

Small-scale Manufacturing of Aluminium & Steel Products Inclusion in the Mainstream Economy

Amogelang Bogadi Sabrina Setshedi and Michael Sizwe Mkwazi

Faculty of Engineering and the Built Environment

University of Johannesburg

Cnr Kingsway Avenue & University Road, Auckland Park, South Africa

amogelangsetshedi@co.za, msmkwanazi@uj.ac.za

Charles Mbohwa

Faculty of Engineering and the Built Environment

University of Johannesburg

Cnr Kingsway Avenue & University Road, Auckland Park, South Africa

cmbohwa@uj.ac.za

Abstract

This paper focuses on metalworkers and welders, who in this study are referred to as small-scale manufacturers of aluminium and steel products. The Small Manufacturing Enterprises (SMEs) are often well-resourced with potential to positively contribute to the Gross Domestic Products (GDP) of the country and assist the government address unemployment issues and enhance skills development within the country. Despite the pivotal role played by the SME, the sector is still under researched, thus information regarding the sector's contribution is still not well publicized. The objective of this study is to investigate and assess the contribution and effectiveness of the small-scale manufacturing of aluminium and steel products into the mainstream economy, focusing mainly on the Gauteng City Region (GCR). The quantitative data composition consists of registered and unregistered small-scale manufacturers of aluminium and steel products. It was collected through a questionnaire, extracted and analyzed using Statistical Package for the Social Sciences (SPSS).

Keywords

Aluminium and steel products, Inclusion, Mainstream economy, Small-scale manufacturing and Value chain.

1. Introduction

Small-scale industry consists of businesses which operate predominantly within the economy's informal sector. The staff composition usually is between 10 and 50 (TIPS 2016). These businesses are often characterized by cheap labour and limited 'formal' skills, rely on basic technology which still help them to produce minimal levels of output (Finnish Institute of Occupational Health 2012). A cause for concern emanating from the SMEs is the general lack of government business support which is widely documented in the literature (Timm 2011; Yusoff and Zainol 2012; Malefane 2013). Welding and metal working falls under the above-mentioned industry classification and as a result, it is statistically under reported. In support of the latter, Hussmanns (2003), reports that people engaged in casual self-employment or extremely small-scale activities may not declare that they are employed in statistics surveys self-employed, despite the fact that their work falls inside the enterprise-based definition, the informal sector. Generally, this automatically gives an impression or implicitly exclude their contribution to the broader economy as they are not accounted for. In fact, in metropolitan regions, the informal economy refers to a variety of economic entities that are mostly owned and operated by people, either alone or in conjunction with family members, which plays a significant role in the country's GDP even though most of these units are not officially recorded in statistics. Klarita (2011), concurs with the assertions as she is of the view that the informal economy accounts for a sizable portion of developing countries' economies and is quickly expanding. For example, in 2021, the informal economy contributed an estimation of 18% of the total unemployment (Stats SA 2021a). The informal economy contributed roughly 10% of South Africa's

gross domestic product in 2016, which is quite low when compared to most other African and developing countries (Stats SA 2016).

It is evident that SMEs contribution cannot be ignored. Its formal recognition in the value chain could contribute positively to the economy and generate the much-needed data to measure its impact. The term inclusion of SMEs, as applied to value chains refers to increasing opportunities for SMEs to access new market from various investment and be able to supply and earn sustainable income (Dunn 2014). The findings from this paper suggests that aluminium and steel products have a sizable market share within the informal economy, which 88% employs between 1 and 10 employees and 11% employs between 11 to 20 employees within the GCR, where this study took place. There are approximately 60290 677 people living in South Africa (Worldometer 2021) and in that number, approximately 18 764 000 people are living in GCR (Mosiane and Murray 2021). The 3% of the total population of South Africa lives in the GCR. It is common cause that if these SMEs were fully supported and considered as part of the formal structure, their contribution would be perhaps greater than this. As it stands, with no support from government, they are still tackling the unemployment issue by hiring unskilled labourers to teach them a new skill. The best part about their type of businesses is that it allows on-the-job training. On-the-job training permits the supervisor to guide and teach new skills to the trainee and the trainee gets first-hand experience while working in the same workplace and using the same equipment that (s)he has to work as part of his/ her job (Basariya and Sree 2019). In a country like South Africa, with 46.3% of youth unemployment in quarter 1 of 2021 (Stats SA 2021b), the latter goes a long way. If such opportunities are not made available, they lead to economic exclusion of the majority, as SA battles with formal skills shortage. For example, Stats SA, 2014 states that the percentage of skilled workers in South Africa was 25%, while unskilled labourers was at 29%. Therefore, if provisions to absorb unskilled workers are not made, it automatically results in economic exclusion. It is for this reason, the support of SMEs and subsequently steel and aluminium products is important to curb the economic exclusion of the majority of Gauteng's population from the mainstream economy as a means to confronting the persistent reality of poverty, unemployment, and inequality (GPED 2014).

The small manufacturing firms (SMEs) sector has firmly placed itself at the top of many countries' development agendas throughout the years, indicating the sector's growing economic importance (Hefnawy 2006). Small manufacturing industries in India account for about 36 million units, accounting for 45 percent of industrial production and 40 percent of exports.(Shoeb et al. 2020).

