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WELCOME MESSAGE FROM THE DEAN

Dear Friends of the JEI:

At EMS, we are particularly pleased that we have launched our own in-house journal – the Journal of Entrepreneurial Innovations (JEI). We are also encouraged that the JEI is entering both the national and international community of researchers and stakeholders that are committed to the development of entrepreneurship and small businesses.

As part of a vibrant faculty of the University of the Western Cape (UWC), the JEI will go a long way to support and promote research at UWC. More specifically, interest as well as the dissemination of entrepreneurship research within the country and to the wider global community. The entrepreneurial focus of the JEI is in line with the EMS Faculty's strategic vision, that identifies creativity, innovation, and innovativeness in entrepreneurship and small businesses as being catalysts for economic development. The focus areas of the JEI include township economies, small-scale businesses, self-employment as well as entrepreneurial innovations and SME marketing strategies. By launching the JEI, the EMS Faculty is in essence demonstrating its commitment to research (not only in terms of outputs but also with respect to impact), an important strategic pillar at UWC. We firmly believe that research and innovation are important realities of life in the 21st century

What pleases us most is that the JEI will provide a platform for emerging scholars to publish their work and grow their confidence to publish in high ranking journals in the future. Since the journal will operate on a free-to-publish basis (i.e., no page fees to be levied), there will be increased opportunities for researchers with limited research budgets. Furthermore, with its open access publication policy, dissemination will be greatly enhanced.

Accordingly, I welcome you to the inaugural issue and invite you to submit your manuscript for consideration in future issues.

Thank you.

Professor Michelle Esau
Dean: EMS

A WELCOME MESSAGE FROM THE EDITORS

We take great pleasure in welcoming you to our new journal, Journal of Entrepreneurial Innovations (JEI). Our aim in launching this developmental publication to generate knowledge, stimulate dialogue, critical debate, critique and collaboration among the national, regional and international space on entrepreneurship, management, creativity and innovation. The publication will be e-based to broaden its reach and inclusivity on the building of knowledge by scholars and practitioners.

The focus of the publication is to develop the capacity of emerging academic researchers and scholars and postgraduate students in the field of entrepreneurship and related subject areas. We welcome original research, theoretical contributions, critical commentaries, case studies, book reviews and work-in-progress. In line with our developmental, supportive and inclusive thrust we will offer guest edited special issues and journal series.

We welcome you to our maiden publication and hope that you will join us as contributors and reviewers

Thank you

Professor Richardson Shambare
Professor Zivanayi Nyandoro

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THE ECONOMIC IMPACT OF RENEWABLE AND NON-RENEWABLE ENERGY TECHNOLOGIES ON SMALL BUSINESSES: A CASE STUDY OF SMALL BUSINESSES NEAR THE WALLACEDENE TAXI RANK

Thembinkosi Maphosa[1], Abdullah Bayat[2], Harold Annegarn[3]

Abstract:

The South African National Development Plan contemplates that by 2030 the country will have an energy sector that promotes economic growth, development, social equity and environmental sustainability. This study explores the economic impact of renewable energy on the operations of small businesses located near the Wallacedene Taxi Rank. The taxi rank was built by the City of Cape Town as the first 'green' transport facility in South Africa. A self-administered questionnaire was used to survey a purposive sample of twenty (20) small business operators. Data analysis used descriptive statistics and content analysis. The key findings showed positive financial and operational benefits for small business operators using LPG gas stoves and solar-powered LED lights. There was evidence of positive correlation between the use of renewable energy and economic development at the micro- and macro-economic levels. The study recommends the need for the government to proactively support the uptake, manufacturing and distribution of affordable renewable energy equipment. There is need to provide training and to upskill the labour force to gain employment in the renewable technology and related sectors.

Keywords: *Clean cooking stoves, Economic impact, Manufacturing, Small business, Solar LED lighting*

Introduction

Energy plays a crucial role in almost every production process and in the fulfillment of personal and business needs (OECD, 2011). Energy-driven economic growth refers to the process that seeks to increase energy efficiency and/or diversification of energy resources that would create new jobs, maintain employment, and encourage the prosperity of regions (Carley, et al, 2011). Maradin et al (2017 p.6) highlight the concept of energy-driven economic growth and its focus on fulfilling economic and energy development needs. Smith (2017, p. 6) and Maradin et al (2017 p.6) outline the key objectives as follows: increasing energy efficiency, diversification of resources, self-sufficiency, improvement of industry and economic growth, entrepreneurship, technological innovation, higher employment levels, and enhancing opportunities for training opportunities. Developing countries like South Africa that are characterized by rising electricity prices, will greatly benefit from investments in renewable energy technologies and the introduction of independent power producers (IRENA, 2016). Samouilids and Mitropoulos (1982), Nakata (2004) and Maradin et al (2017) have highlighted the impact of energy on the economic growth.

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This study examines the economic influence of solar LED light and LPG stoves on small businesses in Wallacedene, Kraaifontein in Cape Town. The central research question examines a) the economic impact of introducing renewable energy technologies (thereafter RETs), such as solar LED lighting and LPG stoves to complement non-renewable energy technologies (thereafter, NRETs) on small businesses in low income communities, and b) the impact of renewable energy technologies on the energy manufacturing industry.

Background

The Wallacedene taxi rank was built by the City of Cape Town in South Africa, as the first 'green' transport facility in South Africa (Petterson, 2014). The taxi rank was unveiled on Monday 25 August 2014 (Meiring, 2014). The public transport facility generates its own electricity, enabling it to operate off the electricity grid (Green Africa Directory, 2015). It serves approximately 5 000 commuters daily. The development of the taxi rank has attracted small businesses operating within a 200 meters radius, and that started using LPG gas cooking stoves and solar powered LED lights.

Literature review

Economic impact can be defined as the effects of levels of economic activity in a given area (Weisbrod and Weisbrod, 1997, p. 1). The authors point out that the indicators of economic impact include business output or sales volume; value added or gross regional product; wealth creation inclusive of property values; personal income and job creation. Energy-driven economic growth is characterized by integrated planning to ensure future energy security, stability, and high customer demand. as well as investments in the manufacturing of renewable energy technologies. Subsequent increases in energy efficiency and/or diversification of energy resources enhance the creation of new jobs, maintaining employment, and it encourages prosperity within the respective national regions (Carley, et al, 2011, p. 283). Maradin et al (2017 p.6) reiterate the concept of energy-driven economic growth towards fulfilling economic and energy development needs. Smith (2017, p. 6) and Maradin et al (2017 p.6) note that the key objective is aimed at increasing energy efficiency, diversification of resources, self-sufficiency, industry, economic growth and entrepreneurship, technological innovation, employment creation and opportunities for training and development. Nanda (2015) cited in Maradin et al (2017 p.2) pointed out the direct relationship between investments in the renewable energy sector and the stimulation of capital flows through the economy. They also highlighted the direct and indirect expansion in related sectors that promotes employment levels within the renewable energy sector.

Renewable energy technologies (RETs) and non-renewable technologies (NRETs)

Pollution emitted through use of coal by small *braai* businesses in low income communities poses several health and environmental hazards (Maradin et al, 2017). They produce CO_2 emissions which contribute to global warming and climate change (IPCC, 2017). Renewable energy technologies such as solar LED lights and LPG stoves reduce greenhouse gas emissions, as well as stabilize energy prices and generate economic benefits (IPCC, 2017). Mohlakoana, and Annecke (2008) reported that the majority of residents and business operators in low-income communities rely on 'dirty' fuels such as firewood, coal and parafin. These fuels account for deadly hazards such as air pollution and fire hazards.

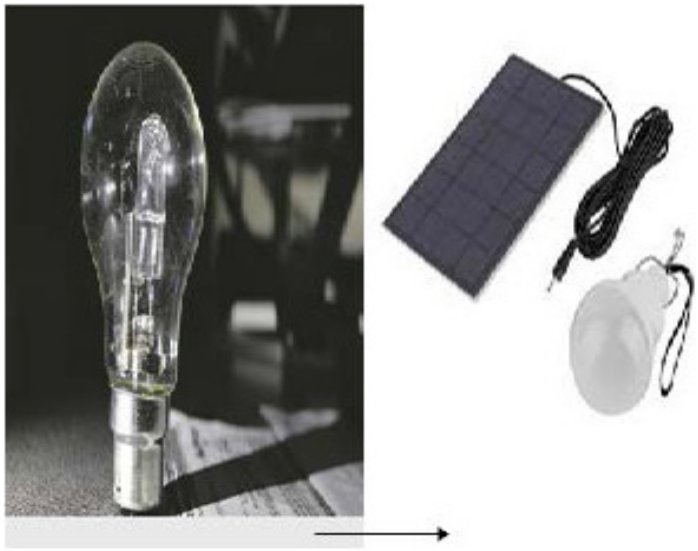
Energy interventions using LPG gas improve the quality of life and business operations when compared to traditonal fuels. LPG gas is economical as "one pays for what they use, there is no loss of heat unlike with other fuels" (Mohlakoana, and Annecke, 2008, p. 5). Integrated Energy Solutions (IES, 2007) cited in Mohlakoana and Annecke (2008 p. 5), highlights the benefits of cooking with LPG gas for households:

- Gas is an acclaimed and preferred cooking fuel internationally;
- Gas is clean, controllable, fast and efficient;
- The hob-heating settings on gas appliances are more precise, compared to low standard electrical hobs;
- Gas is safe and has an international safety record, unlike electricity and other commercial energy sources;
- It is portable and can be stored safely; and
- Gas appliances generally last longer if used correctly.

Picture 1 below illustrate the transition from coal-fired cooking to LPG gas.

Picture 1: It highlights a need to transit from the excessive use of coal, to LPG for braai activities, for example.

Picture 2 below shows incandescent lights and solar LED lights.



Picture 2: Shows the solar LED lights which can replace the incandescent light bulb

Hacker (2016) points out that solar LED lights possess six (6) major energy saving benefits for businesses compared to incandescent lights:

- Reduce energy consumption and costs (they use only about a tenth of the energy of incandescent lights, resulting in huge savings in utility bills over time);
- Long-lasting product (average incandescent bulb lasts for about 1000 hours, whilst LED light lasts between 25 000 to 50 000 hours);
- Convenience (E.g. for the replacement of 25 – 50 incandescent lights, one LED light would have been replaced);
- Quality of light (provide more focused lighting that is perfect for everything from desk to showroom lighting);
- No heat, noise, or emissions (incandescent lights can get hot, and a certain type of light produce UV emissions); and
- Recycling options (incandescent bulbs contain toxic mercury that is unsuitable for recycling, compared to LEDs which can be recycled at the end of their lifetime).

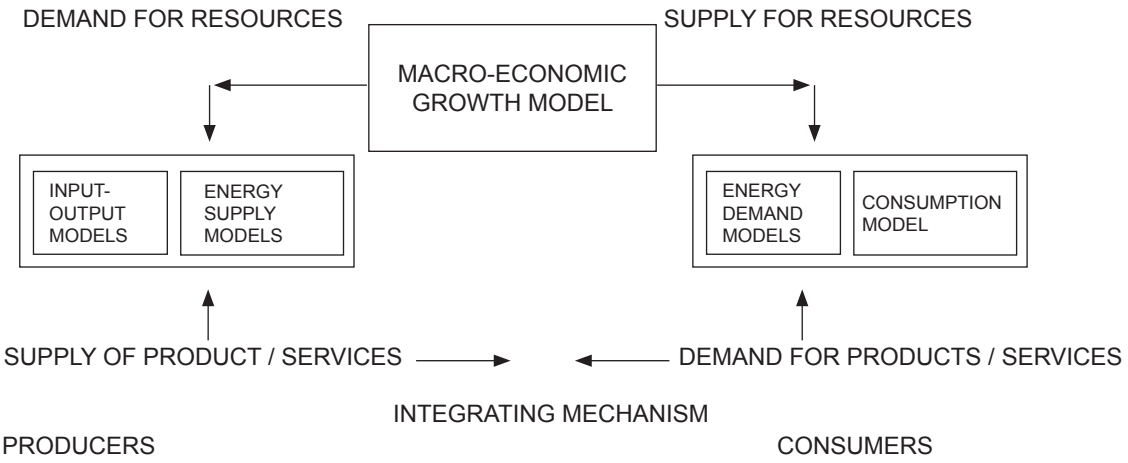
Employment creation

Investments in solar LED lights and LPG stoves have contributed to the reduction in climate change (Omri et al., 2015p.61), as well as to the growth in the demand for renewable and progressive decreases in the costs of renewable energy, and the creation of new employment opportunities. Maphosa et al., (2018) pointed out that the development of the renewable energy market had been a significant contributor to employment creation. The global renewable energy sector grew by 5% annually and contributed to the direct and indirect employment of 8.1 million people by 2015 (IRENA, 2016). Over the same period, the solar photovoltaic industry accounted

for 2.8 million jobs globally, with the wind power sector recording yearly growth rates. Maradin et al (2017 p.51) estimated that the renewable energy sector in the EU will account for over 900,000 new jobs by 2020, as well as 515,000 jobs in agriculture and the biomass fuel supply chain. A growing number of countries are achieving high employment levels from renewable energy activities, especially in the LPG energy industry (Ecotec, 2002). Asu (2017) highlights that given the appropriate government policies, the renewable energy sector will create new jobs through investments in local manufacturing of gas cylinders, retail, autogas and power generation services. Asu (2017) reported that Nigeria had established three-hundred (300) LPG distribution points retailing 500 000 tonnes of cooking gas. The Nigerian Federal Government Draft National Gas Policy has allocated US$10.38 bn towards the generation of renewable energy, in the quest to reduce dependence on kerosene and firewood by 50 % by 2018 (Asu,2017). The investment is estimated to create one million skilled jobs in various segments of the Nigerian LPG supply value chain.

The Energy-economy model: the conceptual framework

This study developed and adapted a conceptual framework from the the Energy-economy model by Samouilidis and Mitropoulos (1982). This study adopts the model that is applied to assess the relationship between energy initiatives and the economy (see Figure 1 below). The framework offers some theoretical propositions for understanding the interaction and synergies between energy activities and the economy.



Source: *Samouilidis and Mitropoulos (1982) in Maradin et al (2017 p.52)*

Figure 1: The energy-economy Model

The underlying approach of the model asserts that an energy system does not exist 'for itself', and should be viewed in the context of the entire economic system. Thus, the energy ecosystem is observed as an anchor for the economy, because of the manufacturing of energy-related products such as gas cylinders, solar LED lights and the provision of services. Thus the energy ecosystem becomes a key driver of broader economic processes. There is a growing body of empirical studies supporting the positive impact of energy systems on the economy (e.g. Energy Modeling Forum, 1977; Manne, Richels, and Weyant, 1979; Ormerod, 1980; Kavrakoglu 1987; DeCarolis, Hunter, and Sreepathi, 2012). This is supported by energy-economy-environmental models (eg., Nakata, 2004; Dong et al, 2014). The energy-economy model by Samouilidis and Mitropoulos (1982) emphasizes the significance of the interaction between the supply side and demand side of the energy sector, as well as the impact on the broader economic subsectors. Nakata (2004) points out that the energy-economic model demonstrates the dynamics within an economic system.

The propositions by Samouilidis and Mitropoulos (1982); Nakata, (2004) and Maradin, et al (2017) on macroeconomic growth models, comprise the following elements: input-output (or supply) models and energy-supply models for producers, and consumption models and energy demand models for consumers. In many ways the macroeconomic growth model depicts the classical notion of economic equilibrium where supply = demand. Jaccard (2015) argues that input-output models represent inter-sectorial flows and the behavioural patterns of the producers. The energy supply models analyze the impact of new technologies and the optimal structure of the energy system, and prove an important starting point in generating energy-driven economic growth (Luis, and Neij,(2009). In contrast, the demand side of the consumption models investigate consumers' behavioural patterns in terms of aggregate demand for products and services (Maradin et al., 2017 p. 53). Nakata (2004) emphasizes that energy demand models assess price effects, tax and tariff effects, energy conservation and energy efficiency.

There are few empirical studies that investigate the interaction between energy and economy, with specific reference to small business organisations within the context of a developing country. This study contributes to studies on the energy-economy interaction at the micro-level, primarily small businesses operating within low income communities. The main research aim is to investigate the energy ecosystem comprising LPG stoves and solar LED lights and the impact it has on the operations and viability of the small business sector.

Methodology

The study adopted a survey design to investigate the economic impact of renewable energy on the small business sector in Cape Town, South Africa. Data collection used self-completed questionnaires and an interview schedule. A pilot study was used to test the validity and reliability of the data collection instruments, and appropriate changes were made. The study population comprised all small business operators at the Wallacedene Taxi Rank. A simple random sampling technique was used to select business operators who participated in the study. Simple random sampling is a type of probability sampling (Crossman, 2018). Kalton (2011) notes that the sample size is n and the population size is N, where N represents approximately fifty (50) small businesses, the majority of which were not registered with the Kraaifontein Municipality. The study sample comprise twenty (20) small businesses operating within a 200 m radius from the Wallacedene Taxi Rank. Purposive sampling is a type of non-probability sampling and elements selected for sampling are regarded as experts based on the researchers' judgement (Dudovskiy, 2018; Lavrakas, 2008). The researchers used their judgement in selecting energy-economy experts who participated in the study.

Data analysis used descriptive statistics and content analysis.

Findings

Table 1: Ownership of LED lights

Have a Solar LED Light	Response (Number)	Response (%)
Yes	3	15
No	17	85
Total	20	100

Table 1 above shows that 15% of the business operators owned and used LED lights in their business operations. While the majority (85%) reported that they did not own nor use LED lights. This supports observations by Hacker (2016) that the majority of the small business operators – mostly operating small spaza tuck-shops – do not own nor use solar-powered LED lights.

Table 2: Users of LPG stove for preparing meals for customers

Use of LPG stove	Response (Number)	Response (%)
Yes	12	60
No	8	40
Total	20	100

Table 2 above shows that the majority (60%) of the operators used LPG stoves to prepare food sold to clients. While 40% of the respondents in the business of selling cooked food did not use LPG stoves for preparing meals for their customers. This supports observations by Mohlakoana et al (2009).

The demand side: use of solar LED lights and LPG stoves

The majority of the respondents (60%) reported increases in business profits and efficiencies in operational processes, as a result of using solar-powered LPG stoves. More importantly, the respondents reported that they were now able to remain open for longer business hours after they started using affordable energy. Respondents cooking meals such as *Chisa Nyama*, reported that they were realizing higher profit margins after switching from conventional electricity to renewable energy sources. The OECD (2011a) pointed out that investments and the application of renewable energy technologies contribute to significant economic growth and development. Investments in renewable energy contribute towards the creation of sustainable 'green' economies (Energy Modeling Forum 977; Manne et al (1979); Ormerod, 1980; Kavrakoglu 1987; DeCarolis, Hunter, and Sreepathi, 2012).Nakata, 2004; Dong et al, (2014) and Samouilidis and Mitropoulos (1982).

Most of the respondents cited benefits of using renewable energy, such as opening for longer business hours and subsequent higher profit margins. Thus RETs enhance the development and revitalization of local economies (IEA, RETD TCP, 2016). The study findings support the propositions of the energy-economy model (Samouilidis and Mitropoulos, 1982) and its predictions for the creation of new business opportunities and higher employment levels.

The supply side: use of solar LED lights and LPG stoves

The study findings showed financial benefits (Table 2 above) arising from using RETs, as well as the environmental implications arising from the reduction of fossil fuels at the macro-environmental level. The shift towards the use of renewable energy at the micro-environmental level will gradually reduce energy costs. This increases the demand for sustainable RETs such as LPG stoves, thereby reducing pollution and emission of greenhouse gases. It also enhances the creation of new investments in RETs as well as employment opportunities. In the United Nations Kyoto Clean Development Mechanisms and the White Paper on Energy Policy – South Africa (1998; 2012) emphasize the need to reduce the impact on climate change through diversification into renewable energy.

Table 3 summarises the advantages and disadvantages of using solar LED lighting and LPG stoves in small businesses in low income communities.

Table 3: Depicting the advantages and disadvantages of using solar LED lighting and LPG stoves.

Advantages at a Macroscale	Advantages to the small business operator	Overall disadvantage
• Positive economic impact and growth • Business operator paying tax directly or indirectly • Continuous implementation and encouragement of Sustainability or go green policy • Job creation • Boosting the manufacturing industry • Boosting related industries • New business opportunities and entrepreneurial activities • Improvement in R and D especially technology • Reducing importation whilst encouraging exportation. Hence improved balance of trade and • Reducing carbon emissions, which can be financially traded in•	• Increased operating hours, hence realising profits • Reduced energy costs • Odourless and efficient energy fuels • Boost banking activities, hence increased chances of qualifying for financial investment activities • Boost business stock as energy costs are reduced • Improved standard of business activity and most likely boost customer satisfaction • Productivity improvement • Expandition of business activities • Strategic alliances most likely to be formed	• relatively high initial cost of purchasing the RETs • Acceptability of the LPG as most operators might view it as dangerous. This limitation can be reduced through extensive education on how to use these technologies • Reliability of energy supply

Source: Authors

Discussion

The study findings show that there is a direct relationship between the use of renewable energy technologies (solar LED lighting and LPG stoves) and the financial benefits of small business operators in Wallacedene, Kraaifontein in Cape Town. The findings support Maradin et al (2017 p.50) on the competitiveness of renewable energy sources compared to non-renewables, like electricity generated by hydropower and fossil fuels, as well as on the benefits of unlocking affordable off-grid energy for low income communities.

The second research objective was to assess the implications of renewable energy and non-renewable energy technologies on the energy manufacturing industry. The study findings observed operational benefits for small business operators, and these generate a demand for renewable energy equipment and accessories. This resonates with observations by Maradin et al (2016 p. 54) on the viability of an energy-based economic development drive, which integrates economic development, energy policy and planning into the management of national economies. The study supports propositions of the energy-economic model (Samouilidis and Mitropoulos, 1982). The results of the study concur with the observations by South African manufacturing companies for solar LED lighting on the critical role of the renewable energy sector on economic developments. The demand for renewable energy enhances investments in the improvement of renewable energy technologies. The manufacturing and distribution of RETs stimulate the growth of the steel industry, research institutions, and related industry sectors.

Notwithstanding the observations by Maradin, et al., (2017, p. 55) on the high initial capital costs and low deployment rates of renewable energy, the challenges for a developing country like South Africa is the availablity of funds to develop the RETs industry and market. Goldman, (2010) highlights challenges encountered in the installation of solar water heaters in the Kuyasa community of Khayelitsha township, using kits manufactured in China and which benefited the Chinese economy more than the South African economy. However, South African companies continue to develop a manufacturing capacity, evidenced by their combined role in supplying 2 309 RDP houses in Kuyasa with solar water heaters (BHCP, GBC, 2012). In addition, a 1000 solar water heaters were supplied by Hotmix (Pty) Ltd, a South African geyser manufacturing company.

