

CLUSTER APPROACH TO MICROENTERPRISE DEVELOPMENT: A COMPARATIVE STUDY OF CLUSTERED AND ISOLATED WOODEN FURNITURE ENTERPRISES IN ZIMBABWE

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ABSTRACT

The paper investigates the effectiveness of microenterprise clustering as a tool for sustainable economic development, using the wooden furniture sector in Mashonaland West Province of Zimbabwe. The study determined the growth effects generated by microenterprise clustering, using data collected through a survey from sampling units, drawn from the Ministry of Small and Medium Enterprises database. Results show that clustered operations as opposed to isolated augment economic development through growth effects on marketing, procurement and logistics economies of scale. When skills are coalesced through clustering they tend to impact positively on performance of the clustered as compared to isolated operations. However, there is evidence for lack of capacity by cluster entrepreneurs in exploiting the operational cost advantages associated with clustering. The study recommends that, cluster approach can be an effective tool for economic development and poverty alleviation if policies promote maximum exploitation of the synergetic gains presented by clusters.

Keywords: Microenterprise, Cluster, Sustainable Development, Economic Development, Poverty Alleviation

INTRODUCTION

The growing interest in the study of micro-enterprise operations worldwide is premised on the pivotal role played by the sector in adding value to the economy by creating jobs, enhancing income, lowering costs and adding business convenience (Chen, 1997 & Fatoki, 2012,). Microenterprises are now widely recognised as a major cog in the development of emerging economies. The rising importance of microenterprises in Zimbabwe is an undisputed fact. As growth in formal employment plummeted since 1990s, the microenterprise sector accelerated its contribution to self employment creation, economic development and poverty reduction. It accounted for over 80 percent of all jobs in 2004 (see Luebker, 2008), with up to 70% of Zimbabweans depending upon it as a source of their livelihoods (Ministry of Finance, 2011) and about 47% of the economically active population of the urban areas derive their income from self employment. This alone is a strong justification to position microenterprises as an effective avenue to reduce economic vulnerability for the poor social groups and as a second best option to absorb excess labour that cannot be accommodated in the formal sector.

Despite the significant role played by microenterprises and the previous studies done on microenterprise sector in Zimbabwe, there is no specific study done focusing solely on evaluating the impact of the government initiated cluster programmes of the early 2000s as a tool for sustainable development and poverty reduction. Such researches are needed to inform policy on the successes or shortcomings of the initiative towards economic development. Since the government embarked on the microenterprise cluster development programme, little is known on the effectiveness of the policy on microenterprise performance. Previous researches done on the topic, did not cover in detail the agglomeration effect of microenterprise clustering that generates economies of scale in small businesses (UNIDO, 2010) so as to enhance, financial, sales, profitability and marketing performance, which are essential in achieving sustainable microenterprise growth. This research incorporates cluster phenomenon and compare it with isolated operations so as to evaluate the impact of clustering on microenterprise performance. The study support many microenterprise studies done within and outside Zimbabwe, which emphasises on cluster concept as an effective economic policy tool that can foster innovation and growth in developing countries (Chen 1997; ILO, 2003, UNIDO 2010). In this study, a microenterprise is defined according to the Zimbabwe Amended Finance Act Chapter (23:04), Section 2B, as “a firm whose employment level is not more than five people, with an average annual turnover of less than US\$ 50 000 and a maximum gross value of assets of less than US\$ 50 000, excluding immovable property” (Ministry of Finance, 2011). This definition is applied to both registered or unregistered wooden furniture micro-enterprise.

LITERATURE REVIEW

Studies done on microenterprises in Zimbabwe concur that microenterprise firms play a critical role in sustainable economic development of both the rural and urban poor communities. Muponda (2012) and Muponda & Chaneta (2014) noted that as small, medium and large enterprises are collapsing due to the prevailing economic challenges in Zimbabwe, microenterprises are increasing becoming a new phenomenon. Muponda (2012) estimated that over 2700 microenterprises in six cities in Zimbabwe employ over 8000 people, a reflection that microenterprises are assuming the developmental role used to be played by large stock-exchange listed conglomerates as well as other formal SMEs enterprises in employment creation. The

study by Osirim (2003), reaffirmed the significant role played by microenterprises in livelihood sustainability, especially under turbulent macroeconomic environment. The evidence from the study shows that, despite economic downturn brought by the structural adjustment programme of 1991, women under microenterprises continue to sustain their livelihood through market trade, crocheting, sewing and hairdressing professionals, thereby contributing to economic development and poverty alleviation. It has been noted that under deteriorating macroeconomic conditions, the role of microenterprises role in employment creation, income generation and poverty reduction tend to grow due to their dynamic, “efficient and low cost adjustment mechanism” (Muponda & Chaneta, 2014). This arises from microenterprise ability to gain from “geographical agglomeration” as they tend to locate their manufacturing activities close to residential area especially high density suburbs. It was also observed that, since these microenterprises tend to be clustered, they are able to efficiently operate from a relatively small capital base as compared to the capital requirements of medium and large companies.

