

**NURTURING LATENT ENTREPRENEURSHIP AND THE GROWTH OF  
SMALL FIRMS IN ZIMBABWE**

**A case study of Harare Metropolitan Province**

**BY**

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## **DEDICATION**

This thesis is dedicated to my wife Memory, my children Alfred, Priscillah, Monalisa and Nigel and to all my “clan” members *VaNyere*

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## ABSTRACT

The phenomenon of small firms located in industrial clusters is widespread in many countries, particularly in Italy, Brazil, Mexico, Peru and India as well as in some African countries such as Kenya, Tanzania and Ghana. These firms have made significant inroads on the global supply chain for various products such as fashion consumer goods, shoes, garments, precision surgical instruments and construction tiles.

The purpose of this study was to determine the extent and significance of small-firm clustering in Zimbabwe and the factors that contribute to the growth and dynamism of the firms in these clusters with a view to recommending ways in which entrepreneurship among these firms could be nurtured further. The cluster was modeled as an *Entrepreneurial Technological Regime* wherein it was proposed that the growth and success of the firms depended on the existence of an enabling environment which allowed the constant acquisition and diffusion of knowledge (technological capabilities).

The study used a questionnaire that was distributed to a sample of 608 small furniture manufacturing firms selected from a population of 2 144 firms located in clusters in the five major cities of Zimbabwe. The study also used results from focus group discussions and interviews with owner-managers of firms at the Glenview cluster in Harare.

The study arrived at these conclusions:

- the firms in Zimbabwe's clusters are micro-enterprises (very small entities) that are "isolated" in that they lack access to new technology and capital;
- the firms are, however, worthy candidates for policy intervention because they possess various collective attributes that place them at an advantage over other SMEs; and
- the clusters possess the characteristics of *complex adaptive systems* (phenomena with emergent properties), therefore any policy interventions would be more effective if they

were directed at the cluster as a whole or groups of firms within the cluster rather than at individual firms.

The study therefore recommended that measures be taken to attract long-term capital (debt and equity) into the cluster by introducing the firms to the capital markets and also bring in new technological capabilities from outside the cluster by forging technical alliances between the firms in the cluster and other firms outside the cluster. This should be done within a framework that fosters a strong private-public partnership in which the private sector takes the leading role and involves the participation of the cluster members and the local authority.

## LIST OF ABBREVIATIONS

CMC	Cluster Management Committee
CSFS	Collective Self Financing Scheme
CZI	Confederation of Zimbabwe Industries
DROA	DuPont Return on Assets
ESAP	Economic Structural Adjustment Programme
ETR	Entrepreneurial Technological Regime
FSC	Forestry Stewardship Certification
GDP	Gross Domestic Product
GEM	Global Entrepreneurship Monitor
GPM	Gross Profit Margin
GPT	General Purpose Technology
OPP	Opportunity based entrepreneurship
OPM	Operating margin
ISO	International Standards Organisation
PAAP	Poverty Alleviation Action Plan
MSMED	Ministry of Small and Medium Scale Enterprises
NEC	Necessity-based entrepreneurship
NGO	Nongovernmental organisation
RBZ	Reserve Bank of Zimbabwe
ROA	Return on assets
ROCE	Return on capital employed
SDA	Social Dimensions of Adjustment Programme
SDF	Social Development Fund
SEDCO	Small Enterprises Development Corporation
SME	Small and medium-scale enterprise
SMEAC	Small and Medium Enterprise Advisory Council
TAT	Total assets turnover
WIP	Work in progress
ZAMFI	Zimbabwe Association of Microfinance Institutions
ZIMPREST	Zimbabwe Programme of Economic Transformation

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# Chapter 1

## Introduction to the study

### 1.0 Introduction

The population census results of 2002 showed that Zimbabwe at that time had a total population of 11,631,657 inhabitants (ZMDAT, 2009). For administrative purposes however, Zimbabwe is divided into ten provinces of which Harare is a small metropolitan province with a population of about 1,896,000 and a geographical area of about 872 square kilometers. However, in terms of population size, Harare is by far the largest of the ten major cities of Zimbabwe. The second major city by population size is Bulawayo, with a population of 675 650 and the smallest is Marondera, with a population of about 51847(Brinkhoff, 2011). Harare is also the capital and administrative city. Before Zimbabwe's independence in 1980, Harare was known as Salisbury.

A notable feature of Zimbabwe's economic landscape today is the existence of a large number of small-scale businesses and many "informal" entrepreneurial activities in both the central business district and residential areas of its cities and towns. A large proportion of these activities are found in several "clusters" of small businesses. A cursory examination of the geographical location of these clusters seems to suggest that the reason for their apparent prominence is that they are highly visible and accessible to both customers and suppliers of inputs. This is because they are located close to the residential areas but also have a direct link to the central business district and other large industrial manufacturers in the city.

Zimbabwe's residential areas have historically been categorized into three types: namely, the spatially populated (low-density), high-income areas, wherein resides the more affluent section of the population; the middle-income areas, wherein reside the not-so-affluent, but not necessarily poor residents; and the densely populated (high-density), low-income areas, in which the poor people, who form the vast majority of the population, reside. The high-density suburbs are the townships that were originally built in the pre-independence period to house the black population but after independence, the better-off families moved to lower-density suburbs, previously the

exclusive preserve of the white population. In recent years however, a sizeable number of the middle-income people have also found their way into the high-density areas. The high-density suburbs however, still remain exclusively black (Kanji, 2005).

The most prominent of Zimbabwe's small-business clusters are found in Harare's low-density suburbs. One of them is *Gazaland*, which is a conglomeration of small businesses involved in a plethora of activities such as sheet metal fabrication, light engineering, motor vehicle repairs and maintenance, spray painting and panel beating as well as many others in the retail business such as the supply of motor vehicle spare parts and general merchandising. *Gazaland* is located in the low-income suburb of Highfield but is also a walking distance from other low-income suburbs of Kuwadzana, Budiro, and Glenview in the west. The second prominent cluster in Harare is *The Complex*, which is a conglomeration of small businesses engaged in the manufacture of household wood and steel furniture. It is located in the Glenview high-density suburb but is also a walking distance from other high-density suburbs such as Budiro, Highfield, and Glen Norah.

Both of these clusters are located close to the Willowvale industrial area, where large steel manufacturers and stockists such as Steel Base, and ZISCO Steel are also located. Willowvale Road is a major trunk road which links the clusters with the central business district of Harare. What further distinguishes *The Complex* from *Gazaland* however is that the firms therein are not engaged in numerous activities but concentrate only in the manufacture of household furniture and also that there appears to be a lot of dynamism and growth within the cluster.

The other two prominent small-business clusters found in Harare are: *Mupedzanhamo* (meaning "the vanquisher of poverty") and *Siya-so* (meaning "let sleeping dogs lie"). *Soya-so* is another conglomeration of small businesses engaged in a plethora of activities similar to those found at *Gazaland*. The small businesses at the *Mupedzanhamo* cluster are engaged mainly in the sale of used clothing from neighbouring countries such as Mozambique, Tanzania and the Democratic Republic of Congo. Both *Mupedzanhamo* and *Siya-so* are located close to the densely populated, low-income suburb of Mbare, which is only three kilometers from Harare's central business district.

Clusters of small industrial firms performing similar activities are also a common sight in the urban areas of other developing countries and this phenomenon is not unique to Zimbabwe only. In Africa, empirical evidence on this phenomenon has been gathered in Kenya by McCormick (1998), where they are referred to as *jua kali* sites, a Swahili term for small businesses operating in the “hot sun”. For example, in their study of rice miler clusters in Ghana, Furuya, Futakuchi and Sakurayi (2006) also make reference to the existence of such clusters in other parts of the world as shown in Table 1.1 below.

**Table 1.1: Clusters of small-scale businesses, location and main activity**

COUNTRY	LOCATION OF CLUSTER	MAIN ACTIVITY
Brazil	Sinos Valley	Shoes
India	Turuppur and Ludhiana	Knitwear
Kenya	Kamukunji	Metal products
Kenya	Ziwani	Vehicle repair
Ghana	Suame	Vehicle repair, metal work
South Africa	Western Cape, Durban	Clothing Pre-owned vehicles
Mexico	Guadalajara	Shoes
Peru	Gamarra (Lima)	Clothing
Pakistan	Sialkot	Surgical instruments

**Source : Furuya, Futakuchi and Sakurayi (2006: 65)**

In both industrialized and developing countries there is increasing awareness that isolation, rather than size, is the key obstacle preventing small and medium-scale enterprises (SMMEs) from boosting their competitiveness (UNIDO, 2006) and that clustering and networking can help such enterprises to raise their competitiveness (Humphrey and Schmitz, 1995). The experiences and achievements of small firms operating in clusters or industrial districts in what is now commonly referred to as the ‘Third Italy’ as well as in Brazil and Pakistan, provided the initial spark to the debate as to whether the concept of clustering can provide the panacea for such problems as unemployment and slow economic growth for the less industrialized countries (Piore and Sabel, 2004). The apparent success of these SMEs has given birth to mounting research efforts in other

developing countries, especially in Africa with the aim of discovering if such success stories can also be replicated in these regions. The motivation for such research efforts is the belief that the economic development of countries can also be anchored on the development of their SME sector.

The ‘Third Italy’ (or ‘Italian Distretti’) is a region located in northeast and central Italy in which small firms clustered together have managed to grow rapidly and develop niche export markets in shoes, leather handbags, knitwear, furniture, tiles, musical instruments and food processing. The firms located in this district have been the subject of many studies (Becattini, 1998; Humphrey and Schmitz, 1995) which concluded that they have become very significant contributors to the Italian economy. For example, Becattini (1998) estimated that in 1998 the Italian distretti contributed twenty per cent of total manufacturing employment and thirty per cent of manufactured exports.

Other studies elsewhere in Brazil have shown that between 1970 and 1990, Brazil managed to raise its share of world exports in leather shoes from less than one per cent to more than twelve per cent and in 1991 was exporting nearly 100 million pairs of shoes valued at \$900 million a year largely as a result of the success of its SMEs operating in the Sinos Valley cluster (UNIDO, 2006). UNIDO also reports that in Pakistan, near the town of Sialkot, a cluster of over 300 SMEs specializes in the production of surgical instruments such as scissors, forceps and other precision instruments from high-grade stainless steel. Over ninety per cent of its output is exported mostly to Europe and North America. The cluster is said to account for over twenty per cent of world exports of surgical instruments.

### **1.1 Background to the study**

Agglomeration economics and lately, studies on collective efficiency and flexible specialization (Rabellotti and Van Dijk, 2002; Sverrisson, 2006; McCormick, 1998; Bagachwa, 2001) have brought to the fore the issue of small-scale enterprises operating in close proximity to each other. Specific reference has been made to whether such clusters can contribute to the economic prosperity of developing countries (Morris and Barnes, 2003; Oyelaran-Oyeyinka and McCormick, 2006).

A study by Bhalla (1998) based on the East African countries of Tanzania and Kenya found that small-scale businesses in these countries operate at a low level of technological development and innovation. Such businesses tend to use traditional technologies, that is, technologies that need improvement or replacement (Bhalla, 1998). In the very small production units, the activities of production and administration are undertaken by the same individual. This also seems to be the case with respect to the enterprises in Zimbabwe's small-business clusters.

Studies on agglomeration economics also tend to suggest that business enterprises located in close proximity to each other are likely to exhibit "collective efficiency", wherein the individual enterprise is viewed as part of an interrelated system of production and distribution (Van Dijk and Rabellotti, 2004). As a collective, the enterprises are more efficient than they would be operating in isolation. This is especially true where the business cluster is sector-specific, like *The Complex* near Glenview, in which small, vertically disintegrated enterprises are involved in the same broad sector of household furniture. This type of business cluster has been referred to as a "Marshallian District" by Van Dijk and Rabellotti (2004: 20). The enterprises within such a cluster exhibit both horizontal and vertical collaboration, resulting in agglomeration economies.

The *Gazaland* cluster, however, is less sector-specific than the one in Glenview (*The Complex*) in that one can identify more than one industrial sector within the cluster. Such a cluster, referred to as a "Market Town" (Van Dijk and Rabellotti 2004:28) would still, however, exhibit signs of collective efficiency. The economies of agglomeration in such a cluster would not arise from efficiencies within the members of the cluster per se, but from the enterprises' ability as a group to attract more customers than they would individually. The larger flow of customers results in economies of scale for each enterprise within the cluster.