In a developing country, small-scale manufacturing enterprises play a critical role in the economy (Looye 1994). Kombo et al. (2011), submitted that SMEs have made a significant contribution to Kenya's economic growth, accounting for 12-14 percent of GDP, through generating income, training entrepreneurs, establishing employment opportunities, and providing a source of income for the majority of the country's low-income households. According to Altenburg and Meyer-Stamer (1999), a survival cluster is a collection of micro and small-scale businesses that create low-quality goods and sell them largely in home marketplaces. The informal economy is an important contributor to South Africa's total economy and supports many livelihoods (Petersen et al. 2016). Most families rely on the income from their informal employment. Formal metalwork manufacturing contributes to a third of all manufacturing activity in South Africa (DTI 2005).

Small businesses account for only a tenth of manufacturing income in South Africa, but they employ a fifth of the workforce (Timm 2011). The rise of the metal-working sub-sector in Soweto is spurred by crime, as the need for burglar proofing has increased, and by the housing boom, as demand for window and door frames has increased (Nobanda 1998). In the fourth quarter of 2020, seasonally adjusted manufacturing production climbed by 5,2 percent over the third quarter (Stats SA 2020). The sale of steel has increased from 5.84 (US dollars) to 6.8 (US dollars) between the period of 2016 and 2020 (Statista 2021). The sale of steel has increased within a 5year period. This implies that the sale of steel is in demand, the number of manufacturers, the number of people employed. Because of the increase in demand, more people need to be employed as the small-scale manufacturers of aluminium and steel products need to upscale the no of employees to curb the demand of aluminium and steel products.

1.1 Objectives

To investigate and assess the contribution and effectiveness of the small-scale manufacturing of aluminium and steel products into the mainstream economy, focusing specifically on scalability of the business, transference of skills/ development of skills and the contribution to job creation/ employability.

There has been a lack of research on the issues confronting small-scale manufacturing in South Africa (Nobanda 1998). Additionally, there has been relatively little study done on these micro-manufacturing firms (MME's) in South Africa, leaving gaps in understanding about their size and importance to employment and the economy (Petersen et al. 2016).

2. Literature Review

SMEs provide enormous prospects for greater employment, poverty alleviation, better exploitation of Africa's productive and intellectual resources, increased tax income, and low-cost, easily accessible investment opportunities for local residents (The New Partnership for Africa's Development 2012). However, the issues facing some of these MME's and in some cases the reasons for their informality transcend the issues of solely poverty and unemployment but also include institutional barriers (such as regulation, taxation and private property), inability to compete with globalization, inadequate/competitive technology and infrastructure and a lack of skills (Petersen et al. 2016). Sleuwaegen and Goedhuys (2002) & Bigsten et al. (2004), suggest that small and informal businesses are hesitant to grow large because growing large necessitates formalization and, as a result, exposure to onerous restrictions.

Small-scale enterprises are critical to any country's economic success since they contribute significantly to the economy via a variety of routes (Ado and Josiah 2015). However, TIPS (2017), contends that informal business has risen more quickly, but it is still low-paying, insecure, and primarily survivalist. According to the Department of Trade and Industry (DTI 2013), small, medium, and micro enterprises (SMMEs) account for 52 to 57 percent of GDP and employ roughly 60 percent of the workforce in South Africa. Small enterprises account for more than 60% of GDP and almost 70% of total employment in low-income nations (Fan 2003).

Metalwork plays a minor but significant role in terms of job creation, localized value addition, and support for local business (Petersen et al. 2016). According to the South African Institute of Welders (SAIW 2016), the welding industry provides excellent job opportunities for people with all levels of education, from grade 12 to post-graduates (Artisan Training Institute, 2018). This is due to the complexities of South Africa's construction and manufacturing projects, which require equally complexities in welding processes (Artisan Training Institute 2018). The South African government's assistance to SMMEs is widely regarded as an important part of the country's effort to restructure the economy and alleviate poverty (Malefane 2013). However, it is not visible in the small-scale manufacturing sector.

Employment/ Job Creation

South Africa is one of the top ten countries in the world with the highest unemployment rates (Worldbank 2018). According to the ILO (2018), South Africa has the highest unemployment rate among the BRICS countries, and it is the only BRICS country with an unemployment rate above 15% as of the end of 2018.

Skills Development

This low skill profile of SMMEs could be a barrier to growth, as skills, experience, and education are all critical prerequisites for a company's growth and development, particularly the entrepreneur's skills and expertise (Bhorat et al. 2018). This shows, at least in theory, that small company owner skill development could be a critical component in SMME growth and success (Steenkamp and Bhorat 2016). While the entry criteria are generally minimal, such as basic welding skills, a welding machine, and materials, the success requirements are rather high, such as better expertise, a larger number of employees, and, most significantly, contacts with large firms in the industry (Manning 1993). This is true because when small-scale manufacturers of aluminium and steel products launch their businesses, they do not require too many resources to get into the industry. However, it is very difficult to make it in this industry, as one needs a greater skill because of the nature of competition in the industry. The nature of competition being that companies that sell the same product operate in the same area, the only difference being the type of quality products and services and a different price. Furthermore, other things to take into consideration is the quality of the resource material that one needs, the labour force required and most importantly, the connections to the large manufacturers to acquire the material timeously and at affordable prices. The above mentioned affect the growth and scalability of the business.