Conclusions

The study findings showed that small business operators benefited financially and were able to improve operational efficiencies through using renewable energy-driven LED lights and LPG stoves. Further, the study observed the potential economic benefits of reneweable energy equipment and accessories for users (demand side) and manufacturers (supply side). The study recommends government interventions and support through providing incentives and rebates for the manufacturing and distribution of renewable energy equipment. These efforts will greatly benefit the small business sector and the larger economy. There is need to provide training and development for the labour force to enhance employability in the renewable technology and related sectors.

The study was based on a single site in Cape Town. There is need for further studies using different methologies to investigate the impact of renewable energy on small businesses in other sectors and regions of South Africa.

Bibliography

Asu, F. (Februaury 2, 2017). *LPG market can create two million jobs.* Punch.

BHCP, GBC. (2012). *Improving lives by greening low cost housing: Case study report of the Cato Manor Green Street retrofit.* Pretoria, South Africa: Green Building Council of South Africa, British High Commission Pretoria.

Carley, S. et al. (2011). Energy-based economic development. *Renewable and Sustainable Energy Reviews*, 15 (1), 282-295.

Cilliers, H. (2015, October 19). *Electricity or gas: how to choose*. Retrieved July 11, 2018, from https://www.moneyweb.co.za/news/South-Africa/electricity-or-gas-how-to-choose

Crossman, A. (2018, January 13). *Simple Random Sampling*. Retrieved June 13, 2018, from Definition and Different Approaches: https://www.thoughtco.com/random-sampling

DoBE. (2017). *National School Nutrition Programme - Gas Safety in Schools*. Department of Basic Education. Pretoria, South Africa: DoBE.

Dudovskiy, J. (2018). *Research Methodology : Purposive Sampling*. Retrieved from The Ultimate Guide to Writing a Dissertation, In Business Studies- A step-by-step assistance: http://www.research-methodology.net

GIG. (2018, July 9). *Give it Gas*. Retrieved from http://www.giveitgas.co.za

Goldman, M. (2010). *Kuyasa CDM Project: Renewable Energy Efficient Technology for the Poor*. Cape Town, South Africa: SouthSouthNorth.

Green Africa Directory. (2015). *City of Cape Town Opens Green Taxi rank in Nomzamo*. Cape Town: Green economy, Green lifestyle, building and design, Green travel and tourism.

Hacker, T. (2016). *6 major benefits of LED lighting for your benefits*. Indianapolis: Fixtures for lighting.

IEA, RETD TCP. (2016). *Renewable Energy Medium-Term Market Report, 2016 : Market Analysis and Forecasts to 2021*. Paris, France: International Energy Agency.

International Energy Agency. Photovoltaic Power Systems Programme. (2017). Retrieved May 29, 2018, from International Energy Agency. Photovoltaic Power Systems Programme: http://www.iea-pvps.org/index.php?id=32

IRENA. (2016). *International Renewable Energy Agency- RoadMap for a Renewable Energy Future*. Abu Dhabi.

Jaccard, M. (2015, April). Energy-economy modeling and behavioral realism : How much is useful? *Simon Fraser University*.

Jeremiah, M. (2018). Small holder farmers. *ZFU*, 3-9.

Kabir, E, Kim, K and Szulejko, J. (2017, October 16). Social Impacts of Solar Home Systems in Rural Areas: A case study in Bangladesh. *MDPI energies*.

Kalton, G. (2011). Simple Random Sampling in Introduction to Survey Sampling. *SAGE Publications*, 1-8.

Lavrakas, P.J. (2008). Purposive Sample. In: Encyclopedia of survey research methods. *SAGE publications*, 1-3.

Luis, M and Neij, L. (2009). *Energy-economy models and energy efficiency policy evaluation for the household sector*. Lundi University. The International Institute of Industrial Environmental Economics.

Maphosa, T; Bayat, A and Lloyd, J, P. (2018). The entrepreneurship ventures from former participants in the Kuyasa Clean Development Mechanism renewable energy project. *IPASJ International Journal of Management (IIJM)*, 6 (4), 5-18.

Maradin, D; Cerovic, L and Mjeda, T. (2017). Economic Effects of Renewable Energy Technology. *Nase gaspodarstvo / Our Economy*, 49-59.

Meiring, B.L. (2014, August 25). *VISI South Africa's Most Beautiful Magazine - Architecture*. Retrieved July 10, 2018, from South Africa's First Green Taxi Rank: https://www.visi.co.za/South-Africas-first-green-taxi-rank

Mohlakoana, N and Annecke, W. (2008). *Finally Breaking the barriers: South Africa Case Study on LPG use by low-income urban households*. Istanbul Pre-conference workshop on "clean cooking fuels" .

Mohlakoana, N and Annecke, W. (2009). The use of liquefied petroleum gas by South African Low-income urban households: A case study. *Journal of Energy in Southern Africa*, 20 (4).

Nakata,T. (2004). Energy-economic models and the environment. *Progress in Energy and Combustion Science*, 30 (4).

OECD. (2011). *Joint report by IEA, OPEC, OECD and World Bank on fossil-fuel and other energy subsidies: An update of the G20 Pittsburgh and Toronto Commitments*. Paris: World Bank.

Omri, E; Chtourou, N and Bazin, D. (2015). Rethinking the green recovery through renewable energy expansion. *International Journal of Sustainable Development*, 18 (1/2), 59-76.

Petterson, D. (2014, August 26). *South Africa's first green taxi rank*. Retrieved May 31, 2018, from Infrastructure news and service delivery: http://www.infrastructurene.ws and service delivery

Samouilidis, J.E and Mitropoulos, C.S. (1982). Energy-Economy models: A survey. *European Journal of Operational Research*, 11 (3), 222-232.

Smith, R. (2017). *Regional Economic Impact of BWI Marshall Airport*. Washington: Baltimore / Washington International Thurgood Marshall Airport.

Weisbrod, G and Weisbrod, B. (1997). Measuring economic impacts of projects and programs. *Economic Development Research Group*, 1-11.

World Bank. (2012). *The World Bank Annual Report 2012*. Washington D.C: Main Report. World Bank Annual Report.

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EVALUATING OPERATIONAL COMPETENCIES AND THE SUCCESS OF AGRICULTURAL COOPERATIVES IN SOUTH AFRICA

Tarisai F. Rukuni[1], Tendai Huni[2], Peter Tshetu[3], Isah Leontes[4], & Elizabeth Takura[5]

Abstract:

After gaining political independence, most African countries have persistently faced slow to negative economic growth. The economic growth rate for South Africa (SA) for the first quarter of 2018 was 1.5% and the unemployment rate at 26.7%. Negative economic growth leads to a reduction in revenue, loss of employment, decrease in income and an increase in poverty. This study assesses the factors affecting the success of agricultural cooperatives in the City of Tshwane. A survey used self-completion questionnaire to collect data from 240 members of agricultural cooperatives located in the City of Tshwane, South Africa. Data analysis used Statistical Package for Social Sciences to conduct descriptive and multivariate analyses, factor analysis and correlations. Findings indicated that members of cooperatives had negative perceptions on operational competencies such as member participation, structural factors, communication, management, training and education, as well as on external factors at the agricultural cooperatives. It needs to be highlighted that operational competencies within the agricultural cooperatives affect the success of these cooperatives. The study recommendation includes the need for training and development for members, creation of sustainable relationships, networks with non-governmental organisations and external stakeholders, development of viable marketing strategies, and upgrading and improving of the infrastructure.

Keywords: *Agricultural cooperative success, operational competencies, sustainability*

Introduction

Post-independence African states have largely depended on the agriculture sector for national consumption and export earnings. However, most of these countries have persistently experienced a declining agricultural output, which has precipitated negative economic growth rates (Dejene & Getachew, 2015). Such a feature has been a common phenomenon in South Africa (SA), whose economic growth was recorded at 1.5% (National Treasury SA, 2018) and their unemployment rate was 26.7% in the first quarter of 2018 (Stats SA, 2018:1). According to Dejene and Getachew (2015), negative economic growth results in a reduction in revenue, loss of employment, decrease in income and increase in poverty. Slow economic growth should be worrying to the management of agricultural cooperatives. Researchers in contemporary economics (Dejene & Getachew, 2015; Earl and Wakeley, 2005) argue that an assessment of factors affecting the success of agricultural cooperatives, is among one of the strategies that could be employed to protect agrarian organisations from succumbing to economic pressure. Consequently, the knowledge gained from the assessment of agricultural cooperatives, leads to an improvement of organisational operations (Amini & Ramezani, 2016).

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Background

The economic stagnation of the country has serious negative repercussions on various sectors of the economy (Amini & Ramezani, 2016). South Africa is one of the economies facing challenges of slow economic growth, as evidenced by the 1.5% growth in the first quarter of 2018 (National Treasury SA, 2018; Stats SA, 2018). This has negative consequences on the operations of agricultural cooperatives. A slow-growing economy results in a decrease in the revenue and a loss of operational effectiveness and efficiency (Mala, 2018). Slow economic growth is threatening the survival of agricultural cooperatives that should be contributing to employment provision and poverty alleviation. An assessment of operational competencies in agricultural cooperatives is one of the strategies that can be employed to retain the competitiveness of the agricultural cooperatives. Based on this background, the objectives of this paper are twofold: (i) assess the perceptions of cooperative members on operational competencies of the agricultural cooperatives, and (ii) investigate the effect of operational competencies on the success of agricultural cooperatives. The formulated research question was: To what extent do operational competencies influence the success of agricultural cooperatives?

Literature review

Agricultural cooperative

The concept of agricultural cooperatives is defined by Dejane and Getachew (2015) as an autonomous association of people who come together to achieve their social, economic and cultural aspirations in democratically controlled organisations. The International Cooperative Alliance (2017) describes an agricultural cooperative as a process of unifying farms that belong to smallholder farmers. According to Digby (2013), an agricultural cooperative is an establishment from which several farmers collude resources to ensure optimum productivity from their joint effort. The definitions of agricultural cooperative suggest that people should voluntarily come together, with a common vision to be achieved through agricultural operations (Dejane & Getachew, 2015; Digby, 2013). The definition of agricultural cooperatives highlights the importance of establishing a larger scale operation that is jointly governed (Digby, 2013). Agricultural cooperatives seek to create operational leverage for their members through economies of scale.

Agricultural cooperative success

Every agricultural cooperative aims at achieving success for its members (Azadi & Karami, 2010). According to Dejane and Getachew (2015), agricultural cooperative success is estimated through the cooperative's prolonged existence, business performance, profitability and the satisfaction that members obtain. Bruynis, Goldsmith, Hahn and Taylor (2017) allude that agricultural cooperative success is expressed through economic success indicators, for example achievement of profits and minimization of costs during the operations. Bruynis et al. (2017) add that successful agricultural cooperatives can compete with other cooperatives. The performance of successful cooperatives makes it possible to compete with private sector agricultural entities. Garnevska, Liu and Shadbolt (2011) posit that successful agricultural cooperatives should conduct organisational affairs democratically. Garnevska et al. (2011) also state that successful agricultural cooperatives are so transparent that they provide members with an opportunity to access organisational information, including financial records. The United Nations (UN) (2018) emphasises that the success of agricultural cooperative depends on sound financial management, marketing ability and good managerial planning. The success of an agricultural cooperative is attained through ensuring that operational competencies are aligned with organisational vision.

Operational competencies

The management of agricultural cooperatives should overcome inherent challenges within their organisations (Banaszak, 2013). Overcoming of these challenges enables the attainment of maximum benefits for agricultural cooperatives. Consequently, it is important to understand the operational competencies that lead to the success of agricultural competencies. Dejene and Getachew (2015) argue that agricultural competencies are assessed in terms of cooperative member participation, member commitment, structural factors, communication, managerial

support, training and education and external factors. Banaszak (2013) argues that the success of agricultural cooperatives depends on operational competencies, such as leadership strength, group size, business relationship and member selection process. Each of the operational competencies is briefly discussed below.

Member participation

The productivity of the agricultural cooperative is determined by the participation of its members (Azadi & Karami, 2010). Amini and Ramezani (2016) postulate that the success of agricultural cooperatives is significantly influenced by the participation of the members. Hakelius (2009) adds that the participation and commitment of cooperative members is an integral part of the agricultural cooperative success. It is also reported that the cooperative's social and economic achievement is realized through member participation and collaboration (Dejene & Getachew, 2015). Azadi and Karami (2010) posit that the agricultural cooperative has the responsibility to ensure that member commitment and participation is maintained through satisfying their needs. Consequently, the cooperative leaders should understand the factors that influence member satisfaction.

Agricultural cooperative member participation is measured through their propensity to add value in cooperative meetings (Amini & Ramezani, 2016). Members should also serve on committees and be involved in the recruitment of additional cooperative members. Ahn, Brada and Mendez (2017) state that members should be involved in technical training programmes and cooperate governance. An equal opportunity to vote, should also be provided for agricultural cooperative members (Azadi & Karami, 2010).

Structural factors

Structural factors express the membership composition and positions within the cooperative (Ahn et al., 2017). According to Banaszak (2013), the structure of the cooperative shows how the organisation functions. Further aspects considered by the structure of the cooperative include the homogeneity of the members and the size of the member component (Dejene & Getachew, 2015). The availability of suitable facilities and sharing of good practice among cooperatives, is also critical for the success of the establishment. Azadi and Karami (2010) argue that structure influences the success of agricultural cooperatives.

Communication

Good communication is important for the success of the agricultural cooperative as articulated by Azadi and Karami (2010). Communication should be orally and in writings (Banaszak, 2013). There must be clear articulation among both external and internal stakeholders in the cooperative. Members should receive timely and worthwhile communication on cooperative matters. Dejene and Getachew (2015) state that information such as member responsibilities and benefits should be communicated among cooperative members. It is also important to communicate information related to the industry and to market trends (Azadi & Karami, 2010). Management should also ensure that communication is accurate and that regular feedback is provided.

Managerial issues

The agricultural cooperative needs to be under good management (Prakash, 2013). Several factors need to be considered for management to be regarded as effective and efficient. Amini and Ramezani (2016) argue that management should possess sound interpersonal skills. It is also critical that management presents a great understanding of the concept of a cooperative. Members of management should also show great interest, talent as well as general managerial skills in working in a cooperative (Prakash, 2013). Managers should be able to handle dysfunctional conflict and ensure the commitment of members. According to Amini and Ramezani (2016), experience and longevity of more than five years can critically influence the success of agricultural cooperatives.

External factors

Cooperatives exist amidst many external factors (Azadi & Karami, 2010). These factors present threats and opportunities to the organisation. According to Prakash (2013), external factors have a great influence on organisational success. External factors include the availability of a market for the cooperative produce, the number of existing cooperatives in the geographical area, and good infrastructural development. Amini and Ramezani (2016) add that external factors include the support that is received from the government and non-governmental organisations. The agricultural cooperatives should therefore ensure that operational competencies such as member participation, structural factors, communication, managerial influence, and external factors are understood (Dejene & Getachew, 2015). These competencies are critical in determining the success of the agricultural cooperative (Amini & Ramezani, 2016).

Review of Empirical evidence

Literature shows that research regarding agricultural operational competencies in the South African context, is in its infancy (Mala, 2018; Azadi & Karami, 2010). Several researchers (Ahn et al., 2017; Dejane & Getachew, 2015) provide insight into operational competencies within agricultural cooperatives. Amini and Ramezani (2016) carried out research in Iran within the Gholestan and Mazandaran province concerning the significance of member participation in the agricultural province. Results of the research (Amini & Ramezani, 2016) indicated that member participation is the most critical competency that leads to the success of agricultural cooperatives. Other researchers such as Ahn et al. (2017), also carried out similar research, however, it was realised that member participation requires other competencies, such as the cooperative structure and managerial efficacy to produce success for the agricultural cooperative. In this study the researchers examined members' participation, as well as organisational structural aspects, and how they influenced the success of the cooperatives.

Dejene and Getachew (2015) and Banaszak (2013) reported that structural factors such as member composition and availability of structural facilities are critical in the determination of cooperative success. However, Mala (2018) presents findings that contradict Dejene and Getachew (2015) and Banaszak (2013), and reported that structural factors in isolation are not sufficient for the success of cooperatives. The divergent empirical evidence contributed to the objectives that supported this study on cooperatives in the City of Tshwane.

A study of Digby (2013) in India reported that communication is critical in ensuring the success of agricultural cooperatives. This finding is supported by Bruynis et al. (2017) and Barton, Boland, Chaddad and Eversull (2011), who established that written communication plays a critical role in the success of agricultural cooperative success. A study by Thornton et al. (2010) highlighted the role of managerial influence. They reported that managerial factors like good interpersonal skills, a good understanding of the concept of cooperatives, and interest to work in cooperatives, were important in achieving the success of a cooperative. Gabara (2013) reported that while communication is important, factors such as member commitment and managerial influence, are equally influential in determining the success of cooperatives.

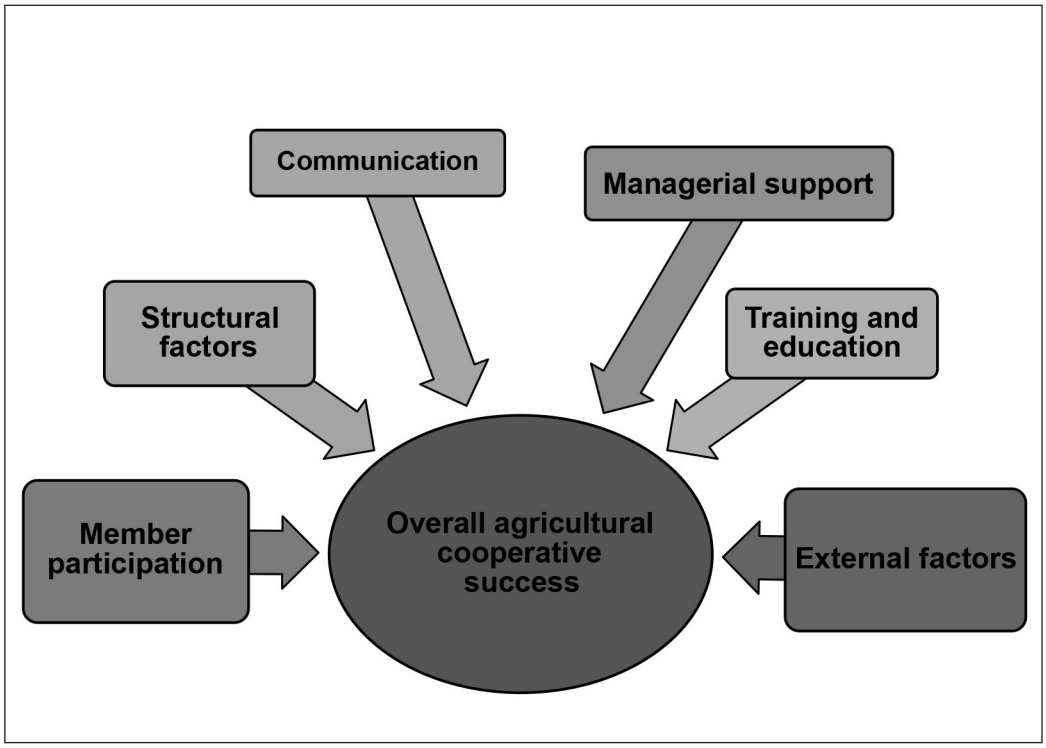
A study by Banaszak (2013) in Poland, noted that external factors play a vital role in determining the success of cooperative success. Garnevska et al. (2011:69) examined the influence of external factors in North West China, and reported a significant influence of external factors on the operations of agricultural cooperatives.

Figure 1 shows the theoretical conceptual model depicting the key variables under consideration in this study.

Theoretical Conceptual Model

This study is grounded on the operational competencies and agricultural cooperative success theory (Banaszak, 2013:133). The study's conceptual framework identifies operational competencies that have been highlighted in the literature, specifically, cooperative member participation, member commitment, structural factors, communication, managerial support, training and education, as well as external factors.

Figure 1: Conceptual theoretical model



Source: Adapted from Banaszak (2013) and Dejene and Getachew, 2015:9

Research hypotheses

H1: Member participation has an effect on overall agricultural cooperative success.
H2: Structural factors have an effect on overall agricultural cooperative success.
H3: Communication has an effect on overall agricultural cooperative success.
H4: Management has an effect on overall agricultural cooperative success.
H5: Training and education has an effect on overall agricultural cooperative success.
H6: External factors have an effect on overall agricultural cooperative success.

Research methodology

This study adopted a quantitative research approach. A survey design used a self-administered questionnaire developed from literature (Dejene & Getachew, 2015:9) to collect the data. A pilot study was conducted to assess the validity and reliability. The study population comprised 92 agricultural cooperatives with approximately 600 members in the City of Tshwane (National Cooperative Business Association, 2018). Stratified and convenience sampling strategy was employed to select three members from each cooperative. A study sample of two-hundred and forty (240) was selected, based on the Slovin's Formula (Tejada & Punzalan, 2012:129) with a 95% confidence level and a 5% degree of error. SPSS was employed to conduct descriptive and multivariate analyses, including correlations and regression analyses. Further tests of validity and reliability were conducted, using factor analysis and Cronbach's alpha, respectively.

Results

Members' perceptions on the operational competencies

The first objective in this study sought to assess the perceptions of cooperative members on operational competencies of the agricultural cooperative. The objective was operationalised, using mean and standard deviation. Operational competencies included member participation, structural factors, communication, management, training and education, and external factors. A 5-point Likert scale (strongly agree = 1; strongly disagree = 5) was also employed to measure the perceptions of cooperative members on operational competencies. The findings of these perceptions are presented in Table 1.