## **1.2 Statement of the problem**

The notion held in the past was that small firms were essentially a transitional phenomenon that would pass with time as economies grew. It was believed that small businesses would "fade away" as victims of their own inefficiencies and large business would rule the roost (Thurik and Carree, 2005; Piotr and Mareki, 2009). Recent studies in Europe and North America, however, have proved that the opposite has actually been true in that the importance of small firms has grown, especially

in Europe and America. The production systems that have in the past been followed by large industrial firms in these regions were based on ‘Fordism’, that is mass production and assembly-line techniques. These production techniques were coupled with ‘Taylorism’ in management, a clear line of command and a highly developed division of labour and stratification within the factory, what Thurik and Audretsch (2004) refer to as the *managed economy*.

Indeed, global entrepreneurship, and thus the formation of small firms, has been growing rapidly in recent years. This has been confirmed by the Global Entrepreneurship Monitor (GEM) which has since 1999 carried out annual surveys covering 59 economies and assessing the level of “early-stage entrepreneurial activity” in those economies. In the year 2010 alone, it was found that more than 250 million people globally were involved in early-stage entrepreneurial activity (Kelley, Bosma and Amoros, 2010).

The main reason for the growing relative importance of the small firm globally has been the intensifying global competition and the increasing degree of uncertainty and market fragmentation. These changes in patterns of demand over time resulted in the need to restructure production plants to suit the customized demand patterns of today, leading to the development of “flexible” techniques copied from Japan, such as ‘Just-In-Time (JIT) inventory management systems (Pederson et al, 2004) and a refocus on smallness.

In Africa, pre-independence and post-independence industrialization policies have also tended to emphasize the development of large, mass-production industries along the ‘Fordist’ paradigm to the detriment of small firms (Ronnas, Sjoberg and Hemlin, 2001). Pre-independence colonial laws and regulations were used to erect barriers to the development of small-business enterprises and to systematically benefit the interests of the settler community at the expense of the indigenous majority. Small, indigenously-owned businesses were regarded as “illegal”, not due to the nature of their economic activities but to the restrictions imposed on them officially which prevented them from accessing legality. The entrepreneurial spirit among the indigenous population was systematically killed off, thwarting the growth of small-business enterprises from this population sector. This process ensured that the indigenous population would always be available as a pool of cheap labour for the mass-production factories, plantations and farms (Mhone, 2002).

Even after attaining independence from colonialism, small and medium-scale enterprises have not been high on the development agenda of many African governments. “Africanisation” has always been associated with the promotion of small enterprise, but African governments chose the state socialist road of nationalization and public enterprise expansion as the supposedly faster road to Africanisation. The development of small-business enterprises has historically been impeded by these post-independence industrialization policies under which small-business enterprises were not seen as desirable in themselves, but as a necessary first step towards the development of large-scale industrial firms (Alila, and Pedersen, 2001; Osei et al, 2003; Ramamurthy,2008)

In Tanzania, for example, there was a fairly rapid development of small enterprises during the early years of independence, but after the Arusha Declaration of 1967, the development of private enterprise was no longer in line with the new socialist policies and very few commercial enterprises were allowed to develop in the Ujamaa Villages. Outside the villages, only the large state-owned enterprises and other large-scale import-substituting industries were allowed to flourish. These institutions experienced several problems due to the inflexibility of their production methods (Sverrisson, 1994) as well as dependence on imports which led to under-capacity utilization and foreign exchange shortages (Bagachwa, 1994). Also in Uganda, the official attitude towards the small-scale sector was generally negative (Alila and Pedersen, 2001: 3). A study carried out by the International Labour Organisation (ILO) in Kenya in 1972 popularized the term “informal sector” with reference to the activities of business enterprises that were viewed to be outside the system of government regulation and not recognized by law.

In Zimbabwe as well, the small official stature of the small-business sector continued even after the attainment of independence. As a result of the colonial legacy, like in other African countries, at independence in 1980 Zimbabwe’s informal economy was very small, accounting for less than 10% of the labour force. This legacy consisted of various laws and bylaws that had been put in place to prohibit the free movement of indigenous people, especially from rural to urban areas. Most of these laws continued to be applied to the detriment of the growth of small-business entrepreneurship and the most prominent of them were: the Regional Town and Country Planning Act, Chapter 29:12/1976, the Housing Standards Control Act, 1972, Chapter 29:08 and the Urban Councils Act, Chapter 29:15/1995 (Tibaijuka, 2005).

This very restrictive policy environment tended to thwart the development of small-scale enterprises as confirmed by many studies (Chirisa, 2009; Kapoor, Mugwara and Chidavaenzi, 1997; Moyo, 1995; McPherson, 1998 and Tibaijuka, 2005). These studies suggest that there were significant barriers to entry into business by new small players which perpetuated the high levels of concentration of ownership of productive assets inherited from the colonial era. The socialist inclinations of the political leadership tended to discourage entrepreneurship by the private sector by placing greater emphasis on co-operatives and large state-owned enterprises. Like in many other African countries, small-business operators continued to be viewed in a negative social light, being regarded as “informal sector employees”, or people without a “proper job”. This term has also been applied in particular reference to small business enterprises that are not formally registered in terms of the law.

Thus officially, the “informal sector” as such was viewed as an unorganized “nuisance” sector which, at the very least, deserved to be conveniently neglected. Since small-business enterprise in Zimbabwe was generally associated with “informality”, the initiatives that were made by government to develop entrepreneurship at the small-scale level, such as the Small Enterprises Development Corporation (SEDCO), the Venture Capital Company of Zimbabwe, Credit Guarantee Company of Zimbabwe, and the Agricultural Development Bank, were rather piece-meal and mainly ineffective (Kapoor, 1997).

In spite of these negative factors, the significance of the small-business enterprise sector in Zimbabwe has continued to rise in recent years. Though not much is known about the exact number of small business operators in Zimbabwe today, a study by GEMINI sponsored by USAID in 1991 estimated that there were about 845 000 small enterprises in Zimbabwe at that time. Most of them were operating in the “informal sector” and employing 1.6 million people, which was 30 percent more than those employed in the modern, (formal sector). Another study by the Confederation of Zimbabwe Industries (CZI) found that in November 2000, at least 1.7 million people were making their living in the “informal sector”. Tibaijuka (2005) also reported that by 2004 the “informal sector” was contributing forty per cent of total employment in Zimbabwe and by that year the “informal economy” had effectively become the mainstay for the majority of Zimbabweans. The ILO also reported in June, 2005 that between three and four million Zimbabweans earned their

living through informal sector employment, supporting another five million people, while the formal sector employed just over one million people.

Certain significant developments have been responsible for the phenomenal growth of small-business enterprise in Zimbabwe. The initial catalyst was the IMF-led Economic Structural Adjustment Programme (ESAP) of 1991 whose intention was to impose austerity measures on the government, particularly with respect to public sector expenditures. The austerity measures imposed by ESAP exacerbated existing social ills, the most critical of which was the massive retrenchment of skilled and unskilled labour in both the private and the public sector which was accompanied by the closure of many manufacturing entities. These factors, combined with the liberalization of the economy, led to the gradual but systematic decline of the formal economy and to the growth of the informal sector (Fashoyin, 2008; Mhone, 2002; Tibaijuka, 2005).

The second push factor for the growth of informal businesses was the rising unemployment levels in the formal sector as well as increasing poverty levels. Pearson and Hungwe (1997) report that a Poverty Assessment Study Survey (PASS) carried out by the United Nations Development Programme (UNDP) in 1997 found that sixty-two per cent of the population had per capita incomes of less than USD122 per year and therefore could not afford to buy a basket of basic needs. They also report that in 1997 the rate of unemployment was thirty per cent according to the Government of Zimbabwe and forty-four per cent according to the Zimbabwe Congress of Trade Unions. The Confederation of Zimbabwe Industries (CZI) also reported that in the year 2000 alone, 9 684 workers were retrenched and at least 90 000 people were estimated to have been forced out of formal employment as 1 100 companies were shut down during the years between 1999 and 2000. At that time, only forty per cent of working adults were still employed. From 2006 and 2009 more than thirteen thousand employees were formally retrenched in the manufacturing sector with the approval of the Ministry of Labour. The main reasons given by most firms were: downsizing, viability problems, and company closures. The growth rate of unemployment during this three-year period alone was 130 per cent per year (Mpemba, 2010). In June 2007 (CZI) reported that 80 percent of the labour force in Zimbabwe was unemployed (CZI, 2007).

As noted by Fashoyin (2008) in a report for the International Labour Organisation on Zimbabwe's "informal sector", the performance of the formal sector and its ability to create formal employment opportunities is a crucial determinant of the size of the "informal sector". This was also the observation made at the 90<sup>th</sup> International Labour Conference of 2002, wherein it was concluded that "the informal sector absorbs workers who would otherwise be without work or income" (Fashoyin, 2008: 6). Thus, the growth of the small-business sector coincided with a drastic drop in the Gross Domestic Product (GDP) per capita from the early 1990s to the end of that decade which coincided with the introduction of ESAP in 1991, which was immediately followed by the Zimbabwe Programme for Economic Transformation (ZIMPREST) and a severe drought in 1992.

These and many other factors triggered an economic melt-down which was to last until July 2008. An International Monetary Fund country report on Zimbabwe (IMF, 2003) notes that real output declined by about 30 per cent between 1999 and 2002 and that the real Gross Domestic Product (GDP) per capita declined by about 26 per cent during that period. The Confederation of Zimbabwe Industries (CZI) reports that in 2008 the manufacturing sector was producing 30 per cent of what it used to produce in 2003 and more than 75 per cent of firms in the manufacturing sector were operating at less than 50 per cent capacity utilization, with only 4 per cent operating above 75 per cent, indicating very high levels of unemployment for the whole economy (CZI, 2008).

The effects of this declining real output as a result of capacity underutilization was compounded by ensuing high inflationary levels in the economy which eroded wages and forced people to seek self-employment in the "informal sector". By April, 2006 the inflation rate in Zimbabwe was being reported to be 1 000 per cent. By October 2007 it went up to 10 000 per cent and by January 2008 it was being reported at 100 000 per cent. By June, 2008 the inflation rate was being unofficially reported to be over one million per cent. At that time the Reserve Bank of Zimbabwe (RBZ) had lost control of the growth rate of the broad money supply and therefore control over the inflation rate. In January, 2008, the RBZ reported in its monthly bulletin that the money supply growth was way out of its targeted level of 500 per cent per year set in December 2007 and was now at the rate of 64 118 per cent (Fashoyin, 2008:19).

The Labour Force Survey carried out by the Zimbabwe Central Statistical Office (CSO) in 2004 found that those between the age groups of fifteen and twenty-four years were the most affected by unemployment, taking up to fifty-seven per cent of the unemployed. It was also found that the largest single group of the “economically inactive” population consisted of students (37 per cent)(Fashoyin, 2008:27).These factors provided further impetus for the growth of “informal” small-business enterprises as these young people sought apprenticeships in existing small-business enterprises or established their own businesses instead of seeking employment in the formal sector.

A further push to the growth of small businesses was provided by the rapid urbanization of Zimbabwe after the attainment of independence from colonial rule in 1980. Zimbabwe’s urban population rose rapidly from about 23 percent of the total population in 1982 to 35 per cent in 2000 and the UN-HABITAT Global Report on Human Settlements of 2003 predicted that by 2010 the urban population would have risen to more than 43 per cent. The report also noted that the major cities of Harare, Bulawayo, Mutare and Gweru had attained population growth rates of over 5 per cent per year throughout the 1980s (Tibaijuka, 2005).

At the policy front, the Government of Zimbabwe had early realized the importance of the contribution of small-business enterprises towards the recovery and growth of the economy as well as employment creation and set up various support programs for the development of micro-enterprises as well as micro-finance institutions. The most significant of these was the formation of the Small Enterprises Development Corporation (SEDCO) and the Venture Capital Company of Zimbabwe in 1984 (Kapoor, 1997).Also important was the setting up of the Social Dimensions of Adjustment Program (SDA) as a way of cushioning the effects of ESAP. Within the SDA a special fund known as Social Development Fund (SDF) was also set up to administer the resources for SDA. The aim of the SDA, inter alia, was to provide training and loan facilities for retrenched persons wishing to start their own businesses. The SDA program was later taken over by the Poverty Alleviation Action Plan (PAAP) in 1995 which was set up with the support of the UNDP. In addition to the SDA, in 1994 a separate Department for Employment Creation was launched in the then Ministry of National Affairs, Employment Creation and Co-operatives with the purpose of loans for small businesses.