In Zimbabwe, the existing evidence overwhelmingly supports microenterprise as the available sustainable development strategy, buttressing livelihood in the informal sector, especially for the poor households and unemployed. A research by Foti et. al (2007) demonstrates that the developmental gains of microenterprises are not only limited to the urban poor. In fact, microenterprises occupy a pivotal role in the growth and development of the rural economy in Zimbabwe. The research noted that through agro-dealerships, the microenterprise sector was able to guarantee input supplies and ready markets for agricultural products. This facilitated the growth and sustainable development of the small holder agricultural sector.

Although microenterprises were found to be one of the most reliable economic development and livelihood strategy, especially during economic turbulence, the sector has its own challenges which inhibit its contribution to the process of economic development. Dhliwayo (2014), using fashion boutique in Masvingo emphasised that micro-entrepreneurs lacks capacity to develop and use marketing plans. As a result the entrepreneurs need to be trained on the importance of using marketing plans, as this will enhance their business growth. In Zimbabwe, although policies that target the growth of microenterprise sector appear to be at the nucleus of the national economic development priorities as enshrined in the Indigenisation and Economic Empowerment programme, little material support is given to the sector. This is evidenced by the government’s piecemeal investment in microenterprise capacity building initiatives. Minimal intervention measures were done in the area of infrastructure, such as road-side factory shells in most towns and growth centres countrywide, training programmes on entrepreneurship and partial provision of finance to the sector. However, these initiatives are far from being adequate as the sector remains highly self governing and undercapitalised. The sector is characterised by an array of limitations among them poor quality products, lack of growth, lack of export capacity, unfavourable working environment, limited access to finance, restrictive legal and regulatory frameworks, limited access to markets, poor infrastructure, low technical skills, lack of business and marketing skills, lack of access to minimum and appropriate technology, low incomes and low educational levels. These factors stifle the sustainability of the sector, thereby inhibiting sustainable development of the marginalised community (MEDEP/UNDP, 2010) forcing the sector to remain subsistence in nature.

Identifying capacity building needs for micro-enterprises is a major step towards building the sector’s global competitiveness. Globalisation and economic liberalisation have posed both opportunities and threats to the sector’s development (Gradzol et

al, 2005; Fassoula, 2006). Evidence drawn from thirteen African countries indicated that globalisation increased microenterprise exposure to foreign competition. However, there is still high optimism that adequate capacity building can enhance micro-enterprises competitive advantage (Fagerber, 1996 and Lall, 2000).

Successful microenterprises can be a vital component for sustainable livelihoods (MEDEP/UNDP, 2010). Their capacity for poverty reduction is based on their pro-poor nature. The bulk of microenterprises operate informally and in the informal sector characterised by ease of entry, small-scale enterprises, family ownership, use of simple technologies, and reliance on indigenous resources (Lund, 1998). These characteristics make the sector easily accessible to the marginalised, low income and lowly educated people of the society. Therefore, government policies that are intended to achieve sustainable economic development, poverty alleviation and ensure livelihood sustainability for the poor should not ignore the sector. Livelihood sustainability is an important precondition for sustainable development, as it means that progress in poverty reduction is lasting and households are not dependent upon external support (DfID, 2002). Microenterprises play a critical role in the social and economic development of every country and promote what Prasein & Singh, (2007) term the “notion of equity development” yet it is the most neglected sector in developing countries.