Table 1: Agricultural cooperative members' perception on agricultural operational competencies (n = 240)

	Dimensions and items	Mean	Standard deviation
	Member participation	2.22	1.18
MP1	Participate in all meetings of the cooperative	2.23	1.19
MP2	Serve on the committee of the cooperative	2.23	1.14
MP3	Involved during the recruitment of additional members	2.43	1.18
MP4	Participate during voting processes in meetings	2.08	1.21
MP5	Participate during technical training offered by the cooperative	2.17	1.18
	Structural factors	**2.36**	**1.03**
SF1	Cooperative members possess different skills and think differently	1.79	0.91
SF2	The cooperative has well-structured facilities	2.74	1.09
SF3	Cooperative share successful practice with other cooperatives	2.54	1.09
SF4	The cooperative has a good relationship with other cooperatives	2.39	1.03
	Communication	2.21	1.06
C1	Members have access to timely and worthwhile information	2.21	1.05
C2	Clear communication of member-owner responsibilities	2.08	0.99
C3	Communication of related industry news and market trends	2.40	1.12
C4	Accuracy of messages cooperatives communicate to the member	2.31	1.10
C5	Provision of regular feedback to members	2.14	1.05
C6	Good communication medium	2.16	1.08
	Management	2.06	0.94
GM1	Having good interpersonal skills	1.91	0.90
GM2	Having a good understanding of the concept of cooperatives	2.10	0.95
GM3	Show good interest to work in cooperatives	1.95	0.86
GM4	Having good experience of working in cooperatives	2.10	0.96
GM5	Having efficient conflict solving abilities	2.28	1.04
	Training and education	2.39	1.42
TE1	Cooperative members receive regular internal training	2.41	1.18
TE2	Cooperative members are provided with external training	2.65	1.20
TE3	Internal training received is helpful in developing skills	2.19	1.01
TE4	External training received add value to cooperative activities	2.32	2.32
	External factors	3.04	1.08
E1	The cooperative has a good access to the market	2.99	1.15
E2	The area has few cooperatives existing	2.74	1.07
E3	The area has a good infrastructure development (i.e. good road network)	3.12	1.10
E4	The government is strongly supportive of the operations of the cooperative	3.12	1.10
E5	There is support from non-government organisations	3.25	1.02
	Overall agricultural cooperative success		
CS1	General satisfaction with the operations of the cooperative	2.25	1.06
CS2	General business growth is expected from the cooperative	2.07	0.97
CS3	General longevity is expected from the cooperative	2.10	1.07
CS4	The cooperative is able to meet its objectives.	2.29	1.13

In this research, the mean value 1.0–2.0 represented positive perceptions on operational competencies of the agricultural cooperative and the mean value 2.1–5.0 signified negative perceptions. It was found that cooperative members had negative perceptions of operational competencies for the agricultural cooperatives sampled in this study. This finding was evidenced by the mean values of the operational competencies' sub-constructs that were ranged from 2.1–5.0. The results indicated that agricultural cooperative members had negative perceptions about: member participation as evidenced by a mean value of 2.22; structural factors as evidenced by the mean value of 2.36; communication within the agricultural cooperatives and this was evidenced by the mean value of 2.21; management style in the agricultural cooperative as indicated by the mean value of 2.06; training and education effort put in the agricultural cooperatives evidenced by the mean value of 2.39; external factors influencing the operations of the agricultural cooperatives, evidenced by the mean value of 3.04.

Validity and reliability analysis

The second objective in this study aimed to investigate the effect of operational competencies on the success of agricultural cooperatives. This object required the use of inferential analysis such as correlation and regression analysis (Saunders, et al., 2012). It is also important to note that the reliability and validity of the data is a prerequisite for correlation and regression to be carried out. The reliability of the data was tested using Cronbach's Alpha, while the validity was measured using factor analysis as shown in Table 2.

Table 2: Validity and reliability of the 29 items for operational competencies

	FACTORS						
	1	2	3	4	5	6	7
MP1	.66						
MP2	.63						
MP3	.66						
MP4	.73						
MP5	.59						
SF1		.53					
SF2		.39					
SF3		.52					
SF4		.52					
C1			.70				
C2			.73				
C3			.67				
C4			.75				
C5			.71				
C6			.76				
M1				.67			
M2				.72			
M3				.65			
M4				.73			
M5				.67			
TE1					.55		
TE2					.47		
TE3					.49		
TE4					.46		

E1						.49	
E2						.54	
E3						.43	
E4						.60	
E5						.58	
CS1							.62
CS2							.57
CS3							.63
CS4							.59
α	.92	.76	.93	.92	.92	.85	.91

Reliability analysis was conducted on all the six operational competencies that include member participation, structural factors, communication, management, training and education and external factors. According to Field (2009), a threshold of 0.7 should be employed as a benchmark for sub-constructs to be regarded as reliable. In this study, it was found that all sub-constructs had a Cronbach's Alpha above 0.7, which is evidence of the reliability of the study. Malhotra (2010) argues that validity should be tested on the items that represent the sub-construct measured in the study. A minimum threshold of 0.4 should be reached for an item to be regarded as valid for further analysis (Field, 2009). It is important to note that in this study, all items except SF2, were found to have a factor value of 0.4 and above. SF2 was removed before correlation and regression were performed.

Correlation analysis

Considering that Objective 2 aimed at investigating the effect of operational competencies on the success of agricultural cooperatives, it was important to make use of correlation analysis. The correlation between sub-constructs (operational competencies and overall agricultural cooperative success) was measured through the Pearson coefficient (r-value) and the probability value (p-value). The r-value measures the strength of the relationship between two or more constructs. The r-value is also measured by a value that ranges from -1 to 1. A negative 1 means that there is a perfect negative relationship between two or more constructs, and a positive 1 means that there is a perfect positive relationship between two or more constructs. The p-value measures the statistical significance of the obtained results. Statistically significant results should have a p-value that is 0.05 or less. Table 3 illustrates correlations results.

Table 3: Correlation analysis Dependent construct: Overall agricultural cooperative success

		1	2	3	4	5	6
1	Member participation	1					
2	Structural factors	**.51***	1				
3	Communication	**.67***	**.39***	1			
4	Management	**.48***	**.54***	**.48***			
5	Training and education	**.30***	**.32***	**.32***	**.46***	1	
6	External factors	**.31***	**.27***	**.49***	**.39***	**.39***	1
7	Overall agricultural cooperative success	**.31***	**.38***	**.51***	**.12***	**.53***	**.53***

*p < .001 Source: Researchers' own construct

The results indicate that there is a weak to moderate positive relationship among the sub-constructs that were tested in this study. The r-value for all the relationships tested, range between 0.12 to 0.67. The findings were also statistically significant, given that the p-value was less than 0.05 for all relationships tested. After it was realised that correlation analysis was statistically significant, researchers proceeded with regression analysis.

Regression analysis and Hypotheses test

Regression analysis was carried out in this study to test the formulated hypotheses. This study had a total of six hypotheses. Table 4 illustrates the results of the regression analysis. These results were employed to test the hypotheses as follows:

Hypothesis 1

Based on the findings presented in Table 4, Hypothesis 1 states that member participation has an effect on overall agricultural cooperative success is accepted at $p<0.001$ significant level. The results on regression analysis provided evidence that member participation had a moderate positive effect on overall agricultural cooperative success with an r-value = 0.31 and a p-value < 0.001 significant level. In a study carried out by Amini and Ramezani (2016) in Iran within the Gholestan and Mazandaran province, it was found that member participation is the most critical competency that leads to the success of agricultural cooperatives. Other researchers such as Ahn et al. (2017) also carried out similar research, however, it was realised that member participation requires other competencies, such as the cooperative structure and managerial efficac to produce success for the agricultural cooperative.

Hypothesis 2

The findings in the regression analysis were also employed to test Hypothesis 2 that states that structural factors have an effect on overall agricultural cooperative success. Hypothesis 2 is accepted at $p < 0.001$ significant level. The results on regression analysis provide evidence that structural factors have an effect on overall agricultural cooperative success with an r-value = 0.38 and a p-value < 0.001 significant level. Dejene and Getachew (2015) and Banaszak (2013:48) also found that structural factors such as member composition and availability of structural facilities are critical in the determination of cooperative success. Mala (2018) disagrees with Dejene and Getachew (2015), as well as Banaszak (2013), and highlights that structural factors, in isolation, are not sufficient in producing cooperative success.

Hypothesis 3

Hypothesis 3 was formulated as communication that has an effect on overall agricultural cooperative success. The results in Table 4 provide evidence that communication has a moderate positive effect on overall agricultural cooperative success. This was evidenced by the r-value = 0.51 and the p-value < 0.001. Digby (2013) carried out a study in India and it was established that communication is critical in ensuring the success of the agricultural cooperative. This finding is also supported by Bruynis et al. (2017) and Barton et al. (2011) who established that written communication plays a critical role in the success of agricultural cooperative success.

Hypothesis 4

The findings in the regression analysis were also employed to test Hypothesis 4 that states that management has an effect on overall agricultural cooperative success. Hypothesis 4 is accepted at $p < 0.001$ significant level. The results on regression analysis provide evidence that management has a moderate positive effect on overall agricultural cooperative success with an r-value = 0.55 and a p-value < 0.001 significant level. Dejene and Getachew (2015) and Banaszak (2013) also found that management of the agricultural cooperatives is critical in the determination of cooperative success. Mala (2018) opposes the findings of Dejene and Getachew (2015) as well as Banaszak (2013), with the results of the research that shows that management alone is not sufficient in producing cooperative success.

Hypothesis 5

Based on the findings presented in Table 4, Hypothesis 5 states that training and education has an effect on overall agricultural cooperative success, and is accepted at $p < 0.001$ significant level. The results on regression analysis provided evidence that training and education has a weak positive effect on overall agricultural cooperative success with an r- value = 0.12 and a p-value < 0.001 significant level. In a study carried out by Amini and Ramezani (2016) in Iran within the Gholestan and Mazandaran province, it was found that training and education in cooperatives is the most critical competency that leads to the success of agricultural cooperatives. Other researchers such as Ahn et al. (2017) also carried out similar research, however, it was realised that training and education require other competencies, such as the cooperative structure and managerial efficacy to produce success for the agricultural cooperative.

Hypothesis 6

Hypothesis 6 was formulated to assess the effect of external factors on the success of agricultural cooperatives. The results in Table 4 provide evidence that external factors had a moderate positive effect on overall agricultural cooperative success. This was evidenced by an r-value = 0.53 and a p-value < 0.001. Digby (2013) carried out a study in India and it was established that external factors are critical in ensuring the success of the agricultural cooperative. This supports Bruynis et al. (2017) and Barton et al. (2011) who reported that the role of external factors in the success of agricultural cooperatives.

Table 4: Regression analysis
Dependent variable: Overall agricultural cooperative success

	B	SEB	β	T	Sig	R^2	Hypothesis
(Constant) Perceived member participation	6.16 .23	.69 .06	.31	8.88 4.04	.000	.10	Accept H1
(Constant) Perceived structural factor	4.37 .46	.89 .09	.38	4.90 5.14	.000	.15	Accept H2
(Constant) Perceived communication	4.10 .35	.69 .05	.51	5.96 7.24	.000	.26	Accept H3
(Constant) Perceived management	3.51 .50	.69 .06	.55	5.06 8.05	.000	.30	Accept H4
(Constant) Perceived training and education	7.67 ,11	.77 .07	.12	9.94 1.46	.000	.01	Accept H5
(Constant) Perceived external factor	1.64 .46	.95 .06	.53	1.73 7.74	.000	.28	Accept H6

*p < 0.001; **p < 0.17

The hypotheses above are based on the results of the regression analysis conducted as shown in Table 4. Table 4 contains alpha and regression coefficients, where SEB is the standard error of the coefficient of determination, β is the standardised beta coefficient, and R^2 is the coefficient of determination as they were used to measure the explanatory power of predictor variables (operational competencies) to the dependent variable (overall agricultural cooperative success).

Conclusions and Recommendations

The objectives of this study were twofold: i) to assess the perceptions of cooperative members on operational competencies of the agricultural cooperative and ii) to investigate the effect of operational competencies on the success of the agricultural cooperative. The aim of the research study was to examine the extent which operational competencies influence the success of agricultural cooperatives. The study findings with respect to Objective (i), was that agricultural cooperative members had negative perceptions on operational competencies encompassing member participation, structural factors, communication, management, training and education, and external factors. Concerning Objective (ii), it was found that operational competencies that include member participation, structural factors, communication, management, training and education and external factors, had a positive effect on the success of agricultural cooperatives. It was also found that operational competencies influence the success of agricultural cooperatives at varying levels. Management had the highest explanatory power on the success of agricultural cooperatives, followed by external factors, communication, structural factors, member participation and training and education.

The recommendations are as follows:

Creating sustainable relationships with non-governmental organisations

It is important for the agricultural cooperative to actively seek partnerships with non-governmental organisations who assist with the development of cooperatives. There are non-governmental organisations that specialise in assisting the development of the cooperative. It is important to identify non-governmental organisations that understand the impact that cooperatives have on economic development. Ultimately, a good relationship with non-governmental organisation assist in capacitating the operations of the agricultural cooperatives.

Improving the infrastructure

This research suggests that there is a shortage of infrastructure to support the operations of agricultural cooperatives. It is therefore important for the agricultural cooperatives and the local government to work together towards ensuring that sufficient infrastructure is put into place. It is important to ensure that the infrastructure such as accessible roads, and electricity and water, is put in place in the environment where agricultural cooperatives are operating. The duty to identify missing infrastructure should be given to the agricultural cooperatives, so that the right facilities could be put in place.

Accessing markets

There is a need to ensure that agricultural cooperatives have access to markets. Markets present an opportunity for agricultural cooperatives to sell their produce. It is, therefore, necessary for the agricultural cooperatives to work with the local government to ensure the establishment of markets. Designated places should be put in place to ensure that agricultural cooperatives can meet buyers of their produce.

Training and development of cooperative members

The management of the agricultural cooperative should ensure continuous improvement in work processes and systems. Such improvement can be achieved by ensuring that training is provided to employees. Thus, there is a need for the agricultural cooperative to provide both internal and external training to its members. There has to be a plan in place that directs the timelines when members are provided with the training.

Implications for practice

The findings in this study have shown that agricultural cooperative members had negative perceptions towards aspects such as the measure of support provided by non-government organisations, available infrastructure, government support, accessibility to markets, competition from existing cooperatives, facilities within the cooperative, cooperation among cooperatives, and training provided to cooperative members. Based on the findings of this study, several recommendations are provided to both management of the agricultural cooperatives and economic development policymakers within the government.

Limitations of the study

The study was done on a single agricultural cooperative. Thus, the opinions expressed are those of members within a single agricultural cooperative. The findings do not necessarily represent the situation in other agricultural cooperatives that were not considered in this study. It is also important to note that this study focused on an agricultural cooperative within the City of Tshwane and excluded agricultural cooperatives outside the City of Tshwane.

The research study adopted a quantitative research methodology, and did not make use of qualitative research methodology that permits the respondents to respond in their own words. Consequently, the sampled respondents were not allowed to respond to questions in their own words. This study only concentrated on a selected number of operational competencies (member participation, structural factors, communication, management, training and education and external factors) that were provided by the model that was adopted by the researcher. It is important to note that the operational competencies employed in this study, are not exhaustive of all the operational competencies within agricultural cooperatives.

Directions for future research

Future researchers should conduct research in more than one agricultural cooperative. Further comparative studies should be undertaken by focusing on agricultural and non-agricultural cooperatives. Future researchers should also consider researching agricultural cooperatives that are located outside the City of Tshwane. It is also important that future researchers consider the use of qualitative research methodologies that enable the in-depth understanding of the phenomena. Future researchers could explore different operational competencies as well as the implications thereof for the success of agricultural cooperatives.

References

Ahn, S, C., Brada, J, C., & Me´ ndez, J, A. 2017. Effort, technology and the efficiency of agricultural cooperatives. *Journal of Development Studies*, 48(11): 1601–1616.

Amini, A. M., & Ramezani, M. 2016. Study of effective factors on success of poultry-farm cooperatives in Gholestan and Mazandaran province. *Journal of Agriculture Science & Natural Resources*, 13(2): 123 - 133.

Azadi, H. & Karami, E. 2010. Comparison of mechanization unit of rural cooperatives, production cooperatives and mechanization companies in Fars province, Iran. *Journal of Science & Technology of Agriculture & National Resources*, 5(3): 33–48.

Banaszak, I. 2013. *Determinants of successful cooperation in agricultural markets: evidence from producer groups in Poland. Strategy and governance of networks*. Heidelberg: Physical-Verlag.

Barton, D., Boland, M., Chaddad, F., & Eversull, E. 2011. Current challenges in financing agricultural cooperatives. *Agricultural & Applied Economics Association*, 26(3).

Bruynis, C. L., Goldsmith, P. D., Hahn, D. E. & Taylor, W. J. 2017. Key success factors for emerging agricultural marketing cooperatives. *Journal of Cooperatives*, 16: 19-24.

Dejene, E. & Getachew, D. 2015. Factors affecting success of agricultural marketing cooperatives in Becho Woreda, Oromia regional State of Ethiopia. *International Journal of Cooperative Studies*, 4(1): 9-17.

Digby, M. S. 2013. Cooperative marketing in India. *Review of International Cooperation*, 69(2): 52-63.

Earl, P. & Wakeley, T. I. 2005. *Business economics: a contemporary approach*. McGraw Hill Education.

Field, A. 2009. Discovering statistics using SPSS. 3rd ed. Thousand Oaks, CA: Sage.

Gabara, N. 2013. Farming cooperatives provides food and jobs. *The Journal of Southern Africa*, 10(13): 124 – 143.

Hakelius, K. 2009. Cooperative values-farmers' cooperatives in the minds of farmers. Dissertation, Swedish University of Agricultural sciences.

International Cooperative Alliance. 2017. International co-operatives research conference, statement on the cooperative identity. Geneva.

Garnevska, E., Liu, G & Shadbolt, N. M. 2011. Factors for successful development of farmer cooperatives in Northwest China. *International Food & Agribusiness Management Review*, 14(4): 69 – 84.

Mala, L. 2018. Sugar co-operatives in Maharashtra: A political economy perspective. *The Journal of Development Studies*, 44 (10): 1474 – 1505.

Malhotra, N. 2010. *Marketing research: an applied orientation*. 6th ed. Upper Saddle River, NJ: Pearson.

National Cooperative Business Association (NCBA). 2018. Liberation of agricultural cooperatives. NCBA [Online] Available from: http://www.ncba.org/ [Accessed 10/08/2018].

National Treasury, South Africa. 2018. *Budget review*. ISMB: 978-0-621-46020-9, pp, 1 – 299.

Prakash, D. 2013. *Capacity building of agricultural cooperatives to meet the market and human resources development demands. A step-by-step approach participatory management development advisory network*. New Delhi: India.

Saunders, M., Lewis, P. & Thornhill, P. 2012. *Research Methods for Business Students*. 5th Edition. Pearson Education Limited: England.

Statistics South Africa. 2018. Category archives: economic growth. Stats SA [Online] Available at: http://www.statssa.gov.za/?cat=30 [Accessed 14/07/2018].

Tejada, J. J. & Punzalan, J. R. B. 2012. On the misuse of Slovin's formula. *The Philippine Statistician*, 61(1):129-136.

Thornton, A., Nel, E. & Hampwaye, G. 2010. Cultivating Kaunda's plan for self-sufficiency: Is urban agriculture finally beginning to receive support in Zambia? *Development Southern Africa*, 27(4): 613 – 625.

United Nations (UN) 2018. Millennium development goals: Annual report. UN, New York.

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EVALUATION OF FINANCIAL MECHANISMS FOR ENERGY-EFFICIENT INTERVENTION PROJECTS IN LOW-INCOME COMMUNITIES: A CASE STUDY FOR KUYASA, CAPE TOWN

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Abstract:

The Kyoto Protocol Article 12 Clean Development Mechanism (CDM) under the United Nations Framework Conversion on Climate Change (UN FCCC), focuses on delivering sustainable development through compliance with quantified emission limitation and reduction commitments. This study explores the financial mechanisms within the Clean Development Mechanism framework to finance energy-efficient interventions projects in Kuyasa low-income community, Khayelitsha in Cape Town. A purposive sample of three hundred and seventy (370) Kuyasa residents and fifteen (15) experts on renewable energy were interviewed using self-completed questionnaires and in-depth interview schedules, respectively. Data were analyzed using descriptive statistics and content analysis. The majority of the respondents confirmed that the project lacked post-implementation sustainable financial mechanisms to fund the maintenance and upgrades of the 2 309 houses retrofitted with solar water heaters, compact fluorescent lights, and insulated ceilings. Attempts to impose a R30 contribution per household, which was not initially agreed at the conception of the project, was rejected by the Kuyasa project beneficiaries. Equally, an attempt to charge an 'availability' charge was unsuccessful, because beneficiaries could not afford to pay. Similarly pre-project revenue expected revenue streams through selling Certified Emission Reductions (CERs) and they were negatively affected by delays and decline in CERs credit values. Lastly, the proposal to monetize the monthly government grant of 50 kWh per month to low-income households, was still under consideration while this study was conducted. Overall, the failure to develop a sustainable finance mechanism resulted in the Kuyasa renewable energy project recording a negative net present value. The study recommends that project implementers should apply holistic approaches that engender a buy-in by all stakeholders. There is a need for forward planning with respect to post-project funding imperatives and revenue streams that ensure the financial sustainability of projects.

Keywords: *Clean Development Mechanism, Financial mechanisms, Kuyasa, Sustainability, Solar water heaters, Work With People*

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Introduction

The South Africa White Paper on Energy Policy recognized that approximately 2.2 million low-income dwellings would be constructed over the coming years, but there was concern that insufficient attention was being paid to the thermal performance of these low-cost housing units (Energy Sector Management Assistance Program, ESMAP, 2011; 2012). Building houses in low-cost residential areas without attention to thermal performance, reduces initial costs slightly, exposes residents to a lifetime of low thermal comfort, high energy costs, and high levels of energy-related air pollution (South Africa-Low income Energy Efficiency Housing Project, SA-LEEHP, 2015).

Kuyasa Clean Development Mechanism Project

The Kuyasa renewable energy efficiency project commenced in 2005 as a Clean Development Mechanism (CDM) project in partnership with the United Nations Framework Convention on Climate Change (UN-FCCC). The purpose of the clean development mechanism as per Kyoto Protocol Article 12 for the United Nations Framework Conversion on Climate Change (UN FCCC) according to Africa et al (2012), was to assist *Parties not included in Annex I* towards achieving sustainable development. The ultimate objective of the Convention is to assist *Parties included in Annex I* towards compliance with their quantified emission limitation and reduction commitments under Article 3.

The objectives stated above underpinned the installation of CDM renewable energy technologies in 2 309 Reconstruction and Development Programme (RDP) houses in Kuyasa, Khayelitsha from August 2008 to 2010 (Ashun and Kashani, 2011). The installed renewable energy technologies included solar water heaters (SWH), compact fluorescent lights (CFL) and insulated ceilings (Banks and Schaffler, 2006). The projected greenhouse gas savings from these three interventions are shown in Table 1 below.

Table 1: Anticipated greenhouse gas reductions (CO2e) from the Kuyasa project

	Source	**CO_2 emissions (tonnes/hh/year)**
Baseline		8.44
Intervention	Water heating Lighting Space heating	1.288 0.228 1.330
Total for all 3 interventions		5.60
Total avoided CO_2 emissions per household		2.85

Adapted from Goldman, 2010

The project management expectations were that the project should be financially sustainable through the sale of Certified Emission Reduction (CER) credits to Annex 1 countries.

Specific Clean Development Mechanism interventions in Kuyasa, Khayelitsha:

The renewable energy project installed 110-litre solar water heaters (SWH), insulated ceilings and compact fluorescent light bulbs (CFL) in each of the selected dwellings. The aim was to alleviate energy poverty by providing the poor with access to renewable energy efficient technologies. A related objective was to address the 'suppressed demand' for energy services due to poverty and lack of infrastructure – both in terms of changing the 'demand patterns for energy' to enable the poor to 'meet these needs with less energy', and in turn to stimulate the local manufacturing demand for solar water heaters (Department of Environmental Affairs and Tourism, DEAT, 2005 and United Nations Framework Convention for Climate Change, UNFCCC, 2017).

