $p<0.05$) and business growth. In addition, access to financing also had a statistically insignificant positive relationship with business growth at (β= .353, t= 1.882, $p>0.05$). The insignificant positive relationship between access to financing and business growth can be shown by p=0.113 which is more than 0.05 (0.113>0.05) whereas promoting trade and business support services are significant since $p<0.05$. In addition, the Beta coefficient for access to financing is small at .032 compared to .655 and .879 for business support service and promoting trade respectively.

On the overall, Lindi-Pesa suggests that these two variables are important factors influencing business growth with access to financing being less important. There was positive performance of the independent variables against dependent variable for all the cases under study.

All the variables except access to financing were significant as their significant value was less than ($p<0.05$).

From the regression model the following regression equation was derived:

$Y = 1.823 + 0.879 X1 + 0.655 X2 + 0.532 X3$

Where;

Y= Business Growth

X1= Promoting Trade

X2= Business Support Service

X3= Access to Financing

ε = Error term

Constant = 1.823, shows that if promoting trade, business support service and access to financing (Lindi-Pesa) are all rated as zero or held constant; growth of SMEs would be 1.823.

X1 = 0.879, shows that one unit increase in promoting trade results in an increase in business growth by a factor of 0.879

X2= 0.655, shows that one unit increase in business support service results in an increase in business growth by a factor of 0.655

X3 = 0.032, shows that one unit increase in access to financing results in an increase in business growth by a factor of 0.032

From the above regression model, holding promoting trade, business support service and access to financing constant, business growth of traders within the Lindi-Pesa network would be 1.823.

Thus, it can be seen that although all the independent variables have a positive influence on the dependent variable, a change in promoting trade and business support enhances business growth of traders more than access to financing which ranks lowest. Being in an informal area, members of the LBN network are definitely in need of financing to grow their business.

Nevertheless, the findings of this study indicate that Lindi-Pesa's contribution to access to finance is not significant. This can be attributed to its very nature of being a complementary currency; specific to a given area or region hence not accepted in the mainstream financial institutions that can boost access to financing.

5.0. SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

The goal of this study was to investigate the role of complementary currencies in promoting business growth through an analysis of the Lindi-Pesa initiative in Lindi Location in Nairobi County. This chapter highlights the summary of the findings, conclusions and recommendations on the same. To conclude, the chapter gives suggestions for further studies.

5.2. Summary of Findings

a) Business Support Offered within the LBN

Training has been cited as an important prerequisite for business growth as skills are necessary for the initiation of an enterprise. The findings of this study indicate that the training on business issues was the fundamental business support offered to the LBN members. This included training on time management, technical training, record keeping, management and marketing management. Although the training was considered adequate, the study found out that there was need for more training on business management and record keeping skills. The training was mainly offered through the Grassroots Economics Foundation and through peer training. Noteworthy is that the entire training program lacked a well-designed curricula for training the members. Correlation Analysis revealed that the business support gained through LBN had a strong positive correlation to business growth with a magnitude of 0.862 and a p value of 0.047. The study findings reveal that a one unit increase in business support service results in an increase in business growth by a factor of 0.655.

b) The Role of Lindi-Pesa in Promoting Access to Financing

Adoption of Lindi-Pesa in the Lindi community had provided the members with an avenue to utilize excess stock hence allowing for savings. The study found out that, when well utilised, such savings enabled the members to contribute to chamas from where they could get financial assistance as well into microfinance institutions. The adoption of the currency also allowed the users to barter more effectively and pay for basic needs including education for local students. Correlation Analysis yielded a magnitude of 0.372 and a p value of 0.066 indicating that there was no strong correlation between promoting access to finance and business growth.

c) Lindi-Pesa and Promotion of Trade

The study reveals that the introduction of Lindi-Pesa in the Lindi Location was meant to address high poverty levels within the slum. Through the LBN, the founders targeted the business traders who were mainly in business for subsistence. Nevertheless, since its introduction, the initiative has played a major role in promoting business growth.

According to all the respondents, the presence of Lindi-Pesa led to members of the LBN experiencing a business growth of close to 22%. Among the benefits cited by respondents that could be attributed to the presence of Lindi-Pesa were; easing of exhaustion arising from daily efforts to provide for daily family needs thus allowing for more time to be dedicated to business, allowed people to barter trade more effectively, increased saving of more Kenyan Shillings in the form of merry-go-rounds and also provided funding for community service work like waste collection and sports and freed up more resources that users could spend.

The role of Lindi-Pesa on businesses when measured using a Likert Scale revealed that the greatest contribution of Lindi-Pesa to business growth was that it had increased interactions between community members allowing for more trade. This was followed by Lindi-Pesa having improved daily sales and then the reduction of poverty. The initiative had also opened new opportunities for the traders while at the same time providing the users with increased access to social services. Also, the initiative had increased community empowerment.