The concept of industrial cluster development has been widely discussed under the theories of economic agglomeration and the new economic geography (Fujita & Thisse, 2002). While clusters can contribute towards high-growth stable economies, less has been said about the competitiveness of participating SMEs (Karaev et al., 2007) and micro-enterprises. Clustering involves grouping of independent undertakings, innovative start –ups, small, medium and large undertakings as well as research organisations operating in a particular sector and region. It can also be viewed as a sectoral and geographical concentration of enterprises, institutions, service providers, and related regulatory bodies, engaged in the production of similar or related products and faced with common opportunities and threats (Best, 1990; OECD, 2007; Porter, 2005; Rosenfield, 2003; Sonobe & Otsuka, 2006 and UNIDO, 2001). The concept if applied to microenterprises development, it can stimulate innovative activity by promoting intensive interaction, sharing of facilities and exchange of knowledge and expertise and by contributing effectively to technology transfer, networking and information dissemination among the undertakings in the cluster (Das 1998). Dawson (1992) argues that in Africa the degree to which small firms are capable of dynamic and innovative endogenous growth is seen as being primarily dependent on clustering. Programmes to support micro-enterprise clusters tend to focus on building critical mass for exports, improving access to information and technology absorption, creating competitiveness, increasing productivity and economic development (Clar et al, 2008; OECD 2007, European Commission, 2008).

Clusters are considered as important instruments for promoting sustainable economic development as they spur industrial development, innovation, competitiveness and growth. This widely accepted intuition in economics dates back to the days of Alfred Marshall in the 1890s when the idea that there are advantages in agglomeration of related industries when they operate within the same geographical proximity (Callegati & Grandi, 2005). All clusters are important to local economies, (Rey, 2011). Clusters are important to both developed and developing economies. Porter (1998) made observations on “clusters and competition” and appreciated the contributions of clusters in the competitive advantages of developed nations. Research conducted by EDI, (2010) found that Sweden’s clusters in transportation, forest products and metals contribute over 50% of

total export. USA, a highly advanced economy, is internationally known for the entertainment cluster of Hollywood. This cluster has grown due to the concentration of competitors in filmmaking, highly specialised and globally competitive group of supplier enterprises and financiers. Clusters in developed economies also grow due to local demand and Research and Development Institutions. UNIDO (2005) highlighted the great importance of Indian clusters and pointed out that they have resulted in microenterprises becoming the backbone of the country's economy today. An estimated 46% of India's exports are believed to be coming from the micro, small and medium enterprises sector.

How clustered microenterprises can stimulate sustainable economic growth was well documented by UNIDO (2001). According the explanations clustering to improves the competitive position of small-scale firms regardless of whether the firms are operating in developing or developed countries. Competitiveness is improved through firm co-operation and competition and by so doing clustered enterprises will improve the quality of their products. Co-operation can be in the form of sharing of production facilities, sharing of information and joint marketing among many other activities. This is achievable because enterprises are near to each other in clusters so that co-operation does not involve high costs. Co-operation is also easier in clusters because in most cases the members are socially and culturally bound together implying that there is trust among them and it is this trust that allows members to co-operate without fear of being benefited, (Garengo & Bernard, 2007; Garengo et al, 2007).

Although microenterprise clusters can ease the problem of smallness they are not a single solution to micro-enterprises' challenges especially in rural areas, clusters are not a silver bullet or a single answer to all rural economic problems (Rajkonwar, 2004), Scorsone, (2002), Barkley & Henry, (1997). Whether or not a cluster is appropriate depends on community characteristics, past industrial development and current economic conditions. Schwanitz et al (2002) criticized the idea that clustering results in competitiveness. Competitiveness may be a result of other critical factors like entrepreneurial activity, an appropriate policy and adequate infrastructure other than from cluster alone. Karaev (2007) observed that the failure of petrol-chemicals clusters in Italy is an indicator that business clustering alone is not a panacea to microenterprise development. In fact the success of the concept is dependent largely on entrepreneurship environment (Castillo & Fara, 2002). However, clusters can still promote all the three attributes suggested above. Both an appropriate policy and adequate infrastructure can be easily provided in clusters relative to isolated individual microenterprises. Since micro-enterprises are small and they need to be united so that they lobby for policy reforms as a united body. The implication is that policies and infrastructure provision are more inclined to clusters than to isolated firms. Andersson et al (2004) also criticized the issue of promoting clusters and argued that clustering would reduce competitiveness instead of increasing it.

However, all these counter arguments cannot completely overshadow the strategic role played by clusters in enhancing microenterprise competitiveness and the ultimate attainment of the much needed economic development. Both appropriate policy framework and adequate infrastructure can be easily provided to clusters relative to isolated individual microenterprises. Microenterprises by their nature are small and fragmented, hence clustering provide them with an opportunity to pool their resources and competencies together so as to capitalise on each other's capabilities. Furthermore, capacity building programmes and infrastructure provision are more easily undertaken under clustered than under isolated

firms. It is beyond reasonable doubt that clusters result in increased productivity because they promote specialisation, cooperation, innovation and use of modern technology, (Karaev et al, 2007; Nadvi & Barrientos, 2004 and Porter, 2004). They generate positive spill over effects due to nearness of firms (Braun et al, 2005). Competitors in clusters will benefit from agglomeration effects in a way they will gain cost advantages and have access to resources that are not available to other competitors not located in the cluster, (Pouder & John, 1996).

