

Supplier Development Funding: Evaluating a Funding Model for South African Manufacturing Co-operatives

Mkwanazi Michael Sizwe

Department of Quality and Operations Management
University of Johannesburg
Auckland Park, 2006, South Africa
msmkwanazi@uj.ac.za / sizwel4@gmail.com

Mbohwa Charles

Faculty of Engineering and Built Environment
University of Johannesburg
Auckland Park, 2006, South Africa
cmbohwa@uj.ac.za

Abstract

This research paper focuses on sewing manufacturing co-operatives and the role of supplier development funding on their performance. This paper presents a model of supplier development used by a South African government department which has contracted over 83 sewing manufacturing co-operatives to provide school uniform packs annually for identified schools in a province. The model proves to be valuable to the knowledge area on funding of manufacturing enterprises with an aim of developing them into reliable suppliers of quality goods. The results of this study show that the model of funding applied in developing the sewing co-operatives as suppliers has enabled them to acquire new manufacturing equipment, fund their business plans and as a result they regard themselves as successful. The practical implications indicated on this paper include improving funding models directed to small business manufacturers to reduce the failure rate of small manufacturing businesses.

Keywords

Manufacturing, Co-operatives, Funding, Supplier and Sewing

1. Introduction

Supplier Development is a common buzz word in the field of entrepreneurship and small enterprise development (Govindan, Khovaredi & Jafarian, 2012). Paying a suppliers' invoice is not a guarantee that they will deliver timeously and quality, which makes it necessary for big buyers to provide support and engage in collaboration with smaller and under-resourced suppliers. It is also a collective responsibility of big business and government to ensure that employment and business opportunities are sustained through successful small manufacturers (Johnson & Shaw, 2014). Funding of small manufacturing enterprises comes in a form of grants, loans and contract based funding. Some grants are dedicated supplier development, loans are obtainable from financing institutions or from private investors (Tian, 2015) and contract based funding, is obtained when a manufacturer has been awarded a big valuable contract which the manufacturer is unable to deliver to without additional funding and added resources (Rowley & Michie, 2014). In this research we studied a total of 83 contracted and funded sewing co-operatives in the Gauteng Province of South Africa. These co-operatives are contracted and funded by the buyer which is the Gauteng Department of Social Development (Ioppolo, Szopik-Depczynsko, Stajnaik & Konecko, 2016). These co-operatives are selected in terms of the sewing factory's ability to deliver required quantities and based on their location. This move to source from co-operatives came as a result of a need to empower impoverished communities and to also live up to the Sustainable Development Goals Mandate (Fox & Stoett, 2016), which is better attainable through co-operatives (Abdallah, Bressers & Clancy, 2014). A manufacturing co-operative can be defined as an enterprise executing factory and process based operations dependent on inputs, a conversion procedure and with an ability to deliver a tangible

output, it is an autonomous association of people, democratically owned and lives up to its set principles (Zhu, Su & Shu, 2017). The following section describes the business and operational environment of manufacturing co-operatives in South Africa.

1.1 Context and funding of Manufacturing Co-operatives in South Africa

The early history of Co-operatives date back to 1844, with the Rochdale co-operative of England, this case provides sufficient evidence of the fact that business were about the community and its people regardless of the complex technical aspects which were required in production-based co-operative community enterprises (Fairbairn, 1994:1). In South Africa, it was in 1922 that co-operative enterprises were noticed in the agricultural and farming sectors. The Investor-Owned Firms are normally able to acquire manufacturing resources within a short space of time unlike co-operatives which are owned by all or the majority who works in them, making it difficult to attract resources speedily (Soboh, Lansink & Van Dijk, 2010). However, the support of manufacturing co-operatives is due to the fact that it benefits the wider society and more equally, in manufacturing activities the members of a co-operative learn new skills, share in the profits and their quality of life is likely to improve as co-operatives are resilient in nature and can provide for their members even during times of recession which normally leads to retrenchments in private companies. Funding a manufacturing co-operative means studying a number of location aspects, especially when the funder is a government agency or department and even when the funder is from the private sector but funding a co-operative in the name of supplier development (Musyoki & Tinwaro, 2015).

1.2 Research Problem

The failure rate of co-operatives was reported to be 88% in 2009, despite the fact that these enterprise are important for community wealth creation and manufacturing of affordable products compared to privately owned factories. The problem can be stated as the high failure rate of grant and loan funded co-operatives given the current methods of funding. This problem also creates additional problems such as loss of trust by funders and operations management practitioners on the feasibility of manufacturing co-operatives due to loss of resources and production opportunities when funded manufacturing co-operatives fail (Balnave & Patmore, 2015).

1.3 Objectives of the study

This study primarily aims to provide evidence on an alternative funding method of manufacturing co-operatives, using data gathered from a total of 83 South African Sewing co-operatives which had been successful for over 2 years of being funded by a government department to deliver school uniform packages and funded towards delivering on their contracts, this study will share practices which could be adopted in similar countries where manufacturing is done by co-operative enterprises. This research also seeks to demystify the perception that co-operatives are not suitable forms of manufacturing entities and a secondary objective an insight to challenges encountered in funding manufacturing co-operatives and the relevance of co-operatives as manufacturers of clothing or garments in developing countries are presented here (Zaalouk, 2014). The remainder of this paper consists of a literature review, research methodology, findings and a concluding section.

2. Literature Review

A co-operative enterprise is defined as an independent organisation which is established on the values of democratic control, socio-economic development, equality and community benefit (Co-operatives Act, 2005). A co-operative is unlike investor owned firms where the primary objectives are to earn income and generate profits, but co-operatives are more concerned about how value to services and products is added (Borzaga & Spear, 2004). Although co-operatives are community based enterprises they are not excluded from the challenge of seeking resources such as capital and investment given that they operate in a business environment that is composed by private and public enterprises, which sell similar goods and services as those of co-operatives and at times offering better quality than co-operatives (ICA, 2015). A manufacturing co-operative is a social enterprise which aims to manufacture quality goods, for members and non-members and also create opportunities in the manufacturing such as employment and when purchasing inputs (Yan, Yang & Dooley, 2017). Co-operatives are also vehicles for transferring economic opportunities to impoverished communities around the world and they are also recognized as enterprises which are instrumental in the pursuit of the Sustainable Development Goals (Puusa, Hokkia & Varis, 2016). The purpose of these manufacturing co-operatives has attracted the attention of funding agencies from around the world and they also attracted local funding available from supplier development initiatives in government and from private sector (Neto,

2008). The following sections of this literature review address supplier development funding, industrial revitalization and the impact of funding on the manufacturing capacity of co-operative enterprises.