Government also instituted a series of policies with the aim of reducing regulatory bottlenecks and relaxing physical planning requirements. The most significant of these was Statutory Instrument 216 of 1994 of the Regional Town and Country Planning Act which effectively allowed for the development of non-residential activities, and therefore small businesses, in residential areas. Many activities such as hairdressing, tailoring, book-binding, wood or stone carving were deregulated. Similarly, small and medium enterprises employing 5-10 people in such areas as welding, carpentry, tin-smithing, shoe repair and small scale car repair were accorded special consent (Tibaijuka, 2005).

Significant progress on the policy front was made when the National Consultative Forum, the Ministry of Industry and International Trade together with the Ministry of Youth Development, Gender and Employment Creation met and drafted the Zimbabwe Millennium Economic Recovery Plan (MERP), a policy document for the support of small and medium enterprises which was then approved by Cabinet in July, 2002. The main purpose of the policy was to create an enabling environment for small business entities by reducing the complexity of the regulatory environment for such entities. This would be achieved through interventions meant to revise laws and regulations and thereby reduce the burden of doing business. The policy document also proposed several other interventions for the development of small business. These included the introduction of incentives such as tax relief, rate rebates and discounts on land purchases and services, access to finance through the provision of risk capital and corporate venturing, technical assistance in marketing, skills development and training and institutional reform (GoZ, 2002). This development culminated in the creation of the Ministry of Small and Medium Enterprises with the specific mandate of promoting the formation and growth of small-business ventures in the country.

Recognizing the growing importance of small businesses in Zimbabwe, The Reserve Bank of Zimbabwe (RBZ), in its Monetary Statement of April 2004, allocated Z\$12 billion to the “informal sector” to be channeled through SEDCO. This constituted 0.8 percent of a Z\$1.42 trillion special concessional facility provided to the productive sectors of the economy which was meant to boost capacity utilization. SEDCO, together with the City of Harare also constructed several industrial shelters for small businesses in the Willowvale industrial area and the high-density suburbs of Glenview and Highfield.

Significant contributions were also made by the donor community in an effort to boost the viability of the small-business sector through the provision of technical assistance, training and loan facilities. These included the Australian Agency for International Development (AUSAID), the British Department for International Development (DFID), the Canadian International Development Agency (CIDA), German Development Co-operation (GTZ), Hivos Foundation, Konrad Adenauer Foundation (KAF), the Royal Netherlands Embassy, the United Nations Development Program as well as the United States Agency for International Development (USAID).

These efforts were also complemented by local financial institutions such as Barclays Bank, Kingdom Financial Holdings and the Commercial Bank of Zimbabwe, which set up Small Business Units dedicated to the needs of the small-scale sector. Local non-governmental organisations (NGOs) such as the Collective Self-financing Scheme (CSFS), Credit Against Poverty (Masvingo) and Environmental and Development Activities (ENDA) Zimbabwe, also came into the fray (Pearson and Hungwe, 1997).

While the government and other stakeholders in the economy have begun to realize the sectors' importance, there is still very little assistance for many small entrepreneurs and most are operating at below capacity because of lack of funds. "Operation Murambatsvina", a clean-up exercise that was carried out in June and July 2005, was a major set-back for small-business operators which almost wiped out the whole sector when more than 32,000 small, micro and medium-sized enterprises were demolished (Tibaijuka, 2005).

The growth in the importance of SMEs has also occurred in the other countries in Africa as well, where SME's have gained political influence and have become the focus of development strategies. These developments have been the result of several factors. Firstly, there is the perceived key role of SMEs in combating unemployment and poverty and the rapid shrinking of markets due to falling incomes resulting from unemployment in the large-scale sector (Alila and Perderson, 2008: 200). Additionally, structural adjustment policies carried out in many African countries have led to the resurgence of the small-scale sector because of the increased perception of the greater need for private sector participation in development, including the SME sector (Helmsing and Kolstee, 1993). The donor community has also added to this through their willingness to support SME's.

Finally, the nature of the entrepreneurs themselves has changed to become more educated, more highly skilled and experienced. Most of them are former middle-class employees of the more advanced industrial sector who have brought with them skills and experiences gained from that sector after being retrenched or voluntarily leaving employment due to falling income levels and others are school leavers with high education levels.

Small industrial firms are *sine qua non* to the overall industrial development of any country. As noted by Schumpeter (1934), small businesses were the vehicle for both employment creation and entrepreneurship in Europe during the first decades of the last century. In low-income countries, large enterprises are very few and typically employ less than 10 percent of the manufacturing workforce whereas small enterprises make up 90 percent or more of all manufacturing enterprises and account for two thirds of manufacturing employment (Snodgrass and Biggs, 1996). Berry (2002) makes the case for the importance of the SME sector in Latin America on the strength of the high level of income inequality associated with the dualistic character of the economies in the region

The rising importance of small-business operations in Zimbabwe and many other parts of the world today cannot be denied and this calls for a better understanding of the dynamics that lead to the growth of such businesses. Specifically, very little is known about the nature and dynamics of small-business clusters in Africa and particularly in Zimbabwe especially with regards to the factors that nurture the entrepreneurial spirit of the firms operating in them.

### **1.3 Research Objectives**

The primary objectives of this study were:

1.3.1. To determine the extent of small-firm agglomeration and establish a topology of small-firm agglomeration in Zimbabwe.

1.3.2. To establish the conditions necessary for pro-development agglomeration in the Zimbabwean context.

1.3.3. To establish the policy measures required to foster pro-development agglomeration in the Zimbabwean context.

#### **1.4 Research questions**

The study tried to achieve these objectives through providing answers to the following questions.

1.4.1. What is the extent and diversity of small-firm clustering in Zimbabwe and how do such clusters compare with those found elsewhere?

1.4.2. What factors are contingent to the growth of entrepreneurship within small-firm clusters in Zimbabwe?

1.4.3. To what extent do small-firm clusters contribute to the growth of the economy and what measures can be taken to enhance this contribution?

#### **1.5 Significance of the study**

Existing studies on capacity building and technical change have tended to concentrate mainly on large and medium-scale businesses. The contribution of the very small firm or micro-enterprise to wealth accumulation and capacity building seems to have been largely neglected (Bhalla, 2004: 83). This study seeks to improve knowledge regarding the factors that make small firms succeed, particularly those operating within a cluster. Empirical evidence on the evolution and dynamics of small-firm clusters in the developing world, particularly in Africa, is still very scanty, save for a few studies in Kenya and Ghana. Most empirical studies on this phenomenon are based on cases in Europe (Italy) and Latin America (Brazil).

This study contributes to the existing knowledge on small firms and small-firm clusters by empirically establishing the evolution and dynamics of small-firm clusters in Zimbabwe. From a theoretical perspective, such knowledge could also contribute to existing theory on entrepreneurship in general and the clustering of firms in particular.

The study also seeks to verify the authenticity of the Austrian view of entrepreneurship by taking an evolutionary approach to empiricism within an African context, particularly with regards to technological capability building and knowledge diffusion in small firms.

The policy debate with regards to fostering the growth of firms and small-firm clusters is still unresolved. It is still not clear what type of programmes would be suitable for them and there has not been much success so far. Further, a study carried out by Humphrey and Schmitz (1995) commissioned by the United Nations Industrial Development Organization (UNIDO)'s Small and Medium Enterprises Branch suggests that drawing lessons from the European experience is difficult because of the lack of causal connection between policies and the success of firm clusters. The UNIDO study notes that, in Denmark, for example, the Danish Networking Programme aimed at strengthening networks between SME's through the use of "network brokers" was only short-lived and closed in 1993 after having been in existence for five years. Also Indonesia had an active programme for supporting clusters of firms through credit and marketing assistance which began in the 1990s with over 9 000 clusters but by 2005 only 200 clusters were still in the programme (Perry, 2007).

## **1.6 Hypothesis**

The existence of external economies of agglomeration is not on its own a sufficient condition for the continued growth of firms operating in a cluster. Such continued growth and success also depends on the existence of an enabling environment which allows the nurturing and diffusion of technological capabilities within the cluster.

## **1.7 Delimitation**

This study is concerned with small-firm industrial clusters in Zimbabwe's five major cities. Although there are different activities in many of the small-firm clusters in Zimbabwe, the focus of the study is on the furniture making industry, which appears to be the dominant activity. The study uses the Glenview cluster in Harare as a case study of the clusters.

## 1.8 Conclusion

The issue that still has to be resolved with respect to entrepreneurship policy proposals is whether assistance efforts should be concentrated on groups of firms or individual firms. Assisting groups of enterprises is more cost effective than assisting individual enterprises due to lower transaction costs and the facilitation of mutual learning (Dessing (1991)). This study extends this debate to the developing country context where reducing the large-firm bias in the overall legal and policy framework has been a common factor in efforts to develop the SME sector, though as noted by Humphrey and Schmitz 2001:15, these attempts have been half-hearted and ineffective.

The rest of the study is organized in seven chapters. Chapter Two is a review of the existing literature on entrepreneurship, with particular emphasis on the clustering of small firms and collective efficiency. Chapter Two also explores entrepreneurship as seen from various economic perspectives. Chapter Three explains the nature of the entrepreneurial model. Taking the evolutionary perspective which allows for the existence of uncertainty in economic behaviour, the model uses complexity theory in examining the factors that allow for innovation and capability building within a cluster of firms, a complex network of relationships. Chapter Four explains the methodology used in the study. The study recognizes that entrepreneurial behaviour at the micro-level is *quasi-random*, though at the macro/meso-level it can be *deterministic*. Thus, the study will be equally quantitative and qualitative in approach by acknowledging the quasi-randomness that exists at the firm-level and the determinism that exists at the aggregate (macro/meso) level. The chapter also explains the research design, including the methods used for data collection and analysis. Chapter Five presents the research findings and an analysis and discussion of the findings is carried out in Chapter Six. Finally, Chapter Seven rounds up the study by discussing the conclusions from the findings of the study and making some recommendations for policy making as well as further study in the area of entrepreneurship.

## Chapter 2

### Literature Review

#### 2.0 Introduction

Perspectives on entrepreneurship often take two forms (Spilling, 2008). On the one hand one could consider entrepreneurship to mean simply the start-up of new firms. Thus, entrepreneurship is associated with ‘small’ firms, however they may be defined. On the other hand one could also take entrepreneurial activity to mean the innovative actions that are taken by firms or individuals, such as the creation of new products or entry into new markets. The entrepreneurial activities of firms also occur in different contexts. The purpose of this chapter is to present entrepreneurship from its different perspectives and to review the literature on entrepreneurship in the context of small firms operating in geographical clusters.

#### 2.1 Entrepreneurship as the creation of small firms

Entrepreneurship has often been associated with the *start-up of firms*. For example, the United Nations Global Entrepreneurship Monitor (GEM) project, which collects data from 60 different countries, uses an indicator called the *early-stage entrepreneurial activity index* as a measure of entrepreneurship in each country. The GEM project defines entrepreneurs as people between the ages of eighteen and sixty-four years who are actively involved in starting a new venture. Some start-ups are the result of the active search for opportunities by the entrepreneur (opportunity-based entrepreneurs - OPP) whereas others are the result of entrepreneurs who are pushed into starting a firm due to necessity (necessity-based entrepreneurship - NEC). Studies based on the GEM data base indicate that many firms are the result of OPP entrepreneurship but in the low and middle income countries, most start-ups result from the NEC entrepreneur (Amoros, 2009).

Since start-up firms are necessarily small, entrepreneurship is also often associated with small firms but there is no general consensus as to what exactly constitutes a “small firm”. For example, the Government of Zimbabwe’s Ministry of Small and Medium Enterprise Development (MSMED), defines *small, micro, and medium* enterprises (SMME) with reference to the number of employees, total assets and legal structure. According to the Ministry, a micro-enterprise is an entity that is not

formalized through a legal structure such as registration in terms of the Zimbabwe Companies Act (Chapter 190), or a Partnership Agreement and employs less than five persons, a small-scale enterprise is one that is formally registered and employs less than fifty persons and a medium-scale enterprise, besides being also formally registered, employs more than fifty but less than seventy-five persons (Government of Zimbabwe, 1999).