Industrialisation, firm growth and development are quick under clusters, due to large number of operators in clusters, as a result many potential buyers are attracted to participate (OECD, 1997). The reason being that the buyers will try to purchase their wares from a place where there are many sellers so that they can bargain and get the required products at competitive prices. In order to enjoy economies of scale in buying, large firms also prefer to deal with a group of small enterprises other than many individual isolated small firms. The same applies to suppliers of raw materials and related service providers. McRae-Williams (2005) highlighted that clustering stimulates large firm behaviour in such a way that small firms are in a position to internalise externalities through economies of scale because they cluster to ‘...access resources, to reduce cost, to compete with large firms, and to innovate.’

In addition to the economies of scale discussed above, clustering influences industrial growth, which is a necessity for economic development, through its technology and skills transfer effects. Geographical proximity of firms under clusters increases the rate of knowledge and skills transfer and dissemination (Enright, 2001). The learning effect is high under clusters, making them increasingly recognised as local nodes for global knowledge flows and ‘innovative hot spot’ (Clar et al, 2008) as well as venues for knowledge creation. Cluster members and new entrants would improve access to information systems, which they might share amongst themselves. Tacit knowledge is more transferable when firms facilitate are under clusters than when isolation. A research conducted by Antonelli, (2000) highlighted that skills were easily transferred within Indonesian wooden furniture clusters through ‘learning by doing’ because firms were near to each other and costs of coordination were reduced by nearness of firms. Available evidence emphasises that, closeness of firms under clusters complement the effectiveness of government technology policies because policies are targeted to affect more firms. Hence, policies are likely to be more effective if firms are in the same proximity. Apart from complementing policy effectiveness, clusters have functional associations which are used as lobbying tools in the policy making process. Braun et al (2005) noted that cross border clusters in Singapore and Malaysia were successful because of their abilities to engage in policies at national and international networks as they find costs of policy engagement lower as compared to their counterpart under isolated operations.

However, there are some mixed reactions on the effect of government intervention on the performance of cluster approach to development. Researchers like Weijland, (1999) and Marijan, (2006) observed that some clusters tend to spontaneously grow without government intervention. While Hall, (2001), Perry (2005) Sandee et al (2002) and Tambunan (2005) generally agreed that some government policies and regulations tend to erode opportunities for microenterprises clusters. The unfavourable government regulations, associated with ‘inefficient bureaucracy, unfair tax, poor public infrastructure’ may impose excessive burden on microenterprises that are already constrained by “low access to finance, lack of human capital

resources and poor technological capabilities' (Mukhamad et. al, 2001). Evidence have gone further to suggests that clusters with high levels of dependence on foreign assistance are less autonomous, have weaker capabilities and have difficulties in achieving long-term sustainability (Birkinshaw & Hood, 2000). Nevertheless, government role is relevant if the policy intervention is minimal and saves 'only to protect the growth of the cluster,' by way of involving all concerned stakeholders in crafting a good policy framework that supports microenterprise clusters. On the same note Schmitz (1995) and Aylward & Glynn (2005) suggested that the lonely enterprise is doomed and the quality of relationship with key stakeholders as well as government assistance is critical for learning and competing.

Evidence drawn from Rosenfeld (2003) and OECD (2007) reinforces the fact that clustering enhances the performance of existing enterprises across all sectors of the economy (Nadvid and Schmitz, 1998). Cluster members compete in cost reduction through scouting and purchasing of cheaper, but good quality raw materials. Anathanarayanan, (2007), found that clustered Indian artisans managed to significantly reduce their costs of production while the quality of their products is simultaneously improved. Dahmen (1950) called it the ideas of synergistic development blocks. The synergetic effects were also extended to explain the clustering impact on attracting financial and training support for microenterprises. Using evidence from the success of small enterprise clusters in Indonesia, high-profile clusters such as Silicon Valley or industrial districts in Italy scholars like Tambunan (2005) argues that clustering is the 'powerful means for overcoming constraints like, lack of organisational capabilities, the poor managerial skill, limited resources, a dependence syndrome and succeeding in an ever more competitive market environment. Microenterprises policy tends to support enterprises in clusters better than those, which are isolated, (Anathanarayan, 2007). Policies regarding training, capacity building, financing, trade promotion, resource mobilisation, infrastructure development and technology policies all support clusters more than isolated micro-enterprises.