The Kuyasa renewable energy was the first Clean Development Mechanism project in Africa and was awarded the status of a *Gold Standard Project*. Over a 21-year crediting lifetime, the project was expected to generate at least 130,000 tonnes of CDM credits for sale (South Africa National Treasury, 2003). Secondly, the value of the Kuyasa Project was in terms of its contribution to sustainability goals focusing on climate change. These goals elevated the status of the project to the forefront of the City of Cape Town's climate change mitigation projects (Cartwright and Atkins, 2014). SouthSouthNorth (SSN) was the joint project implementer with the City of Cape Town. SSN is a non-governmental organisation (NGO) with offices in South Africa, Bangladesh and Brazil. The timeline for the project from 1999– 2010 is shown in Table 2 below.

Table 2: Kuyasa project timeline

Year	Activity
1999-2002	Kuyasa CDM project concept development
2003	Pilot phase of 10 installations
Late 2004	CDM project documents submitted
August 2005	Kuyasa CDM project registered
August 2006	Agama selected to prepare business plan for implementation
Late 2007	SAEDF appointed implementer with revised business plan
Early 2008	1 800 installations completed
Late 2009	Remainder of 2 309 installations completed
April 2010	Scheduled completion of 2 309

Adapted from Goldman, 2010

The project was developed and implemented in a way that allowed it to qualify for Certified Emission Reduction certificates in August 2005. As a Gold Standard project, the CDM project was registered under the Kyoto Protocol Article 12 Clean Development Mechanism (CDM) (Modi et al, 2006). The total cost of the project was originally estimated at R13.4 million – R6 000 per house. R12.5 million was required for initial capital expenditure and R0.9 million for maintenance over 10 years (Modi et al, 2006).

The central aim of this study is to evaluate the CDM financial mechanism used in the Kuyasa renewable energy project. The primary objectives are to a) evaluate the effectiveness of the financial mechanisms that were put in place in the development of the Kuyasa project and b) assess impacts of the implementation of renewable energy projects such as the Kuyasa project in Cape Town.

Literature review

The study is underpinned by the Real Options (RO) and Work With People (WWP) theories.

Real Options (RO) theory

The Real Options theory (RO theory) focuses on assessing the value of flexibility within projects under uncertain conditions (Cesena, 2012; Real Options in theory and Practice, 2008). The flexibility represents the capabilities of managers to adjust projects in response to uncertainties, and to enhance the project's worth (Ashun and Kashani, 2011). The RO theory approach applies the concept of financial options to the investment in physical assets, and takes into account both the net present value (NPV) and the irreversibility, uncertainty and managerial flexibility of physical investments (Cesena, 2012).

In terms of the RO theory, an investment is a stochastic process which is potentially affected by several uncertainties which can be quantified. These intrinsic properties of an investment enables investors to evaluate project value more accurately and make investment decisions dynamically to minimise the investment risk (Cesena, 2012). If the NPV is positive the project is worthwhile and should be pursued. If it is negative the project should be turned down (Howells et al, 2010).

Decision-making under the traditional NPV criteria is normally based on static data and information, and cannot provide updated information for supporting dynamic decision-making for investments that need to consider uncertainties in the future Cesena, 2012). Thus the investment flexibility tends to be ignored. As a result, this method fails to provide an objective evaluation of the investment, and cannot solve the investment timing optimization problem (ESMAP, 2012). Thus, the theory of Real Options has emerged to solve the problems with traditional NPV criteria (Cesena, 2012).

Work With People theory (WWP)

The WWP theory advocates the need for systematic or open communication between participating agents as a precondition for participation in renewable energy projects. Participating agents involved in the Kuyasa project were the Kuyasa community members, Government through the Department of Energy (DoE), the former Department of Environmental Affairs and Tourism (DEAT), project owner (City of Cape Town), and project implementer (SouthSouthNorth). Eskom, the South African electricity power utility played a major role in the project.

The WWP theory argues that the social complexity of the private-public partnership is directly related to understanding the dynamics of the ethical-social component of the social partners. The WWP theory emphasizes incorporation of the behaviour of individuals and the context in which they work, and the need to avoid narrow focus on the technical aspects of projects (Lloyd, 2014). The WWP theory is underpinned by the belief that the value in improving human behaviour is achieved through the direct participation and involvement of the social partners. The model incorporates the behaviours, attitudes and values of people involved in the implementation of projects. Thus, the WWP theory offers a long-term sustainability approach and positive view of the reality, and allows actions to be taken with a perspective on the success, and the possibility of responding appropriately to the needs of the community (Cesena, 2012). The model is of great importance to the study in assessing the financial mechanism adopted by participating agents and community members. The WWP model highlights the importance of learning from one another through interaction and working together as proposed by the systems theory (Banks and Schaffler, 2006). More importantly, the WWP places emphasis on the need to avoid the traditional technical-economic vision of project management in low-income-earning communities and advocates the need to focus on individuals' behaviour and on the social context. These new elements make project management a complex process where all the different values, interests, appreciations, needs, expectations and commitments of each stakeholder play a role. This study adopted the Real Options and Work With the People theories to evaluate the net present value of the Kuyasa renewable energy project.

Methodology

The study adopted a case study design to evaluate the sustainability of financial mechanisms in the Kuyasa renewable energy project in Cape Town. A self-completed questionnaire was used to collect data from 370 Kuyasa residents. The study population comprised all the stakeholders and beneficiaries of the Kuyasa renewable energy project. In-depth interviews were conducted with 15 experts on renewable energy.

Purposive sampling was employed to select participants for this study. Dudovskiy (2018) and Lavrakas (2008) note that purposive sampling is a type of non-probability sampling where elements selected for sampling are regarded as experts. A pilot study was conducted to test the validity and reliability of the questionnaire. The respective items were addressed before the main field work. Participants were assured that the information was going to be used for the sole purpose of this study and that anonymity would be maintained.

Data analysis used content and discourse analysis.

Findings

Funding mechanisms for the Kuyasa project

The study findings showed that the project received funding from national and regional governments. The former Department of Environmental Affairs and Tourism (DEAT) provided R24 million for the project fund, while the Western Cape Provincial Department of Housing and Local Government provided R4 million (US$530 000) during the course of the project. The DEAT grant was to be recovered over time in the form of payments by residents and carbon credits (Goldman, 2010). In terms of Certified Emissions Reductions (CER) income, the project was expected to generate approximately R1 million (US$130 000) per year through selling 6 580 carbon credits per year, which would contribute to covering the South African Export Development Fund (SAEDF) guarantee, as well as ongoing maintenance and monitoring (Cartwright and Atkins, 2014).

It was reported that 30% of the funding went towards local job creation and skills development. SSN as a joint project implementer positioned the project as part of the National Government's Expanded Public Works Programme (EPWP) to create employment. The DEAT was responsible for directing EPWP funding which was earmarked towards a) reducing and alleviating unemployment and b) environmental projects which were to be achieved through inviting proposals from interested projects and organisations (Lockwood, 2013).

The study findings showed that unemployed members of the Kuyasa community were recruited and trained in carpentry, plumbing and electrical skills. The training was a mixture of in-house skills transfer, where an insourced technical expert would spend a week with the local team until they were competent enough to complete the installations. Outsourced accredited training was offered to enable skilled workers to acquire certificates in their specific skills (Goldman, 2010).

Mechanisms to finance project costs and ongoing maintenance of the renewable energy technologies

The study findings showed that there were four (4) planned financial contribution mechanisms to finance Kuyasa project costs. These funding mechanisms were:

1. A R30 monthly contribution by householders;
2. An 'availability' charge on the pre-paid electricity meters;
3. Revenue through selling Certified Emission Reductions (CERs); and
4. Monetising the basic energy grant.

The Work With People theory advocates for teamwork amongst the stakeholders involved in a project (Cesena, 2012). More importantly, is the need for the project owner, the project implementer and the community to work together on project implementation modalities. Thus the successful implementation of the financial mechanisms would depend on prior agreement between the partners. The findings reported below, point to a lack of adoption of the tenets of the WWP theory and Real Options theory that would have guaranteed a positive net present value (NPV) for the project.

The majority of the respondents cited the rationale and outcomes for each of the adopted financing mechanisms as follows:

a) R30 monthly contribution

It was reported that the objective of the CDM project was to enhance the sustainability and livelihood opportunities for the low-income earning residents of Kuyasa. The project commenced with a 100 percent grant or capital injection for each RDP house (Wesselink, 2017). Initially residents were not expected to contribute to costs of installation and ongoing maintenance. The requirement for monthly contributions was mooted towards the end of the project. The demand for 'later' contributions was critical to ensure that the project become financially self-sustainable as there was no revenue stream and no 'afterward' collection mechanism (Wesselink, 2017).

A community survey in late May 2008 indicated that every household would be prepared to contribute at least R30 (US$4) per month, with some offering up to R300 (US$40). Wesselink, the SSN South Africa country manager,

decided to apply R30 because "it was the lowest that anybody offered … on R30 per month we can pretty much make Kuyasa work financially". Most of the project beneficiaries had agreed to the arrangement but the challenge was in the collection mechanism (SA-LEEHP, 2017). Ndamane, Kuyasa site manager, cautioned that "the collection of this R30, it can be a nightmare if I go house to house… I will be inviting robbery and all that." Alternatively, receiving the money paid at the Kuyasa CDM office was risky and also invited robbery. According to Wesselink, if the plan had materialized, the Kuyasa CDM project could have generated revenue amounting to R831 240 annually (R30 multiplied by 12 months multiplied by 2 309 households), which would fully finance the budget shortfall within five years.

The projected income between December 2010 and December 2016 was R4 987 440, calculated as R831 240 multiplied by 5 years. Wesselink stated that the money could have been allocated towards promoting sustainability through maintenance and upgrades, as well as contributing towards value added tax (VAT) for the South African economy. He pointed out that the implementation of an efficient and effective revenue model could have guaranteed self-sustainability for the Kuyasa project.

SSN managers highlighted that a viable revenue model could have ensured continuous replication and added value to the renewable energy project for other communities in Khayelitsha, Wellington, and Kraaifontein. SSN managers further noted that the project needed a revenue model that ensured a buy-in from the residents through monthly contributions towards maintenance and upgrade of SWH, insulated ceilings and CFL.

b) Availability charge on the pre-paid electricity meters

The study showed that the project owners had initiated an 'availability charge' on the pre-paid electricity meters to be used in RDP houses. Prepaid electricity meters were installed by Eskom in low-income houses that were connected to the electricity grid during the past 15 years. In order to use electricity, the households were expected to purchase tokens from a retailer and enter the encoded 20-digit number using a keypad on the meter. Once the available credit is exhausted, the supply of electricity is cut off, until another token is purchased and entered.

A pilot was mooted with Eskom, where Kuyasa residents were encouraged to make their contributions by paying an additional R7 (US$0.93) per week via the meter before they could access 1 kW of electricity. This contribution would then be redirected to the project (Goldman, 2010 and Wesselink, 2017). The solution did not materialise, because residents could not afford the weekly contribution. This was largely due to the fact that 70% of households in Khayelitsha survived on less than R1 600 (US$213) per month (SouthSouthNorth, Africa, 2005).

c) Monetise the basic energy grant

This is an "even simpler [solution] which government can implement tomorrow". Some of the interviewees stated that project revenue would have been realized through monetising the basic energy grant of 50 kWh per month provided by the government to all low-income households, including the 2 309 in Kuyasa. The 'in-kind' grant was enough to provide basic lighting, basic water, heating, using a kettle, basic ironing and access to a TV and radio. The proposal was still under consideration while this study was conducted. Wesselink noted that he hoped "for a positive decision that would help unlock the financing needed for large-scale roll-out, and shift at least 50% of the risk in servicing this market segment to the State, where it more appropriately belongs".

d) Revenue through selling Certified Emission Reductions (CERs)

SSN management noted the possibilities of generating revenue through selling carbon credits and Certified Emission Reductions (CERs) to Annex 1 countries under the Kyoto Protocol. Verification of the Certified Emission Reduction (CER) had its own challenges. Verification of the Kuyasa CDM project covered the period August 2008 to December 2010 and was finalised in March 2017. SSN managers confirmed that the verification process was complicated and they had to pay R500 000 to the DOE, a European organisation. The carbon credits for that period were released and sold at 8 Euro per tonne. In total the CDM project for that period received R1 million. According to SSN management the money received was enough for basic maintenance but not to replace, for example, broken geysers, falling ceilings or burnt-out compact fluorescent lights.

Verification for the period 2011 to 2015 was done by Credible Carbon, a South African renewable energy organisation which financed its operations from the carbon credits it generated. Locally the carbon credits were sold for between R70–R100 per tonne. Some of the carbon credits were sold to organisations such as Nedbank. Locally SSN received about R150 000. Combined international and national CERs revenues amounted to R1 150 000. According to Wesselink (SSN) the money received was channeled towards maintenance, repaying the debt (DEAT grant) the Kuyasa CDM accumulated for the period 2008 to 2010. Wesselink stated that the lack of constant revenue streams was jeopardising the sustainability of the Kuyasa (CDM) renewable energy project.

Contribution towards economic growth

Most of the experts interviewed were of the opinion that the South African economy made little profit from the tax payments from the Kuyasa CDM project. Wesselink highlighted that the project created more Chinese jobs compared to South African manufacturing jobs. The SSN management reported that they purchased the first 1 500 geysers from a new local importer for a Chinese company called Genergy. The payments for the geysers were made within the project budget of R3 000 per geyser. The local importer had approval from the South African Bureau of Standards (SABS). Wesselink noted in an interview that although the geysers or solar water heaters (SWH) were approved, they were 'badly' insulated.

An additional one thousand (1 000) geysers were purchased from Hotmix (Pty) Ltd, a South African geyser manufacturing company. The Xstream Vacustream brand geysers sourced from Hotmix (Pty) Ltd were supplied at R3 800 per unit. The Xstream geysers had a lifetime guarantee against corrosion. The enhanced quality, improved safety and higher service cost levels increased costs slightly. The benefits from sourcing from the domestic manufacturing company, justified the increases on the total project budget and slightly longer payback period for the SAEDF guarantee (ESMAP, 2012).

Kuyasa Energy Company, a former early participant on the project was undertaking most of the maintenance on the renewable energy installations in Kuyasa community. The manager, Ndamane started off as a site manager of the Kuyasa (CDM) renewable energy project in October 2007. His responsibilities involved technical and non-technical aspects of the project. Upon project completion in 2010, experienced and confident, Ndamane registered the Kuyasa Energy Company. The company is located in Kuyasa, Khayelitsha within the renewable energy project area. Wesselink stated that some of the monies accumulated through the sale of Certified Emission Reductions (CERs) was channeled towards contracting Kuyasa Energy Company for maintenance. Maintenance was required for malfunctioning geysers, falling ceilings and other renewable energy installations for the RDP houses in Kuyasa.

The environmental impact versus earned certified emission reductions

The study findings showed that environmental challenges were addressed, as reflected by significant reductions in greenhouse gas emission. The project managed to reduce 2.85 tonnes of greenhouse gas emission per low-income house per year. As a registered project under the Kyoto Protocol Clean Development Mechanism the 2.85 tonnes reduction of greenhouse gas emission was to be converted into carbon credits that could be sold and earned income for the project through certified emission reductions. Certified emission reductions income realised for the verified period between 2008 and 2010 was approximately R1.1 million against a capital injection of R33 million, thus indicating a negative net present value.

Impact of carbon credits

The study indicated that the carbon value had fallen and was approximately US$15 per tonne versus the expected US$25 per tonne in 2017. The European Union Observer (20 September 2017) highlighted that the price of the European carbon credits under the EU's Emissions Trading System (ETS), dropped from around €8 to slightly below €6 on 25 January 2017. It has fluctuated around €6 since then. This means that the project implementer would most likely get less income through the sale of carbon credits, thus putting the project maintenance and upgrades at substantial risk.

Contractual agreements between community members and key stakeholders

The study findings showed a failure of the project implementer and owner to agree upfront contractual agreements with beneficiary community members. This failure proved costly to both partners during the project maintenance and upgrade phase. The income earned through the sale of certified emission reductions was barely enough to cover maintenance work. A severe rainstorm in Cape Town on 7 June 2017 left some of the solar water heaters needing maintenance. The damage resulted in some solar water heaters that had to be replaced and/or upgrades of hot water storage tanks (geysers) and solar collectors. An ongoing maintenance exercise could have been guaranteed through an agreed community member monthly contribution of R30/R40 per month.

The importance of community member contributions

The study findings support the Work With People theory which advocates for partners to actively participate through contributing financially and non-financially towards project costs. This would have channeled the contributions by beneficiary members towards project costs, thereby transferring the project ownership to them. In turn the monthly contributions would have generated a positive net present value as advocated by the Real Options Theory.
Consequences of non-implementation of financial mechanisms
The consequences of the rejection by the beneficiary members of the R30 monthly financial contribution, had wider implications for the sustainability of the project. The study noted positive and negative economic impacts for the beneficiary members and wider community before and during the renewable energy interventions. Firstly, the community members highlighted a positive saving through the reduction in spending towards energy costs. According to Ndamane, a former Kuyasa project manager, a community member who previously spent about R500 (US$67) per month on 50 litres of paraffin, was now spending less than R25 (US$3.30) per month on about 2 litres of paraffin. Another resident reported a drop in electricity usage from R100 (US$13.33) to R70 (US$9.33) per month.

An SSN case study on the project in 2007 suggested an energy cost saving of R625.83 (US$83.44) per household per year. Notwithstanding these cases, the absence of viable financial mechanisms will have negative consequences on the funding of maintenance costs and upgrades in the future, and ultimately reverse the expected outcomes of the renewable energy project.

Conclusions

The study findings indicate that the Kuyasa project contributed to a better quality of life for the beneficiaries of the renewable energy project initiative. It also created employment opportunities and stimulated the nascent growth of the renewable energy manufacturing sector. Notwithstanding the positive outcomes, the Kuyusa project had a negative net present value. The sustainability of the project was compromised by a lack of open communication and consultation regarding the financial mechanism between the key stakeholders.

Beneficiary members were not expected to contribute to costs of installation and ongoing maintenance. The project implementer should have anticipated the future financial mechanisms during the project conception phase as advocated by the WWP theory. The attempt to introduce 'later' contributions was rejected by the beneficiary members. Similarly the members were unable to pay the 'availability' charge on the pre-paid electricity meters. In turn, the project funding model over-estimated the revenue flows from selling certified emissions reductions (CERs), which was subject to uncontrollable external factors. The revenue stream was only sufficient for basic maintenance rather than replacing broken geysers, falling ceilings or burnt-out compact fluorescent lights. The proposal to monetise the basic energy grant had not yet been accepted by the government while this study was being conducted.

Overall, the financial mechanism for the Kuyasa (CDM) renewable energy had a negative net present value, which threatened the self-sustainability envisioned in renewable energy projects.

Recommendations

Project implementers should adopt holistic approaches when implementing private-public partnerships. The social complexity of projects should be taken into account through fostering mutual understanding among all the key stakeholders. Dual focus should be placed on the technical and social aspects in the implementation of projects

which affect low-income communities. More importantly, contractual agreements should be agreed upon at the beginning of the project cycle as well as provision of timely updates over the project life cycle.

There is a need to align projects with relevant state regulations and laws, as well planning for unanticipated changes in commitments with international partners, institutions, bodies and governments.

References

Africa. L, Blore. M, Dwight. R, Reichhardt. C, Retief. D, and Mpando. T, (2012), "Domestic Energy Use of Low Income Households in Grahamstown East", South Africa.

Ashun. B, and Kashani. H, (2011), "A Real Options Approach to Evaluation Investment in Solar Ready Buildings"

Banks. D and Schaffler. J, (2006), "The Potential Contribution of Renewable Energy in South Africa: Update Report", Raps Consulting, South Africa.

Cartwright. A and Atkins. P, (18 June 2014), "Credible Carbon: Kuyasa Low-cost Urban energy upgrade project", South Africa

Cesena. E.A.M, (2012), "Real Options Theory Applied to Renewable Energy Generation Projects Planning", University of Manchester, School of Electrical And Electronic Engineering, London.

Department of Environmental Affairs and Tourism (DEAT)., (September 2005), "South Africa Country Report, Fourteenth Session of the United Nations Commission on Sustainable Development", South Africa.

Energy Sector Management Assistance Program (ESMAP), (2011), "Good Practices in City Energy Efficiency- Cape Town- Kuyasa Settlement",

Energy Sector Management Assistance Program (ESMAP), (2012), "Good Practices in City Energy Efficiency- Cape Town- Kuyasa Settlement"

Energy Sector Management Assistance Program (ESMAP), (2014), "Good Practices in City Energy Efficiency- Cape Town- Kuyasa Settlement"

EPG Working Paper: 1304, (2016), University of Exeter, United Kingdom.

Goldman. M, (2010), *"Kuyasa CDM Project: Renewable energy efficient technology for the poor"*, South Africa.

Howells. M, Jonsson. S, Kack. E, Lloyd. P, Bennett. B, Leiman. T, and Conradie. B, (2010), "Calabashes for Kilowatt-hours: Rural Energy and Market Failure, Energy Policy", 38 (2010): 2729-2738.

Lloyd. P, (2014), "Challenges in household energisation and the poor", Journal of Energy in Southern Africa, Vol 25 No 2. May 2014, South Africa.

Lockwood. M, Kuzemko. C, Mitchell. C, and Hoggett. R, (2013), "Theorising governance and innovation in sustainable energy transitions",

Lu. Z, Liebman. A, and Dong. Z.Y, (2006), "Power Generation Investment Opportunities Evaluation: A Comparison between Net Present Value and Real Options Approach", in IEEE Power Engineering Society General Meeting.

McLeod. R, and Mitlin. D, (1993), The search for sustainable funding systems for community initiatives- Environment and Urbanisation, SAGE Social Science Collections, Volume 5Number 1.

Modi. V, McDade. S, Lallement. D, and Saghir.J, (2006), "Energy and the Millennium Development Goals", New York: Energy Sector Management Assistance Programme, United Nations Development Programme, UN Millennium Project, and World Bank.

Real options in theory and practise, (2008), accessed on website: http://www.essaytown.com/subjects/..real-options-theory-financial-management/45194 (27/11/2017).

Rios-Carmenado. I.D, Ortuno. M, and Rivera. M, (2016), "Private-Public Partnership as a Tool to Promote Entrepreneurship for Sustainable Development: WWP Torrearte Experience.

South Africa-Low income Energy Efficiency Housing Project (SA-LEEHP), (2015), South Africa.

South Africa-Low income Energy Efficiency Housing Project (SA-LEEHP), (2017), South Africa.

South Africa National Treasury, (2003), *"Public Finance Management Act No 1 of 1999"*, South Africa.