The Ghana Statistical Service considers establishments with ten or more employees as medium and large-scale and, by implication, those with less than ten employees are small-scale (Osei et al, 2003). A study on “incipient industrialization” in Botswana’s town of Lobatse by Nakizito and Darkohi (2002) states that the Small, Medium and Micro Enterprises (SMMEs) Task Force of Botswana defines SMEs as “any unit found in the formal and informal sector employing less than one hundred persons”.

## **2.2 Entrepreneurship and the individual**

Entrepreneurship is widely accepted to mean more than just the start-up of new firms but to include the entrepreneurial actions of individuals or firms. Entrepreneurship requires “action”, which also includes the creation of new products and processes or entry into new markets (Schumpeter, 1934). Effectively, it means the pursuit of opportunities by individuals.

If conceptualized in this way, entrepreneurship becomes a local (micro-level) phenomenon in which personal action at the local level results in system-wide outcomes (Grebel, 2004 and Kirzner, 1973). Thus, conceptually, one could argue that entrepreneurial activity is the driver of the economic system itself. However, by accepting entrepreneurship to mean the actions of individuals, one must then distinguish between those actions that may be considered “entrepreneurial” and those that are not. Further, one must also investigate the factors that differentiate individuals who take entrepreneurial actions from those who do not.

The phenomenon of entrepreneurship can be explained from several perspectives, which are:

- the Pre-Neoclassical perspective;
- the psychological perspective;
- the Neo-Classical perspective; and

- the Austrian or Schumpeterian perspective (Grebel, 2004).

### 2.3 The Pre-Neoclassical perspective

The Pre-neoclassical school attempted to answer both questions: what constitutes entrepreneurial actions, and what constitutes an entrepreneur?

Starting with the second question, Grebel (2004) provides a succinct exploration of this issue by tracing the early thoughts on this subject back to Richard Cantillon, who lived between 1680 and 1734 and described the entrepreneur as an ‘undertaker’ whose prominent quality is the *willingness to deal with uncertainty*. From this school, early attempts to answer this question were made by Francois Quesnay (1674-1774), who saw the entrepreneur as an *independent owner of a business*, and Nicholas Badeau (1730-1792), who thought that the entrepreneur is a person whose main concern is to reduce his cost in order to increase profit, what one may call *a process innovator*. Finally, there was Jean-Baptiste Say (1767-1832), who in his now famous “Say’s Law of Human Industry” saw the entrepreneur as *an independent economic agent who combines and coordinates productive factors*.

### 2.4 The psychological perspective

The investigation regarding the constitution of ‘the entrepreneur’ has also taken a **psychological perspective**, which tries to find out the factors that motivate the entrepreneur. A comprehensive sketch of this perspective is to be found in Davidsson (2002) whose analysis concludes that most empirical studies based on this perspective have tried to establish causalities between the characteristics of the individual and his or her propensity to become an entrepreneur. According to Davidsson (2002t), the **Locus-of-control Theory** which was espoused by Rotter in 1966, is the most widely accepted example of this perspective. Briefly, it says that while some people are ‘internally oriented’ in that they are more inclined to believe that reality can be affected by their own efforts, others are ‘externally oriented’ in that they believe in the power of external forces to influence outcomes. Internal beliefs influence the perceived chance of success and therefore, entrepreneurial behaviour is associated more with internally oriented people.

A second example cited by Davidsson (2002: 62) is **Prospect Theory** by Kahneman and Tversky (1984) which looks at the entrepreneurial act before it is undertaken as a choice between an alternative with a certain outcome (normally the status quo) and a risky (entrepreneurial) alternative. Further, entrepreneurs, like other people, are risk-averse in gain situations, and risk-seeking in loss situations. This theory concludes that entrepreneurial acts are undertaken, not because the individuals are more favourably disposed towards risk, but because they find themselves in situations in which they are more willing to accept risks, for example, a job loss.

Finally, Davidsson (2002: 63) looks at the **Ipsative Theory of Human Behaviour** developed by Frey (1988), which asserts that people consistently underestimate the probability of negative events and overestimate the probability of positive events, resulting in an “illusion of control” and “optimism bias”. The conclusion from this is that people with an entrepreneurial nature are more likely to exhibit optimism bias and illusion of control. Such people over-extend themselves by setting high goals and are better able to recognize opportunities.

Such studies have found the exercise of trying to identify all the relevant psychological and other characteristics pertinent to establishing the link between the owner of the firm and entrepreneurship to be very tortuous indeed with very little rewards at the end. This is because there are simply too many parameters to be considered if one is to undertake a quantitative study using these perspectives.

Davidsson (2002: 73) describes some of these attempts. For example, studies by Evans (1987) based on Swedish firms selected firm characteristics, such as age and size, and tried to relate them to the “growth rate” of the firm. Also using Swedish firms, Watkins (1973) tried to establish the relationship between firm age and “innovativeness”. Other studies have tried to link the characteristics of the entrepreneur with the success of the firm. Such characteristics include age of the owner-manager, business education and previous experience. Boswell (1972) and Warneryd (1988), for example, found that the age of the owner-manager is negatively related to innovativeness and growth-orientation. Begly and Boyd (1987) also found that business founders tend to be more entrepreneurial than non-founders. The overall conclusion from these studies is that such factors, though important, are not strong determinants of entrepreneurship.

The psychological perspective does not address the question of what constitutes entrepreneurial activity. It only tries to analyse the factors that make up the 'typical' entrepreneur.

## **2.5 The Neo-classical perspective**

The Neo-Classical school has been accused of ignoring the existence of entrepreneurship itself (Dopfer, 2006 and Grebel, 2004) and does not help us at all with explanations as to what an entrepreneur is and what constitutes entrepreneurial actions. This is because Neo-Classical economists have tried to emulate the deterministic methodologies of the natural sciences by generating general propositions with regards to social phenomena. But, unlike natural phenomena, social phenomena are not amenable to laboratory-like tests and therefore unlikely to deliver generally valid axioms such as those found in physics, for example. Social phenomena such as entrepreneurial activity are neither constant nor predictable. Thus, from the Neo-Classical perspective, it is quite difficult to pin down exactly what an entrepreneur is, or even what entrepreneurs do, as Grebel (2004: 50) states:

The search for the entrepreneur in economics seems to raise the same puzzling questions as quantum theory does in physics. We know that there is entrepreneurial behaviour which brings along innovation and economic change. But when we look at the specificities of an idealized entrepreneur, we are not able to figure out his detailed profile. There is an indeterminacy phenomenon similar to the particle-wave duality in quantum theory. We observe the light wave but cannot observe the photon's locality and impulse at the same time.

Neo-Classical economics is premised on the notion that economic change can be explained on the basis of objective laws and not the subjective activities of entrepreneurs. Though Neo-Classical economics can be accused of not recognizing the importance of the entrepreneur in economic activity, it can be argued that its approach is *heterodox* in that it acknowledges the existence of the individual agent in economic theory. This further observation is important for the development of a theory on entrepreneurship. According to Heertje (2004), the heterodox approach to economic theory can also be referred to as *methodological individualism* in that methodologically it acknowledges the existence of the individual economic agent. The Neo-Classical school lost sight

of the entrepreneur because it is based on *passive methodological individualism* (Dopfer, 2006) in that it does not recognise the role of the individual economic agent in influencing economic change. Though the approach is basically heterodox in that it acknowledges the existence of the individual economic agent, the individual is taken as a passive observer. Thus, the Neo-Classical methodology cannot be said to be “completely heterodox”.

As Dopfer (2006) has noted, the pioneers of Neo-Classical theory such as Walras and Jevons realized that a proper theoretical explanation of economic phenomena would need to be premised, not only on objective laws, but also an understanding of the cognitive capabilities and behaviour of the individual economic agent. According to Dopfer (2006: 7), the individual economic agent of the Neo-Classical school is, however, a *Homo sapiens oeconomicus*, with the extraordinary ability to continuously generate, adopt and retain new knowledge, and therefore able to predict the future. This individual was created with the intention of solving the “invisible hand” problem of Adam Smith, whereby any state of uncertainty or disequilibrium is automatically corrected by the “market forces” of supply and demand. The *Homo sapiens oeconomicus* only reacts to opportunities but does not in any way change them. The Neo-Classical view of the entrepreneur as an economic agent is that of a mere physical, quantitative object, or a “dependent variable” in a system of mathematical equations (Ebeling, 2007: 91) with no significant role in the shaping of the future.

It is for these reasons that the Neo-classical school is accused of having “lost sight” of the entrepreneur (Grebel, 2004; Dopfer, 2006; Ebeling, 2007).

## **2.5 The Austrian perspective**

The Austrian school also takes a heterodox approach in that it takes entrepreneurship to mean the activities of individuals. It is based on what Dopfer (2008) calls the “complete form” of methodological individualism, or *active* methodological individualism in that it acknowledges the role of the individual economic agent as the key to economic change. Active methodological individualism takes the view that not only does the economic agent respond to opportunities but also actively takes part in creating these opportunities. The Austrian definition of what constitutes an entrepreneur can be summarized as *the process of recognizing opportunities, responding to them*

*appropriately, and creating new ones.* This can be deciphered from several of their thoughts on this subject.

The Austrian school emphasizes *alertness* and *action* as the hallmarks of entrepreneurship. Grebel (2004) also provides a comprehensive sketch of this perspective and shows that the thread to the beginning of the Austrian school can back to Carl Menger who lived between 1810 and 1921 and described the entrepreneur as *the action man*, whose main concern is the satisfaction of his human needs. Also as espoused by Menger (1921), *human action* is at the centre of the transformation process and all economic change. This theme was also taken up by Mises (1996, p254) when he said that entrepreneurship refers to the *acting man* in regard to the changes occurring in the data of the market.

The transformation process, which consists of the coordination of production, is time consuming and besides technological knowledge, foresight is required in order to meet the future needs of consumers. However, the future needs of consumers are not also perfectly predictable. Thus, *uncertainty* is the driving force of human actions, and according to Mises (Grebel, 2004: 51). Every action is a speculation that is guided by a definite opinion concerning the uncertain conditions of the future. Knight (1933) then describes the entrepreneur as a *business man*, who is the *bearer of uncertainty*:

Because of imperfect knowledge, producers have to predict consumers' needs, coordinate production in accordance with these needs. Only a small group of economic agents, the *business man*, is willing to face this uncertainty, has the intellectual capacity and power to direct and control others who are rather doubtful and timid (Grebel, 2004: 26).

Another prominent Austrian economist sighted by Grebel (2004: 74) is Kirzner who sees the entrepreneur as the individual who is *alert to market opportunities* to make profit. The entrepreneur has a certain subconscious view of the opportunities offered by the market. However, these are just "hunches" which, when acted upon, may turn out to either having been correct or wrong. If the

hunch had been wrong, the entrepreneur will correct it and make new hunches. Thus, entrepreneurial activity is a continuous but spontaneous *learning process*.

Economic agents are, however, different in the manner in which they learn. Active methodological individualism is also associated with the observation that economic agents are *heterogeneous* with respect to their individual intellectual endowments and cognitive capabilities, and therefore, *knowledge* (Grebel, 2004 and Ebeling, 2007). Heterogeneity in intellectual endowments and cognitive capabilities implies that different individuals will have different (heterogeneous) ways in which to interpret the same set of economic phenomena and have different views (hunches) regarding the opportunities offered by the market. Thus some individuals will have strong hunches and act upon them, while others may not. The entrepreneurs are those individuals who act on their hunches, or their understanding of economic opportunities. They are *alert* to opportunities and *act* on them.

## **2.7 The Schumpeterian (evolutionary) perspective**

According to Dopfer (2008), Schumpeter's idea of entrepreneurship can be summarized in his proposition that entrepreneurs carry out innovations and swarms of followers imitate them, resulting in "creative destruction" (economic development) from within. The entrepreneur originates an idea (an innovation) which can then be physically actualized by many other economic agents.

Although his views on entrepreneurship are heterodox and based on active methodological individualism, Schumpeter takes entrepreneurship from the *operant* (local) to the *generic* (global) level asserting that decisions made by individuals have an effect on the economy as a whole. He takes the view that the whole economic system is a complex adaptive system which evolves over time as a result of the activities of individual entrepreneurs. Thus, his perspective is said to be *evolutionary*. Schumpeter saw the entrepreneur as a "disturber of equilibrium", an *innovator*. The innovator is one who shows leadership in carrying out *new* combinations, which Schumpeter listed as: the introduction of new products or new product qualities and new production methods, the opening of new markets, the use of new raw materials or sources of semi-manufactures and the creation of a new industry organization (Grebel, 2004).