2.1 Supplier Development Funding

Supplier development refers to a collaborative and an integrative arrangement of support by a buyer and the supplier in quest to improve on quality, cost, efficiency and speed of delivery (Park, Shin, Chang & Park, 2009). However, in the field of operations management supplier selection continues to be a multiple-criteria decision making problem which requires the buyer to take into account various factors affecting the decision (Sucky, 2013). The role of funding in supplier development refers to an intervention made by the purchaser or the buyer into building capabilities of the supplier such as advanced payments of cash deposits for the supplier to purchase inputs of good quality and to improve fundamental manufacturing systems which give a competitive advantage (Li, Humphreys, Yeung & Cheng, 2012). The enablement of a supplier-buyer relationship through funding does also extend to other areas as funding alone is not a sufficient intervention and guarantee to sustained operational excellence by the supplier being developed, therefore, the buyer would focus also on establishing a collaborative strategy (Park, et.al. 2009). The value added by supplier development initiatives in developing economies has led to industrial revival through manufacturers which are still under development and those which had benefited from supplier funding programs (Oyeku, Oduyoye, Ashikhia, Kabuoh & Elemo, 2014).

2.2 Industrial Revitalization

There are limited studies on whether co-operatives in manufacturing have made an immense contribution into reviving industries in their regions, however, in Brazil, Kenya, India and in Canada co-operatives play an effective role in various sectors of the economy which include agro-processing, manufacturing of clothing and developing rural area (Girard 2004)(Borzaga & Spear eds., 2004). Industrial revitalization can be defined as the renewal of production and manufacturing sectors which had ceased operating due to cheap goods importation, changes in technology and due to government reformation (van Ark, 2005). The need for industrial revitalization is as a result of the growing need of sustainable job opportunities, affordable quality products and services within the locality of communities and also bringing jobs closer to the people (Abor & Quartey, 2010).

2.3 Impact of funding on manufacturing capacity in a co-operative

The precise definition of capacity, states that it is the maximum quantity or amount that a resource or something can contain, produce or manufacture (Kruger & Ramphal, 2009:267). It is also in the interest of social manufacturing enterprises such as co-operatives to have adequate capacity to manufacture and satisfy buyer orders, taking into consideration that demand is static. The funding of manufacturing activities and improvement of capacity is essential in a supplier development relationship and collaboration as it services the ultimate goal of having a satisfied buyer and consumers (Sucky & Durst, 2014).

2.4 Manufacturing Co-operative supplier development model

The model below is currently used in supplier development programs in South Africa, it is supported with literature in this case. Any supplier development program has an established process of selection such as the Multi-Objective Criteria Decision Method (MOCDM) (Park et.al. 2009). A supplier development program also has internal activities in this regard confirmation of selection and entering into an agreement of development and that of skills transfer. Then an order would be placed by the buyer to test the relationship and funding of the order would also be released. A manufacturing co-operative upon the release of funding shall assess its capacity in terms of its business plan, machinery, fabric or textile and the factory premises and shall address those areas which require immediate improvement and also note those which require continuous improvement during the period of funding. A manufacturing co-operative shall then deliver the set of clothing to the buyer and obtain feedback, which also refers to the buyer paying the final amount for the goods or clothing delivered. This will begin a funding supplier development relationship as displayed on figure 1 above. The above supplier development process displays the circularity of the supplier development programs which are coupled with funding and manufacturing. This is also shows the uniqueness of the model as applied to co-operatives which are commonly challenged with attracting high skilled labour and paying premium salaries but rather reliant on the labour provided by unskilled or semi-skilled worker-members of the co-operative (Owen, Li, Whittingham, Hope, Bishop, Readhead & Mook, 2015). In the findings of this research a reflection on the above process is provided and areas of improvement are suggested. The following section unpacks the research method that was used in this research.

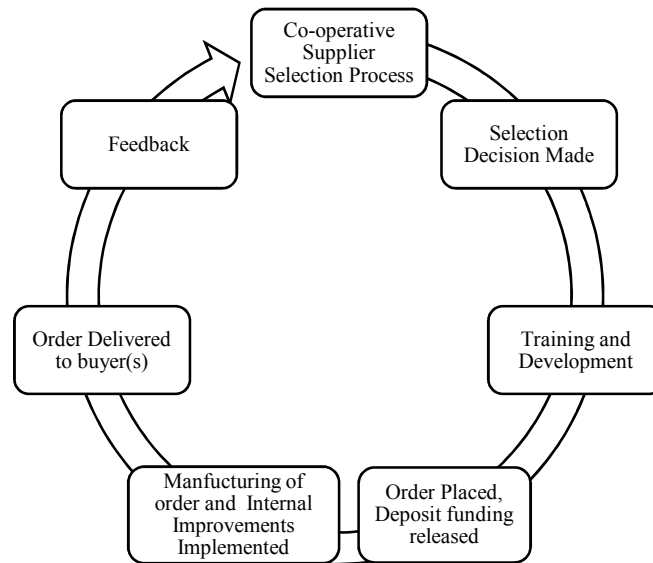


Figure: 1 Co-operative Supplier Development Process

3. Research Methodology

This research followed a quantitative research format and the data used in this paper is part of a research study that was conducted regarding location decision strategies and funding. An aid of a graph is used in the section of results and findings to provide accessible information regarding the findings of the research about the process of funding sewing manufacturing co-operatives which are part of a supplier development programme. The sample of this research is presented below.

3.1 Sample

A total of 83 sewing co-operatives participated in the study by completing a research questionnaire. The record of the co-operatives was provided by the buyer of school uniforms from these sewing co-operatives namely the Department of Social Development in the Gauteng Province of South Africa, due to a small number of successful production co-operative enterprises it is difficult to achieve a large sample as the census itself is tiny (Jimoh & Van Wyk, 2014). The number of co-operatives which participated in this study it is 80% of the co-operatives that had received supplier support and funding from the department stated here and some of the other 20% of co-operatives have ceased to exist and some converted to private enterprises which is why at 100% census could not be reached. However, based on studies about a reliable sample in business research it is evident that the sample achieved is adequate for the nature of this research (Bougie & Sekaran, 2013).

3.2 Research Instrument

The research questionnaire used was piloted with a total of 4 respondents and adjustments to language were made after the feedback and which made the instrument and its items easy to understand which enabled the provision of precise and correct responses. The research questionnaire used a Likert scale for responses on different sections of the study, the scale was between 1 and 5. The research instrument's items are included on the last section of this paper for further reference.

3.3 Validity

The research instrument used was evaluated by a qualified research statistician at the University of Johannesburg Statkon to validate it as a reliable tool for collecting data on this research. Other than this the researcher reviewed the items of the research questionnaire and shortened them without omitting the fundamental meaning of each of the items and also revised the language used to a less advanced terms given the level of understanding by the respondents. The following section 4 presents results and findings of this study.

4. Results and findings

The results and findings of this study are presented with an aid of a bar graph. These findings are complete and instrumental to the evaluation of the funding processes indicated here on the literature review. Below is figure two, which shows the findings of this research. The graphs show the impact of the supplier development funding process described on the literature review section.