SouthSouthNorth Africa., (2005), *"Kuyasa Low Cost Housing Energy Upgrade Project, Khayelitsha, South Africa"*, SouthSouthNorth Africa. Available at: www.southsouthnorth.org [Accessed September 9, 2009].

United Nations Environment Programme (UNEP), (2015), A UNEP Study on "International Experiences on Sustainable Consumption' for China Council for International Cooperation on Environment and Development (CCICED)", China.

United Nations Framework Conversion on Climate Change (UNFCCC) – Certified Emission Reductions (CERs) report, (2017), available on website: http://www.cdm.unfccc.int/about/index.h

Wang. T, and de Neufville. T, (2005), "Real Options in Projects", in 9th Annual Real Options International Conference, Paris, France.

Wesselink. C, (2017). Country leader South Africa, SouthSouthNorth, Cape Town. South Africa, (Expert interview, June. 26, 2017).

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DETERMINANTS OF WOMEN ENTREPRENEURSHIP SUCCESS IN ZIMBABWE. A CASE STUDY OF HARARE METROPOLITAN PROVINCE

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Abstract:

The role of women in economic development through participation in the informal sector has been widely reported in the extant literature. This study explores the determinants of women entrepreneurship success in the Harare Metropolitan Province, Zimbabwe. Self-completed questionnaires were used to collect data from four hundred (400) women entrepreneurs, as well as semi-structured interviews with key informants in the Harare Metropolitan Province. Data analysis used descriptive statistics. The study indicated the following determinants for success: leadership skills, managerial skills, education and training, motivation for success, confidence, self-esteem, creativity and innovation. In turn, the key factors inhibiting the success of women entrepreneurship included, lack of access to finance, poor regulatory environment, uncertain economic environment, societal stereotypes and poor family support. The study conclusions highlight the need for women entrepreneurs to cultivate leadership skills, improve business education skills and training, adopt innovative thinking and to craft creative strategies. The main recommendations emphasise the need for government support in mobilizing financial resources, simplifying licensing requirements, and reducing business-related taxes for women entrepreneurs.

Keywords: *Entrepreneurship, Women entrepreneurship, Entrepreneurial development, Informal sector*

Introduction

Participation of women in economic activities unlocks innate productivity that is instrumental to national income (Hassan and Yusof, 2015). Moges (2014) defines entrepreneurship as the ability to identify business opportunities, plan for exploitation, and sourcing the necessary resources to ensure the commencement and sustenance of the business. Entrepreneurship affords women the ability to improve income, as well as their standards of living while at the same time contributing meaningfully to the society and community they live in (Vossenberg, 2013). Women entrepreneurship is now a global phenomenon (Brush and Jennings 2013). In China women control 25% of the businesses of which 60% have been established over the last decade (Huang and Pen, 2012). The movement of the Chinese economy into an open market system, as well as extensive government support for women businesses

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have been major factors leading to increased women entrepreneurship (Li and Zhang 2009). China has the potential to witness more success in women entrepreneurship if they overcome challenges of negative societal perceptions, take female entrepreneurs seriously, and address the balance of demands between business and family (Berg and Englund, 2015).

Women entrepreneurship has been on the rise in South Africa where almost half of the businesses are controlled by women (Kabeer, 2012). Factors cited for enhanced women empowerment in the country, include government supportive legislation, women education and confidence (Monyau and Bandara, 2015). However, the South African Women's Entrepreneur's Network report (SAWEN, 2015) cited poor access to capital, inadequate education and training and discrimination, as society still regards women's roles to be limited to household chores.

The study investigates the determinants of women entrepreneurship success in the Harare Metropolitan Province, Zimbabwe. The primary research objectives are to explore a) factors leading to women entrepreneurship success, and b) challenges impeding women entrepreneurship in Zimbabwe.

Women Entrepreneurs in Zimbabwe

Most women-run businesses in Zimbabwe are unregistered. Women entrepreneurs are confined to informal businesses and largely fail to penetrate business-oriented social networks which could enhance their prospects of getting higher-valued business deals (Brooks et al., 2014; Chipika, 2011). Most women entrepreneurs in Zimbabwe fail to establish formal businesses, due to challenges in accessing finance and limited access to profitable and high growth markets (Nani, 2011; Dzapasi and Machingambi, 2014). The Zimbabwe National Statistics Agency (ZIMSTAT) Labour Survey Report (2014) stated that 12.5% of women businesses are involved in non-farming and vending businesses, while 60% of the vendors in the agricultural sector are women who constitute 56.4% of the participants in the agriculture sector (see Table 1 below).

Table 1: Registered businesses

Number of employees	Male owner	Female owner	Joint owner
0-4	18,464	5,298	3,603
4-9	1,368	333	715
10-19	726	97	345
20-29	270	28	98
30-49	208	17	77
50-99	185	8	60
100 and Above	**118**	**5**	**43**

Source: Zimstat (2015:485)

Table 1.1 indicates that women entrepreneurs had fewer registered businesses compared to their male counterparts. Against this background, this study sought to understand the key drivers of success in women entrepreneurship in Zimbabwe.

Literature review

Perspectives on Entrepreneurship

Several scholars have proposed different theories and frameworks in an attempt to explain and account for the success in women entrepreneurship. This section briefly considers the resource-based theory and the innovation theory. The resource-based theory underscores the need for resources and capabilities that enables entrepreneurs to formulate and implement viable business strategies (Kozlenkova, et al., 2014). Davcik et al. (2015) state that resources can be tangible or intangible, and include human capital, financial capital and social capital, respectively. Balashova and Gromova (2018) argue that the knowledge gained from education and experience, represents

a resource that is distributed heterogeneously among individuals. This knowledge fosters an understanding of opportunities as they emerge in the market. In turn, Della Corte (2013) points out the significance of human capital towards the effective use of organizational resources for achieving maximum profitability and growth. An organization requires financial resources to purchase assets for use in the business, as well as financing expenses incurred in the day-to-day running of the business (Balashovaand Gromova, 2018). Day and Jean-Denis (2016) emphasize the social component and suggest that an individual may have the ability to identify the existence of an entrepreneurial opportunity in the community, but might lack relevant planning to convert the opportunity and become entrepreneurial.

Resources should be converted into capabilities for them to afford competitive advantage to the entrepreneur (Della Corte 2013). Capabilities enhance the ability to adapt, integrate and reconfigure resources, in order to maintain competitive advantage in a changing environment (Teece 2013), and they enhance the firm's ability to utilize resources effectively (Barney 2001). Capabilities are observable in the daily operations of the organization, and they are not documented, making it difficult for competitors to copy (Hall 1992) (Barney 2001). A firm's competitive advantage derives from its ability to create resources that are valuable, rare, inimitable and organized (referred to as the VRIO framework) (Kozlenkova, et al. 2014). Rare resources are unique to specific businesses within an industry, while inimitable resources are those that are difficult to duplicate or substitute (Bresser and Powalla, 2012). The VRIO framework gives rise to distinctive capabilities, which cannot be easily imitated by competitors, thus engendering distinctive capabilities from combinations of resources and capabilities, which create value through cost and differentiation advantage (Hua-Ling, Ya-Jung and Kiang 2012). A strategy is required for maximum exploitation of the firm's unique characteristics (Grant 1991). A strategic capability emerging from the resources and competencies enables an organization to prosper (Johnson et al 2008).

Notwithstanding these propositions, the resource-based theory has been criticized for a number of reasons, which include lacking substantiated managerial implications (Priem and Butler 2001), and identifying the VRIN resources without informing how this could be done (Connor 2002;Miller 2003). The theory invokes the illusion of total control, excluding property rights issues, thereby exaggerating the extent to which managers can control resources or predict their future value (Mcguineness and Morgan 2000), too indeterminate for useful application (Locket et al (2009), and devoid of acceptable law-like generalizations (Preim and Butler 2001). The inclusive definition of resources is problematic (Eisenhardt and Martin 2000; Teece et al 1997, Winter 2003), and the concept of values fails to draw some distinction between customer perception values and total monetary value and exchange (Bowman and Ambrosini 2000). Notwithstanding these divergent views, this study takes on board the emphasis from the RBT on the efficacy of resources that are critical for successful business operations and profitability. The next section reviews the innovation theory (Schumpeter, 1949) and related concepts.

Schumpeter (1947) defined innovation as the doing of new things through combining factors of production. Innovation theory postulates that entrepreneurship is the catalyst that disrupts the stationary circular flow of the economy, thereby initiating and sustaining the development process (Schumpeter, 1949). The Organization for Economic Cooperation and Development [OECD] (2015) argues that the concept of innovation and its corollary development, embraces five functions, namely the introduction of new products, new quality, new markets, new methods and new supply chains. Thus, innovation leads to the creation of new products, processes and services that brings value to the market. Bello and Adeoye (2018) reiterate that innovation is about conceiving new ideas and then implementing them successfully into the market so that they create value. Successful entrepreneurship is based on key competencies of creativity and innovation (Asenge and Agwa 2018). Innovation enables the business to focus on new challenges, as well as responding quickly and appropriately to changes in the marketplace (Ottih, 2014). Tidd and Bessant (2013) view innovation as an essential instrument used by entrepreneurs to exploit opportunities and bring about change.

Related theories on innovation include open innovation (Chesbrough 2003), innovation networks (Cornway and Stewart 2009) and absorptive capacity (Cohen and Levinthal, 1990). The open innovation propounded by Chesborough (2003), acknowledges the ubiquitous availability of knowledge and innovation outside the closed research laboratory environments, and the mobility and availability of highly educated people over the years. Cornway and Steward (2009) highlight the development on innovation networks from quite a number of ideas, which may or may not be embodied within the new products and services. They emphasize the importance of

taking cognisance of individuals who introduce new ideas to the organization, integrating the messages, and valuing the contribution of people's creative contributions. In turn, absorptive capacity refers to the ability of a firm to "recognize the value of new external information, assimilate it and apply it to commercial ends" (Cohen and Levinthal 1990). The next section reviews empirical evidence on the factors influencing women entrepreneurship, drawing on the propositions and concepts reviewed in preceding sections.

Key success factors

Women entrepreneurship requires confidence, leadership, and managerial skills to navigate the business arena (Zhouqiaoqin et al 2013). Hawkins (2012) states that managerial efficiency is critical for women entrepreneurship success. A study by Cvetković (2015) in Serbia identified the following key success factors for women entrepreneurship: training and education, support from partner and family, inspiration of role models, and background of family business. Zhouqiaoqin et al. (2013) reported the determinants of women entrepreneurship in China in terms of human capital, women characteristics and motivation. A study by Neupane (2018) in the US emphasized mentorship, financial skills and managerial efficiency. This section reviews the role of confidence, leadership and education and training, managerial skills, motivation for success, background of family business, and creativity and innovation on women entrepreneurship.

Confidence

Confident women have the courage to fight for positions of power and control in the private as well as the public sphere (Mendryk and Dylon, 2014). Women in developing countries are groomed under unjust cultures and beliefs, and they suffer from the overbearing influence of male-dominated societies (Fatimah et al., 2014). Ewoh (2014) reported that Nigerian women were denied access to property and land ownership. A study by Mazonde (2016) on culture and self-identity among women entrepreneurs in Zimbabwe, highlighted the importance of overcoming stereotypes and the need for women to reinvent themselves in order to succeed as entrepreneurs in a developing country context.

Leadership

Kemkar and Sharma (2016) define leadership as power to influence. Neupane (2018) points out that leadership skills help build the cognitive ability of women to enable them to better master their desires and goal attainment. They propose that women entrepreneurs should develop leadership skills, problem-solving and decision-making skills.

Education and Training

Education improves the managerial skills of women entrepreneurs (Kolstad and Wiig (2013). Ewoh (2014) states that educated entrepreneurs are more calculative in risk-taking and opportunity-seeking and they have better prospects of success in exploring new business opportunities. Good education is one of the demographic factors that enhances the success of women entrepreneurs (Kimosop et al., 2016). Education enhances access to credit, as banks are assured that the borrower has the capacity to manage and repay the loan effectively (LeBlanc, 2013). Neupane (2018) highlights the significance of mentorship towards enhancing financial skills and managerial efficiency of women entrepreneurs and higher business growth in the United States of America. Nehad (2016) reports that entrepreneurship training, funding and family support were key to the success of women businesses in Afghanistan. Hassan (2013) reports that government funding and government education programmes were key to the success of women businesses in Kenya.

Managerial skills

Managerial skills are important for adapting and coping within changing business environments (Mas-Tur et al., 2015). Lack of access to managerial training is one of the major reasons for the underperformance of women businesses in developing countries (Chinonye et al., 2015). Mari et al. (2016) highlight that managerial skills are a critical success factor for women entrepreneurship.

Motivation for success

Motivation for success drives an individual's need for achievement (Karic, 2014). A motivated person exerts more effort in pursuing success (Przepiorka, 2017). Hui (2016) states that motivation for success is a key characteristic

for women who flourish in business. Erogul and Quagrainie (2017) who investigated motivation, networking and business growth of women businesses in Ghana, noted the significance of motivation among successful women entrepreneurs.

Background of family business

Pérez-Pérez & Avilés-Hernández (2016) state that family business background inspires women entrepreneurs and enhances their chances of success in business. Family business background acquaints the women entrepreneur on how businesses are run, which increases the probability of success in women entrepreneurship (Almobaireek and Manolova, 2013). Cvetkovi ć (2015) reports the significance of family support, the impact of role models, and family business background in Serbia. While the study by Zhouqiaoqin et al. (2013) in China report that the background of family business was not among the key factors determining the chances of success in women entrepreneurship.

Creativity and innovation

Creativity refers to the ability to come up with new ideas to solve problems (Bello and Adeoye, 2018). While innovation encompasses the introduction of new ideas, as well as the ability to successfully implement them in the market to add value (Tidd and Bessant, 2013). Highly creative and innovative women can come up with and put in place measures that curtail challenges and create sustainable competitive advantage (Asenge and Agwa 2018). Ottih (2014) highlights that innovation improves growth and profitability, as the firm explores new ways of enhancing organizational effectiveness.

Barriers to entry

Abdellatif et al, (2017) state that some societal cultures look down on women, thereby denying them the opportunities to venture into business. Metinleri (2018) reports that poor family support excludes women from power and respect, compared to males in Bahrain. Some cultural societal stereotypes depict women as too dominant and aggressive (Vossenberg, 2013). Metinleri (2018) cites lack of government support and legislation as barriers against women venturing into business, as well as accessing finance from banks. Chinonye et al. (2015) point out the lack of government support to access financial resources and educational support as inhibiting factors to women entrepreneurship. Nsengimana (2017) states that exorbitant taxes discourage women businesses from exiting the informal sector and venturing into larger and sustainable businesses. In Zimbabwe, most women businesses are unregistered and 12.5% of women businesses are involved in non-farming and non-vending activities (Finscope Report 2012). Dzapasi and Machingambi (2014) report poor access to financial resources, due to lack of collateral, thus denying women entrepreneurs access to loans from commercial banks. Ewoh (2014) cites lack of managerial efficiency which leads to poor decision-making, poor staff motivation, lack of strategic planning, and poor oversight, which result in reduced performance by women entrepreneurs. The lack of financial resources inhibits women from hiring skilled labour (Bonnie, 2016). The primary research objectives in this study are to explore a) the factors leading to women entrepreneurship success, and b) challenges impeding women entrepreneurship in Zimbabwe.

Methodology

The study adopted a qualitative descriptive research approach to elicit respondents' accounts of meaning and experiences, or perceptions (De Vos, 2002; Wube, 2010). Data collection used a self-administered questionnaire comprising closed and open-ended items. Questionnaires are widely used in collecting survey information (Saunders et al., 2009; Bryman and Bell, 2007; Erikson and Kovalainen, 2008). The case study design located the phenomenon within the context in which it was studied (Yin 2013). This enabled the collection of data within their natural settings, whilst attempting to make sense of, and interpret the meanings participants bring to them (Denzin and Lincoln, 2005). The research approach enabled gaining rich understanding of the research context and the processes that was enacted (Morris and Wood, 1991). This enabled the generation of empirical data and information important for understanding the research context (Eisenhardt et al, 2007). The population of the study comprised registered women SMEs that had been in operation for at least 5 years in Harare Metropolitan Province, Zimbabwe.

Purposive sampling used snowballing to obtain information on women entrepreneurs in Zimbabwe from the Women Alliance of Business Associations in Zimbabwe (WABAZ). Miller (2015) highlights the importance of characteristics representative of the theme of the study, so that results can be generalized among the respondents. The sample

size was calculated using Raosoft sample size calculator, based on a population of 1 920, with a 5% margin of error, confidence interval of 95% and a 50% response distribution. This yielded a sample size of 321 women businesses in Harare Metropolitan Province. Participation in the study was voluntary, and to ensure anonymity participants were asked not to write their names on the questionnaire. The questionnaire was pilot-tested to check the relevance and usability of the items. All the questions were found to be clear to participants and they were assured that their responses would be kept confidential and used only for this study.

Descriptive statistics were used to analyse the data. ANOVA was used to test the significance of the research findings. Frequencies and percentages were used to present the data. The data are presented in Tables 2-4 below.

Results

Table 2: Demographic characteristics of women entrepreneurs

Demographic Characteristic	Category	Frequency	%	Demographic Characteristic	Category	Frequency	%
Age	20-30 years	66	21.2	Marital Status	Single never married	14	11.30
	31-40 years	111	35.7		Married	47	37.90
	41-50 years	88	28.2		Divorced	34	28.00
	50 and more years	46	14.8		Widowed	28	22.80
Education level	O/A level	17	13.8	Age of business	5-7 years	19	15.40
	Certificate	19	15.1		7-10 years	27	22.00
	Diploma	24	19.6		10-15 years	33	26.80
	Degree	38	30.9		15-20 years	22	17.90
	Postgraduate degree	25	20.6		Above 20 years	22	17.90

Source: Questionnaire Response

Table 2 above shows that the age distribution constituted 21.2% (age 20–30 years), 35.7% (age 31– 40 years), 28.2% (age 41– 50 years) and 14.8% for the age group above 50 years. Most of the respondents were between 31 and 40 years old. Education levels showed that 30.9% held first degrees, 20.6% had postgraduate degrees, while 19.6% had diplomas. The time-in-business variable indicates that 15.4% had been doing business for 5–7 years, 21.9% for 7–10 years, 27% for 10–15 years,18% for 15–20 years and 17.7% for at least 20 years. Most of the businesses had been in operation for an average of 10 years, which provide some basis for assessing factors pertinent in this study.

Determinants of successful women entrepreneurship in Zimbabwe

Respondents were asked to indicate their views on a 5-point Likert Scale where 1 is strongly disagree to 5 is strongly agree. Mean scores below 2.5 indicate the respondents did not agree, between 2.5 and 3.5 that they agreed, and above 3.5 that they strongly agreed. These are shown in Table 3.

Table 3: Determinants of success for women entrepreneurs

Determinants of women success	Mean	St. deviation	P-values
Leadership skills	3.60	1.248	0.16
Managerial skills	4.73	0.664	0.44
Motivation for success	2.82	1.232	0.40
Confidence and self esteem	2.74	1.501	0.17
Family background in business	2.08	2.680	0.23
Level of education	2.57	1.622	0.19
Creativity and Innovation	3.54	0.914	0.07

Source: Questionnaire Response

Leadership skills had a mean score of 3.60, thereby indicating that most respondents recognize the significance of these skills in successful entrepreneurship endeavors. This supports observations by Kemkar and Sharma (2016). *Managerial skills* indicated a mean score of 4.73, indicating that most of the respondents strongly agreed that these skills are a key success factor in women entrepreneurship. These findings concur with Brush et al. (2009), who reported the importance of training and education towards enhancing managerial skills for women entrepreneurs.

Motivation for success had a mean score of 2.82. This indicated that the respondents agreed that it was a key success factor for women entrepreneurship. This supports Erogul and Quagrainie (2017) who observed the relationship between motivation, networking and business growth in women businesses in Ghana. *Confidence and self-esteem* were cited as key to successful women entrepreneurship and supports Zhang (2012). *Family background in business* had a mean score of 2.08, thus was not confirmed as a key to success in women entrepreneurship in Zimbabwe. This echoes observations by Zhouqiaoqin et al. (2013) on the insignificance of family background in business on women entrepreneurship success in China. Notwithstanding, findings by Pérez-Pérez and Avilés-Hernández (2016) reported the significance of family business background as key to successful women entrepreneurship. *Level of education* had a mean score of 2.57, indicating that it was considered as a key determinant of successful women entrepreneurship and support observations by Kelly et al. (2013). *Creativity and innovation* scored 3.54, indicating that respondents recognized this as significant in women entrepreneurial success. The findings support observations by Ottih (2014) on the role of innovation in exploiting new ways for enhancing organizational effectiveness, thereby improving business growth and profitability.

Barriers to entry impeding women entrepreneurship

Table 4: Barriers and impeding women entrepreneurship in Zimbabwe

Challenges for women entrepreneurship	Mean	St. deviation	P-values
Inability to access financial resources	4.02	0.911	0.10
Shortage of skilled labour	2.13	0.893	0.13
Lack of education	2.48	1.722	0.21
Poor family support	2.72	1.061	0.44
Too high taxes	2.81	1.899	0.79
Strict government regulation	3.37	1.622	0.32
Constraints in the economy	4.42	0.426	0.33
Societal stereotypes of women entrepreneurs being dominant and aggressive	2.52	1.711	0.17

Source: Questionnaire Response

Table 4 above shows that *Inability to access to financial resources* had a mean score of 4.02, which indicates that respondents cited this as a barrier to women entrepreneurs. This supports Dzapasi and Machingambi (2014) on the challenges faced by women in accessing financial resources in Zimbabwe. *Lack of skilled labour* scored 2.13, and was thus not considered a barrier nor a challenge to women entrepreneurship. However, Bonnie (2016) highlights that insufficient financial resources prevent most women entrepreneurs from hiring skilled labour. *Lack of education* scored 2.48 and was not considered a barrier. This supports Nyoni (2017) who reported that 51% of the women entrepreneurs had ordinary level qualifications and were generally conversant with business-related matters. Chinomona and Maziriri (2015) reported a lack of education as a barriers for women entrepreneurs in South Africa. *Poor family support* scored 2.72, indicating that respondents found this to be a barrier impeding women entrepreneurship in Zimbabwe. This supports findings by Metinleri (2018) in Bahrain. *High taxes* had a mean score of 2.81, indicating that this was a barrier for women entrepreneurs. This supports Nsengimana (2017) who cites the negative impact of high taxes on small business ventures. *Strict government regulations* had a 3.37 mean score, indicating the negative impact of the regulations on women entrepreneurship. *Liquidity challenges* had a mean score of 4.42, indicating that it was one of the major barriers and challenges faced by the women entrepreneurs. These findings support observations by Nyoni (2017) on major factors affecting the success of female food vendors in Harare. *Societal stereotypes of women entrepreneurs* had a mean score of 2.52, highlighting respondents' views that societal stereotypes impeded women entrepreneurial success. These findings support Abdellatif et al. (2017) and Vossenberg (2013), who reported the negative impact of societal cultures and societal stereotypes of women as a stumbling block to women entrepreneurship.