An entrepreneurial culture is needed before cluster promotion, as this will trigger a change in the mindset of the people involved in managing the ventures. McCormick (1998) noted that the entrepreneurial challenge is more prevalent in African firms where capital and skills remain very low, causing clusters to be very uncompetitive. However, available evidence suggest that entrepreneurship skill can be acquired through interaction with other members within the cluster as competing firms learn from peers (Castillo & Fara, 2002). Research conducted by Trulsson (1999), in Tanzania, Uganda and Zimbabwe shows that competitive micro-enterprises are those run by well-educated entrepreneurs (at least with A-levels). These entrepreneurs had a previous record of work experience and international exposure. In contrast Saini & Dhameja, (1998) explained that 'curricula are essential but not a sufficient measure for promoting entrepreneurial competencies among students.'

METHODOLOGY

This study is a survey of wooden furniture microenterprises in Mashonaland West province in Zimbabwe. The Ministry of Small and Medium Enterprises and Co-operative Development maintain a database of registered micro, small and medium enterprises. As at 2011, 603 microenterprises were registered with the ministry. Three hundred and ninety six were participating in clusters. The remainder were isolated operations. The bulk of microenterprises in the country are

unregistered, running isolated operations. Using the registration list as the sampling frame, the population was stratified into two distinct strata according to whether they are in a cluster or isolated. Disproportionate stratified sampling based on predetermined sample sizes was used. A sample of 200 micro-enterprises was selected comprising of 100 clustered and 100 isolated micro-enterprises. Questionnaires were then distributed to respondents from each of the stratum. Microenterprises that could not be found at the recorded addresses were replaced from the original list. This was in order to maintain the designated sample levels of 100 in cluster and 100 isolated.

To determine whether cluster approach promotes economic development, we followed the economic proposition that economic growth which is a function of firm growth can led to development. We therefore, tested whether clusters generate growth effects, by offering a competitive advantage to individual microenterprises, through an analysis of mean variances in profit margin, sales volume and costs using ANOVA. We also tested whether clusters have competitive edge over isolated operations in the following growth enhancing firm specific factors like owner's educational levels, experience, training and loans received. These variables are critical to consider because they influence the growth potential of the individual microenterprise which is a prerequisite for the overall economic development. We therefore, tested whether they vary with cluster status. Preliminary tests on the assumption of homogeneity of variance were also done before ANOVA was carried out. Where the homogeneity of variance assumption was violated, the ANOVA results and the Tukey HSD multiple comparisons could not be considered because they become misleading. The results were therefore, processed without assuming equal variance using the Welch robust test for equality of means and the Games-Howell multiple comparisons.

The variables were coded as follows: 1 was given if a firm is operating from a cluster, a firm have accessed loans, and entrepreneurs have received training in entrepreneurship courses, a 0 was given if otherwise. On experience, entrepreneurs with experience less than 3 years were given a 1, between 3 and 10 years were given 2 and above 10 years were given 3. Educational qualification was denoted by numbers as follows, if the highest qualification obtained is, primary education a 1 was given, then a 2, 3, 4 and 5 for secondary education, advanced level, national certificate and a diploma respectively. There were no university graduates in the sample. Inquiry with the Ministry returned the response that university graduates do not appear keen to register their microenterprises even though they maybe there in the market.

RESULTS

As preliminary analysis, descriptive statistics on mean costs, profit margin and sales volume were generated according to operational status (See Table 1 below). Further exploratory analysis on profit margin, sales volume, and costs based on owner's experience by cluster status were also done (see Table 2).

Table 1: Costs, Profit margin and Sales volume by cluster status

	Isolated enterprises			Clustered enterprises			Total		
	Costs	Profit margin	Sales volume	Cost	Profit margin	Sales volume	Cost	Profit margin	Sales volume
Mean	76.99	31.03	1539.75	75.52	33.11	2134.83	76.26	32.07	1837.29
Std Deviation	7.465	12.02	1283.84	7.395	12.14	2038.09	7.448	12.096	1724.941
Standard error	0.747	1.202	128.38	0.7396	1.21	203.81	0.5267	1.202	121.9718
Observations	100	100	100	100	100	100	200	200	200

Source: Survey Data

Table 2: Experience, educational level, training and loans accessed by cluster status