Business Growth/ Scalability of the Business

Government assistance programs are viewed as critical tools for enhancing the performance of SMEs (Peter et al., 2018). Financial and non-financial government assistance programs can help boost business performance and cause business growth. The success of a small business is contingent upon its ability to develop a growing base of satisfied

customers (Cant 2012). SME owners and managers must develop and implement marketing strategies that will result in the company's growth and prosperity in order to survive and grow (Cant 2012). Okyere (2017), identified leadership behavior, skills, and characteristics as critical determinants of the growth and survival of SMEs in the manufacturing industry. However, most SMEs do not possess the required management skills to manage and keep their businesses afloat. Growth in contemporary economies is becoming increasingly linked to efforts to increase productivity through innovation (Monge-González 2016).

According to Kesper (2000), only a small proportion of South African SMMEs have the potential to generate rapid job creation, while survivalist activities account for a sizable portion of the South African SMME economy. Additionally, Kesper (2000), asserted that South African SMMEs are growing in terms of numbers rather than size. These include a high failure rate for SME, a lack of growth, a low degree of entrepreneurial success, limited access to start-up and expansion capital, a lack of management skills, a lack of financial management, and a lack of access to technology and markets (Kambwale et al. 2015). Despite their economic value, SMEs continue to perform poorly and have a high failure rate, impeding their growth (Rankhumise and Masilo 2017). Practitioners and academics have long held the belief that the performance of small and medium-sized businesses (SMEs) has an effect on the economy (Eniola 2014).

Economic Development

SMMEs were allowed to participate in the economy of South Africa during the democratic regime of the early 1990s (Mathibe and van Zyl 2011). In developed as well as underdeveloped countries, SMEs account for the majority of businesses, accounting for a sizable portion of GDP and employment (Ardic et al. 2011). SMEs are critical to the economic growth of a country (Eniola 2014). In both developed and developing countries, SMEs are regarded as one of the most vital sectors of the economy due to their contribution to employment, income, increased productivity, innovation, transformation, poverty and hunger eradication, gender equality, woman empowerment, and economic growth (Ullah 2020).

Individuals can use small amounts of capital that would not be enough to finance a large business through SMEs; due to the fact that they contribute to the local economy through delivering economic growth in their established (Ntiamoah et al. 2016).

SME's contribute to the growth of the economy in a variety of ways, including by creating jobs for a growing urban and rural labor force, as well as by promoting economic sustainability and innovation. Additionally, many people, either directly or indirectly, rely on small and medium-sized businesses (Fida 2008). As a result, (Edmiston 2011) believes that economic development policies aimed at luring major enterprises are either unlikely to succeed or would succeed at a great cost. If the government is serious about leveraging the SME sector as a driver of economic growth, it should place a premium on developing capable business owners (Peters and Naicker 2013:13).

The NDP has established two primary targets for the small business development ecosystem: (a) to boost economic growth through SMMEs, as measured by a higher contribution to GDP; and (b) to create 90 percent of South Africa's 11 million needed employment through the SMME sector by 2030. If small-scale manufacturers of aluminium and steel products are included in the economic value chain, they will be able to create jobs as they mostly hire unskilled labourers.

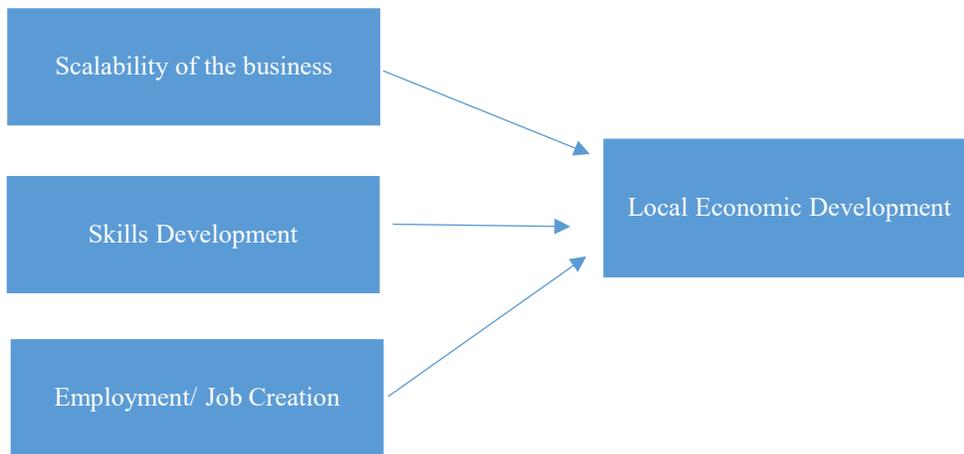


Figure 1: Conceptual Framework

3. Methods

This study took a quantitative approach. Quantitative methods emphasize objective measurements and mathematical, numerical, or statistical analysis of data acquired through questionnaires, surveys, and polls, as well as the manipulation of pre-existing statistical data using computational tools (Babbie 2010). The purpose of this quantitative research is to determine to evaluate effectiveness of the small-scale manufacturing of aluminium and steel products into the mainstream economy, focusing specifically on scalability of the business, transference of skills/ development of skills and the contribution to job creation/ employability.