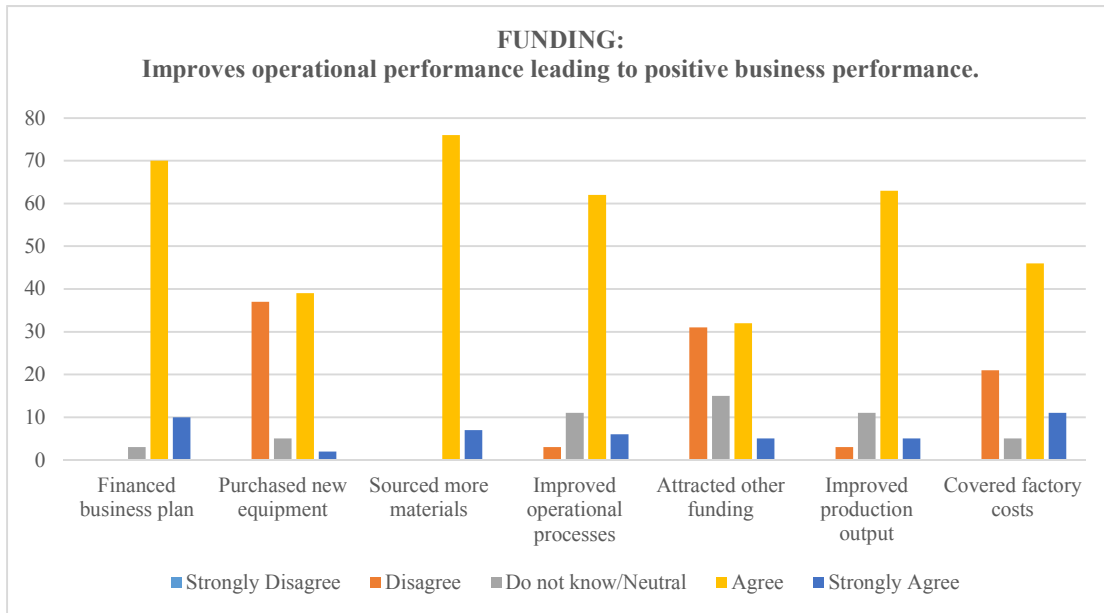


Figure: 2 Impact of Funding on Sewing-Manufacturing Co-operatives

The benefits of the supplier development funding of the sewing-manufacturing co-operatives has also transferred into enabling each co-operative to entirely grow and be able to service different clients and buyers, better given the adequate resources, thus some co-operatives converting to private firms over time. The following figure three shows the overall performance of the 83 co-operatives which benefited from the supplier development funding program.

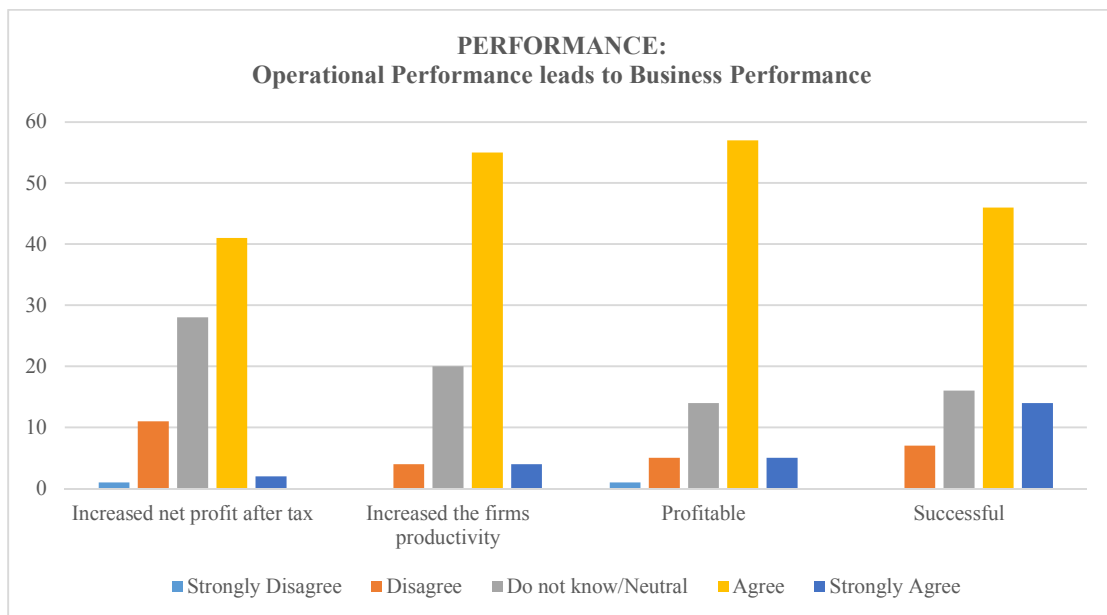


Figure: 3 Impact of Funding on Sewing-Manufacturing Co-operatives

Profit-oriented enterprises focus on profitability and co-operatives are also plan for high business performance, because of contract-based funding provided to the co-operatives had enabled them to increase net profit after tax, a total of 55 co-operatives increased their firms' productivity due to funding and also a total of 57 co-operatives had also improved their profitability as a result of funding. The following figure shows the experience of the sewing co-operatives with regards to the influence of rental rates on their selection for operating premises. Procurers prefer suppliers within a specific location and zone and with preferential procurement on the rise in South Africa and other countries, it has become important for small manufacturers to use systematic approaches when selecting location in order to benefit from supplier development funding initiatives in different zones (Nolan, Massabiaux & Gorman, 2013).

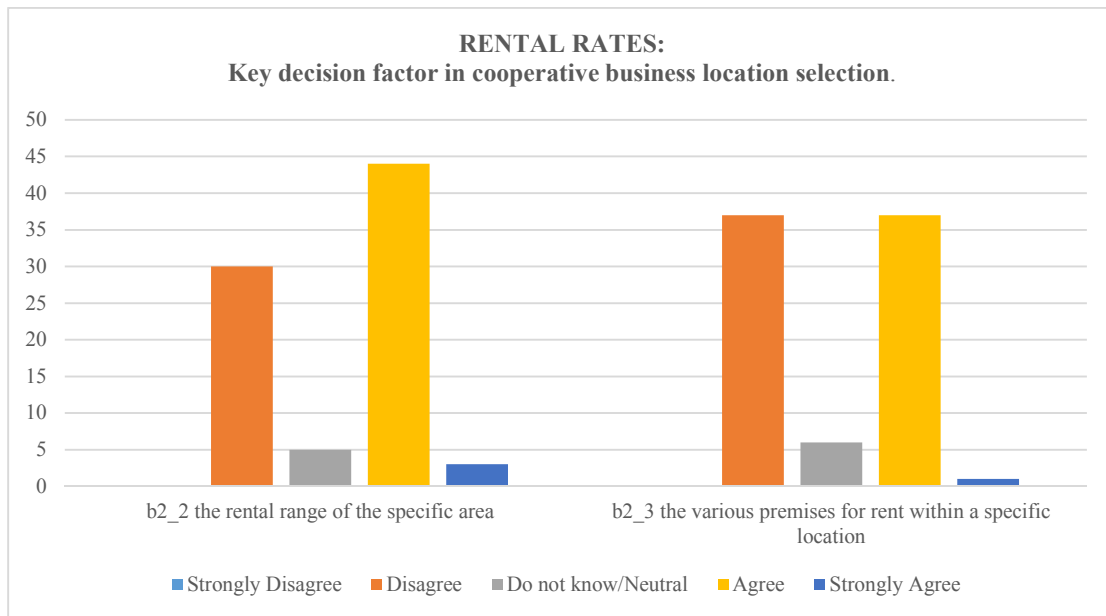


Figure: 4 Role of Rental Rates in the Operations of Sewing-Manufacturing Co-operatives

The question which was asked on this section was to assess the impact of rental rates on facility selection given that manufacturers select operating premises based on numerous reasons, which for co-operatives is scoring on preferential procurement activities by government and private sector. The results above show that 44 co-operatives agree that they based their location decision on the price ranges of a specific area and on one hand 37 co-operatives also did decide on their premises based on the various premises within a specific location of choice. This shows readiness of small sewing co-operatives to embark on self-help and begin with small operations from a home based environment and gradually progress into mainstream production facilities and environment. A total of 30 co-operatives which participated in this study considered the rental rates of the specific areas in which they are located and 37 of the co-operatives also compared premises for rental within their location of choice.