Correlation Analysis revealed that the contribution of Lindi-Pesa to promotion of trade had a strong positive correlation with a magnitude of 0.885 and a p value of 0.026. The study findings reveal that a one unit increase in promotion of trade results in an increase in business growth by a factor of 0.879.

d) Opportunities, Challenges and Threats to Sustainability of Lindi-Pesa

Lindi-Pesa has provided opportunities for Lindi community to access finance, interact through community events and promoted trade. On the sustainability of Lindi-Pesa, the study findings show that though the initiative has a sustainable social mission, its economic sustainability needs to be evaluated. Being a community currency that was began with the aim of empowering the poor from poverty, it can be considered as a worthwhile venture. While many of the respondents were of the view that it was economically sustainable, there were several challenges that needed to be addressed. From the findings, government interference emerges as the fact that has the most influence on the sustainability of Lindi-Pesa; with the respondents make it clear that

government interference could cripple the Lindi-Pesa initiative. Lack of a policy framework guiding the operations of community currencies in the country was also a major threat to their social mission and economic sustainability. The economic sustainability of such initiatives was also threatened by the cost of operations and maintenance of the vouchers.

5.3. Conclusions

With the concept of complementary currency in Kenya and Africa being quite new, this study was able to discover that the concept is slowly gaining traction across informal areas. Their contribution to business in these settings where majority of the traders operate for subsistence is significantly great. The fact that complementary currencies aid in generating additional business for traders in informal setups translates to CCs being able to be used as a tool for economic development. In line with this, more studies need to be done on other aspects of CCs as it is still reasonably virgin ground for studies. Policies should also be formulated to regulate complementary currencies.

5.4. Limitations of the Study

The area under study was an informal location characterised by poor record keeping and low levels of education among the respondents. As such, the findings mainly relied on qualitative data and thus may not give specific business growth statistics. The study was also limited on time thus extensive inquiry was not possible.

5.5. Recommendations

The government and all its regulatory bodies need to come up with a policy framework that will guide the operations of complementary currencies. This will help increase the public confidence on such initiatives hence allowing for more people to join, in turn increasing trade transactions.

There is a need for complementary currency networks to promote long-term planning while at the same time reaching out to more traders to participate in such schemes. Along with this, there is need for adequate capacity building within communities by looping in all members of the communities where such initiatives are launched and

training the community members on the use and importance of complimentary currencies. The training should be done by locals who are able to communicate effectively with the community.

Finally, there is need for more public awareness on the concept of complementary currency. County governments and local authorities should embrace this concept and create ways of educating their community members on the importance of engaging in related initiatives.

5.5. Suggestions for Further Study

There is need for scholars and other professionals to find the price formation/setting mechanisms existent in community currency systems. Such studies should distinguish clearly between the economic and socio-economic factors that affect pricing in CC systems with a focus on developing countries.

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APPENDICES

APPENDIX I: LETTER OF INTRODUCTION

George Musyoka

Strathmore University

School of Finance and Applied Economics

P.O. Box 59857-00200

Nairobi

Dear Respondent,

RE: REQUEST FOR YOUR INDULGENCE IN A SURVEY ON LINDI-PESA

I hereby request you to participate in a study that is intended to meet my academic requirements of Bachelor of Business Science-Financial Economics at Strathmore University. The Study is titled:

"INVESTIGATING THE IMPACT OF COMPLEMENTARY CURRENCIES ON BUSINESS GROWTH IN INFORMAL ECONOMIES: CASE OF LINDI-PESA IN LINDI, KIBERA SLUM, NAIROBI COUNTY"

This study is intended for academic purposes only and all information that you provide will be treated as confidential.

Your sincerity and honesty in answering the questions provided will be highly appreciated.

Yours Faithfully

George Musyoka

APPENDIX II

QUESTIONNAIRE FOR BUSINESS ENTERPRISES

I am George Musyoka, an undergraduate student at the Strathmore University. I am undertaking a study titled: ***Investigating the impact of complementary currencies on business growth in informal economies: Case of Lindi-Pesa in Lindi, Kibera Slum, Nairobi County***

The study is meant for academic purposes. The information provided in the interviews will remain strictly confidential and anonymous. The information will be used only for the purposes of this study whose findings will be used to assist me meet the requirements of a Bachelor of Business Science degree in Financial Economics. Your cooperation is highly appreciated.