The type of study is descriptive. The term descriptive refers to the accurate and systematic characteristics and facts of a particular area of interest or population (Isaac and Michael, 1995). Descriptive research provides useful information for resolving local problems (Salaria 2012). The picked procedure for this article is questionnaires. 100 questionnaires were distributed and collected from small-scale manufacturers of aluminium and steel products. This specific procedure is picked to evaluate effectiveness of the small-scale manufacturing of aluminium and steel products into the mainstream economy, focusing specifically on scalability of the business, transference of skills/ development of skills and the contribution to job creation/ employability.

The term population refers to a collection of individuals, objects of interest, or events that a researcher wishes to study (Sekaran and Bougie 2013:240). According to Cooper and Schindler (2011: 364), the term "population" refers to a group of people. from which researchers aim to draw conclusions. The population of this study included small-scale manufacturers from four municipalities in the City of Johannesburg, City of Tshwane, Sedibeng, and Ekurhuleni. Sampling is the procedure for determining a subset of a population from which researchers can generalize about the entire population (Cooper & Schindler, 2011:364). A sample, on the other hand, is a subdivision or subset of a population that contains some members (Sereka and Bougie 2013:241). This study will examine 100 registered small-scale manufacturers of aluminium and steel products.

4. Data Collection

Questionnaires were distributed face-to-face by hand to be completed independently by registered and unregistered small-scale manufacturers of aluminium and steel products, situated in GCR. The five-fold Likert scale was used. A scale is a complex measure of many items, such as statements or questions, that have a logical structure (Grant 2017). When a respondent is asked to rate one or more attitude statements on a multi-point scale, a Likert scale is used (Mathers et al. 1998). During the data processing process, it is made up of four or more Likert-type items that are integrated into a single composite variable (Boone and Boone 2012). SPSS was used to store, extract, and analyze data. Descriptive statistics were used to analyze the data.

5. Results and Discussion

According to (Heaney 2006:1), analysis is essentially about converting collected raw data into useful information. (Heaney 2006:1), goes on to explain that analysis is a critical aspect of adaptive management because it enables the researcher to assess the progress of the research in terms of achieving stated goals and objectives.

It is evident that the business growth of small-scale manufacturing of aluminium and steel products will lead to local economic development. Which will intern include these entrepreneurs in the economic value chain. Most participants expressed that there is increased customer loyalty and business growth. Most participants expressed that they did not require skills for development training, as they already offer on the job training to their new unskilled employees. Leg-Tero (2016), revealed that approximately 65% of SMEs waste time and money due to a lack of technical skills, which includes a failure to adopt and utilize technology to its full potential. Management training, on the other hand, would be beneficial. Most participants expressed that their reason to join the industry was because there is a market and others was for survival. This shows that there is potential for alleviating poverty by decreasing unemployment as there is a market for aluminium and steel products. Furthermore, training for skills development does not affect business growth and business growth does not depend on training for skills development. Additionally, there is a relationship between local economic development and business growth. Therefore, local economic development can be affected by business growth.

5.1 Graphical Results

5.1.1 Custom Tables

Customs were carried out in this study to determine the perceptions of small-scale manufacturers of aluminium and steel products on, training for skills development, financial assistance, non-financial assistance, government support, business growth and local economic development.

5.1.1.1 Training for Skills Development

Table 1 represents the breakdown of the distribution of respondents according to training for skills development. It is apparent that 98% of small-scale manufacturers of aluminium and steel products agree that on-the-job training is an effective form of training for their type of business and only 1% disagrees. However, 51% agrees that on-the-job training affects productivity while 10% disagree that on-the-job training affects productivity. Only 19% agree that managerial training is easily accessible while 42% disagree that managerial performance is easily accessible.

Table 1: Training for skills development

		Strongly Disagree/ Disagree	Neither Disagree nor Agree	Agree/ Strongly Agree	Mean	Standard Deviation
On-the-job training is an effective form of training for my type of business.	Count	1	1	98	4.47	0.57
	Row N %	1.0%	1.0%	98.0%		
I would be able to manage my business better with some training	Count	17	21	62	3.65	1.13
	Row N %	17.0%	21.0%	62.0%		
Hands-on training is readily available for new unskilled employees.	Count	3	3	94	4.37	0.63
	Row N %	3.0%	3.0%	94.0%		
On-the-job training affects productivity.	Count	10	39	51	3.53	0.93
	Row N %	10.0%	39.0%	51.0%		
	Count	36	35	29	2.94	1.16

There are known organizations where training for my business is provided.	Row N %	36.0%	35.0%	29.0%		
Managerial training is easily accessible	Count	42	39	19	2.72	1.08
	Row N %	42.0%	39.0%	19.0%		

5.1.1.2 Business Growth

Table 2 illustrates the breakdown of the distribution of respondents according to business growth. As can be seen from the table below, 91% of participants agree that there is an increase in the level of customer loyalty, while only 1% disagrees that there is an increase in the level of customer loyalty. 77% of participants agree that there is improvement in overall financial performance, while 11% disagree. Furthermore, 81% agree that there is growth in sales revenue, while 9% disagree that they have experienced growth in sales revenue.