Economic opportunities which are based on zones and guided by zonal economic development plans influence the decision of location selection even for small manufacturing enterprises (Tham & Muneer, 2013). The demand for revitalisation of township based manufacturing in South Africa is essentially a driver for the findings on the above figure. The frequencies of the above findings are presented on the table below. The need for accessible rental production facilities within areas where economic opportunities are funded through supplier development initiatives will rise over time and this presents an opportunity for property developers.

Table: 1 Frequencies on rental rates decisions of Sewing Manufacturing Co-operatives

	Strongly Disagree	Disagree	Do not know/Neutral	Agree	Strongly Agree
b2_2 the rental range of the specific area	0	30	5	44	3
b2_3 the various premises for rent within a specific location	0	37	6	37	1
b2_8 the services of a specific estate agent (regardless of the estate agency)	6.2%	88.9%	2.5%	2.5%	0.0%

Selecting a location plays a further important role on the success of a co-operative enterprise which is funded under the contract funding method. An organisation which has made funding to be available to any enterprise for the purpose of supplier development requires assurance that the procured supplier under development will be able to meet the basic expectations of the contract and one of the ways in which a supplier can obtain this surety is through assessing the location of the supplier (Wagner & Krause, 2009). The graph or figure below shows results on the influence of supply chain in the selection of a location by sewing co-operatives referred to in this study.

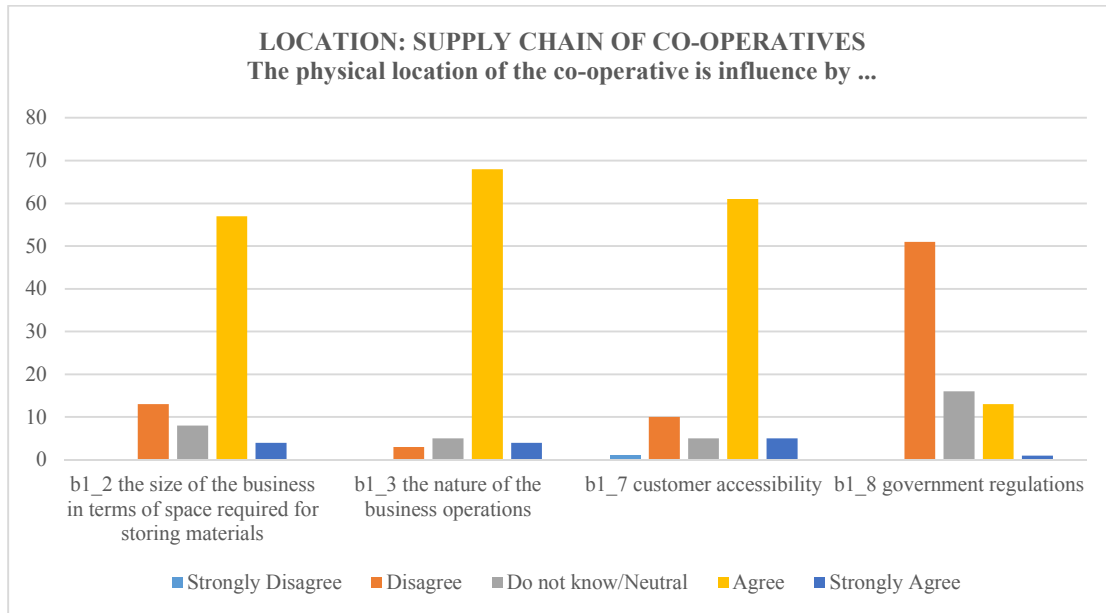


Figure: 5 Influence of Supply Chain on Sewing-Manufacturing Co-operatives' Location Selection

The findings on figure five (5) provide evidence of the nature of location and factors considered in selecting a physical location. Co-operatives which were studied in the process of this research provided response to the various elements of a location decision which is supported by supply chain coordination. Due to the fact that funders of supplier development programmes aim to associate themselves with high performing suppliers, they also consider the elements presented on the figure above. A total of 57 co-operatives assessed the size of their business in selecting premises which was also driven by their need for safe and protective storage of sewing materials such as fabric, cotton and other utensils. On figure one (1) it has been presented that those co-operatives which benefited from the supplier development funding increased their output and sourced more materials, which is again reflected on this figure that a storage feature of premises is important for a sewing co-operative under a supplier development funding programme. A small number of 13 co-operatives disagreed to have considered the need for material storage but this number represents the common other challenges which impact small manufacturers even when they are part of big schemes such as supplier development funding projects. The nature of business operations is sewing of garments and other clothing as indicated on the title of this paper. These operations require a workspace which is conducive for manufacturing activities or a workspace that can be adapted to suit production operations and safe-keep complete orders. Although it is not a common practice for individual customers to have direct access to a manufacturer, it is different with co-operatives which are enterprises which do not rely on intermediaries to reach customers. A total of 61 co-operatives considered customer accessibility when deciding their physical location and this is an important element of any business as it impacts directly on the financial performance of a business. Funding agencies in the fraternity of small businesses require in depth information about customer access in case of a new business being established and it is the same for government or private enterprises which make an investment into supplier development initiatives. Although supplier development funding is a desirable and a prominent method of developing co-operative manufacturing enterprises, a threat to this method can be noted based on the information presented on the above graph. The graph above shows that 51 co-operatives did not consider government regulation in deciding the physical location of their production. This act threatens the growth of enterprises as they may be limited by zonal by-laws which they would have ignored or are unaware of. In this day and time enterprises should also be aware of government regulation regarding the natural environment given the urgent need to reduce the global warming footprint. The following parts of this finding and results section shows the property ownership status of the co-

operatives. Location plays a key role on a number of factors which will be further described on the section of the paper. However, it is essential to understand the nature of the infrastructure where an enterprise is located as well as the power to control the premises which house the operations of the enterprise. In a case of small manufacturing co-operatives supported through a supplier development programme it is essential for them to have facility ownership in the growth plan.