	Cluster status	Observations	Mean	Std. Deviation	Std. Error
Level of experience	0.00	100	1.960	0.56711	0.05671
	1.00	100	2.100	0.41439	0.04144
	Total	200	2.030	0.50035	0.03538
Level of education	0.00	100	2.510	0.09048	0.09045
	1.00	100	2.610	1.19675	0.11968
	Total	200	2.560	1.05925	0.07490
Level of training	0.00	100	0.130	0.33800	0.03380
	1.00	100	0.220	0.41633	0.04163
	Total	200	0.175	0.38092	0.02694
Loans accessed	0.00	100	0.190	0.48607	0.04861
	1.00	100	0.310	0.67712	0.06771
	Total	200	0.250	0.59097	0.04179

Source: Survey Data

Factors like experience, training, educational qualifications, and access to loans were also incorporated into the analysis to determine how they influence micro-enterprise competitiveness under the clustered and isolated scenarios. These variables are key indicators of microenterprise growth potential. Before the ANOVA analysis was done, the homogeneity of variance assumption was first tested using the Levene Statistics. Only three variables, profit margin, costs ratio and level of experience satisfied the assumption. Therefore, two sets of result were generated from this study. The first set of results was done through ANOVA for the three variables that met the homogeneity assumption. The second set was done through the Welch Robust Test of equality of means, for variables like cost ratios, training, educational qualifications, and access to loans that failed the homogeneity of variance assumption.

According to the one-way ANOVA results (See Table 3), there are no significant differences on cost and profit margin between firms under clusters and those that are non-clustered with the following F-statistics and probability values $F(1,198)=1.482$, $p=0.225$ and $F(1,198)=1.957$, $p=0.163$ respectively. Only the level of experience was found to be statistically different between the clustered and non-clustered firms $F(1, 198)=3.973$, $p=0.048$).

Table 3:ANOVA results

			Sum of Squares	df	Mean square	F	Sig.
By Cluster status	Profit margin	Between groups	216.320	1	216.320	1.482	0.225
		Within Groups	28898.7	198	145.953		
		Total	29115.02	199			
	Cost	Between groups	108.045	1	108.045	1.957	0.163
		Within Groups	10931.95	198	55.212		
		Total	11039.995	199			
By Cluster status	Level of experience	Between groups	0.980	1	0.980	3.973	0.048
		Within Groups	48.840	198	0.247		
		Total	49.820	199			

Source: Survey Data

Since cost ratios and profit margins were found to be statistically not different between clustered and isolated firms no further analysis was done on the two variables. Further analysis was therefore, done on the level of experience which was found to be significantly different between clustered and isolated firms to test whether this difference causes variations in profit margin, sales volume, and cost structures between the clustered and isolated firms. A two-way ANOVA was used and the results are reported in Table 4. The results show that cluster status alone do not yield any significant effect on profit margin with the following statistics $F(1, 194)= 1.466$, $p=0.227$. However, when effect of experience of the entrepreneur is combined with cluster effect the two have a significant effect on profit margin, sales volumes and cost structure with the following statistics obtained $F(2,194)= 4.656$, $p =0.011$, $F(2,194)=7.537$, $p=0.001$ and $F(2,194)=5.068$, $p=0.007$ respectively.

Table 4: Tests of between - subjects effect

Variable		df	F	Sig.
Profit Margin	Experience	2	2.720	0.068
	Cluster	1	1.466	0.227
	Experience*Cluster	2	4.656	0.011
	Error	194		
Sales Volume	Experience	2	27.726	0.000
	Cluster	1	12.500	0.001
	Experience*Cluster	2	7.537	0.001
	Error	194		
Cost	Experience	2	2.267	0.106
	Cluster	1	1.476	0.226
	Experience*Cluster	2	5.068	0.007
	Error	194		

Source: Survey Data

The Tukey HSD multiple comparisons (See Table 4) was then used to determine the sources of variation. It was observed that differences on profit margin were notable between firms owned by entrepreneurs with experience above 10 years and those with less than 3 years, also between entrepreneurs with experience from 3 years to 10 years and those with above 10 years. Costs were found to be different between enterprises with owners with experience above 10 years and those with experience from 3 to 10 years.