Table 2: Business Growth

		Strongly Disagree/ Disagree	Neither Disagree nor Agree	Agree/ Strongly Agree	Mean	Standard Deviation
There is an increase in the level of customer loyalty.	Count	1	8	91	4.39	0.68
	Row N %	1.0%	8.0%	91.0%		
There is an increase in the level of customer satisfaction.	Count	1	5	94	4.44	0.68
	Row N %	1.0%	5.0%	94.0%		
There is growth in sales revenue	Count	9	10	81	4.10	0.98
	Row N %	9.0%	10.0%	81.0%		
There is growth in labour productivity.	Count	8	11	81	4.12	0.93
	Row N %	8.0%	11.0%	81.0%		
There is improvement in overall financial performance.	Count	11	12	77	4.05	1.0
	Row N %	11.0%	12.0%	77.0%		
I have bought more machines.	Count	20	5	75	3.92	1.2
	Row N %	20.0%	5.0%	75.0%		

5.1.1.3 Local Economic Development

Table 3 illustrates the breakdown of the distribution of respondents according to local economic development. In terms of local economic development, the results obtain shows that 99% of participants agree that their business can create jobs, while 0% disagree that their business is able to create jobs. Furthermore, 100% participants agree that they have been able to transfer a skill to others. Additionally, 96% agree that their business has expanded the supply of aluminium/steel products. However, only 4% neither agree nor disagree that it their business has expanded the supply of aluminium/steel products.

Table 3: Local Economic Development

		Strongly Disagree/ Disagree	Neither Disagree nor Agree	Agree/ Strongly Agree	Mean	Standard Deviation
My business is able to create jobs.	Count	0	1	99	4.66	0.49
	Row N %	0.0%	1.0%	99.0%		
I have been able to transfer a skill to others	Count	0	0	100	4.70	0.46
	Row N %	0.0%	0.0%	100.0%		
My business has expanded the supply of aluminium/steel products.	Count	0	4	96	4.62	0.56
	Row N %	0.0%	4.0%	96.0%		
Count		0	0	100	4.62	0.48

My business is able to offer access to products & services.	Row N %	0.0%	0.0%	100.0%		
My business has provided the needed security in homes	Count	1	3	96	4.66	0.63
	Row N %	1.0%	3.0%	96.0%		

5.3 Validation

In the social sciences, exploratory factor analysis (EFA) is a frequently used and widely employed statistical technique (Costello and Osborne 2005). Table 5.1 illustrates a summary of exploratory factor analysis and reliability analysis results. Using the Kaiser's eigenvalue criterion (Garrido et al. 2013), 3 factors explaining a total of 51.918% of the variance in the data were extracted.

Factor 1 was labelled Business Growth. This first factor explained 27.238% of the total variance after rotation. Factor 2 was called Local Economic Development. This second factor accounted for 18.093% of the total variance after rotation. Factor 3 was called Training for Skills Development. This third factor accounted for 6.589% of the total variance after rotation.

It is evident from Table 5.1 that the factor loadings range from 0.590 to 0.922 greater than the threshold value of 0.5 (Costello and Osborne 2005), indicating that these items are strongly measuring what they are intended to measure. The reliability of constructs was assessed by examining the internal consistency through computing the Cronbach's Alpha co-efficient values (Huck 2007). Cronbach's Alpha co-efficient of a scale must be above 0.7 to be considered reliable (DeVellis 2003). It can be seen from Table 5.1 that the Cronbach's Alpha values are above 0.7 suggesting that the scales were reliable. It is evident from Table 5.1 that the factor loadings range from 0.746 to 0.922 greater than the threshold value of 0.5 (Costello and Osborne 2005), indicating that these items are strongly measuring what they are intended to measure.

Construct validity is an evaluation of a measure's ability to accurately assess the construct it is intended to measure (Strauss and Smith 2009). Also, the reliability of the constructs was evaluated by calculating the composite reliability scores of the scales. As shown in Table 45.3, the composite reliability values for all the scales are above the desirable threshold value of 0.70. In exploratory research, reliability values of 0.60 to 0.70 are considered acceptable, while values of 0.70 to 0.90 range from satisfactory to excellent (Hair et al. 2011), confirming the scales' reliability. When the average variance extracted (AVE) values exceeded the recommended cut-off value of 0.50, convergent validity was established (Hair et al. 2014).

Table 4.: Summary of Exploratory Factor Analysis and Reliability Analysis

Factor (s)	Factor Loadings	Eigen values	Variance Explained (%)	Cronbach's Alpha Coefficient	Average Variance Extracted (AVE)	Composite Reliability (CR)
Factor 1: Business Growth						
BG5: There is improvement in overall financial performance.	0.869	5.448	27.238	0.912	0.706	0.934
BG3: There is growth in sales revenue.	0.865					
BG4: There is growth in labour productivity.	0.822					
BG1: There is an increase in the level of customer loyalty.	0.804					
BG6: I have bought more machines.	0.773					
BG2: There is an increase in the level of customer satisfaction.	0.755					
Factor 2: Local Economic Development						
LED4: My business is able to offer access to products & services.	0.922					
LED3: My business has expanded the supply of aluminium/steel products.	0.872					

LED2: I have been able to transfer a skill to others.	0.865	3.619	18.093	0.908	0.641	0.781
LED1: My business is able to create jobs.	0.865					
LED5: My business has provided the needed security in homes.	0.746					
Factor 3: Training for Skills Development		1.317	6.587	0.704	0.758	0.939
TS6: Managerial training is easily accessible.	0.849					
TS5: There are known organizations where training for my business is provided.	0.840					
Total Variance Explained			79.479			

6. Conclusion

It has been established that these small-scale manufacturing firms include metal manufacturers or small-scale manufacturers of aluminum and steel products who operate on the side of the road, in their backyard, or on rented premises and typically employ two to 50 people. The key findings suggest that small-scale manufacturing of aluminium and steel products could have an impact on the local economic development, if included in the mainstream economy. Governments needs to intervene and assist these small-scale manufacturers of aluminium and steel products and include them in the economic value chain. These entrepreneurs have the potential to uplift the township economy as they hire unskilled employees and teach them a skill. Additionally, these small-scale manufacturers of aluminium and steel products further provide the much-needed product and service of security in homes.