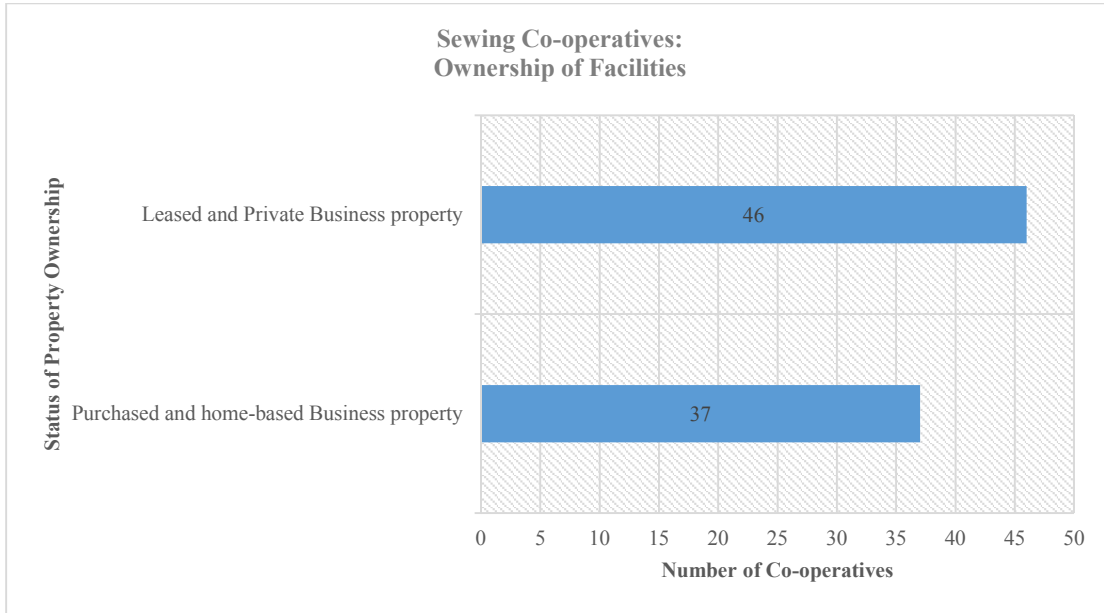


Figure: 6 Sewing-Manufacturing Co-operatives' Ownership of Facilities/Premises

The above figure presents the nature of property ownership for the funded sewing co-operatives. A total of 46 co-operatives leased private business property and 37 co-operatives own property. Property ownership play a key role on the amount of production which can be generated, process improvement and also the work hours of an enterprise. Manufacturing co-operatives which own property stand a chance of saving on costs related to leasing. The next figure displays the type of production facilities from which these co-operatives operate.

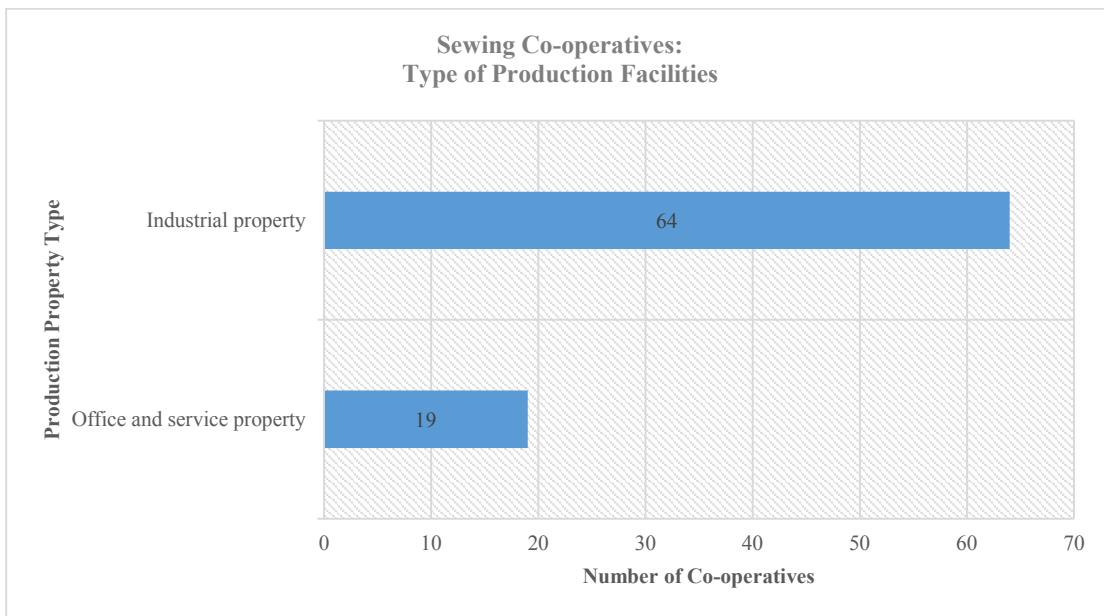


Figure: 7 Sewing-Manufacturing Co-operatives Type of Production Facilities

An impressive number of 64 co-operatives had access to and carried out production from industrial property. Which is a property suitable for inbound and outbound logistics, transportation, heavy duty production processes, and storage and accessible to road infrastructure. Manufacturing co-operative enterprises by structure and governance are not aimed at competing directly with private firms or industrialists. They seek to fulfill a different need of social values and community upliftment through affordable products and services (International Co-operative Alliance, 2015). Therefore the availability of industrial property to co-operatives present an opportunity for communities to benefit from industrial activities in a way that is driven by the needs of society and its people by providing them with affordable quality clothing wear. Although a large number of co-operatives from this sample had access to industrial property, 19 of them had access and adapted properties which were primarily intended for use as offices or providing services. It is costly to adapt some properties to suit a production function. Manufacturing activities may require heavy duty power supply, excess storage space and availability of space to handle inbound and outbound logistics. The co-operatives with limited access to industrial property signify the need for accessible government developed industrial parks and this shall enable manufacturing co-operatives to score on bigger procurement co-operatives.

The following framework is a major contribution of this research project. This framework is aimed at addressing location factors which play a role on the co-operatives ability to achieve its goals for operational performance and financial performance which these also impact on the community in which the co-operative was founded and the co-operatives' beneficence to its members.