In line with the Schumpeterian perspective *knowledge diffusion* is critical to the innovation process in that other economic agents will follow the actions of the innovator, resulting in “swarms of innovations”. The entrepreneur is the hero who has the “dream and the will to found a private kingdom” (Grebel, 2004: 94).

Schumpeter’s ideas were based on the simple observation that change is brought about by energetic personalities. Change involves new ideas, and in this way, the energetic agent is an innovator. The entrepreneur is the individual who constantly comes up with new ideas and the primary *agens*, or source, of change is the energetic drive of these individuals (Spilling, 2008). Accordingly, the entrepreneur brings about *novelty* in the form of new ideas. Thus all important change, be it in political, economic or social life, is brought about by entrepreneurs.

Entrepreneurship from the Schumpeterian perspective is therefore strongly critical of the Neo-Classical perspective which states that economic change can be explained on the basis of objective laws only in which the activities of individuals have no role to play. Instead, development is always propagated by the *agens* or energetic drive of the entrepreneur. There is no “automatic” economic progress. Thus, a proper understanding of economic phenomena such as entrepreneurship should be premised on an understanding of the cognitive process and behaviour of individual economic agents.

This perspective on entrepreneurship can also be described as **evolutionary** in that development comes “from within” the economic system, that is from the cognitive processes and behaviour of the agents making up the system. The entrepreneur changes the manner in which production is organized and resources are combined. The entrepreneur develops new business activities based on these new combinations (Spilling, 2008).

Schumpeter’s reference to the evolutionary process of entrepreneurship as “creative destruction” implies that the development of new combinations by way of introducing new innovations often leads to the disturbance of the current order of things by breaking up the existing circular flow. Any new innovations, for example the introduction of new products, must as a rule draw the necessary means of production from some old combinations. Old structures are destroyed while

new structures are created, resulting in “creative destruction”. To develop something new, existing resources have to be organized in new ways, a process which results in evolution.

Economic agents engage in activities at both the operant and the generic level and according to Kirzner, a prominent Austrian scholar (Dopfer 2008), there is *uncertainty* in decision making in that economic agents such as owner-managers of firms do not possess all the information relevant for decision making at the operational level. They are therefore constantly involved in the search and discovery of new information, resulting in the discovery of new opportunities, leading to arbitrage profits and rents.

## **2.8 Summary of perspectives on entrepreneurship**

In summary, the economic agent of the Neo-Classical school is the *Homosapiens oeconomicus* in possession of perfect knowledge. This individual is not an entrepreneur at all in that he or she does not engage in the search for information (*passive methodological individualism*). The Austrian economic agent is an entrepreneur actively engaged in the search for information in a world of uncertainty (*active methodological individualism*). The Austrian school and the Neo-Classical school share common ground in that they are both confined to the operant level of the system in that the search for knowledge by the individual economic agent does not relate to generic knowledge for all other agents.

Schumpeter, however, argues that during the process of carrying out innovations, the economic agent changes the knowledge base at the generic level as well. Schumpeter’s entrepreneur searches for and introduces into the system new generic knowledge, which, in turn, changes the system itself. The entrepreneur carries out innovations and by so doing, destroys and at the same time creates the structure of the economy “from within”. The Schumpeterian entrepreneur introduces new knowledge, reconfigures generic rules, and enables the agents to use a new set of operations inducing a reallocation of resources.

The different entrepreneurial perspectives discussed thus far can be summarized in Table 2.1 below.

**Table 2.1: Summary of entrepreneurial perspectives**

<b>Entrepreneurial Perspective</b>	<b>View on Entrepreneurship</b>
<b>Pre-Neoclassical</b>	<ul style="list-style-type: none"> <li>• Willing to take opportunities in a world of uncertainty</li> </ul>
<b>Neo-Classical</b>	<ul style="list-style-type: none"> <li>• A deterministic world.</li> <li>• Passive methodological individualism.</li> <li>• The entrepreneur only responds to given opportunities rather than create them.</li> <li>• No role for the entrepreneur.</li> </ul>
<b>Austrian</b>	<ul style="list-style-type: none"> <li>• A world of uncertainty.</li> <li>• Active methodological individualism.</li> <li>• The entrepreneur is the active economic agent who is alert to arbitrage opportunities but does not change the knowledge base.</li> <li>• Local level view of entrepreneurship.</li> </ul>
<b>Schumpeterian</b>	<ul style="list-style-type: none"> <li>• A world of uncertainty.</li> <li>• Active methodological individualism.</li> <li>• The entrepreneur is the active economic agent who changes the generic knowledge base.</li> <li>• Generic (system) view of entrepreneurship – both local and global.</li> </ul>

*Source: Author (2011)*

the form of a continuum, starting from the view that does not recognize the entrepreneur at all (Neo-Classical), followed by the acceptance of entrepreneurship at the local level (Austrian) and finally at the generic level (Schumpeterian). This is illustrated in Table 2.1 below.

This study deviates from these common perspectives that concentrate on the characteristics of the entrepreneur. Rather, the study is concerned with the nature of entrepreneurship within a defined context as described below.

## 2.9 Technological perspective of entrepreneurship

A recent perspective on entrepreneurship is concerned with the *context* within which the entrepreneurial act is taking place rather than simply with the psyche or characteristics of entrepreneurs. Schumpeter's view of entrepreneurship is that the entrepreneur is an *innovator*, and innovation results in technological change. This view has been extended to the idea of **technological regimes** (Spilling, 2008 and Winter, 2004). A technological regime describes the environment within which technological developments take place.

The idea of technological regimes can be traced back to Schumpeter. In his earlier proposition on entrepreneurship, Schumpeter associated entrepreneurship with the start-up of new firms. He asserted that new combinations are “embodied in new firms which generally do not arise out of the old ones but start producing beside them” (Schumpeter, *op.cit* p66). This early perspective on entrepreneurship is referred to as *Schumpeter Mark I* and his later perspective as *Mark II* (Breschi et al, 2008). The Mark I perspective says that innovations are carried out by a large number of new firms led by individual entrepreneurs. With reference to technological regimes, this perspective has been referred to as the *entrepreneurial technological regime*.

The second perspective (Mark II) which Schumpeter (1943) later provided, asserted that innovations are carried out within firms, particularly large firms. As Spilling (2008) has observed, this was a reflection of the fact that at that time, the larger corporations developed much stronger positions in the economy and with their R&D departments, became very important players through their contribution to innovation. With regards to technological regimes, this developmental mode is now referred to as the *routinised technological regime*, recognizing the fact that large firms routinely carry out innovations through structured research and development programs.

Following from these propositions, Breschi, Malerba and Orsenigo (2000) have developed a taxonomy of technological regimes consisting of:

- technological opportunities,
- appropriability conditions,
- cumulativeness conditions, and
- knowledge base for the industry.

**Technological opportunities** refer to the presence of conditions that enable innovative activities to take place. A high level of technological opportunities provides powerful incentives for undertaking innovative activities and denotes an economic environment that is not functionally constrained by scarcity. This enables potential innovators to frequently come up with important innovations. **Appropriability conditions** refer to the existence of conditions that protect innovations from imitation by others and allow entrepreneurs to reap profits from their innovative activities. Low appropriability conditions denote an economic environment characterized by the widespread existence of externalities and technological diffusion. **Cumulativity conditions** refer to the existence of an environment that enables continuous learning. These conditions allow today's innovations to form the basis for tomorrow's innovations. High levels of cumulativeness are typical of economic environments characterized by continuities in innovative activities and increasing returns. The **knowledge base for the industry** refers to the nature of the knowledge underpinning the innovative activities of the firms. This is similar to what Grebel (2004) calls the *General Purpose Technology* (GPT) of the industry. Technological knowledge involves various degrees of specificity, tacitness, complexity and independence, and may greatly differ across technologies.

In the *entrepreneurial regime*, new firms play an important role in the evolutionary process. Technological opportunities are high and innovations are frequent. However, appropriability and cumulativeness conditions are low, technological diffusion is widespread and new innovations are easily imitated. The GPT is based on experience and is easily accessible and is exposed to a large number of actors. Actors who are new to the industry perceive opportunities for organizing new combinations, based on their new ideas introduce innovations into the economy by starting new firms. In so doing, the circular flow represented by existing firms is disturbed, and the basis of established firms is challenged. Thus, the entrepreneurial regime may also be associated with a large number of exits, as the basis for the existing firms may be eroded as new firms enter. This may have the effect of reducing the cumulativeness conditions.

The *routinised regime* is characterized by the dominant role of incumbent firms, which means that innovative activities are mostly handled by large incumbent firms that have developed systematic routines for organizing innovative activities. Appropriability and cumulativeness conditions are high in that innovations cannot easily be imitated and knowledge diffusion is limited. Barriers to

entry are high and it is difficult for entrepreneurs outside the industry to enter and start up new firms. As the main process of evolution is related to the larger firms and their internal organization of innovation activities, this mode of evolution is also called 'creative accumulation' (Malerba, 2004).

This perspective also suggests that entrepreneurship can be studied by analysing the nature of the entrepreneurial regime within which a firm is operating.

### **2.10 Entrepreneurship in an agglomeration of firms**

Generally, small-scale enterprises operating in isolation may face several disadvantages, which are detrimental to their competitiveness. The disadvantages include limitations in scope and scale. Firms operating as part of a group in geographical proximity may compensate for these disadvantages through their interaction with each other and with other agencies, such as traders, or other organizations. Taken from this perspective, entrepreneurship can be studied by analysing inter-firm linkages and their effects on the competitiveness of firms.

A recent development in Zimbabwe has been the sprouting up of large clusters of small firms operating in spatial proximity to each other. The historical presence of an industry in a neighbourhood enhances the quality of local entrepreneurship and labour skills. A relatively high density of similar activities in the area translates into a relatively large local demand for certain goods and services, increasing their supply. Small firms also compensate for their disadvantages with flexibility in behaviour (Visser, 2004: 64). They are sensitive to opportunities offered in their environment and may develop functional relations whereby the macroeconomic environment provides the incentives and limits are set by the availability of institutions to guide inter-firm linkages. Small firms are able to enhance their competitiveness relatively more from external economies. It is for these reasons that studies on small-firm agglomeration have tended to focus on the *relations* between firms. Various studies on entrepreneurship (Porter, 1998; McCormick, 1997; Nadvi, 1999; Rabellotti, 1997 and Visser, 2004) have accepted Schumpeterian active methodological individualism which asserts that the decisions made by economic agents at the individual (micro) level can also influence developments at the generic (macro) level. As a result, the studies have examined entrepreneurship within the context of firms operating in spatial proximity to each other.

This territorial dimension to the study of entrepreneurship has its roots in Alfred Marshall's observations regarding the textile and metal work regions of England, Germany and France in the 19<sup>th</sup> century, which he referred to as *industrial districts* (Marshall, 1986):

When an industry has thus chosen a locality for itself it is likely to stay there long: so great are the advantages which people following the same skilled trade get from near neighbourhood to one another. The mysteries of the trade become no mysteries but are as it were in the air, and children learn many of them, unconsciously (Marshall, 1920, p225).

Marshall noted that the geographical concentration of small firms carrying out similar activities would result in the division of labour, thus creating more efficiency. The specialized knowledge that develops within the district would also be reinforced by a common set of cultural and social values. Thus, skills and information would be found "in the air", fostering entrepreneurial activity and innovation.

The United Nations Industrial Development Organisation defines clusters as: a sectoral and geographical concentration of enterprises that produce and sell a range of related or complementary products and thus face common challenges and opportunities (UNIDO, 2001). As in this study, the terms *cluster* and *industrial district* are often used interchangeably in the literature. However, they do not refer to the same phenomenon because all industrial districts are clusters but not all clusters are industrial districts. Several studies (Cuervo-Garcia and Montoro-Sanchez, 2009; McCormick, 1997 and 1998); Schmitz and Nadvi, 1999) have made this distinction by defining an industrial district as a sectoral and spatial concentration of small and medium-sized firms or a sectorally-specific, and geographically-bound agglomeration of firms. *Sectoral specificity* or sectoral specialization refers to the existence of firms engaged in a distinct industrial activity. *Spatial concentration* refers to the location of firms in the same geographic area in close proximity to each other. The firms within the locality can be competing with each other as well as other large and medium-scale enterprises outside it (Rabellotti, 1997: 8). An industrial district is therefore a **cluster**

of firms with *sectoral specificity* and *spatial concentration*. It is a specially advanced case of clustering.