Factors that enhance the rate of success for women entrepreneurs

Table: 4. Policies and Legislation and impact on the success of women entrepreneurs

Policies and Instruments to enhance women entrepreneurship success	**Mean**	**St. deviation**	**P-values**
Facilitating lines of credit for women entrepreneurs	4.63	0.322	0.33
Encouraging and facilitating women's social networks	3.71	1.455	0.08
Enhancing women's entrepreneurial education and skills	2.78	1.291	0.29
Encourage societal tolerance of women entrepreneurship	2.67	1.763	0.41
Encourage strategic management and corporate governance	3.41	1.711	0.18
Improve the friendliness of the macroeconomic environment	3.65	0.840	0.46
Providing adequate regulatory support from government	2.98	1.317	0.28

Source: Questionnaire Response

The question was based on a Likert scale, ranging from 1 is not effective to 5 is very effective. Table 5 above shows rankings by respondents in terms of how they perceived the impact of policies and legislation on the success of women entrepreneurship in Zimbabwe.

Facilitating lines of credit for women entrepreneurs had a mean score of 4.63, showing that the respondents viewed this as significant for enhancing the success of women entrepreneurs. This supports Hassan (2013) who noted the need for governments to source cheaper credit lines to finance women entrepreneurship projects. *Encouraging and facilitating women's social networks* scored 3.71, indicating that most respondents regarded the factor to be effective in making women entrepreneurship successful. Kotler and Keller (2012) noted the significance of networking, marketing and organizational learning on the success of business organisations. *Enhancing women's entrepreneurial education and skills* had a score of 2.78, indicating the significance of this towards improving women entrepreneurship. This supports observations by Vossenberg (2013) on the importance of prioritizing education and training in the development of strategic management skills among women entrepreneurs. The study findings on *encouraging societal tolerance* had a mean score of 2.67, and supports observations of Berg and Englund (2015) on the impact of negative societal cultural values on women entrepreneurship.

Encouraging strategic management and corporate governance scored 3.41, thus highlighting the significance of this factor towards enhancing the success of women entrepreneurship. The study findings support Przepiorka (2017), who reported the significance of developing effective strategies in creating value for entrepreneurial ventures. Padachi et al. (2016) highlighted the need to ensure transparency and accountability in business management. *Improving the friendliness of the macroeconomic environment* scored 3.65. This supports observations by Nyoni (2017) on the significance of stable macroeconomic environments for business organisations to thrive and grow. Lastly, *adequate regulatory support from government* scored 2.98, underscoring observations by Nsengimana (2017) on importance for governments and local municipalities to simplify the registration processes and operating requirements for women entrepreneurs and businesses in general.

Conclusions and Recommendations

The study identified the following critical factors for the success of women entrepreneurship: leadership skills, managerial skills, education and training, motivation for success, confidence and self-esteem, and creativity and innovation. The major challenges impeding successful women entrepreneurship include lack of access to financial resources, poor family support, high taxes, strict government regulation, liquidity challenges and negative societal stereotypes.

The study's recommendations for women entrepreneurs is that they should develop leadership skills, sharpen managerial efficiency through education and training, and embrace creativity and innovations in their business operations. The study's recommendations for government, include implementing economic policies that promote stable macroeconomic environments that enable women entrepreneurs to operate, mobilize cheaper financial resources for women entrepreneurs, provide simpler registration procedures, reduce taxes as well as prohibitive legislative policies and regulations for women. Government and non-governmental organisations should, inter alia, capacitate women entrepreneurs by offering training programmes on business management, financial management for small businesses, strategy, marketing and corporate governance.

The study limitations included time and resources which confined the research to the Harare Metropolitan Province. Future research should focus on different parts of the country, using a range of research methods to enhance our in-depth understanding of the determinant of success in women entrepreneurship within the context of a developing country.

References

Abdellatif, L. M., Ramadan, M and Elbakry, S. A. (2017) *How Gender Biased Are Female-Headed Household Transfers in Egypt?* In Economic Research Forum Working Papers (No. 1126).

Allen T (1977) *Managing The Flow of Technology,Technology Transfer and The Dissemination of Technological Information within R& D Organisations:* Massacheusets:MIT Press

Almobaireek, N. W and Manolova, T. (2013) *Entrepreneurial motivations among female university youth in Saudi Arabia*, Journal of Business Economics and Management, Vol 14, Issue 1, pp 56-75.

Asenge, E.L and Agwa, T.R. (2018) *Entrepreneurial Competencies and Entrepreneurial Mindset as Determinants of Small and Medium Scale Enterprises Performance in Nigeria*, Global Journal of Management and Business Research, Volume 18, Issue 13, pp 25-34

Balashova, E.S and Gromova, E.A. (2016) *Resource-based view as a perspective management model in Russian reality*, Problemsand Perspectives in Management, Vol 14, Issue 2-2), pp 325-330

Barney,J.B (1991) *Firms Resources and Sustained Competitive Advantage* –A Journal of Management,17:99-120

Berg, S and Englund, M. (2015) *Female Entrepreneurship in China- A Comparative Study between Male and Female Entrepreneurs*, Thesis submitted in partial fulfillment of a Masters' Degree in Project Innovation and Industrial Management, University of Gothenburg.

Bello, O.B and Adeoye, A.O. (2018) *Organizational learning, organizational innovation and organizational performance: Empirical evidence among selected manufacturing companies in Lagos metropolis, Nigeria*, Journal of Economics and Management, Vol 33 Issue 3, pp 25-38

Bowman C and Ambrosini V (2000, *Value Creation versus Value Capture:Towards a coherent definition of value in Strategy*, British Journal OF Management II 1-15

Bresser, R.F.K and Powalla, C. (2012) *Practical implications of the Resource Based View: Assessing the predictive power of the VRIO Framework*, Zeitshrift fur Betriebswirtschaft, Vol 82, Issue 4, pp 335-359.

Bromiley P and Papenhouse C (2003) Assumptions of *Rationality and Equilibrium in Strategy Research: The Limits Of Trditional Economic Analysis,Strategic Organisation* I:413-437

Brooks, A. W., Huang, L., Kearney, S. W. & Murray, F. E. (2014) *Investors prefer entrepreneurial ventures pitched by attractive men*, Proceedings of the National Academy of Sciences, Vol 111, Issue 12, pp 4427-4431

Brush, C. G and Jennings E. J. (2013) *Research on women entrepreneurs – challenges to (and from) the broader entrepreneurship literature*, The Academy of Management Annals, Vol 7, Issue 1, pp 663-715.

Calantone R and Cooper R (1981) *New Product Scenarios for Success*: Journal of Marketing 45(48-60)

Chesborough H (2003) Open *Innovation:The New Imperative for Creating and Profiting From Technology*, Harvard Business School Press.

Cohen W M and Levinthal M D A (1990) *Absorptive Capacity:A New Perspective on Learning and Innovation Adminstrative Science Quarterly* 35(1) 128-152.

Chidoko, C. and Makuyana, G. (2012) *The Contribution of the Informal Sector to Poverty Alleviation in Zimbabwe,* Developing Country Studies, Vol 2, Issue 9, pp 41-44.

Chinonye, M.L., Iyiola, O.O., Akinbode, M.O., Obigbemi, I.A and Eke, O.P. (2015) *Women Entrepreneurship in Nigeria: Policy Framework, Challenges and Remedies*, Kasmera, Vol 43, Issue 2, pp 2-21.

Chipika, S. (2011) *Economic Empowerment of Women: Agriculture Sector Study. Ministry of Women Affairs, Gender and Community Development*, World Bank; Finance and Private Sector Development Unit

Cornway S (1977) *Stratgic Personal Links in Successful Innovation:Link pins Bridges,Bridges and Liasons,Creaticity and Innovation Management* 6(4) 226-233

Cvetković, M.Z. (2015) *Women entrepreneurship in Serbia A qualitative study of the perceived enabling factors for the female entrepreneurship*, Thesis submitted in partial fulfillment of a aster's degree in Environmental Economics and Management, Sweden: Swedish University of Agricultural Sciences.

Davcik, N.S., da Silva, R.V and Hair, J. (2015) *Towards a unified theory of brand equity: Conceptualizations, taxonomy and avenues for future research*, Journal of Product and Brand Management, Vol 24, Issue 1, pp 3-17.

Day, S.W and Jean-Denis, H. (2016) *Resource Based View of Social Entrepreneurship: Putting the Pieces Together,* Journal of Strategic Innovation and Sustainability Vol 11, Issue 2, pp 59-69.

Della Corte, V. (2013) *Tourist firms and systems*: The management, 2nd Ed, Milan: Egea.

Dzapasi, Y and Machingambi, J. (2014) *Sources of Finance for Women Micro and Small Enterprises (MSEs) in Zimbabwe: A Study of Selected Women MSEs in Harare Town*, IJMIE Volume 4, Issue 7 ISSN: 2249-0558.

Erogul, M. S and Quagrainie, F. A. (2017) *Motivation, Networking and Business Growth: Perspectives of Ghanaian Female Entrepreneur*s, Journal of Enterprising Culture, Vol 25, Issue 3, pp 297-316

Ewoh, E. (2014) *Female entrepreneurship: A systematic literature review of the forces affecting the performane of African female entrepreneurs*, Thesis submitted in partial fulfilment of a Master's degree, Jyvaskyla University.

Fatimah, H., Aznarahayu, R and Nasina, M. D. (2014) *Rural women entrepreneurs in Malaysia: What drives their success?* International Journal of Business and Management, Vol 9, Issue 4, pp 10–21.

Finscope (2012) *Finscope MSMEs Report*, Harare: Research Continental Fonkom, Finmark Trust

Gibbons M and John Ston R (1974). *The Roles Of Science in Technological Innovation*, Research Policy3(3)220-242

Hassan, I.B. (2013) *Determinants of Growth for Women Owned and Operated Micro Enterprises: The Case of Garissa, Kenya*, International Journal of Business and Commerce, Vol 2, Issue 7, pp 45-55

Hassan, K. and Yusof, R. (2015) *Women in Economic and Social Transformation Era: Issue and Challenges*, India: UUM Press.

Hawkins, W.G. (2012) Exploring Success Factors of Female Entrepreneurs in The Texas Child Care Market, Thesis submitted in partial fulfillment of aDoctor of PhilosophyDegree, Prescott, Valley, Arizona: Northcentral University

Helfat C E and Peteraf MA (2003) The *Dynamic Resources Based View: Capability Lifecycles*, Strategic Management Journal 24(10)997-1010

Holt. D. (1992) *Entrepreneurship: new venture creation*, Englewood Cliffs, NJ, Prentice Hall.

Hua-Ling, L., Ya-Jung, T and Kiang, M. (2012) *A fuzzy quantitative VRIO Framework for evaluating activities*, Management Decision, Vol 50, Issue 8, pp 1396-1411.

Hui, M.K. (2016) *Determinants of Entrepreneurship Success among Women Entrepreneurs in Kota Kalibalu, Sabah*. Thesis submitted in partial fulfillment of Master of Business degree, Malaysia: Universiti Malaysia Sabah.

Kabeer, N. (2012) *Women's economic empowerment and inclusive growth: labour markets and enterprise development*, SIG WORKING PAPER 2012/1, School of Oriental and African Studies, UK

Karic, M. (2014) *Motivation of Public Sector employees: The case of the Novi Grad Sarajevo Municipality*, A Thesis submitted in Partial Fulfilment of a Master of Business Administration Degree, Serbia: Ljubljana University.

Kemkar, M and Sharma, J. (2016). *Women Entrepreneurship - Factors leading to Success of Women Led Enterprises,* Res. J. Management Sci., Volume 5, Issue (9), pp 46-50

Kimosop, J., Korir, M and White, M. (2016) *The moderating effect of demographic characteristics on the relationship between strategic capabilities and firm performance in women-owned entrepreneurial ventures in Nairobi, Kenya,* Canadian Journal of Administrative Sciences, Vol 33, pp 242–256.

Kolslad, I., &Wiig, A. (2013) *Human Capital, Social Capital and Entrepreneurial Success*, Journal of International Development Vol 5, Issue 25, pp 626 – 627.

Kozlenkova, I., Samaha, S and Palmatier, R. (2014) *Resource-based theory in marketing*, Journal of the Academy of Marketing Science, Vol 42, Issue 1, pp 1-21.

Langrish J, Gibbons M, Evans N and Jevans F (1972) *Wealth Firm Knowledge: A study of Innovation and Industry*, London:Macmillan

LeBlanc. (2013) *The Effect of Education and Knowledge, Experience, Mentoring, And Risk on the Successful Entrepreneur: A Qualitative Study,* Thesis submitted in partial fulfillment of a PHD degree, Minneapolis, USA: Capella University.

Leiblein P and Papenhouse C (2003). *The Choice of Organizational Governance Form and Performance: Predictions from Transactions Cost,Resource Based and Real Options Theories*. Journal of Management29:937-961

Mari, M., Poggesi, S and De Vita, L. (2016). *Family embeddedness and business performance: Evidences from women-owned firms*, Management Decision, Vol 54, Issue 2, pp 476–500.

Marlow, S and McAdam, M. (2013) *Gender and entrepreneurship: advancing debate and challenging myths; exploring the mystery of the under-performing female entrepreneur*, International Journal of Entrepreneurial Behavior & Research, Vol 19, Issue 1, pp 114-124.

Mas-Tur, A., Pinazo, P., Tur-Porcar, A and Sánchez-Masferrer, M. (2015) *What to avoid to succeed as an entrepreneur?* Journal of Business Research, Vol 68, Issue 11, pp 2279–2284.

McGuiness and Morgan R E. (2000) *Dynamic Capabilities and Complex Science: Management Rhetoric Versus Reality Strategic Change* 9:209-220

Mendryk, I and Dylon, D. (2014). *Factors of Professional Success for Self-Employed Women. In Human Capital without Borders: Knowledge and Learning for Quality of Life*, Proceedings of the Management, Knowledge and Learning International Conference, Portoroz, Slovenia (pp. 933-938)

Moges, B. (2014) *The Relationship of Motivational and Success Factors with Entrepreneurial Success in Addis Ababa: The Case of Alliance of Ethiopian Women Entrepreneurship Program (AWEP) members*, Thesis submitted in Partial Fulfillment of a Degree of Master's in Business Administration (MBA), Ethiopia: Addis Ababa University.

Monyau, M. M and Bandara, A. (2015) *Zimbabwe 2015*. [Online]. Available at: www.africaneconomicoutlook.org [Accessed 9 April 2017]

Metinleri, T. (2018) *Women Entrepreneurs in the Gambia: Investigating the Challenges and Motivation of Women Entrepreneurs in the Gambia*, Working Paper, WPS NO / 171/ 2018-05, Instabul: İstanbul TicaretÜniversitesi

Nani, G. V. (2011). *Challenges faced by urban Zimbabwean women entrepreneurs*, Thesis submitted in Partial Fulfillment of a doctoral degree, Free State: University of the Free State.

Nsengimana, S. (2017) *Challenges to Women Entrepreneurship in Kigali, Rwanda*, Thesis submitted in partial fulfilment of a Master of Technology: Business Administration in Entrepreneurshipdegree Cape Town: Cape Peninsula University of Technology

Niethammer, C. (2013) *Women, Entrepreneurship and the Opportunity to Promote Business and Development*. The 2013 Brookings Blum Roundtable Policy Briefs

Ndofirepi, T. M. (2016). *Impact of technological creativity and entrepreneurship education on the entrepreneurship intention of students at particular tertiary institutions in South Africa and Zimbabwe*. Thesis submitted in partial fulfillment of a doctoral degree, Free State: Central University of Technology

Neupane, S. (2018) *Let me give you a hand: A Phenomenological study of Women Entrepreneurs, Financial Competency, and Mentorship*, Thesis submitted in partial fulfillment of a Doctor of Philosophy in Family Sciences degree: Texas: Texas Woman's University

Nyoni, T. (2017) *An empirical investigation of factors affecting the performance of women entrepreneurs in Harare: a case of food vendors*, MPRA Paper No. 87523, Munich: Munich Personal RePEc Archive

Ottih, L.O. (2014). *Entrepreneeurship: Personality, Process and Enterprise*, Port Harcourt, Nigeria: Pearl Publishers.

Padachi,K., Urdhin, H.Rand Ramen, M.(2016) *Assessing Corporate Governance Practices of Mauritian Companies*, International Journal of Accounting and Financial Reporting, Vol 6, Issue 1, pp 38-71.

Penrose E T (1959) ,*The Theory of The Growth of The Firm* (1995ed),New York:John Wiley and Sons

Pérez,C.P.,Hernández,M.A.&Pérez,J.L.M.(2015)*MotivosporlosqueseestudiaInglésscomosegundalenguaen España. laexperiencia del aprendizajeenlasescuelasoficiales de idiomas (EOI)*RevistaLugares de Educação, Vol 5, Issue 11, pp 183-210.

Preim R L and Butler J E (2001a), *Is The Resource Based View a Useful Perspective for Strategic Management Research? Academy of Management Review*, 26 22-40

Preim R L and Butler J E (2001b), *Tautology in the Resource Based View and the Implications of Externally Determined Resource Value: Further Comments, Academy of Management Review*, 26-57-66

Przepiorka, A. M. (2017) *Psychological Determinants of Entrepreneurial Successand Life-Satisfaction*, Current Psychology, Vol 36, pp 304–315

Rothwell R, Freeman C, Horsely A, Robertson A and Townsend J (1974) *SAPPHO Updated-Project SAPPHO Phase ll Research Policy* 3(3) 258-291

Sabri, N. (2015) *From Invisibility to Visibility: Female Entrepreneurship in Afghanistan*, Thesis submitted in partial fulfillment of a Master of Arts in International Studies degree, Oregon: University of Oregon.

Schumpeter, J.A. (1949) *Economic Theory and Entrepreneurial History, Change and the Entrepreneur*, pp.63-84, repr. in R.V. Clemence (ed.) Essays of J. A. Schumpeter, Cambridge, Mass.: Addison-Wesley, pp.248-266

Sefa, S.R. (2014) *The Impact of Market orientation and Innovation on SME performance: The case of Kosovo*, A thesis submitted in partial fulfilment of master's degree from the faculty of Economics, Kosovo: University of Ljubljana.

Sheheli V (2012) *Improving livelihood of rural women through income generating activities in Bangladesh.* octoral dissertation, Humboldt-Universitätzu Berlin, LandwirtschaftlichGärtnerischeFakultät.

Teece D. (2013) *Dynamic Capabilities & strategic management: Organizing for Innovation and Growth*, Oxford, UK: Oxford University Press.

Tidd, J. & Bessant, J. (2013) *Managing Innovation - Integrating Technological, Market and Organizational Change*, 5th Ed, West Sussex: John Wiley & Sons Ltd.

Ushewokunze, T.E. (2012) *An Investigation into the Egalitarian Assumptions of Aid Providers in Women Empowerment Projects and Lived Experiences of Women within Patriarchal Societies*, A case of Zimbabwe. University of Gothenburg

Vossenberg, S. (2013) *Women Entrepreneurship Promotion in Developing Countries: What explains the gender gap in entrepreneurship and how to close it?* Working Paper No. 2013/08

Zahra S A and George G (2002) *"Absorptive Capacity, A review reconceptualisation and extension"Academy of Management Review* 27(2) 185-203

Zahra S, van deVelde and Lranneta B (2007) *"Knowledge Conversion Capability and the Performance of Corporate and University Spin offs" Industrial and Corporate Change* (16)569-608

Zhang K.L (2012) *Difference of Chinese entrepreneurs between man and women*, pp 197-199

Zhouqiaoqin, Xie, Y.Y., Zhang, L and Kumah, S. (2013) *Factors that influence the success of women entrepreneur in China: a survey of women entrepreneurs in Beijing*, Journal Of Humanities And Social Science, Vol 18, Issue 3, pp 83-91

ZIMSTAT (Zimbabwe National Statistics Agency). (2015b) 2014 *Labour Force Survey,* Harare: ZIMSTAT.

http://www.zimstat.co.zw/sites/default/files/img/publications/Labour/Labour_2014.pdf. (Accessed 4 March 2017).

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THE IMPACT OF MICROFINANCE ON THE SUSTAINABILITY OF 'POOR' CLIENTS: A CONCEPTUAL REVIEW

Jeremiah Machingambi[1]

Abstract:

Debates on the impact of microfinance on alleviation of poverty have revolved around two contrasting approaches that advocate sustainable lending and subsidised lending, respectively. This conceptual paper presents literature reviews on sustainable lending and the subsidised lending approaches, and their impact on the sustainability of 'poor' clients. Literature reviews highlighted that the sustainable lending paradigm mainly focuses on serving the 'active poor' clients, whilst the subsidised lending approach focuses on serving 'extremely poor' clients, respectively. 'Active poor' clients are regarded as those who have marketable skills and/or control over earning assets and are considered creditworthy borrowers. In contrast, 'extremely poor' clients have neither marketable skills nor earning assets. Smallholder farmers were used as a proxy for extremely poor clients conceptualising the notion of sustainability. A conceptual framework was developed to identify the nature of the relationship amongst constructs, informing the relationship between microfinance and poor clients (smallholder farmers). The conceptual framework has been undertaken for a study on the impact of sustainable lending approaches on smallholder farming sustainability in rural Zimbabwe.

Introduction

Microfinance has been cited as a panacea for alleviating poverty among the poor members of society. Morduch (1999) states that access to microfiance alleviates extreme poverty, thereby transforming the social and economic structures in low-income households. Thus, microfinance institutions are expected to serve clients who have been financially excluded from the formal financial services sector. In turn, accessing small loans through microfinance, enables the poor to invest in self-employment activities (Morduch, 1999). There are minimum requirements for collateral, as lenders apply for group 'lending' which depend on borrowers' neighbours co-signing loans, thereby mitigating problems created by asymmetry information between the lender and the borrower (Morduch, 1999). Poor households are traditionally excluded from the formal banking system for lack of collateral. The microfinance approach proposes new contractual structures and organisational forms that reduce the risk and cost of uncollateralised loans (Morduch, 2000). Sustainable microfinance lending combats poverty, while developing the institutional capacity of financial systems through exploring new ways to effectively lend money to poor households (Morduch, 2000).

This paper proposes a conceptual framework based on development finance theory, for assessing the impact of microfinance on the sustainability of poor clients. The conceptual framework has been undertaken for a study on the impact of sustainable lending approaches on smallholder farming sustainability in rural Zimbabwe.

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Background

Several international and regional studies on microfinance sustainability have focused on the supply side of sustainability, which is the sustainability of Microfinance Institutions (MFIs). There is a dearth of empirical evidence on the demand-side of sustainability of microfinance for poor clients. This gap underpins the conceptualisation of the 'microfinance concept' and sustainability, with specific reference to poor clients. Poor clients are defined as households lacking collateral and that are traditionally excluded from the formal banking systems.