Figure 4: Tukey HSD Multiple Comparisons

Dependent variable	I	J	Mean difference (I-J)	Std Error	Sig.
Profit margin	< 3 years	≥3≤10 years	-1.5564	2.59761	0.822
		>10 years	-7.4221*	2.95516	0.042
	≥3≤10 years	>10 years	-5.8657*	2.01661	0.015
Sales Volume	< 3 years	≥3≤10 years	-300.4879	2.95516	0.482
		>10 years	-2527.7045*	2.01661	0.000
	≥3≤10 years	>10 years	-2227.7167*	414.26818	0.000
Costs	< 3 years	≥3≤10 years	1.0297	1.62969	0.804
		>10 years	4.3506	1.81797	0.055
	≥3≤10 years	>10 years	3.3210*	1.20223	0.021

Source: Survey Data

Sales volume were different between enterprises run by owners with experience above 10 years and those with 3 to 10 years of experience and also between entrepreneurs with above 10 years of experience and those with less than 3 years of experience (See Table 4). The implications of these results is that policies that intensify capacity building workshops and training are critical in order to close the experience gap.

The second set of results for Welch robust test of equality of means is presented on Table 5. The results show a significant difference on training received between the clustered and isolated firms. They also confirm that, sales volumes differ significantly between clustered firms and isolated firms, implying that, clustering offers marketing economies of scale to firms. However, no significant difference was found between the level of education and loans accessed. This leads to the rejection of the hypothesis that clustering offer firms a competitive advantage in attracting loans. In fact this is a pointer to the policy shortcomings in leveraging on opportunities created by cluster policies in launching effective developmental funding that are tailor-made to target clustered firms.

Table 5: The Welch robust test of equality of means

	Welch	Statistic	df1	df2	Sig.
By cluster status	Sales	6.103	1	166.879	0.014
By cluster status	Level of education	0.444	1	184.275	0.506
	Training level	2.817	1	189.979	0.005
	Loans accessed	2.073	1	179.623	0.152
By Training status	Profit Margin	22.323	1	97.635	0.000
	Sales	25.589	1	40.559	0.000
	Cost to sales ratio	79.288	1	122.051	0.000
By Educational level	Profit Margin	4.046	4	48.880	0.007
	Sales Volume	19.084	4	49.249	0.000
	Cost to sales ratio	4.209	4	48.511	0.005
By Loans accessed	Profit Margin	13.290	2	30.101	0.000
	Sales Volume	19.566	2	23.469	0.000
	Cost to sales ratio	13.793	2	31.791	0.000

Source: Survey Data

The Welch robust tests of equality of means results for the impact of educational level on profit margins, costs and sales volumes confirm that there is a difference in the average profit margin, costs and sales volumes generated by entrepreneurs with different educational levels. The Welch statistic and significant values are as follows; profit margin (4.046, p=0.007), sales volume (19.084, p<0.001) and costs (4.209, p=0.005).

Table 6 Games-Howell comparisons for educational level

Dependent variable	Educational Level		Mean difference (I-J)	Std. Dev	Sig.	
	I	J				
Profit Margin	Primary	Ordinary	-0.2077	2.86052	1.000	
		Advanced	-0.8180	3.15460	0.999	
		National Certificate	-9.0778	3.27837	0.069	
		Diploma	-5.0222	3.57322	0.629	
	Ordinary	Advanced	-0.6103	2.18730	0.999	
		National Certificate	-8.8700*	2.36230	0.006	
		Diploma	-4.8145	2.75693	0.425	
	Advanced	National Certificate	-8.2598*	2.71098	0.031	
		Diploma	-4.8145	3.06097	0.648	
	National Certificate	Diploma	4.0556	3.18836	0.710	
	Sales Volume	Primary	Ordinary	-811.2280*	155.7388	0.000
			Advanced	-1720.420*	352.3076	0.000
National Certificate			-2032.044*	427.9374	0.001	
Diploma			-3364.156*	578.5717	0.000	
Ordinary		Advanced	-909.1918	351.0905	0.090	
		National Certificate	-1220.817	426.9360	0.066	
		Diploma	-2552.927*	577.8314	0.003	
Advanced		National Certificate	-311.6246	531.1689	0.976	
		Diploma	-1643.7357	658.6009	0.119	
National Certificate		Diploma	-1332.1111	701.9722	0.340	
Costs		Primary	Ordinary	-0.0625	1.79200	1.000
			Advanced	0.3514	1.94500	1.000
	National Certificate		5.1111	1.95806	0.098	
	Diploma		2.8333	2.21251	0.705	
	Ordinary	Advanced	0.4139	1.32522	0.998	
		National Certificate	5.1736*	1.34432	0.004	
		Diploma	2.8958	1.69363	0.445	
	Advanced	National Certificate	4.7598*	1.54238	0.027	
		Diploma	2.4820	1.85476	0.670	
	National Certificate	Diploma	-2.2778	1.86845	0.741	