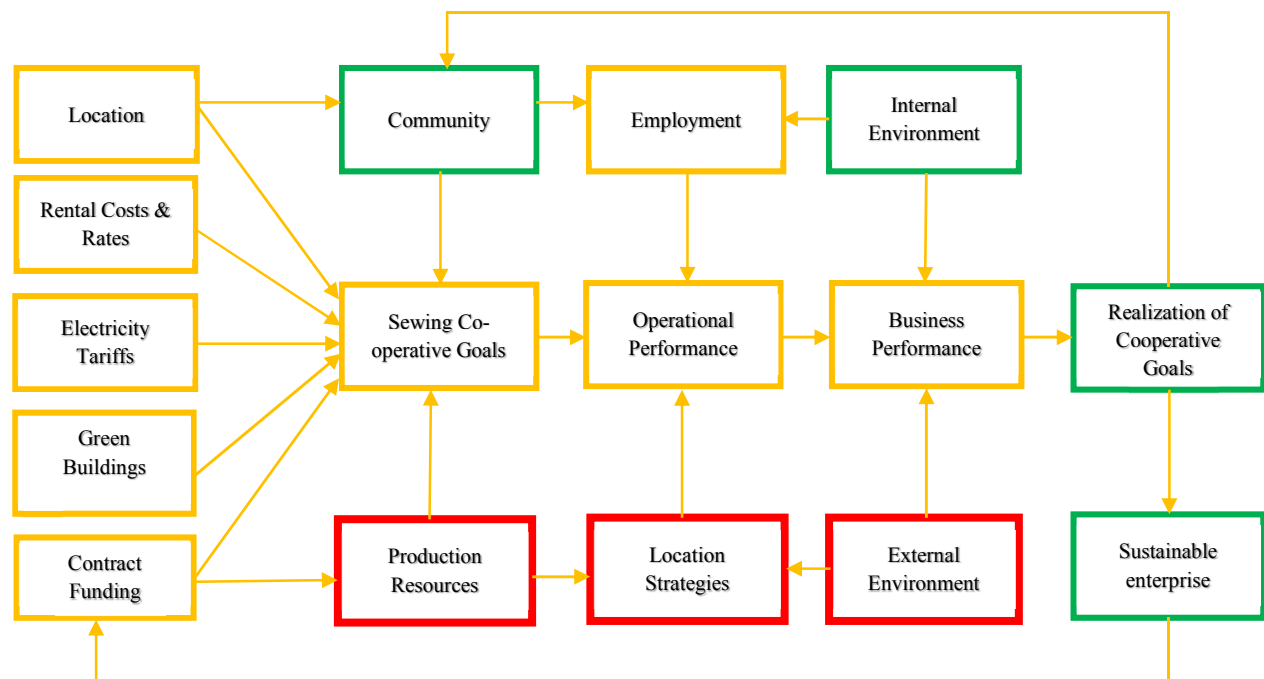


Figure: 8 Framework for Location and Operational Performance Improvement for a Cooperative Movement (Mkwanazi, 2016 – Dissertation)

The above framework is an illustration substantiated based on literature and findings of this research study. In the consideration of a location decision based on Multiple Objective Criteria Decision Making an enterprise considers certain factors and objectives when selecting premises for production or for service provision. There are numerous factors which should be considered; the main considered factors are location of premises, the rental cost, electricity tariffs, and the environmental elements of the buildings which is addressed as green buildings and the availability of funding for a manufacturing co-operative within a particular zone. A co-operative expects to achieve its goals based on the conditions of the selected premises and zone, the goal is impacted by the needs of a community and the production resources available to service the goal of the co-operative. Contract funding as alluded to on this paper enables a co-operative to acquire resources and participate meaningfully as a supplier under development. The operational performance of a manufacturing co-operative refers to its ability to open up for production and deliver on orders based on configured production processes. In this instance it refers to the ability of sewing co-operatives to

deliver on orders. Operational performance creates employment opportunities but its excellence is dependent on the location strategy employed, which could be sharing facilities with another enterprises, home based facilities or purchased private property. Operational performance also impacts financial and market performance of an enterprise which collectively is referred to as business performance. Financial performance is also dependent on the ability of customers to afford items being sold and the market is also driven by the competitiveness of the products an enterprise is producing or services it produce. Competitiveness could be based on costs, quality, speed and flexibility and these are internal competencies a manufacturer has to develop in order to realise sound business performance. A co-operative can achieve most of its goals when its business performance is at a good level and when a co-operative achieves its goals it creates more opportunities for a community and also creates self-sustainability which is essential for the future of a small manufacturing enterprise under a probation of a supplier development programme. The following section is a discussion of the practical implications of supplier development funding programme such as the one specified here and also a program which is focused on manufacturing co-operatives.

4.1 Discussion of Practical Implications

The supplier development funding approach shows beneficitation to sewing manufacturing co-operatives and it is an easily replicable form of an approach to funding. This method had been used by private sector for years and it is for this kind of a method that there a multinational and international corporations. While co-operatives are not enterprises pursuing profits only but also interested through democratic processes on humanitarian issues it is essential that they maintain their manufacturing standards to meet those of their sectors in order to protect the image of the co-operative movement at large. This means that funding for development shall not be misused, but shall be redirected to improving operational processes and acquiring newer machines or resources.

5. Recommendations and Conclusion

Based on the findings of this study, it is recommended that the supplier development funding approach shown on figure one (1) be used by funding agencies focusing on development of social manufacturing enterprises. Funding agencies may also focus their attention on providing accessible funding through a supplier development model such as the one suggested on this study. The loss of investment made by government into small business development due to high failure rate has reduced the confidence of private sector in supporting small manufacturers such as co-operatives. This has also lead to loss of confidence in further investment into co-operative forms of enterprises and a model of supplier development for socio-economic well-being and enterprise improvement is essential to the context of co-operatives. The remaining parts of this section are key recommendations reflecting on commitment in a buyer-supplier development relationship and the last part suggests a direction for future research.

5.1 Key recommendations

It is further recommended that sewing manufacturing co-operatives be equipped with knowledge of quality management and process control. These areas a key to supplier development as a buyer that is not getting good quality and also timely delivery on orders due to malfunctioned manufacturing processes will contract a new supplier to develop and the supplier development selection process will become costly as the buyer or the developer prolongs the periods of contracting a new supplier. The buyer-supplier relationship should also put to the forefront the interest of both parties. The buyer will invest resources into the development of a supplier and the supplier under development is expected in return to exercise commitment. This commitment will have to come in a form of delivering quality, timeously and at an affordable rate. The next section provides a direction for future research.

5.2 Focus of future research

Future research may focus on co-operatives in different sectors to understand the impact of supplier development initiatives that are associated with funding. There is also limited research on manufacturing social enterprises in the field of operations management which is an area that is developing but still requires some attention. It should also be recognized that funding alone is not sufficient to determine the success of a supplier development initiative or programme, there are other areas of intervention on which all parties involved should consider. In a supplier development programme which is supported with funding the following shall be considered; (1) The nature of the enterprise receiving funding (2) The business activities of the enterprise and corporate governance of the entity (3) The enterprises' ability to manufacture and acquire the necessary human capital. A research instrument is attached as part of this paper for use in hypothesis development and testing on a large sample (Banard & Kritzinger, 2010). Therefore future research should reflect the above areas with reference to co-operatives as enterprises that benefit from supplier development schemes from time to time.