Porter (1998) also refers to a cluster as a geographically proximate group of interconnected firms and associated institutions in related *industries*, meaning that within a cluster one may find several industrial districts.

## **2.11 Characteristics of industrial districts**

For a cluster of firms to conform to the typical **Marshallian industrial district**, some key elements must exist (Altenburg and Meyer-Stamer, 1999; Hodgkinson, 2007; Van Dijik and Rabellotti, 1997). Firstly, there must exist a strong, relatively homogeneous cultural and social background linking the agents in the cluster, creating a common, widely accepted behavioural code, which is sometimes explicit, but often implicit. Secondly, there must be an intensive set of backward, forward and horizontal linkages and information exchange among the firms, institutions and individuals within the cluster, giving rise to a creative or innovative *milieu*. Clustering brings with it various types of inter-firm relations, ranging from total absence of co-operation to situations with extensive collaborative arrangements in production (Nadvi, 1994). Thirdly, a local pool of skilled labour, from which all cluster members can source their labour requirements, is necessary. Finally, a network of public and private local institutions supporting the economic agents within and outside the cluster is also required.

Some studies have also added the element of **trust** to these characteristics. For example, a study on Nairobi's garment manufacturers in Kenya by McCormick (1997) noted that in an industrial district the firms share a set of values and knowledge so important that they define a cultural environment and are linked to one another by very specific relations in a complex mix of competition and cooperation. Van Dijik and Rabellotti (1997, p9) have described the industrial district as a *moral community* where the limits to trust and self-interest are understood and backed up by public opinion. It is characterised by well-established and accepted social norms, frequent and long-term interactions among a large number of economic agents who may know each other quite well, and by the pervasive dissemination of information. Rules and regulations may not be written but they

are known and self-enforced and the social sanctions for deviant behaviour can be heavy (for example, social exclusion) (Nadvi, 1999).

In the same vein, Becattini (1992), with reference to Italian industrial districts, also described the Marshallian district as a *socio-territorial entity* which is characterised by the active presence of both a community of people and a population of firms in one naturally and historically bounded area. In the industrial district, community and firms tend to “merge”, bounded by extra-economic factors, particularly social.

## **2.12 Success factors for firms located in industrial districts**

Studies carried out in various industrial districts (Giuliani, 2002; Nonaka and Takeuchi, 2004; Visser, 2004; Van Dijk and Rabellotti, 1997; Romjin 2000; have identified certain factors as being essential for the success of firms operating in these districts. These are:

- the territorial environment,
- collective efficiency,
- flexible specialisation, and
- the acquisition and diffusion of knowledge.

### **a. The territorial environment**

A study by Visser (2004) on the Peruvian small-scale clothing industry in the Lima district of Gamarra identifies the territorial environment as a critical success factor for firms operating within an industrial district. The **territorial environment** refers to both the functional and the institutional settings at a specific location. Location can be described in terms of the *density* of economic activity. This is the relative concentration of similar or dissimilar firms. Location also refers to the *spatial proximity*, or nearness, of the economic agents, and its *history* in a socio-cultural sense. These factors mold territorially-specific conditions resulting in the conduct of economic agents being *spatially differentiated*, meaning that firms located in different geographic regions would have different characteristics, depending on their territorial environment (Visser, 2004).

**The territorial environment** can compensate for the so-called disadvantages of being small, by reducing transaction costs for the firm, such as the search for and matching of products, the

screening, selection and monitoring of business partners, as well as the enforcement of contracts. Other costs include the cost of gathering information on consumer preferences in product markets, types, availability and quality of inputs, production techniques, equipment, components and business services.

A high density of similar economic activities can reduce these costs in that spatial proximity facilitates the gathering of information. Personal contacts are more frequent and local norms and values may stimulate the circulation of more delicate information. This results in the diffusion of information with little or no transaction costs taking place. Nearness of economic agents enhances reputation effects, that is, investments in reputation are facilitated in environments where repeated transactions occur with the same agents. Where economic agents have face-to-face contact, trust is built and this reduces the need for information.

The **functional environment** is the **network** of firms based on vertical specialisation in one or more steps in the transformation process and the mutual subcontracting of transformation services. The network also includes agents providing business services, inputs, equipment and components. Another form of functional interdependence or networking comes in the form of horizontal co-operation between otherwise competing firms involved in the transformation of products, for example, joint sub-contracting, joint purchasing, or marketing of products. Finally, there may also exist upstream or downstream transactions with traders of final products and inputs whereby producers may adjust their planning according to market information provided by the traders.

The **institutional environment** is exogenous to the firm and can shape the functional relations between the firm and other economic agents. Ramamurthy (1998) defines institutions as formal rules, such as statutes, and informal rules, such as norms, that constrain behaviour. Institutions are *effective* rules rather than nominal rules, with emphasis on enforcement. The institutional environment therefore consists of the agencies through which these rules are operationalised and enforced that, is the government, quasi-government, the private and non-governmental agencies. In addition to these, social and cultural norms and standards also influence the behaviour of firms.

## **b. Collective efficiency**

**Collective efficiency**, a term introduced by Schmitz (2001), holds that enterprises operating in close geographical proximity can benefit from both local and external economies as well as joint action.

External economies are *incidental* in that they are the result of agglomeration and spatial proximity itself. External economies consist of *economies of scale* which result from increased production as well as *economies of scope* which result from the production of several products at the same time while using the same facilities such as marketing and transport. Nadvi (2001) also referred to the external economies as location economies and urbanization economies. The location economies are the advantages deriving from the spatial concentration of enterprises belonging to the same industry or sector whereas the urbanization economies derive from localization in an urban area, for example large markets and low transport costs. Increased market access for customers, traders, skilled workers and other economic agents supplying inputs for the products as well as support institutions may appear simply because they heard of the cluster (McCormick, 1999). These advantages do not require coordinated effort but are simply incidental to the existence of the cluster of firms.

For collective efficiency to be achieved, however, the external and incidental economies must be combined with the active participation of firms in *joint actions*. Spatial proximity enables resources to be shared thereby reducing the scale of investment required by each individual firm. It fosters information sharing, thereby facilitating learning of new techniques and upgrading existing technologies, that is, it fosters the diffusion of innovation and technological capabilities. The upgrading of technological capabilities and any other advantages that may occur within the industrial district are the outcome of the collective impact of individual decisions and will be open to all enterprises within the district.

## **c. Flexible specialization**

Instability and uncertainty in both input and output markets are the norm today, given the globalization of markets. These constraints are, however overcome in the context of firms operating in close geographical proximity in that the firms will form a community of flexible enterprises operating within flexible production networks. As noted in a study by Sverrisson (1994) on

carpentry enterprises in Zimbabwe and Kenya, most small and medium-sized enterprises in Africa are flexible enterprises operating within flexible production networks. Flexible technological networks are volatile and consist of firms that are autonomous with no central authority. The networks are not permanently established but evolve continuously over time from preceding social arrangements. This implies that technological change is gradual and local, that is confined to limited sections of the economic agents within the cluster.

It has in the past been claimed that small firms in developing countries can acquire technological capabilities through simply importing machinery and equipment from the technologically advanced countries. This may not be entirely true (Bhalla, 1991). Technological capabilities consist of technological skills and knowledge which accumulate over time through experience that is, “learning by doing”. This tacit knowledge may however not be enough in that a purposive commitment of time and human resources to those activities that lead to technological learning is also required (Romjin, 2004).

Full knowledge about all the possible uses of a machine that has been recently acquired by a firm takes time through the continued use of the machine. However, this can be a very cumbersome process for the small-firm entrepreneur. The entrepreneur may be forced to acquire a machine that is not entirely suited to the circumstances in which it will be used resulting in a discontinuity between the technology currently in use and the adoption of new technology through the use of the new machine. In some cases the entrepreneur may be forced to acquire locally made, low-quality equipment and machinery due to financial constraints. Such machinery may be prone to more breakdowns and require more intensive maintenance than imported machinery. In other cases, the entrepreneur may be forced to squeeze maximum performance out of old-vintage second-hand machinery which requires extensive reconditioning and repair.

**Flexibility in production** can be evidenced by the sophistication of production technology. In the case of carpentry workshops in Mutare (Zimbabwe) a study carried out by Sverrison (2006) found that technological capability ranged from the simple use of hand tools to fully mechanised production units. However, most of the firms produced varied types of furniture, piece by piece and the design was variable, depending on customer needs. They did not produce standardized products

in batches. “A single craftsman using one machine after another in the process of shaping wood prior to assembly, which is then carried out by hand, was the most common practice” (Sverrisson, 2006:43).

Production flexibility can also be archived if the production network is not geared permanently to a particular product. Socially, the technological network within the enterprise is intergraded through the division of labour that is, the allocation of tasks to workers in the workshop. The production process is subdivided into several parts and each part or some parts are allocated to each worker or several workers. The workers then become experts in the use of the machines that are used on their part of the process. The machines are multi-purpose and can be used to produce a wide range of products, reducing the enterprise’s dependence on one product. This then, in turn, allows the firm to adapt its operations to any changes in the external environment over which it has little control. For example, a fall in the demand for, or restrictions in the supply of inputs for a certain product, would not be disastrous for the firm as it can easily switch to other products.

The workers in this enterprise have become a “node” in a social network connected by several machines. The workers skills levels are relatively low and are local rather than global with respect to the complete product.

#### **d. Knowledge acquisition and diffusion**

From Marshall’s observation, it is clear that firms that are organized in clusters or industrial districts can benefit from knowledge acquisition and its diffusion, naturally “in the air” of their locality. However, recent studies on clusters in developed countries have shown that more work needs to be done with respect to two considerations (Giuliani, 2002). Firstly, that the approaches applied in these studies have generally focused on production linkages, while knowledge flows and knowledge systems within the cluster have been poorly investigated (Abu, 2007; Bell, 1999). The second concern is that the technological isolation of a cluster or industrial district can lead to the risk of “lock-in”, leading to “entropic death” (Camagni, 2009). As a result of these two concerns it now appears more appropriate to investigate industrial districts as networks between the economic agents (firms) within the district as well as networks outside the district itself (Belussi, 2000).

The Schumpeterian perspective on entrepreneurship, which is based on active methodological individualism, conforms to the fact that the localization of firms is beneficial to the economic agents operating within an industrial district in that knowledge is freely available to all agents and each agent adds to the stock of existing knowledge, thus new knowledge is generated on an incremental basis.

Knowledge and its diffusion are the *catalysts* of entrepreneurial behaviour. Without knowledge diffusion through society, no entrepreneurial activity would take place. Knowledge is necessary to activate actors, to initiate entrepreneurial behaviour. Knowledge has been defined in various ways. For example, Lundvall (2001) makes a distinction between *information* and *knowledge*. Knowledge implies a learning process that begins with understanding the existing stock of knowledge and is followed by adding further knowledge to the stock of knowledge.

In general, two types of knowledge can be distinguished: *tacit knowledge* and *codified knowledge* (Polanyi 1958 and Giuliani, 2002). Codified knowledge is objective knowledge that is received from the outside whereas tacit knowledge is highly specific and contextual, and may be referred to as “learning-by-doing”. Tacit knowledge is embodied in the economic agents, what Berry (2008) also calls *implicit learning*, the sort of knowledge we know we have but cannot articulate.

Contrary to neo-classical economic theory, knowledge is not easily transferred, it is not freely available to all economic agents, and thus cannot be considered a public good. Tacit knowledge is highly idiosyncratic. It is situated and accumulated within the boundaries of the firm over time, difficult to imitate and therefore not freely available in the air as suggested by Marshall (Belussi, 2000).

From the Neo-Schumpeterian perspective, the firm is the depository of tacit knowledge, which is a localized and not completely transferable good. However, the diffusion and exploitation of local tacit knowledge by local firms is not sufficient to guarantee the dynamic evolution of an industrial district. Local tacit knowledge and external codified knowledge must interact in order to generate new knowledge (Nonaka and Takeuchi, 2004). It is important to link local and global systems of

knowledge, that is the establishment of external networks of knowledge is fundamental to the continued dynamism of an industrial district. Links with external sources of knowledge are not simply a way of overcoming “lock-in” and avoiding “entropic death” but are also necessary to maintain endogenous dynamism.

Empirical evidence gathered by some Italian scholars, (Belussi; 2000; Gottardi, 2000) on the Italian industrial districts, recognize that industrial agglomeration is an ever-changing and dynamic process. According to these studies, industrial districts may exhibit different levels of dynamism, being simply “static”, “evolutionary” or “strong evolutionary”, depending on the innovative capabilities of the firms within them, the knowledge exchange among them, and the level of interaction between external codified and local tacit knowledge.