References

- Ado, A., and Josiah, M.M., Impact of Deficient Electricity Supply on the Operations of Small Scale Businesses in North East Nigeria, *International Journal of Business and Economic Development*, 3(1), pp. 20–30, 2015
- Altenburg, T., and Meyer-Stamer, J., How to promote clusters: Policy experiences from Latin America, *World Development*, 27(9), pp. 1693–1713. doi:10.1016/S0305-750X(99)00081-9, 1999
- Ardic, O.P., Mylenko, N., and Saltane, V., Small and Medium Enterprises A Cross-Country Analysis with a New Data Set The World Bank Financial and Private Sector Development Consultative Group to Assist the Poor, *World Bank Policy Research Working Paper Series*, 32(January). Available at: <http://www.cgap.org/financialindicators>, 2011
- Babbie, E.R., *The practice of social research*, (12th ed.). Belmont, CA: Wadsworth Cengage, 2010
- Basariya, R., and Sree, V., Pros and Cons of On the Job training versus Off the Job Training, *International Journal Of Scientific & Technology Research*, 8(10). Available at: www.ijstr.org, 2019
- Bhorat, H., Asmal, Z., and Zee, D., Smmes in South Africa: Understanding the Constraints on Growth and Performance. Available at: www.dpru.uct.ac.za, 2018
- Bigsten, A., Kimuyu, P., and Lundvall, K., What to Do with the Informal Sector?, *Development Policy Review*, 2004
- Boone, H. N., and Boone, D. A., Analyzing Likert data. *Journal of Extension*, 50 (2). Retrieved from <http://www.joe.org/joe/2012april/tt2p.shtml>, 2012
- Cant, M., Challenges Faced By SMEs In South Africa: Are Marketing Skills Needed?, *International Business & Economics Research Journal (IBER)*, 11(10), p. 1107. doi:10.19030/iber.v11i10.7256, 2012
- Costello, A.B., and Osborne, J.W., Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research and Evaluation*, 10(7). <https://doi.org/10.7275/jvj1-4868>, 2005
- Cooper, D.R., and Schindler, P.S., *Business Research Methods*, (9 th edition). USA: McGraw-Hill, 2006
- DeVellis, R.F., *Scale Development: Theory and Applications* (2nd ed.). Sage Publications, Thousand Oaks, CA, 2003
- DTI, Integrated Small-Enterprise- Development Strategy Unlocking the potential of South African entrepreneurs, pp. 1–17, 2005
- DTI, Department of Trade and Industry. www.thedti.gov.za, 2013
- Dunn, E., Smallholders and inclusive growth in agricultural value chains. Available at: <https://hdl.handle.net/10568/35053> (Accessed: September 24, 2021), 2014