SECTION A: BIOGRAPHIC & GENERAL INFORMATION OF THE CO-OPERATIVE

1. Region in Gauteng

Johannesburg	1
Westrand	2
Sedibeng	3
Tshwane	4
Ekurhuleni	5

2. What is your role in the co-operative?

Chairperson	1
Secretary	2
Treasurer	3
Other:	4
If other, Please specify:	

3. Gender composition

Number of male members in the co-operative	0	1
	1-3	2
	4-6	3
	> 6	4
Number of female members in the co-operative		
	0	1
	1-3	2
	4-6	3
	> 6	4

4. Age composition (indicate the number of members per age category)

<20	
20-29	
30-39	
40-49	
50-59	
60+	

5. Population Group (indicate the number of members per race category)

Black	
Coloured	
Indian	
White	
Other	
If other, please specify	

6. What is the most preferred language in the co-operative?

7. How long has the co-operative been in existence? (in years) _____

8. Facilities ownership

Purchased Business property	1
Leased Business property	2
Home Based operations property	3
Private property	4

9. Property type

Office property	1
Industrial property	2
Service property	3

10. Size of business

Micro (employs 1 – 5 people)	1
Small (employs 6 -50 people)	2
Medium (employs 51 – 200 people)	3

SECTION B: FACTORS INFLUENCING LOCATION DECISIONS & BUSINESS PERFORMANCE

The following questions are to be answered on the basis of your knowledge of the co-operative. Please indicate the extent to which you agree with the following statements, where.

- [1] Strongly Disagree
- [2] Disagree
- [3] Do not know/Neutral
- [4] Agree
- [5] Strongly Agree

1. LOCATION

The physical location of the co-operative is influenced by ...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
the size of the business in terms of the number of employees	1	2	3	4	5
the size of the business in terms of space required for storing materials	1	2	3	4	5
the nature of the business operations	1	2	3	4	5
how close the suppliers are	1	2	3	4	5
how close the resources are (e.g. sewing materials)	1	2	3	4	5
the travel time from home to business for the key members	1	2	3	4	5
customer accessibility	1	2	3	4	5
government regulations	1	2	3	4	5
the availability of transport facilities for employees	1	2	3	4	5
the availability of infrastructure	1	2	3	4	5

2. RENTAL RATES

When we chose the business premises, we considered ...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
the lease period of the rental agreement	1	2	3	4	5

the rental range of the specific area	1	2	3	4	5
the various premises for rent within a specific location	1	2	3	4	5
the various premises for rent regardless of the location	1	2	3	4	5
competitors	1	2	3	4	5
the other businesses regardless of the industry in which they operate	1	2	3	4	5
the services of a specific estate agency	1	2	3	4	5
the services of a specific estate agent (regardless of the estate agency)	1	2	3	4	5

3. ELECTRICITY TARIFFS

When choosing the business premises, we considered the cost of electricity because ...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Due to the nature of the business, electricity consumption is high	1	2	3	4	5
The business has special arrangements with Eskom regarding the tariff charged	1	2	3	4	5
The business has special arrangements with Eskom regarding tariff increases	1	2	3	4	5
Tariff hikes will significantly increase operating costs	1	2	3	4	5
The business implements measures to decrease energy consumption	1	2	3	4	5
The business implements measures to reduce the impact of future tariff hikes	1	2	3	4	5

4. EMPLOYMENT

Our business premises are ...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
easily accessible to employees	1	2	3	4	5
are able to accommodate additional employees without major infrastructural changes	1	2	3	4	5
have adequate rest facilities (staff lounge)	1	2	3	4	5
have a proper canteen/kitchen facilities	1	2	3	4	5
are employee friendly e.g. spacious	1	2	3	4	5
have facilities for disabled employees	1	2	3	4	5
have adequate medical facilities	1	2	3	4	5
have satisfactory exit and emergency points	1	2	3	4	5

5. GREEN BUILDINGS

Our business premises ...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
are environmentally friendly	1	2	3	4	5
have an efficient recycling system in place for paper	1	2	3	4	5

have an efficient recycling system in place for other waste e.g. pieces of fabric	1	2	3	4	5
are a naturally ventilated building	1	2	3	4	5
have a centralised air conditioning system	1	2	3	4	5
have energy efficient heating system	1	2	3	4	5
have sensors that adjust to light	1	2	3	4	5
benefit from cost savings as a result of green practices e.g. saving water	1	2	3	4	5
use renewable energy sources e.g. solar system	1	2	3	4	5
have solar water heating in place	1	2	3	4	5

6. FUNDING

Funding has helped us ...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
finance our business plan	1	2	3	4	5
purchase new equipment	1	2	3	4	5
source more materials	1	2	3	4	5
improve our operational processes	1	2	3	4	5
attract other funding	1	2	3	4	5
improve our production output	1	2	3	4	5
cover the costs of leasing premises	1	2	3	4	5

SECTION C: MEASURING PERFORMANCE

Over the past 2 years, our co-operative ...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
has increased net profit after tax	1	2	3	4	5
has increased the return on total assets (or total capital)	1	2	3	4	5
has increased the annual sales	1	2	3	4	5
has decreased the operating costs	1	2	3	4	5
has increased the firms productivity	1	2	3	4	5
has experienced growth in employees	1	2	3	4	5
has experienced a low member-worker turnover rate	1	2	3	4	5
has been profitable	1	2	3	4	5
can be regarded as successful	1	2	3	4	5

Acknowledgements

This research project was made possible through funding by the Mandela Rhodes Foundation of South Africa. Sizwe Mkwanazi was awarded the Mandela Rhodes Scholarship to pursue a Master of Technology Degree in Operations Management for the years 2015 and 2016. The Department of Social Development in the Gauteng Province of South Africa is also acknowledged for granting a permit to have the research conducted with the 83 sewing co-operatives referred to on this paper.