Recent contributions by Cowan and Foray (2000) extend the Neo-Schumpeterian view of knowledge by distinguishing between three degrees of codification. The first is *codified* knowledge that is articulated and for which a code book exists and is available. The second level is *unarticulated codified knowledge* or *displaced codebook* where a codified body of common knowledge, “the codebook”, exists but is not evident and manifest to the outside observer. Finally, they also refer to *tacit knowledge*, where not even a codebook exists.

The last two insights are very critical to the understanding of knowledge diffusion within an industrial district in that they suggest the existence of a boundary between “pure tacitness” and “apparent tacitness” (Giuliani, 2002). Apparent tacitness refers to the case in which an external observer perceives as tacit knowledge what in reality is codified and transferred through common language and codes among the members of the same “epistemic community”. Giuliani defines epistemic communities as networks of individuals or networks of firms that share the same language such as technical terms or jargon. This language is codified but not easily understandable to “outsiders”, as they do not have access to this virtual “codebook” that would allow them to interpret the language.

This later insight is also important in that previously accepted modes of knowledge diffusion within industrial districts such as skilled labour force mobility, informal contacts and geographical

proximity may not after all be very effective modes of knowledge diffusion. In this regard, Breschi and Lossoni (2001) suggest that embodied scientific and technical knowledge remain a private good, unless sharing agreements turn it into a “club good”. They further note that labour mobility may not, as previously thought, represent a valuable mode of knowledge diffusion. This is because workers who move across firms may not necessarily transfer their knowledge to the new firm but may actually retain such knowledge unless there exists an incentive to do so. Moreover, the dissemination of valuable knowledge by the employee is only possible if the employee is particularly skilled and has acquired substantial technical competence before moving. Thus, labour turnover of low-skilled employees may not necessarily add any value to the collective knowledge of the district. In fact, too rapid labour turnover will be potentially damaging to the firm that has lost an employee as it may not allow the firm to amortise its training costs.

### **2.13 Conclusion**

This chapter has demonstrated that there are various perspectives from which entrepreneurship can be studied. The earlier perspectives tended to concentrate on the characteristics or psyche of the ‘typical’ entrepreneur. From the review of the literature presented in this chapter, however, it is clear that the Schumpeterian perspective on entrepreneurship is the most encompassing, in that it looks at the entrepreneur as a change agent, not a mere respondent to entrepreneurial opportunities. This is especially pertinent when extended to the concept of technological regimes. This review indicates that a more fruitful approach to the study of small-firm entrepreneurship is to look it in the context of technological regimes. When we extend this to small firms operating in spatial proximity to each other, the literature suggests this phenomenon has distinct advantages for small firms. Thus, this study is concerned with entrepreneurship from the perspective of entrepreneurial technological regimes as well entrepreneurship in the Marshallian industrial district – the ‘Entrepreneurial Industrial District’. In this context, the study should also be concerned with the nature of the inter-linkages among firms in the Entrepreneurial Industrial District’ and their effects on the competitiveness of firms.

A model of the Entrepreneurial Industrial District is to be dealt with in the next chapter.

## Chapter 3

### The Entrepreneurial Industrial District Model

#### 3.0 Introduction

This chapter provides an explanation of why the industrial district can be described as an *entrepreneurial industrial district* and also presents the five factors that make up the taxonomy of such a district.

#### 3.1 An evolutionary view of entrepreneurship

Following the conclusion made in Chapter 2, this study takes the Schumpeterian perspective which interprets entrepreneurship as *innovation*. The study also accepts the Neo-Schumpeterian view which has extended the interpretation of innovation to include the acquisition and diffusion of *technological capabilities*, or knowledge (Cowan and Foray, 2000). The Schumpeterian perspective is based on *active methodological individualism* which takes the view that knowledge gathered by individual economic agents at the local level will, inevitably, also have an effect at the macro-level by shaping the generic knowledge base. This view is *evolutionary* in that it looks at innovation as an interactive, complex (non-linear) and path dependent process which is open-ended and never reaches a state of equilibrium (Giuliani, 2002). Development comes “from within” the economic system, that is from the cognitive processes and behaviour of the agents making up the system. Innovation and the acquisition and diffusion of technological capabilities in the industrial district are not the result of research and development but result from learning by doing and through the interactive actions of firms.

#### 3.2 The Industrial district as an entrepreneurial technological regime

Following Spilling’s (2008) Neo-Schumpeterian characterization of industrial districts as *technological regimes*, this study takes the view that the *entrepreneurial technological regime*, (rather than the *routinized regime*) is the one that best explains the dynamics of industrial districts composed of small owner-managed firms. The *routinised regime* is characterized by the

dominant role of large incumbent firms which routinely carry out research and development activities. However, in the *entrepreneurial regime*, innovation is not the result of the routine research and development activities of firms but the result of the spontaneous activities of many small firms.

A technological regime can be characterized by the existence of four interrelated factors. The first is the existence of *technological opportunities*. This refers to the presence of conditions that enable innovative activities to take place. The second characteristic is the existence of *appropriability conditions*. Appropriability conditions prevent the imitation of new innovative activities by other firms and allow a firm to keep the right to any new technological innovations that it makes and to reap the benefits there from. The third factor is the existence of *cummulativity conditions*. These refer to the existence of an environment that enables continuous learning. The final important condition for the development of a technological regime is the existence of a highly visible *knowledge base* for the industry, which Grebel (2004: 64) calls the general purpose technology (GPT). It is a “codified” body of knowledge which is available to all economic agents in the district.

The industrial district is an *entrepreneurial technological regime* because the innovative activities within the district are being continuously carried out by small firms operating in spatial proximity to each other under conditions of uncertainty. The proximity of the firms within the district results in the widespread existence of externalities and the rapid diffusion of knowledge.

### **3.3 The industrial district as a system of networks**

Many studies (Bruun, 2004; Frenken, 2005; Goldstein, 2008; Kauffman, 2005; Lobo and Macready, 2000; Potts, 2000) have taken the view that an industrial district may be seen as a *dynamic, complex and adaptive system* whose *elements* are the economic agents (firms). The system exhibits “swarm intelligence” (Bruun, 2004) in that it is a deterministic system with linear properties and yet the elements that make up the system itself have none-linear properties and appear to exhibit quasi-random behaviour.

The dynamism of the system arises from the fact that the elements within the system are in a continuous process of learning. The complexity of the system arises because of the way in which a large number of elements within the system interact with one another. Besides being complex and dynamic, the system is also *adaptive* in that it may be capable of adapting to external factors without the individual elements being aware of it and the elements themselves may be capable of adapting to the system.

The view of the industrial district as a system of elements focuses on the *interaction* between elements within the system, rather than the characteristics of the individual elements themselves. The system is held together by the interactions between its elements and not simply through the existence of a collection of different elements. This view of the industrial district is a natural development from the evolutionary approach taken by “Schumpeterian *Active Methodological Individualism*” which views entrepreneurship as the innovative activities of individual economic agents. The knowledge or technical capabilities gathered at the micro-level have a generic effect in that they influence developments at the macro-level. Thus, central to this study are the *relations* between the firms that make up the system, rather than simply the characteristics of each firm as an isolated entity.

The *relations* between firms or economic agents can be interpreted in their connectivity. The *connectivity* of economic agents as well as their *absorptive capacity* are pivotal to the development of firms operating in the industrial district in that they allow the diffusion of knowledge among the agents and therefore enhance further technological development. Connectivity enables firms within the district to access both local and external knowledge flows. The absorptive capacity of individual firms, that is their capacity to identify, assimilate and exploit knowledge coming from external sources, determines the extent to which the knowledge that is *accessible* to firms is actually *absorbed* by them (Giuliani, 2002).

The dynamics of the industrial district are also largely dependent on some *key actors*, “technological gatekeepers” (Allen et al, 2007) or the “receptors and decoders”(Giuliani, 2002) of external technological change. These are those economic agents in possession of relatively superior technological capabilities who naturally assume the role of channeling external knowledge towards

other agents in the district and contributing to its diffusion. These are the firms to whom others refer when they have a problem they cannot solve or they are looking for information, thus facilitate the diffusion and absorption of knowledge among firms within the district.

The absorptive capacity of the district itself, rather than the firms that make up the district, is also important. Giuliani (2002) has suggested a taxonomy of the district absorptive capacities, starting from the “basic” to the “advanced”. A district exhibiting *basic absorptive capacities* would be characterized by the absence of firms or institutions that link local knowledge flows to external sources of knowledge, both tacit and codified. Firms in such a district tend to operate independently and knowledge spillovers are weak. The firms have limited levels of technological and absorptive capabilities. The so-called economies of agglomeration and geographical concentration as well as collective efficiency alone, are not sufficient to induce dynamism within the district.

Industrial districts that are at an advanced level of absorptive capacity exhibit *collective learning* when localized firms transfer their knowledge to other firms within the district. They also exhibit a high degree of openness towards external sources of knowledge and technology and the *collective creation* of new knowledge (innovative dynamism). Such firms are not just absorbing external knowledge on an imitative or adaptive basis but are actually investing in new international knowledge creation.

### **3.4 System elements: heterogeneous economic agents (firms)**

The system elements are the firms, also referred to as economic *agents*. They are connected together in a complex web of information interchange. The elements of the system (the firms) are small relative to the system itself and typically the owner of the firm is also the manager. Therefore, rather than referring to the owner-manager as “the economic agent” responsible for making economic decisions on behalf of the firm, the firm itself is taken to be the economic agent, the system element, and not necessarily the owner-manager. The system elements are heterogeneous with respect to their knowledge endowments or technological capabilities.

The heterogeneity of economic agents arises from several sources. Firstly, cognitive psychology suggests that knowledge is subjective because knowledge represents an individual’s subjective

mental model of reality (Piaget, 1994). Reality is, however, *bimodal* in that the individual's mental representation of the world, that is their state of knowledge, their predictions and expectations, are often different from reality itself. Thus, the cognitive capabilities of each individual economic agent will be different from others.

The other source of heterogeneity is that of firms operating in an industrial district which are heterogeneous in size, in the activities performed, in capabilities and in knowledge accumulated. Capabilities and knowledge accumulation require time to be acquired as well as experience, practice and effort. The cumulative and path dependent process of capability accumulation is therefore highly specific to each firm, so that even if the firms are located within the same district, they may end up with different levels of knowledge and technological capabilities (Figueiredo, 2002).

The extent to which knowledge flows among economic agents will also have an impact on their heterogeneity. The diffusion of *information* among the economic agents will be more rapid than the diffusion of *knowledge* because knowledge requires a learning process. According to Piaget (1994), learning is a four-step cumulative process of cognition which starts from assimilation, followed by perturbation, accommodation and equilibration (acceptance). With respect to the building of technological capabilities, economic agents may be at different steps of the process, thus resulting in heterogeneity. The spatial proximity of the economic agents may also have an impact on the diffusion of knowledge. *Sticky knowledge* (von Hippel, 1994) is transferred via a frequent, face-to-face contact and, furthermore, depends on its geographical context.

The diffusion of knowledge not only depends on the cognitive capabilities and the behaviour which limits emission of an actor's knowledge but it is also dependent on the *absorptive* capacity, that is the capacity to receive and use external knowledge, knowledge that spills over from others. Some of the knowledge will be codified, but most of it will be tacit, implicitly learned by experience and social interaction. There is a *general purpose technology* (GPT) to every economic endeavour. In the making of steel or wood furniture, for example, there are basic skills and knowledge required in the design, making and finishing of the product, in the organisation and sourcing of the inputs and in the marketing of the product before one can create a firm to make and sell furniture. This GPT must be mastered by each economic agent. Each economic agent has a certain understanding of the

existing stock of knowledge, depending on his or her individual cognitive capabilities and experiences.

### **3.5 Bounded rationality of system elements**

The economic agent is not the *Homo sapiens oeconomicus* (Dopfer, 2004) of neo-classical economics, who makes rational utility and profit maximising decisions under conditions of perfect information, resulting in a state of equilibrium for the economic system (Conlisk, 2009). The economic agent is a *Homo agens* (Grebel, 2004) who makes decisions under bounded rationality. The rationality of the decisions made by the agent is bounded by uncertainty.

In order to take action in the presence of uncertainty, individual economic agents must rely on their subjective view of the future when making decisions. Firstly, the agents have to form expectations with regards to their future endowment of resources, capabilities and competences required to implement a decision. Secondly, they have to assess the potential profit opportunities, such as the market size, cost of inputs, and expected revenues. Thus, the rationality of their decision is bounded by these uncertainties.