Source: Survey Data

The Games-Howell multiple comparisons (See Table 6) indicates that, profit margin are different between entrepreneurs with national certificate and those with advanced level of education with a $p=0.031$, and also between entrepreneurs with ordinary level and national certificate with a $p=0.006$. Sales volumes for owners with primary education as the highest qualification differs from those of the other owners with ordinary level, advanced level, national certificate and diploma with significant values of $p=0.001$ for national certificate and $p<0.001$ for the other 3 cases. However, cost for entrepreneurs with primary education as the highest qualification were not significantly different from other groups. The differences were only noted between ordinary level and national certificate with the significance value of $p=0.004$, and between advanced level and national certificate with the $p=0.027$.

The Welch robust test of equality of means results of (13.290, $p<0.001$) confirmed that profit margin for trained group was significantly high than that of untrained group, also sales volumes were significantly higher with Welch results (19.566, $p<0.001$) and costs lower with Welch results (13.793, $p=0.001$). Policies that can close the information gap between the trained and untrained, groups are very critical.

The Welch results for the effect of loans on microenterprise performance indicate that loans offer a competitive advantage to firms that were able to access them. Micro-enterprises that accessed loans tend to have high profitability with the Welch statistic (13.290, $p<0.001$), sales volume were also found to be high with the Welch (19.566, $p<0.001$), cost were lower at (13.793, $p<0.001$).

Table 7: Games-Howell comparisons, dependent variable: Loans accessed

	Loans		Mean difference (I-J)	Std. Deviation	Sig.
	I	J			
Profit margin	No loan	Up to \$500	-8.5763*	2.23785	0.002
		\$501 to \$1000	-8.8471*	2.10350	0.001
	Up to \$500	\$501 to \$1000	-0.2708	2.75972	0.995
Sales Volume	No loan accessed	Up to \$500	-1876.098*	425.34333	0.001
		\$501 to \$1000	-2640.078*	552.84975	0.001
	Up to \$500	\$501 to \$1000	-763.9792	680.37602	0.508
Cost	No loan accessed	Up to \$500	4.9598*	1.32099	0.002
		\$501 to \$1000	5.3140*	1.18098	0.000
	Up to \$500	\$501 to \$1000	0.3542	1.56118	0.972

Source: Survey Data

The Games-Howell comparisons Table shows that significant difference were visible between entrepreneurs who did not accessed funds and those who accessed funds. The significant value for those who did not access fund and those who accessed up to \$500 is $p=0.002$, and between those who did not accessed funds and those who accessed between \$501 and

\$1000 is $p=0.001$. There was no significant difference on the level of funds accessed with the $p=0.995$ (See Table 8a and 8b below). There is strong evidence that clustering only generated marketing economies of scale, however, there is no evidence for dynamism in cost saving, attracting training, improve accessibility of loans

CONCLUSIONS

The discourse on clustering vis-a-vis isolated operations has always centred on whether clustering as compared to isolated operations can enhance microenterprise performance and growth, an essential factor for economic development and poverty reduction. The results shows no competitive advantage in clustering when this is viewed from a cost or profit margin perspective. On the other hand, evidence drawn from this study suggests that there are performance and growth effects arising from economies of scale in the procurement and operational logistics where individual microenterprises are at a major disadvantage in bulk purchasing and transportation. Isolated individual microenterprise operators suffer diseconomies particularly in fulfilling large orders. These advantages can be exploited and leveraged on in pursuit of sustainable economic development. Evidence is also shown that entrepreneurs in clusters like their counterpart in isolated operations, are not exploiting the gains that accrues from clustering in securing competitive financial advantage and training programmes. This alludes to the conclusion that if clusters are to fully contribute towards economic development and poverty alleviation, policy initiatives should be directed towards building capacity for entrepreneurs under clusters to exploit the competitiveness offered by operating in clusters when attracting funding and training programmes. When experience is coalesced in a cluster, the results shows a significant effect on profit margins and sales volume. Cluster microenterprises with more experience have more influence on both profit margins and sales volumes. Results in this study demonstrate the importance of education and training for microenterprises. As for education, the higher the educational level the better performing the microenterprise in terms of profit margins. A similar observation is made where trained microenterprises performed better in terms of profitability and sales volumes compared to untrained microenterprises. Education and training remain an imperative in microenterprise performance, whether clustered or isolated. Access to financial resources has major implications for a microenterprise. In this study, microenterprises that had access to loans tended to be more profitable than those without. The situation did not matter whether the receiver was in cluster or an isolated operation.

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