General Background

1. Type of Business

a) Retail trader

b) Wholesale

c) Hardware

d) Services

e) Others, please specify

2. When did you start the business?.....

3. How many employees do you have?.....

4. What is your monthly sales turnover?

a) Below Kshs 10,000

b) Kshs 10,001 to Kshs 25,000

c) Kshs 25,001 to Kshs 50,000

d) Kshs 50,001 to Kshs 100,000

e) Kshs 100,001 to Kshs 200,000

f) Kshs 200,001 to Kshs 500,000

g) Above Kshs 500,000

5. If business premise is rented, how much is your monthly rent?.....

6. How would you describe the contribution of Lindi-Pesa been to your business?

.....

7. What type of goods and services do customers usually use Lindi-Pesa to buy?

.....

8. How many Lindi-Pesa transactions do you handle per day?.....

9. Indicate the extent to which you agree with the following statements based on the scale shown below:

No	Impact	Strongly disagree	Disagree	Neutral	Agree	Stro agre
a	Lindi-Pesa has presented new opportunities to the communities	1	2	3	4	5
b	Lindi-Pesa plays a significant role in this community	1	2	3	4	5
c	Community members interact more frequently	1	2	3	4	5
d	Our community is now more empowered as a result of Lindi-Pesa	1	2	3	4	5
e	Our community has access to social services as a result of Lindi-Pesa	1	2	3	4	5
f	The rate of crime has gone down courtesy of Lindi-Pesa	1	2	3	4	5
g	Lindi-Pesa has presented new opportunities to my business	1	2	3	4	5
h	Lindi-Pesa has led to improvement in my business	1	2	3	4	5
i	Lindi-Pesa has led to growth in the size of my business	1	2	3	4	5
j	The rate of unemployment has gone down courtesy of Lindi-Pesa	1	2	3	4	5
k	I am now able to get financing for my	1	2	3	4	5

	business from Saccos, banks as a result of Lindi-Pesa					
1	The rate of poverty has gone down since the time we started using Lindi-Pesa	1	2	3	4	5

10. To what extent has Lindi-Pesa contributed to the following? Please Tick where appropriate.

Contribution	**Very Great Extent**	**Great Extent**	**Small Extent**	**Very Small Extent**	**Not at all**
Promoting Trade					
Business Support Service					
Access to financing					

11. Have any authorities played any role towards the adoption and use of Lindi-Pesa?

a) Yes b) No

ii)

Brieflyexplain.....

.....

12. What role can the county government play in enhancing the adoption and use of Lindi-Pesa?

.....

.....

13. Do you receive any training from the LBN? Briefly explain.....

.....

14. Is Lindi-Pesa a sustainable initiative?

a) Yes b) No

ii) Briefly

explain.....

.....

15. In what ways has the Lindi-Pesa initiative achieved its intended objective?

.....

.....

16. Indicate the extent to which you agree with the following statements based on the scale shown below:

Sustainability	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Lindi-Pesa is becoming stronger every day					
I support the officials behind Lindi-Pesa					
The youth in this area are more committed to the success of Lindi-Pesa					
The educated in this area are more committed to the success of Lindi-Pesa					
Lindi-Pesa has created conflicts in the community					
Conflicts are common among the leaders behind Lindi-Pesa					
Government interference will lead to collapse of Lindi-Pesa					

17. Have you seen any negative impact/bad results since the adoption of Lindi-Pesa?

a) Yes b) No

ii) Briefly

explain.....

.....

18. What is your own personal opinion on the adoption and use of Lindi-Pesa?

.....

.....

.....

19. What are the threats posed through the adoption and use of Lindi-Pesa?

.....

.....

.....

20. How can these threats be addressed?

.....

.....

.....

21. Have you seen any negative impact/bad results since the adoption of Lindi-Pesa?

a) Yes b) No

ii) Briefly

explain.....

.....

22. Have you witnessed any positive impact/good results since the adoption of Lindi-Pesa?

a) Yes b) No

ii) Briefly

explain.....

.....

Thanks for your time and response.

APPENDIX III

INTERVIEW SCHEDULE FOR KEY INFORMANTS

1. Position in Grassroots Initiative: .....

2. In your own opinion, what is Lindi-Pesa?

.....

.....

3. What is it intended for?

.....

.....

4. Who regulates its adoption and use?

.....

5. In what ways has it impacted on the living standards of the local community?

.....

.....

6. What benefits does it provide?

.....

.....

.....

7. What are threats that have arisen or can arise from the adoption and use of Lindi-Pesa?.....

.....

8. How can such threats be addressed?

.....

.....

9. What role do you think the local leaders and authorities can play in the adoption and use of Lindi-Pesa?

.....

.....

10. What is your own evaluation of the sustainability of Lindi-Pesa?

.....

.....

.....

11. What other views do you harbour regarding the use and adoption of Lindi-Pesa?

.....

.....

12. In your opinion how long will Lindi-Pesa survive? Why do you say so?

.....

.....