The background to this conceptual paper on the impact of microfinance on the sustainability of smallholder farmers in Zimbabwe, is being undertaken by the author. Studies on sustainability of smallholder farmers have equated sustainability to performance of the smallholder farming entity, the growth and yield of the farm, as well as the personal growth of the farmers. Sustainability in this study is the ability of the farmer to improve yield and growth of the venture. Farm sustainability indicators used in this study include farm income, farm profit, adoption of new farming technology and farm assets. Personal sustainability indicators in this study include household income, food security, household savings, household welfare and household assets. Related sustainability issues under investigation is the ability of extremely poor recipients to gain employment from the active poor who qualify for MFI loans.

Poverty lending approach

Modurch (2000) points out that problems of lending to poor clients includes high transaction costs per loan, determining the riskiness of potential borrowers, and monitoring progress of clients. This is accentuated when clients are small scale, poor low-income households that lack assets to put up as collateral. Microfinance programmes traditionally aligned to the poverty-lending approach were highly subsidised and underpinned by the belief that poor households could generate high returns if given credit. Also, by starting small enterprises the poor households could earn enough income to exit poverty, expand their businesses and improve their quality of life (Modurch, 2000). Governments subsidised bank loans to poor households to overcome the reluctance by banks to lend money to the poor (Modurch, 2000). Thus, the poverty-lending approach recognised the social mission of microfinance and kept interest rates low and below market-clearing levels. Adams, et al. (1984) highlight that the preferential rate polices which characterised the poverty-lending approach, repressed savings mobilisation and formal financial intermediation in general, thus leading to low economic growth. In turn, the costs of these programs mounted quickly as recipients given money with no collateral, defaulted on payments (Modurch, 2000). The default rate increased as recipients had no personal obligation to pay back the government-backed loans. The subsidised microfinance era was also characterised by little or no incentive for deposit mobilisation, and in turn subsidised lending banks, despite losing money on the lending side. Capitalised by governments they had little incentive to mobilise savings which compromised the financial system (Modurch, 2000). The core purpose of the financial system is to enhance financial intermediation between the surplus and deficit units.

When savings accounts are weighed down by restrictions, this exerts downward pressure on interest rates paid to depositors to levels below the rates charged to borrowers. The consequences of the poverty-lending approach are that real rates on deposits fall to zero or below, and savers will have little incentive to build up accounts. As a result, little savings are generated as people keep their money under the mattress or move it to non-financial assets. Subsidised credit also creates problems of corruption. Government involvement has negative consequences as the micro loans often end up subsidising wealthy politically-connected entrepreneurs, rather than poor households, in the absence of robust mechanisms to stem the leakages (Modurch, 2000). The ultimate result of the poverty-lending approach is high costs to lending institutions and little benefit to intended beneficiaries who fail to access affordable credit. Overall, subsidisation, inefficiency, and limited government involvement in subsidised credit, negatively impact mobilisation of savings mobilisation.

Sustainable lending approach

The sustainable-lending approach is based on the establishment of commercial microfinance, where all micro loans are fully financed by savings, commercial debt for profit investment, and retained earnings. This approach addresses the failures of the poverty-lending approach or subsidised microfinance institutions. It espouses a paradigm shift from the delivery of donor subsidised credit towards the development of sustainable financial intermediaries that capture savings, access microfinance, and lend the funds to low income borrowers at interest rates that enable full

cost recovery and institutional self sufficiency (Robinson, 2001). In addition, Robinison (2001) highlights that savers and creditworthy borrowers can be served and repeated borrowers can be accommodated, as they expand their enterprises and qualify for larger loans, thereby becoming economically active poor and are helped from poverty. The key tenets of sustainable lending are that 'poor' households demand 'access' to credit, not 'cheap' credit and flexibility for microfinance programs to charge high interest rates without compromising outreach (Morduch, 2000).

Proponents for sustainable lending argue that MFIs that follow principles of good banking, grow without constraints imposed by donor budgets. This enables the MFIs to develop the capacity to alleviate extreme levels of poverty as beneficiaries attain financial sustainability (Morduch 2000). Considerable investments by sustainable lending worldwide, include moderate return on investments in activities like livestock rearing, handicrafts and agricultural processing (Morduch, 2000:618). However, systematic assessment of who is being 'served', has been missing in conversations on sustainable lending best practices. In many ways practitioners tend to view clients that cannot pay the kind of charges required for programmes as destitute, and they qualify for direct health and education programs (or simple charity) rather than credit. Morduch (2000) reports that the target group of sustainable lending has been somewhere between destitute households and richer households, referred to as the 'core poor'. Similarly, Robinson (2001:19) points out that sustainable lending targets the economically 'active poor'. Where the economically 'active poor' are described as people who have marketable skills or control over earning assets and are or could become creditworthy borrowers and savers in commercial banks.

Ledgerwood (2013) argues that commercial microfinance is not appropriate for the extremely poor people who in most cases are badly malnourished, ill, and without skills or employment opportunities. Also, these people do not need debt, but rather need food, shelter, medicines, skills training and employment, which can be offered by governments, donor subsidies and charitable organisations. Robinison (2001) asserts that providing credit to the extremely poor and credit subsidies to the economically active poor is a futile endeavour.

Diagne and Zeller (2001) point out that microfinance enhances employment creation for the extremely poor, as the economically active poor access commercial microfinance. Thus, microfinance benefits the economically active poor directly through enabling them to establish enterprises and indirectly helps the extremely poor, who will be employed in the new ventures. From this point of view, the extremely poor may not directly benefit from commercial microfinance, but benefit indirectly from its development. Sustainable lending microfinance indirectly creates employment for the extremely poor as the economically active poor access commercial financial services (Robinson, 2000).

Overall, the sustainable-lending approach seeks to develop sustainable financial intermediaries that capture local savings and lend those funds to low income borrowers at an interest rate that enables full cost recovery and institutional self-sufficiency.

Sustainability of poor clients

Economically active poor clients are those clients who have some form of employment and are not severely food-deficient or destitute. These people have marketable skills, or control over earning assets and become creditworthy borrowers and savers in commercial banks (Robinson, 2001). Sustainable lending microfinance targets the economically active poor. In contrast, people living in extreme poverty and existing below the minimum subsistence level, include the unemployed, severely underemployed, as well as those whose work is so poorly remunerated that their purchasing power does not permit purchasing minimum food to overcome malnutrition (Robinson, 2001). Traditionally the microfinance sector has excluded borrowers requiring small loans to finance self-employment activities (Morduch, 1999).

Conceptual definitions

Development and Sustainability goals

Development and sustainability development goals of most developing countries are derived from the UN Sustainable Development Goals. The important SDGs which relate to this study are Goal 1: no poverty; Goal 2: zero hunger and Goal 10: reducing inequality within and among countries. The national microfinance policy in Zimbabwe supports the UN SGDs. The icrofinance goals include financial inclusion (also supported by financial inclusion strategy). The notable goals include the provision for access to financial services for the marginalised that include women, rural smallholder farmers and the youth. The specific goals of the policy are to enhance

economic equality in the economy; improve gender welfare; enhance equitable allocation of resources; enhance SME development and capacity building; and develop participation of women in mainstream economy (RBZ, 2007).

Regulations

Regulation prescribes and promotes consumer rights. Equally respective regulations prevent MFI service providers from activities that are not promotive of public confidence in the financial sector (Makuyana, 2016:376). The regulation of MFIs thus affects the supply side of microfinance and how MFIs should serve the clients. Regulation of MFIs is necessary, because it levels the playing field between providers and beneficiaries. Regulation of MFIs is also necessary to avert the collapse of MFIs which have consequences beyond the owners and creditors. In Zimbabwe, MFIs are governed by the Microfinance Act, Chapter 24:29.

Thus the regulatory framework prescribes supply side activities, compliance procedures as per the Microfinance Act, administration of MFIs, and the conduct of business with regards to lending and loan agreements.

Assets or Skills Development

The level of assets or skills affects the demand for microfinance by poor clients. The economically active poor include people who have marketable skills or control over assets (Robinson, 2001:8), where control over assets and level of marketable skills affect the access to finance from MFIs. Clients who have more control over assets or who have high-level skills, are likely to have a high demand for micro loans and high chances of accessing microloans. Sustainable MFIs prefer extending loans to clients with greater control over assets and high-level skills.

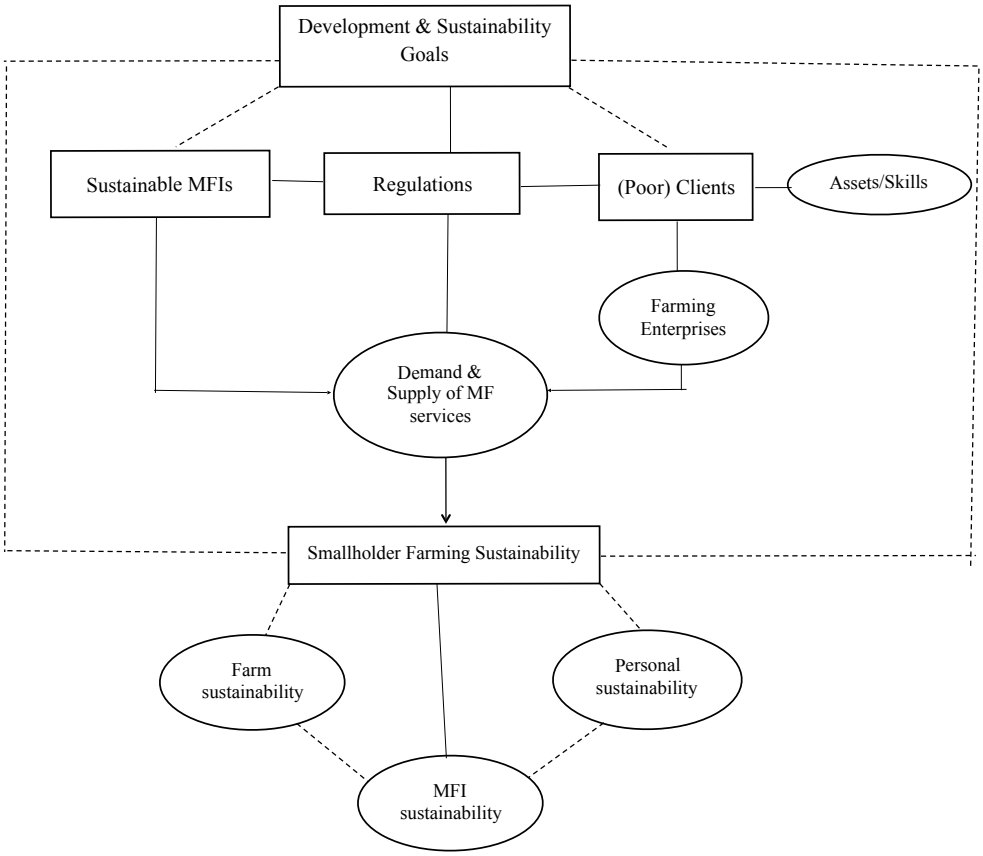
Demand and supply of Microfinance Services

The demand and supply of microfinance depends on the paradigm underlying the microfinance service delivery system. Demand and supply of microfinance is subject to government regulations of MFIs, as well as the skill levels of the clients. The subsidised lending paradigm is often adopted by sustainable MFIs, and influence the demand and supply of microfinance. As alluded to in preceding sections, the sustainable-lending paradigm assumes that the economically poor are clients that are also profitable and self-sustainable. Assumptions underpinning the respective microfinance paradigm, determine the type of services rendered as well as target groups, and ultimately the supply and demand of microfinance.

The Conceptual Framework

Figure 1 below presents the postulated relationship amongst constructs guiding the research study. The national development and sustainability goals influence the role of MFIs, both in terms of client groups and the regulatory framework under which they operate. The sustainability agenda is embedded in the microfinance paradigm, which ultimately determines the relationship between MFIs and the respective categories of poor clients. In the case of sustainable MFIs, the level of assets and skills enhance the ability of (poor) clients to borrow from MFIs to start self-employment activities, for example, small scale farming ventures. The level of skills and assets, as well as growth and development of enterprises affect the demand for microfinance by poor clients. On the other hand, the level of MFI sustainability affects the supply of MFI services. Development and sustainability goals, regulations of MFIs, demand and supply of MF services, affect the sustainability of poor client's ventures – in this case smallholder farmers. The sustainable relationship between poor clients and MFIs, enhances creation of employment for the extremely poor to work in clients' farming enterprises. In the process the workers will accumulate assets and skills and qualify for sustainable MFI loans. Regulations affect the supply of sustainable microfinance services. The level of assets and skills of clients affect the demand of sustainable microfinance services. In the proposed study, sustainable microfinance services affect smallholder farming sustainability and personal sustainability, and the level of smallholder farming sustainability affect MFI sustainability.

SUSTAINABLE MICRO-LENDING PARADIGM MODEL



Conclusion

This paper put forward the conceptual framework explicating the relationship between sustainable microfinance and the sustainability of poor clients (smallholder farmers). The paper focused more on demonstrating the impact of a sustainable-lending approach on the sustainability of poor clients. The study focuses on smallholder farmers to demonstrate practical implications of engendering sustainability in the context of poor clients. The paper critically reviewed the subsidised and sustainable-lending approach to microfinance. The skey issues highlighted differences in terms of the target clients and implications for the sustainability of beneficiaries. The discriminating factors include skills levels and assets possessed by potential clients. In this study smallholder farming is regarded as a skill therefore smallholder farmers should be target clients for sustainable MFIs.

References

Adams D W, Graham D H & Von Pischke. (1984). *Undermining rural development with cheap credit*. washington D C: Economic development Institute.

Diagne A & Zeller M. (2001). *Access to Credit and its impact on welfare in Malawi*. International food Policy Research institute.

Makuyana T. (2016). Microfinance Regulation and Supervision in Zimbabwe: A Critical review. *Mediterranean Journal of social sciences*, 1, 376-385.

Morduch J. (1999). The Microfinance Promise. *Journal of Economic Literature, XXXV11*, 1569-1614.

Morduch J. (2000). The Microfinance Schism. *World Development, 28*(4), 617-629.

RBZ. (2007). *Zimbabwe Microfinance Policy*. Harare: Researve bank of Zimbabwe.

Robinson M S. (2001). *The Microfinance Revolution: Sustainable Finance for the Poor.* Washingtom D C: World bank.

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THE DEVELOPMENT OF ENTREPRENEURS AT UNIVERSITY IN AN EMERGING ECONOMY: A CONCEPTUAL FRAMEWORK

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Abstract:

A conceptual framework is developed to postulate the process of developing entrepreneurs at a university level as a panacea for mitigating high levels of graduate unemployment in South Africa. The challenges are compounded by slow economic growth and the resultant high unemployment levels. Despite the growing body of empirical research evidence on the development of entrepreneurs in general, there is limited research on the development of student entrepreneurship. Drawing on Azjen's (1991) theory of planned behaviour, the paper conceptualises on factors that potentially influence the intention of students within the university to become entrepreneurs. Following Azen (1991), the paper interrogates the influence of the following four factors, namely, attitude towards entrepreneurship, role models, entrepreneurial leaders, and resources and opportunities. The conceptual framework proposes a model that will assist in developing student entrepreneurship mindsets and aptitudes that will equip them to embark on rather starting their own ventures upon graduation, than seeking employment. The entrepreneurship development process will create opportunities for self-employment, as well as employment creation within the South African economy.

Introduction

The end of the Apartheid system in 1994 heralded a non-racial 'rainbow nation' which is still beset by a deep-seated 350-years legacy of the past. The system marginalised the black majority population and the effects of the marginalisation continues and cannot be corrected by single events (Hoffman, 2019). The dawn of democracy opened a new era for black businesses in South Africa, reinforced by laws and regulations that support the development, promotion and growth of black entrepreneurs. The National Development Plan 2030 (NDP, 2013) emphasises the development of entrepreneurial skills among the youth, to mitigate the unsustainable 27.6% unemployment rate (StatsSA, 2019). The national government policy imperatives prioritise growing the small business sector through equipping aspiring business owners with requisite entrepreneurial and related skill sets. There is need for systematic analysis of the underlying factors influencing student entrepreneurship within the university sector, before prescribing solutions and action plans. The paper seeks to contribute towards the identification of factors impacting on the development of student entrepreneurs in South Africa.

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Background

This section outlines some of the historical context that contributed to the marginalisation of the majority black population in participating in national developments as wealth creators.

Entrepreneurship prior to colonialism

Entrepreneurship has been practised since ancient times as communities engaged in various forms of barter trading. The Khoikhoi, descendants of the Khoisan, settled down from nomadic lifestyles and started farming close to fresh water supplies (Oliver and Oliver, 2017). Thus, hunting gave way to farming and breeding of livestock and members of the tribe acquired land which was either purchased from or given by the chief (Oliver and Oliver, 2017). Giliomee and Mbenga (2007) state that the Khoisan acquired livestock from groups living in Botswana. Trading of livestock gained momentum as tribes and communities exchanged with others who specialised in making tools from iron and copper. Venter et al. (2015) stated that despite the socialist economy within the early African society, accumulating wealth and success were highly valued accomplishments. Verhoef (2015) notes that early African entrepreneurs were traders, acting as middlemen by sourcing various commodities for exchange with European sailors who passed through the Cape. As early as the 1590s the locals traded copper, iron and tobacco (Giliomee and Mbenga,2007) with European mariners who sailed to and from the East (Oliver and Oliver, 2017). This lasted for centuries until the Europeans arrived to stay in the 16th century.

Effects of colonialism

The arrival of the Dutch in 1652 in the Cape region, led to the forced displacement of the indigenous population promulgation and the enforcement of unjust and repressive laws. Worden (1994) traces the origins of racism in South Africa to the expansion of European colonialism in Africa, dispossessing the indigenous people of their land and rights. Giliomee and Mbenga (2007) infer that the colonisers brought along Western culture and Western intellectual baggage to Africa. Bundy (1979) points out that the bartering trade activities came to an end after the introduction of the 'formal' economy. The banning of informal barter trading (a form of self-employment for indigenous population) that had existed prior to the arrival of the white people, led to loss of 'income' and de facto 'unemployment'. This led to African entrepreneurs seeking opportunities in the 'informal sector' (Austen, 1987). Verhoef (2015) stated that lack of education and training, coupled with lack of financial resources which were embedded in colonial legislation, became barriers for indigenous entrepreneurs. For instance, the oppressive legislation introduced colonial taxation in the Cape Colony in 1894, which taxed freehold labour (Verhoef, 2015). The economic and political oppression continued and deepened when the colonial government gave way to the Afrikaner National Government (Hoffman, 2019).

Effects of Apartheid

The Nationalist Government came to power in 1948 and enforced racial discrimination and segregation through various laws, which were called apartheid (Kopel, 2012). Worden (2000) points out that the colonial laws were instituted as a legal principle that underpinned a theory that whites should be treated more favourably than blacks. Mahlauli et al. (2015) highlight that apartheid not only implemented a system of racial discrimination and segregation, but also extended the system to all spheres of economic and social life in government, labour and markets, and residential areas.

Reddy (2004) reported that when the Nationalist government came to power, the percentage of black students enrolled at university was 4.8%. Education became an oppressive tool enforced through legislation to offer inferior education to the majority. Van Gensen (2005) noted that government introduced a new interventionist system in the state and civil service, based on colonial educational standards. The quality of subjects taught at the various levels of education to the various racial groups, was differentiated into state-controlled and maintained an education policy designed to ill-equip non-white learners (Jansen, 2002).

Discrimination was amplified in all spheres of social, economic and political systems, compounded by the relocation of blacks to 'homelands', comprising geographically distant, agriculturally barren and economically destitute areas (Kopel, 2012). The black businessmen and women lost their businesses through the oppressive displacement and dispossession of their ancestral land. The majority of the population was located in areas that lacked basic

infrastructure and markets. Motsueyane (1989) stated that there were more than 500 laws that impeded the involvement of the black community from participating in the economy as owners and managers. The repressive laws curtailed any meaningful participation of the majority in the national economic sector, and they were rendered jobless in the homelands alluded to above. This led to people of all age groups leaving the homelands to seek employment in the mining towns. They left behind mothers and children who had to fend for themselves during these long periods of absence of the fathers and sons. Co (2003) points out one of the effects of loss of status as 'retreatism', which is characterised by the psychological repression of trauma associated with a loss of status, as these men and boys were subjected to work in terrible conditions, which resulted in the repressed trauma needing an outlet. The outlet was in the form of unhappiness and violence, and in this case, political violence, which contributed to the government of the day reviewing its economic and political policies, which ultimately led to democracy in 1994.

Entrepreneurship and black business in democracy

The dawn of the democracy in 1994 brought a new era of rebuilding and rectifying the injustices of the past. Apartheid-era laws were repealed and new laws promulgated in line with the economic and political dispensation. Equally the development of small businesses was prioritised in the 1995 White Paper, presented to Parliament by Trevor Manuel, at that time the minister of the Trade and Industry. The main thrust of the policy was broadening of economic participation by all citizens and those previously marginalised (Kruger, 2011). In turn, the White Paper culminated in the promulgation of the Small Business Act of 1996, which was subsequently amended into its current form. In essence, the Small Business Act called for the establishment of agencies supportive of small business development, such as the Small Enterprise Development Agency (SEDA) in 2004 and the Small Enterprise Finance Agency (SEFA) in 2012.

The small and medium enterprises (SMEs) sector is considered to be the engine of economic growth and poverty eradication (Katua, 2014). South Africa like other countries in the world, has recognised the critical role of the SME sector towards broadening participation of formerly excluded people, as well as a source of new jobs and employment. However, Bushe (2019) notes that 40% of all new businesses fail in the first year, 60% in their second year and 90% of new businesses fail within the first 10 years of their life cycle. There is an accumulating body of empirical research evidence on the failure of small businesses in South Africa (eg., Bushe, 2019; Leboea, 2017; Rungain and Potgieter, 2018). The studies cite different factors in explaining the high attrition rates of small businesses. The next section offers a conceptual framework that sheds light on some of the tentative solutions through the development of student entrepreneurship.

Conceptual Framework

The propositions based on the theory of planned behaviour, follow previous studies (e.g. Malebana, 2014 and Gird and Bagram, 2008) that explored factors influencing entrepreneurial intention. Azjen (1991) postulated that an intention is the precursor to behaviour and that if the intention can be influenced, the subsequent behaviour will be influenced as well. The conceptual framework focuses on students studying entrepreneurship at the higher education institutions, and how the entrepreneurial intention of these students can be nurtured. Four factors are considered in the framework to better understand the elements or factors that influence entrepreneurial intention (See Figure1):

a) Attitude towards entrepreneurship,
b) Entrepreneurial leaders,
c) Role models, and
d) Resources and opportunities at universities.