- Edmiston, K.D., The Role of Small and Large Businesses in Economic Development, *SSRN Electronic Journal* [Preprint], (November). doi:10.2139/ssrn.993821, 2011
- Eniola, A.A., The Role of Sme Firm Performance in Nigeria, *Oman Chapter of Arabian Journal of Business and Management Review*, 3(12), pp. 33–47. doi:10.12816/0016552, 2014
- Fan, Q., Importance of SMEs and the Role of Public Support in Promoting SME Development, *Strategische Unternehmensplanung—Strategische Unternehmensführung*, pp. 275–292. Available at: <http://www.springerlink.com/index/V1774282G031Q747.pdf%5Cnhttp://info.worldbank.org/etools/docs/library/49256/fan.pdf>, 2003
- Fida, B.A., The Importance of Small and Medium Enterprises (SMEs) in Economic Development. The Free Library, 2008
- Finnish Institute of Occupational Health, African Newsletter on Occupational Health and Safety. <http://www.ttl.fi/AfricanNewsletter>, 2012
- Garrido, L.E., Abad, F.J., and Ponsoda, V., A new look at horn's parallel analysis with ordinal variables, *Psychological Methods*, 18(4), pp. 454–474. doi:10.1037/a0030005, 2013
- GPED, Gauteng Township Economy Revitalisation Strategy. Marshalltown, 2014
- Grant, J.L., Time, scale, and control: How new urbanism mis (uses) Jane Jacobs. In *Reconsidering Jane Jacobs* (pp. 91-176). Routledge, 2017
- Heaney, D., Resources for Implementing the Analyze Project Results & Assumptions. Available at: <https://fas.org/sgp/crs/row/IF11304.pdf%0Ahttps://doi.org/10.1016/j.rdf.2018.05.003%0Ahttp://www.ameppa.org/upload/BadGovernance.pdf%0Ahttps://doi.org/10.1016/j.jpolmod.2019.03.002%0Ahttp://dx.doi.org/10.1016/j.eap.2017.06.004%0Ahttp://dx.doi.org/10.1016>, 2006
- Hefnawy, A., The role of small manufacturing enterprises in sustainable regional development. Available at: [http://www.qucosa.de/recherche/frontdoor/?tx_slubopus4frontend\[id\]=1693](http://www.qucosa.de/recherche/frontdoor/?tx_slubopus4frontend[id]=1693), 2006
- Huck, S.W., Reading Statistics and Research, United States of America, Allyn & Bacon, 2007
- Hussmanns, R., Statistical definition of informal employment: Guidelines endorsed by the Seventeenth International Conference of Labour Statisticians, *Bureau of Statistics, ILO*, (February), pp. 1-17 (17 pages), 2003
- International Labour Organization (ILO), World Outlook Social Employment, 2018
- Isaac, S., and Michael, W.B., *Handbook in research and evaluation*, (3rd ed.). San Diego, CA: Educational and Industrial Testing Services, 1995
- Kambwale, J.N., Chisoro, C., and Karodia, A.M., Investigation into the Causes of Small and Medium Enterprise Failures in Windhoek , Namibia, *Oman Chapter of Arabian Journal of Business and Management Review*, 4(7), pp. 80–109. doi:10.12816/0019074, 2015
- Kesper, A., Failing or not aiming to grow? Manufacturing SMMEs and their contribution to employment growth in South Africa, *Urban Forum*, 12(2), pp. 171–203. doi:10.1007/s12132-001-0015-5, 2000
- Klarita, G., The Informal Sector in Developed and Less Developed Countries: A Literature Survey, *Public Choice*, 120(3), pp. 267–300, 2011
- Kombo, A., Justus, W., Murumba, N., and Makworo, E., An Evaluation of the Impact of Risk Management Strategies on Micro-Finance Institutions' Financial Sustainability: A Case of Selected Micro Finance Institutions in Kisii Municipality, *Educational Research*. Available at: <http://www.interestjournals.org/ER>. 2011
- Leg-Tero, R., How a lack of tech skills are costing your SME time and money. Internet:<http://www.brighterbusiness.co.uk/>, 2016
- Looye, J.W., Supporting small-scale manufacturing in developing countries, 1994
- Malefane, S.R., Small Medium, and Micro Enterprise and Local Economic-Base Restructuring-a South African Local Government Perspective, 48(4), pp. 671–690, 2013
- Manning, C., Informal manufacturing in the South African economy. Available at: [http://opendocs.ids.ac.uk/opendocs/bitstream/handle/123456789/1776/CSDS working paper no 11.pdf?sequence=1](http://opendocs.ids.ac.uk/opendocs/bitstream/handle/123456789/1776/CSDS_working_paper_no_11.pdf?sequence=1), 1993
- Mathibe, M.S., and van Zyl, J.H., The Impact Of Business Support Services To SMMEs In South Africa, *International Business & Economics Research Journal (IBER)*, 10(11), p. 101. doi:10.19030/iber.v10i11.6410, 2011
- Monge-González, R., Innovation, productivity, and growth in Costa Rica: Challenges and opportunities, *Nota técnica* [Preprint], (January). Available at: <https://publications.iadb.org/en/handle/11319/7376>, 2016