References

- Govindan, K., Khodavedi, R., and Jafarian, A., A fuzzy multi-criteria approach for measuring sustainability performance of a supplier based triple bottom line approach, *Journal of Cleaner Production*, vol. 47, pp. 345 - 354, 2012
- Johnson, H., and Shaw, L., Rethinking Rural Co-operatives in Development: Introduction to the Policy Arena, *Journal of International Development*, 26, pp. 668 -682, 2014
- Tian, Y., Heterogeneity Effects of Development Funding on Microenterprises, *Journal of Economic Development*, vol. 40, no. 3, 2015
- Rowley, C., and Michie, J., Differing Forms of Capital: Setting the Scene for Mutuality and Co-operation in the Asia Pacific Region, *Asia Pacific Business Review*, vol. 20, no. 3, pp. 322-529, 2014
- Neto, J.A., Productive Chains, Cooperative Complexes and Self-managing Enterprises: A study of Brazilian Cases, *4th International Conference on Production Research, ICPR Americas*, 2008
- Oyeku, O.M., Odoyoye, O., and Asikia, O., Kabuoh, M., and Elemo, G.N., On Entrepreneurial Successes of Small and Medium Enterprises (SMEs): A Conceptual and Theoretical Framework, *Journal of Economics and Sustainable Development*, vol. 5, no. 16, 2014
- Park, J., Shin, K., Chang, T., and Park, J., An integrative framework for supplier relationship management, *Industrial Management & Data Systems*, vol. 110, no. 4, 2010
- Sucky, E., Supplier development: Current Status of Empirical Research, *International Journal of Procurement Management*, vol. 6, no. 1, 2013
- Li, W., Humphreys, P.K., Yueng, C.L., and Cheng, T.C.E., The impact of supplier development on buyer competitive advantage: A path analytic model, *International Journal of Production Economics*, vol. 135, pp. 353 – 366
- Abor, J., and Quartey, P., Issues in SME Development in Ghana and South Africa, *International Research Journal of Finance and Economics*, Issue 39, 2010.
- Balnave, N. and Patmore, G., The outsider consumer co-operative: lessons from the Community Co-operative Store (Nuriotpa), 1944-2010, *Business History*, vol. 57, no. 8, pp. 1133-1154, 2015
- Zaalouk, M., A human economy: A “third way” for the future of young people in the Middle East and North Africa, *International Review of Education*, vol. 60, pp. 339-359, 2014
- Cooperatives Act 14 of 2005, Republic of South Africa: Department of Trade and Industry
- Ioppolo, G., Szopik-Depczynska, K., Stajniak, M., and Konecka, S., Supply Chain and Innovation Activity in Transport Related Enterprises in Eastern Poland, *Scientific Journal of Logistics*, 2 (4), 2014, 2016
- Abdallah, S., Bressers, H., and Clancy, J., Potential electricity co-operatives in Kenya: could social capital be a barrier?, *Oxford University Press and Community Development Journal*, 2014, doi:10.1093/cdj/bsu029
- Zhu, W., Su, S., and Shou, Z., Social Ties and Firm Performance: The mediating effect of adaptive capability and supplier opportunism, *Journal of Business Research*, 2017, <http://dx.doi.org/10.1016/j.jbusres.2016.12.018>
- Fox, O., and Stoett, P., Citizen Participation in the UN Sustainable Development Goals Consultation Process: Toward Global Democratic Governance? *Global Governance*, 22, 555 – 574, 2016
- International Co-operative Alliance (ICA), Co-operative of the Americas signs agreement with Peru’s Ministry of Production, <http://ica.coop/en/media/news/cooperativesamericassignsagreementperu%E2%80%99sministry-production>, 2015
- Fairbairn, B., The meaning of Rochdale: The Rochdale Pioneers and the Co-operative principles, *Centre for the Study of Co-operatives: University of Saskatchewan*, Canada
- Soboh, R.A.M.E., Lonsik, A.O., and van Dijk, G., Distinguishing Dairy Cooperatives from investor-owned firms in Europe using financial indicators, *Agribusiness*, vol. 27 (1), 34 -46, 2011
- Musyoki, A., and Tinarwo, D., A pro-poor strategy for the emerging green economy: A Case study of Marubini Multi-purpose women’s co-operative biogas project in Maila, Limpopo, South Africa, *Journal of Public Administration*, vol. 50, no. 1, 2015
- Yan, T., Yang, S., and Dooley, K., A theory of supplier network-based innovation value, *Journal of Purchasing and Supply Chain Management*, 2017, <http://dx.doi.org/10.1016/j.pursup.2017.02.002>
- Puusa, A., Hokkia, K., and Vans, A., Individuality vs Community – A new dual role of co-operatives? *Journal of Co-operative Organisation and Management*, 4, pp. 22-30, 2016
- Owen, F., Li, J., Whittingham, L., Hope, J., Bishop, C., Readhead, A., and Mook, L., Social Return on Investment of an innovative employment option for persons with developmental disabilities: Common ground co-operative, *Non-profit Management & Leadership*, vol. 26, no. 2, 2015
- Jimoh, F. and Van Wyk, J.J., SWOT Analysis of Housing Co-operatives in South Africa, *Civil Engineering Dimension*, vol. 16, no. 1, pp. 54-60, 2014

- Bougie, R. and Sekeran, U., *Research Methods for Business: A Skill Building Approach* 6th Edition. John Wiley & Sons, United Kingdom, 2013
- Nolan, S., Massebiaux, E.P., and Gorman, T., Saving jobs, promoting democracy: worker co-operatives, *Irish Journal of Sociology*, vol. 21, no. 2, pp. 103 – 115, 2013
- Van Ark, B., Has the Japanese Economy Turned the Corner? An International Comparative Perspective on Japan's Productivity Revival, *The Japanese Economy*, vol. 33, no. 3, pp. 10 – 26, 2005
- Chen, L., Ellis, S., and Holsapple, C., Supplier Development: A knowledge management perspective, *Knowledge and Process Management*, vol. 22, no. 4, pp. 250 – 269, 2015
- Tham, Y. and Muneer, T., Energy co-operatives in the UK, *International Journal of Low-Carbon Technologies*, vol. 8, pp. 43-51, 2013
- Wagner, S.M. and Krause, D.R., Supplier development communication approaches, activities and goals, *International Journal of Production Research*, vol. 47, no. 12, pp. 3161-3177, 2009
- Barnard, S.G., and Kritzinger, B., Location decision strategies for improving SMME business performance. *Unpublished treatise, NMMU (Nelson Mandela Metropolitan University)*, Port Elizabeth, 2010

Biography

Michael S. Mkwazi is a Junior Lecturer in the Department of Business Management at the University of Johannesburg in South Africa. Mr. Mkwazi holds a National Diploma in Entrepreneurship, Bachelor of Technology Degree in Operations Management, and Master of Technology Degree in Operations Management from the University of Johannesburg and a Postgraduate Diploma from North West University. He was awarded the Prestigious Mandela Rhodes Scholarship in pursuit of his Master of Technology Degree in Operations Management and during this time was recognized as a runner up for the Queens Young Leaders Initiative which is managed by the Cambridge University Institute for Continuing Education. He has published some conference papers in the field of co-operatives and on system reliability under IEEM. Mr. Mkwazi is a 2017 Rhodes Scholar and he plans to pursue a DPhil in Management Studies at the Said Business School in Oxford University.

Charles Mbohwa Professor Charles Mbohwa is the Vice-Dean Postgraduate Studies, Research and Innovation at University of Johannesburg's (UJ) Faculty of Engineering and the Built Environment (FEBE). As an established researcher and professor in the field of sustainability engineering and energy, his specializations include sustainable engineering, energy systems, life cycle assessment and bio-energy/fuel feasibility and sustainability with general research interests in renewable energies and sustainability issues. Professor Mbohwa has presented at numerous conferences and published more than 150 papers in peer-reviewed journals and conferences, 6 book chapters and one book. Upon graduating with his B.Sc. Honors in Mechanical Engineering from the University of Zimbabwe in 1986, he was employed as a mechanical engineer by the National Railways of Zimbabwe. He holds a Masters in Operations Management and Manufacturing Systems from University of Nottingham and completed his doctoral studies at Tokyo Metropolitan Institute of Technology in Japan. Prof Mbohwa was a Fulbright Scholar visiting the Supply Chain and Logistics Institute at the School of Industrial and Systems Engineering, Georgia Institute of Technology, is a fellow of the Zimbabwean Institution of Engineers and is a registered mechanical engineer with the Engineering Council of Zimbabwe. He has been a collaborator to the United Nations Environment Programme, and Visiting Exchange Professor at Universidade Tecnológica Federal do Paraná. He has also visited many countries on research and training engagements including the United Kingdom, Japan, German, France, the USA, Brazil, Sweden, Ghana, Nigeria, Kenya, Tanzania, Malawi, Mauritius, Austria, the Netherlands, Uganda, Namibia and Australia.