An overview of the South African economy will be presented to highlight the context and the significance of entrepreneurs and small businesses in the country.

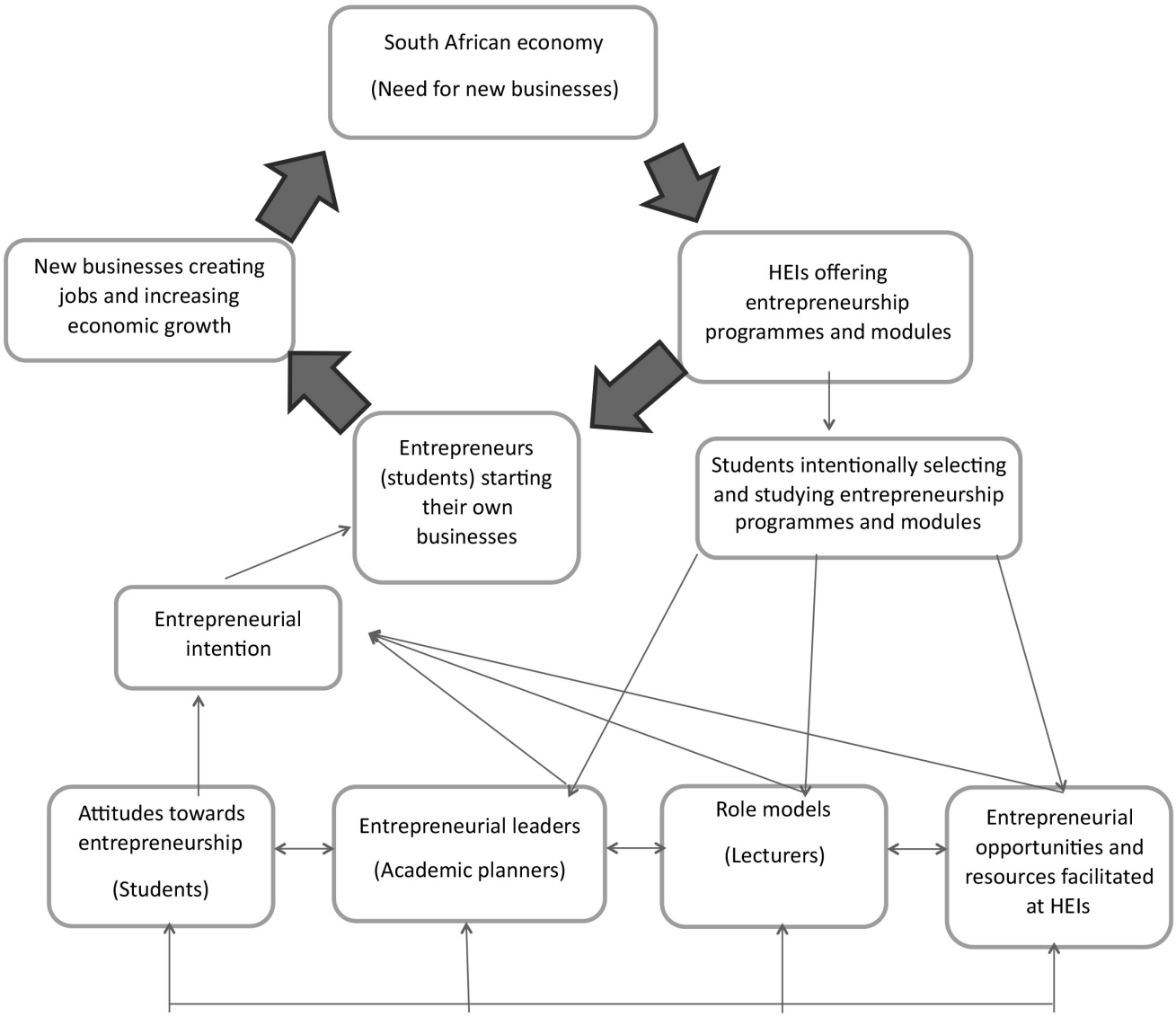

Figure 1: Conceptual framework of the study (Hoffman, 2019)

The South African economy

The economy has continued to experience slow to low economic growth rates since the dawn of the democratic government in 1994. By 2019 the unemployment rate was 27.6% out of a working population of 22.5 million citizens. In practical terms 16.3 million people are employed within the formal, informal, agricultural, and private household sectors, while 6.2 million are unemployed, and 15.8 million are economically inactive (StatsSA, 2019). The unemployment problem has led to the formulation of the National Development Plan 2030 (NDP 2030) (2013) that is projected to have created 11 million jobs in the year 2030. The government has also launched a number of initiatives to enhance the growth of the economy and to create jobs. The NDP 2030 identifies entrepreneurship as the vehicle for alleviating unemployment through sustainable national economic growth going forward.

Higher Education Institution Curriculum

Entrepreneurship education is vital to the success of future entrepreneurs and it is important that higher education institutions remain up to date with the entrepreneurship education curriculum (Hoffman, 2019). The growing number of entrepreneurship modules offered by universities, reflect the recognition that entrepreneurship education is

directly related to entrepreneurial outcomes (Nabi and Linan, 2011; Rideout and Gray, 2013). This understanding stems from the belief that education is the best way to provide students with the skills and knowledge to prosper in the world of labour (Adcroft, Dhaliwal and Wills, 2005; Kirby, 2003). Linan (2007) added that developing opportunity-recognition capacities and related skills through creativity, will enhance the probability of a person becoming an entrepreneur and developing favourable personal attitudes towards entrepreneurship.

Studies have shown that entrepreneurship education and training can influence the behaviour and future attitude of students (Fayolle et al., 2006). The proposition that the development of a sound entrepreneurial culture stabilises economies and creates growth opportunities, is based on historical economic fluctuations and has convinced stakeholders, including education institutions. Tijssen (2006) states that empirical evidence points to universities as the breeding ground for fostering the entrepreneurial spirit and culture. Nicolaides (2011) noted the strong relationship between education level and entrepreneurial activity and the significance thereof on the success or failure of new business ventures. Universities alsl over the world are offering entrepreneurship programmes, which are driven by two factors, namely the demand from society, and the growing number of students wanting to become entrepreneurs (Postigo, 2002). Hatten and Ruhland (1995) studied the effects of entrepreneurship programs on students' attitude towards entrepreneurship, and concluded that the latter can be measured and changed. This is supported by Ede, et al. (1998); Robinson, et al. (1991) and Wang and Wong, 2004. In many ways the literature strongly confirms the role of institutions of higher education in offering entrepreneurship education to enhance economic development in countries such as South Africa.
As alluded in earlier sections, this conceptual paper draws on Azjen's (1991) Theory of Planned Behaviour to examine the relationship between factors that influence entrepreneurial intention and entrepreneurial behaviour. The conceptual relationships between the four factors are shown in Figure 1 above.

Attitudes towards entrepreneurship

An attitude refers to the degree that a person holds or evaluates a particular behaviour, be it positive or negative (Azjen (1988), Fishbein and Azjen,1975). Azjen (2002) further elaborates that beliefs about the likely outcome of a behaviour and the evaluation of those outcomes are behavioural beliefs which affect the attitude towards a behaviour. From this perspective, the first encounter that a student would have with entrepreneurship as a subject or module, could be a determinant of how the student views entrepreneurship. This will have an impact on the student's entrepreneurial intention and eventually the student's entrepreneurial behaviour. It is therefore important that this exposure to the subject matter should be done by experienced facilitators in terms of teaching the subject matter and practice. It is therefore imperative that the subject matter be presented with positive outcomes as well as the pitfalls for the entrepreneur. The proposition is that there should be a balance between practical experience and teaching competence when selecting entrepreneurship lecturers and facilitators.

Entrepreneurial Leadership

The conceptual development of entrepreneurial leadership has evolved from different components and it embraces the context and climate of the leader (Hoffman, 2019). The definition of entrepreneurial leadership has evolved, since it was first conceptualised by Cummingham and Lischeron (1991). To date the definition has gone through many changes or adaptations as researchers grappled with the concept (see McGrath and McMillan 2000; Ireland et al. 2003; Gupta et al., 2004). This proposition follows Renko et al. (2015), who define entrepreneurial leadership as a process that involves influencing and directing the performance of a group of members towards the achievement of organisational goals to recognise and exploit entrepreneurial opportunities. This two-pronged approach identifies the role of entrepreneurship education pedagogy and the process of guiding students in the right direction during the idea-development phase. The responsibility of an entrepreneurial leader is to identify opportunities in the market and university environment, and to exploit the opportunities to the benefit of the team. The emphasis of the entrepreneurial leadership development process is to rather nurture the desire for entrepreneurship than teaching students about entrepreneurship. Postigo and Tamborini (2002) emphasise that education about entrepreneurship is mainly based on constructs and transference of knowledge, whereas education for entrepreneurship focuses on the learning experiences and the development of competencies, skills, aptitudes and values. From this perspective, universities' curricula should move toward teaching for entrepreneurship and use the know-how approach to equip students in becoming successful entrepreneurs (Hoffman, 2019). Entrepreneurial leaders responsible for entrepreneurship programmes will therefore have an impact on harnessing the students' entrepreneurial intention.

Role Models

There are as many descriptions and definitions as there are authors of role models. A common thread through the various definitions is an individual that can inspire and motivate others to make certain decisions to obtain certain goals (Basow and Howe, 1980; Shapiro, Haseline and Rowe, 1978; Wright, Wong and Newill, 1997). Role models provide the necessary proof that goals can be achieved, and this increases the desire to strive for a particular position or condition (Hoffman, 2019). They also demonstrate that skills and motivation contribute to the achievement of goals (Weber et al., 2013). Therefore, role models encourage the drive for others to become entrepreneurs and make entrepreneurial ambitions a reality (Arenius and De Clerq, 2005; Koelliger et al., 2007 and Mueller, 2006). Scherer et al. (1989) stated that empirical evidence shows that 35–70% of entrepreneurs have entrepreneurial role models. Nauta and Kakaly (2001) point out that increasing numbers of entrepreneurs report the support and advice provided by the role models that are similar to a mentor–mentee relationship. A growing body of empirical evidence support the positive relationship between role models and the entrepreneurial intention of students (Krueger et al., 2000; Scherer et al., 1989, Van Auken et al., 2006a and 2006b). Role models change the attitudes and beliefs about the person's self or perceived ability to be successful in a new venture (Bosman et al., 2012; Van Auken et al., 2006b).

Role models provide evidence to students that it is possible to make a success of starting a new venture. Some of the reasons that there are a few entrepreneurial role models, include the apartheid legacy discussed above. The best place to look for role models, based on the experience in industry and academia, would be at universities. Considering that the higher education institution would be teaching for entrepreneurship, an element of experience should be present. The lecturer or facilitator of an entrepreneurship program would be the proxy for a role model to students – guiding the student towards identifying and exploiting opportunities for entrepreneurial start-ups.

Entrepreneurial Resources and Opportunities

Few studies focus on how contextual and situational factors within the university environment influence the development and nurturing of the entrepreneurial intention (Trivedi, 2016). University support mechanisms influence entrepreneurial activities (Fini et al., 2009) and the support is important in shaping students' perception of entrepreneurship and attitude towards entrepreneurship (Johannisso, 1991 and Autio et al., 1997). One of the major functions of the universities and teaching institutions should be to build entrepreneurial awareness and develop students' entrepreneurial skills (Hoffman, 2019). Trivedi (2016) points out that the support should thus shift from traditional teaching roles providing cognitive and non-cognitive support on venture creation. Therefore, the university has to move from a traditional knowledge- generation institution to a living entrepreneurial ecosystem, that enhances the concept of an entrepreneurial university (Hoffman, 2019). The importance of entrepreneurial universities is vital to the training and development of students' entrepreneurial skills and in nurturing entrepreneurial intention among students.

Conclusion

The need for entrepreneurs in South Africa has reached critical levels. This is recognised and prioritised by the NDP 2030, that focuses on creating 11 million jobs by 2030. Entrepreneurs are key to the delivery of the national economic development goals. Therefore, there is need for tertiary institutions to refocus their objective towards the training and development of student entrepreneurs. This conceptual paper has identified factors adapted from Azjen's (1991) Theory of Planned Behaviour (1991), to rather refocus entrepreneurship curricula in universities towards nurturing the desire *for* entrepreneurship, than to teach students *about* entrepreneurship. The conceptual framework suggests four factors that need to be addressed to develop entrepreneurial intention that influences entrepreneurial behaviour. Attitude towards entrepreneurship is determined by the student's encounter and experience with entrepreneurship and the manner in which entrepreneurship as a concept is introduced to the student, therefore attitude towards entrepreneurship can be positive or negative. The second factor identifies the importance of entrepreneurial leaders with requisite know-how and academic experience in developing student entrepreneurs. Role models are important in the development of students as they can also take on a mentor-mentee role to guide the student in achieving their goals and dreams. Opportunities and resources at university play an important role in the development of entrepreneurs, as the support creates a conducive environment and ecosystem that encourages growth and development of students and future entrepreneurs.

Therefore, the conceptual model envisages universities as custodians of entrepreneurship, education and future entrepreneurs that would contribute towards national economic development.

Recommendation for future research

The conceptual framework proposes an approach towards the development and training of future entrepreneurs in South Africa. The aim is to assist universities and policymakers in this training. The conceptual framework contributes to our understanding of the development of student entrepreneurs. Future research should empirically test the efficacy of the model and build on it, to develop a robust approach towards the development of student entrepreneurs in South Africa and beyond.

References

Adcroft, A.; Dhaliwal, S. and Willis, R. 2005. Insatiable demand or academic supply: The intellectual context of entrepreneurship education. European Business Review, 17(6): 518-531.

Ajzen, I. 1988. Attitudes, personality, and behavior. Chicago: Dorsey Press.

Ajzen, I. 1991. The theory of planned behaviour. Organisational Behaviour and Human Decision Processes, 50: 179-211.

Arenius, P. and De Clerq, D. 2005. A network-based approach on opportunity recognition. Small Business Economics, 24: 249-265.

Austen R. A. 1987. African economic history: internal development and external dependency. London: J. Currey.

Basow, S. and Howe, K. 1980. Role-model influence: Effects of sex and sex-role attitude in college students. Psychology of Women Quarterly, 4: 558-572.

Bosman, N.; Hessels, J.; Schutjens, V.; Van Praag, M. and Verheul, I. 2012. Entrepreneurship and role models. Journal of Economic Psychology, 33: 410-424.

Bundy, C 1979. The rise and fall of the South African peasantry. London: Heinemann.

Busher, B. (2019). The causes and impact of business failure among small to micro and medium enterprises in South Africa. African Public Service Delivery and Performance Review 7(1), a210 https://doi.org/10.4102/apsdpr.v7i.210

Co, M.J. 2003. A socio-cultural explanation of black entrepreneurship in South Africa. South African Journal of Business Management, 34(4): 35-43.

Cunningham, J.B. and Lischeron, J. 1991. Defining entrepreneurship. Journal of Small Business Management, 29(1): 45-62.

Ede, F.O.; Panigrahi, B. and Calcich, S.E. 1998. African American students' attitude towards entrepreneurship education. Journal of Education for Business, 73(5): 291-307.

Fayolle, A.; Gailly, B. and Lassas-Clerc, N. 2006. Assessing the impact of entrepreneurship education programmes: A new methodology. Journal of European Industrial Training, 30(9): 701-720.

Fini, R.; Grimaldi, R.; Marzocchi, G.L. and Sobrero, M. 2009. The foundation of entrepreneurial intention. Paper presented at the Summer Conference, Denmark, 17-19 June.

Fishbein, M. and Ajzen, I. 1975. Belief, attitude, intention and behaviour: An introduction of theory and research. Boston, MA: Addison-Wesley.

Giliomee, H. and Mbenga, B. 2007. New history of South Africa. Tafelberg, Cape Town.

Gird, A. and Bagraim, J. 2008. The theory of planned behaviour as a predictor of entrepreneurial intent among final-year university students. South African Journal of Psychology, 38(4): 711-724.

Gupta, V.; McMillan, I.C. and Surie, G. 2004. Entrepreneurial leadership: Developing and measuring a cross-cultural construct. Journal of Business Venturing, 19(2): 241-260.

Hatten, T. and Ruhland, S. 1995. Student attitude toward entrepreneurship as predicted by participation in an SBI program. Journal of Education Business, 70(4): 224-228.

Hoffman, M.J. (2019). Commerce Faculties: A hidden pipeline of entrepreneurs, a model of entrepreneurial intention. Doctoral Thesis. Bellville: University of the Western Cape.

Ireland, R.D.; Hitt, M.A. and Simon, D.G. 2003. A model for strategic entrepreneurship: The construct and its dimensions. Journal of Management, *29*(6): 963.

Jansen, J.D. 2002. Mergers in higher education: lessons learned in transitional contexts. Pretoria. UNISA Press.

Johannisson, B. 1991. University training for entrepreneurship: A Swedish approach. Entrepreneurship and Regional Development, 3(1): 67-82.

Katua, N.T. 2014. The role of SMEs in employment creation and economic growth in selected countries. International Journal of Education and Research, 2(2): 461-472.

Kirby, D. 2003. Entrepreneurship. London: McGraw-Hill.

Koellinger, P.; Minniti, M. and Schade, C. 2007. I think I can: Overconfidence and entrepreneurial behaviour. Journal of Economic Psychology, 28: 110-132.

Kopel, S. 2012, Guide to business law – commercial law. (5th Edition). Cape Town: Oxford University Press Southern Africa.

Kraaijenbrink, J.; Bos, G. and Groen, A. 2010. What do students think of entrepreneurial support given by their universities? International Journal of Entrepreneurship and Small Business, 9(1): 110-125.

Krueger, N.F.; Reilly, M. and Carsrud, A.L. 2000. Competing models of entrepreneurial intentions. Journal of Business Venturing, 15: 411-432.

Kruger, L.P. 2011. The impact of black economic empowerment (BEE) on South African businesses: Focusing on ten dimensions of business performance. Southern African Business Review, 15(3): 207-233.

Leboea, S.T. (2017). The factors influencing SME failure in South Africa. Masters Dissertation. Graduate School of Business, UCT, South Africa.

Linán, F. 2007. The role of entrepreneurship education in the entrepreneurial process. In: A. Fayolle (Ed.). Handbook of research in entrepreneurship education. Cheltenham, UK: Edward Elgar Publishing.

Malebana, J. (2014). Entrepreneurial Intention of South African rural university students: A test of the theory of planned behaviour. Journal of Economics and Behavioural Studies. Vol. 6 No.2 pp. 130 – 143.

Motsuenyane, A. 1989. The development of black entrepreneurship in South Africa. Lagos: Nigerian Institute of International Affairs.

Mueller, P. 2006. Entrepreneurship in the region: Breeding ground for nascent entrepreneurs? Small Business Economics, 27: 41-58.

Nabi, G. and Linán, F. 2011. Graduate entrepreneurship in the developing world: Intentions, education and development. Education and Training, 53(3): 325-334.

Nafukho, F.M. and Muyia, M.A.H. 2010. Entrepreneurship and socioeconomic development in Africa: A reality or myth? Journal of Industrial Training, 34(2): 96-109.

Nicolaides, A. 2011. Entrepreneurship – the role of higher education in South Africa. Educational Research, 2(4): 1043-1050.

Oliver, E. and Oliver, W. 2017. The colonisation of South Africa: A unique case. HTS Theological Studies 73(3).

Postigo, S. and Tamborini, M.F. 2002. Entrepreneurship education in Argentina: The case of San Andres University. Paper presented at the Internationalizing Entrepreneurship Education and Training Conference – IntEnt 2002, Malaysia, July 2002.

Reddy, T. 2004. Higher education and social transformation: South Africa case study – Council of Higher Education. [Online]. Available at: www.che.ac.za [Accessed: 4 January 2017].

Renko, M.; El Tarabishy, A.; Carsrud, A.L. and Brännback, M. 2015. Understanding and measuring entrepreneurial leadership. Journal of Small Business Management, 53(1): 54-74.

Rideout, E.C. and Gray, D.O. 2013. Does entrepreneurship education really work? A review and methodological critique of the empirical literature on the effects of university-based entrepreneurship education. Journal of Small Business Management, 51(3): 329-351.

Robinson, P.B.; Stimpson, D.V.; Huefner, J.C. and Hunt, H.K. 1991. An attitude approach to the prediction of entrepreneurship. Entrepreneurship Theory and Practice, 15(4): 13-30.

Rungain, E.C. and Potgieter, M. (2018). The impact of financial support on the success of small, medium and micro enterprises in the Eastern Cape Province, Acta Commercii 18(1) https://doi.org/10.4102/ac.v18i.591

Scherer, R.; Adams, J.; Carley, S. and Wiebe, F. 1989. Role model performance effects on development of entrepreneurial career preferences. Entrepreneurship Theory and Practice, 13(3): 53-71.

Shapiro, E.; Haseltine, F. and Rowe, M. 1978. Moving up: Role models, mentors, and the 'patron system'. Sloan Management Review, 6(1): 19-47.

Tijssen, R.J.W. 2006. Universities and industrially relevant science: Toward measurement models and indicators of entrepreneurial orientation. Research Policy, 35(10): 269-280.

Trivedi, R. 2016. Does university play a significant role in shaping entrepreneurial intention? A cross-country comparative analysis. Journal for Small Business and Enterprise Development, 23(3): 790-811.

Van Auken, H.; Stephens, P.; Fry, F.L. and Silva, J. 2006a. Role model influences on entrepreneurial intentions: A comparison between USA and Mexico. International Entrepreneurship and Management Journal, 2(3): 325-336.

Van Auken, H.; Stephens, P.; Fry, F.L. and Silva, J. 2006b. The influence of role models on entrepreneurial intentions. Journal of Developmental Entrepreneurship, 11(2): 157-167.

Van Gensen, G. 2005. A model for branding practices in a new South Africa higher education landscape. Doctoral Thesis. Bloemfontein: Central University of Technology.

Venter, R.; Urban, B.; Beder, L.; Oosthuizen, C.; Reddy, C. and Venter, E. 2015. Entrepreneurship: Theory in practice. (3rd Edition). Cape Town: Oxford University Press Southern Africa.

Verhoef, G. 2015. The opportunity of inequality: African entrepreneurship and inequality. [Online]. Available at: file:///C:/Users/Admin/Downloads/essa_3202.pdf [Accessed: 16 November 2016].

Wang, C.K. and Wong, P.K. 2004. Entrepreneurial interest of university students in Singapore. Technovation, 24(2): 163-172.

Worden, N. 1994. The making of a modern South Africa: Conquest segregation and apartheid. Cambridge: Blackwell Publishers Wright, S.; Wong, A. and Newill, C. 1997. The impact of role models on medical students. Journal of General Internal Medicine, 12: 53-56.

Wright, S.; Wong, A. and Newill, C. 1997. The impact of role models on medical students. Journal of General Internal Medicine, 12: 53-56.

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