- Mosiane, N., and Murray, J., Distribution of population vs economic activity, GCRO. Available at: https://wiredspace.wits.ac.za/bitstream/handle/10539/31547/Distribution%20of%20population%20vs%20economic%20activity%20_%20GCRO.pdf?sequence=2&isAllowed=y (Accessed: October 14, 2021), 2021
- Nobanda, M.J., Manufacturing in Soweto, *Springer Netherlands.*, 9(2), pp. 240–252, 1998
- Ntiamoah, E., Li, D., and Kwamega, M., Impact of Government and Other Institutions' Support on Performance of Small and Medium Enterprises in the Agribusiness Sector in Ghana, *American Journal of Industrial and Business Management*, 06(05), pp. 558–567. doi:10.4236/ajbm.2016.65052, 2016
- Okyere, F., The Impact of Leadership Styles of Small Business Owners / Managers on Firm Performance, *The International Journal Of Business & Management*, 5(8), pp. 191–199, 2017
- Peters, R. and Naicker, V., Small medium micro enterprise business goals and government support: A South African case study. *South African Journal of Business Management*, 44(4), pp.13-24, 2013
- Petersen, L.M., James, A.K., Charman, A.J.E., Mackay, B., Court, P., and Muteti, A., Adding Value: Informal Metal Work Enterprises in Cape Town Townships, 2016
- Rankhumise, E.M, and Masilo, K.H., The Effect of Government Support on the Success of Small and Medium Enterprises: A Comparative Study between South Africa and China, *Journal of Economics and Behavioral Studies*, 9(6), pp. 166–173. doi:10.22610/jeb.v9i6.2013., 2017
- Salaria, N., Meaning of the Term Descriptive Survey Research Method. *International Journal of Transformations in Business Management*, 1, 1-7, 2012
- SAIW, The Southern African Institute of Welding Promoting Excellence in Welding in Africa 2, 2016
- Sekaran, U., and Bougie, R., *Research Methods for Business: A Skill-Building Approach.* 6th Edition, Wiley, New York, 2013
- Shoeb Sheikh, M., and Singh, J.A., Opportunities and challenges in small manufacturing industries in India from last decade, *IJS DR2001026 International Journal of Scientific Development and Research [Preprint]*. Available at: www.ijdsr.org/150, 2020
- Sleuwaegen, L., and Goedhuys, M., Growth of firms in developing countries, evidence from Côte d'Ivoire, *Journal of Development Economics*, 68(1), pp. 117–135. doi:10.1016/S0304-3878(02)00008-1, 2002
- Statista, Forecast: Industry revenue of “manufacture of basic iron and steel“ in South Africa 2011-2023, *Statista*. Available at: <https://www.statista.com/forecasts/424527/manufacture-of-basic-iron-and-steel-revenue-in-south-africa> (Accessed: October 14, 2021), 2021
- Stats SA, STATISTICAL RELEASE Manufacturing: Production and sales (Preliminary). Available at: www.statssa.gov.za.info@statssa.gov.za,Tel+27123108911, 2020
- Stats SA, Statistical Release. Available at: www.statssa.gov.za.info@statssa.gov.za,Tel+27123108911 (Accessed: June 26, 2021), 2021a
- Stats SA, Statistical release P0211 Quarterly Labour Force Survey, 2021b
- The New Partnership for Africa 's Development, *The New Partnership for Africa 's Development Annual Report 2011, 2012*
- Steenkamp, F., and Borhat, H., The role of skills and education in predicting microenterprise performance. LMIP Report No. 26, 2016
- Strauss, M.E., and Smith, G.T., Construct validity: Advances in theory and methodology. *Annual Review of Clinical Psychology*, 5(February), 1–25. <https://doi.org/10.1146/annurev.clinpsy.032408.153639>, 2009
- Timm, S., How South Africa can Boost Support to Small Businesses: Lessons from Brazil & India, *Trade & Industrial Policy Strategies*, (January), p. 111. Available at: <http://www.tips.org.za/node/1986>, 2011
- TIPS, Tips Report For Business Unity South Africa (Busa) Towards A Single Definition Of Small Business. Available at: www.tips.org.za (Accessed: September 23, 2021), 2016
- TIPS, The Real Economy Bulletin. Available at: www.tips.org.za (Accessed: September 23, 2021), 2017
- Ullah, M.S., Bangladesh Bank Initiatives for Promoting SME Financing : Achievements and Bangladesh Bank Initiatives for Promoting SME Financing : Achievements and Challenges, 2020
- Worldbank, Republic of south Africa Systematic Country Diagnostic, pp. 1–143. Available at: <http://documents.worldbank.org/curated/en/815401525706928690/pdf/WBG-South-Africa-Systematic-Country-Diagnostic-FINAL-for-board-SECPO-Edit-05032018.pdf>, 2018
- Worldometer, South Africa Population (2021) - Worldometer. Available at: <https://www.worldometers.info/world-population/south-africa-population/> (Accessed: October 14, 2021), 2021
- Yusoff, M.N.H., and Zainol, F.A., Antecedents to the Utilisation of the Government Business Support Services: A Literature Review, *International Business Research*, 5(11), pp. 105–112. doi:10.5539/ibr.v5n11p105, 2012

Biography

Amogelang Setshedi is an Mtech Operations management student at the University of Johannesburg (South Africa), under the Faculty of Engineering and the Built Environment. She is also working part-time at the Centre for Academic Technologies and Academic Development Centre. She volunteers as an academic associate and a board member at Africa Co-operatives Institute of South Africa (ACI-SA). She currently possesses a national diploma (Ndip) in Small Business Management and a Bachelor of Technology (Btech) in Management Services from the University of Johannesburg.

Michael S. Mkwanzani is a Research Associate in FEBE at the University of Johannesburg in South Africa. Mr. Mkwanzani holds a National Diploma in Entrepreneurship, Bachelor of Technology Degree in Operations Management, and Master of Technology Degree in Operations Management (Cum Laude) from the University of Johannesburg and a Postgraduate Diploma from North West University. In 2017 he was awarded the prestigious Rhodes scholarship to pursue an MSc Degree in Business Management – Entrepreneurship at Oxford Brookes University. He is also admitted to the University of Oxford to read for a DPhil. Education degree programme from October 2018 focusing on Entrepreneurship Education Ecosystems. In 2016 he 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.

Professor Charles Mbohwa is the University of Zimbabwe Pro-Vice Chancellor responsible for Strategic Partnerships and Industrialisation since 1st July 2019. He was a Professor of sustainability engineering in the Faculty of Engineering and the Built Environment at the University of Johannesburg. Earlier on in his career, he was a mechanical engineer in the National Railways of Zimbabwe from 1986 to 1991; lecturer and senior lecturer at the University of Zimbabwe and joined the University of Johannesburg as a senior lecturer in 2007. He is an established researcher and is NRF-Rated in category C1. He was the Chairman and Head of Department of Mechanical Engineering at the University of Zimbabwe from 1994 to 1997 and was Vice-Dean of Postgraduate Studies Research and Innovation in the Faculty of Engineering and the Built Environment at the University of Johannesburg from July 2014 to June 2017. He was Acting Executive Dean in the Faculty of Engineering and the Built Environment from November 2017 to July 2018. He has published more than 700 papers in peer-reviewed journals and conferences, 20 book chapters and 7 books. He has a Scopus h-index of 13; a web of science h-index of 11 and Google Scholar h-index of 18.