Bounded rationality means that the decisions made by the individual economic agents do not necessarily lead to a state of equilibrium for the system as a whole. This is because the expectations of the agents with regards to the future represent their own mental representation of reality. Not knowing the true state of reality, they have to make their decisions to the best of their, albeit limited, knowledge. Moreover, the agents will be forced to make decisions on the basis of incomplete information due to the high opportunity costs of gathering all the relevant information. The information would only be gathered selectively.

### **3.6 System Emergence**

According to Corning (2002) the term “emergent” was coined by the eminent psychologist G. H. Lewis (1874) when he distinguished between “emergent” phenomena and “resultants”. In line with this thinking, a resultant is either the sum of or the difference between *homogeneous* components

and every resultant is clearly traceable back to its component parts. When the component parts are *heterogeneous*, however, the result of bringing them together *is emergent phenomena* that cannot be reduced to the sum of or the difference between its component parts.

The term “emergence” has rather unfortunately been taken to mean that the “whole is greater than the sum of its parts”, rather like “synergy”. However, Corning (2002:10) suggests that in fact synergy refers to “the combined effects that are produced by two or more particles, elements or organisms – effects that are not otherwise attainable”. Accordingly, for synergy to exist, the whole should not merely be an expression of its parts but must produce *combined effects* that the parts cannot produce alone.

Following from the original definition by Lewis (2006), therefore, one can conclude that the characteristics of emergent phenomena differ from those of the synergistic “whole” for two reasons. Firstly, the elements making up the “whole” must be heterogeneous, that is of “unlike kind” as per Lewis (2006). Secondly, emergent phenomena possess “qualitative novelties, that is unique synergistic effects that are generated by *functional complementarities* or *combinations of labour*” (Corning, 2002: 10). This implies that the existence of synergy does not necessarily lead to the existence of emergent phenomena. For emergence to exist, the constituent parts with different properties must themselves be modified, re-shaped or transformed by their participation in the whole through their functional relationships with each other. In other words, there must be a *diffusion of knowledge* between them (not simply *information*).

“Self-organisation” is also a quality that has been ascribed to emergent phenomena. This is rather misleading because emergent properties arise as a result of *functional* organization. As economic agents, human beings are aim-oriented (Grebel, 2004). There is a purpose to the processes that occur, particularly in the entrepreneurial industrial district. As a mere cluster of firms, the agglomeration has no functional purposefulness, but when the firms are organized in an industrial district the synergy they produce has emergent properties to it whose effects the firms alone cannot produce. The firms as a whole produce global effects that are unique and many of these effects are also a result of the interaction between the whole and its environment.

The industrial district is an emergent phenomenon. Emergent phenomena exist at the macro level, a higher-order system relative to the micro-level components from which the emergent phenomena have emerged. Emergent phenomena seem to have “a life of their own”, with their own rules, laws and possibilities which are more predictable than the lower level micro phenomena from which they arose. Functionally-organizing emergent structures, patterns and properties at the macro level arise without being externally imposed on the system. It is a spontaneously occurring, bottom-up arising of a new order from a near-chaotic lower-order system.(Goldstein, 2004: 9). In the same vein, an agglomeration of firms in the form of an entrepreneurial technological regime, or an industrial district, the emergent phenomena, seems to have a life of its own which is different from the individual firms that make up the district.

### **3.7 System adaptation**

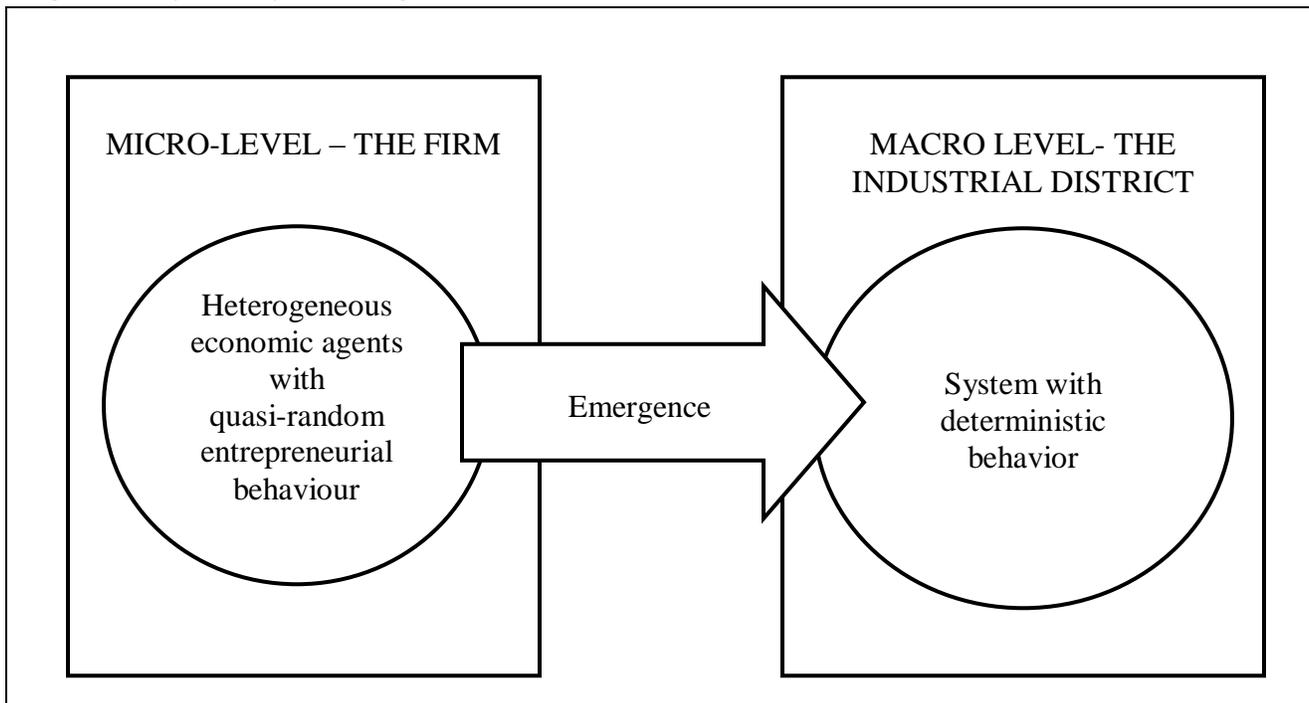
The industrial district is an *adaptive system* in that there is a continuous process of learning. Since the economic agents are acting on imperfect information about the future state of reality, their decisions are fallible and imperfect. Inevitably, they make mistakes and learn from them and have to adjust their behaviour (subconsciously) when making new decisions. By making these adjustments they make new discoveries, about markets, technology and other aspects of their operating environment and become aware of available opportunities and rearrange resources allocations. They thrive on “trial-and-error” in a world of uncertainty. Their stochastic or quasi-random behaviour at the local level, however, has global effects on the system as a whole, continuously transforming it.

The industrial district is constantly adapting to changes occurring at the local (agent) level, therefore will never be in a state of equilibrium. However, it will possess deterministic (linear) properties. Though human behaviour at the individual or micro-level is not deterministic, it is not totally stochastic or chaotic either. It is *quasi-random* because while certain aspects of economic behaviour may be predictable, others are not. Firms, being composed of human beings, exhibit quasi-random entrepreneurial behaviour. For example, with respect to innovation and knowledge diffusion within the industrial district, some knowledge and technical capabilities may be available to all economic agents within the district while some of it may only be accessible to a few. When

we aggregate the individual behaviours of economic agents at the macro level, we observe general and predictable phenomena. This is referred to as *symmetry breaking* (Grebel, 2004).

Symmetry breaking implies that at the micro-level the best that a study can do is to come up with a descriptive theory of entrepreneurship, but at the macro level, it is possible to come up with a normative, deterministic theory of the same. An economic agent on his own makes decisions on the basis of his own knowledge and his mental representation of reality. Within the context of a social group, however, his behaviour will be influenced by the sociology of the group through constant functional interactions. The firm's individual behaviour may be unpredictable, but within the context of an agglomeration of firms with emergent properties, the industrial district and the aggregate behaviours can be predictable. *Symmetry breaking* means that the characteristics of the parts do not represent the whole. Grebel's (2004) idea of symmetry breaking can be summarized as shown in Figure 3.1 below.

**Figure 3.1** *Symmetry breaking*

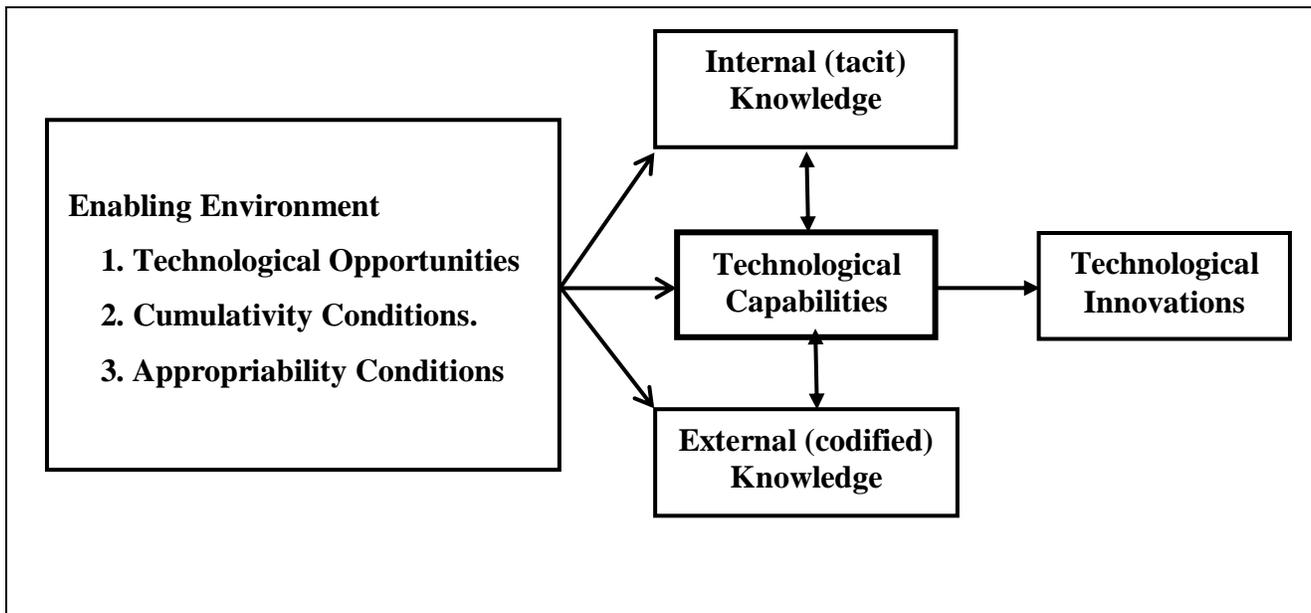


*Adapted from Grebel (2004: 64)*

### 3.8 The Entrepreneurial Industrial District Model

Technological innovations within the district are the result of the technological capabilities of economic agents. The technological capabilities of the individual economic agent (the firm) are maximized when the agent is operating within an entrepreneurial technological regime (ETR). The taxonomy of the entrepreneurial industrial district can be modeled as shown in Figure 3.2 below.

Figure 3.2 The Entrepreneurial Industrial District Model



The functioning of the Entrepreneurial Industrial District Model can be explained through the interaction of the five factors shown in Figure 3.2 above.

#### 3.8.1 Internal (tacit) knowledge

This is knowledge which is highly specific and contextual, and may be referred to as “learning-by-doing” (Polanyi 1958). It may also be referred to as *implicit learning* (Berry, 2004), that is the sort of knowledge we know we have, but cannot articulate. This is knowledge for which there is no written “code book”. It is embodied in the economic agents and is borne out of their individual experiences. Thus, it is also an interactive, complex, path dependent and open-ended process. The

acquisition and diffusion of tacit knowledge is also largely dependent on the cognitive capabilities of the individual economic agents as well as their mental representation of reality. The economic agents are heterogeneous with respect to their possession of tacit knowledge and the amount of tacit knowledge possessed by each agent determines its technical capabilities.

### **3.8.2 External (codified) knowledge**

Codified knowledge (Polanyi 1958) is objective, received knowledge from the outside. It is knowledge that is articulated and for which a “code book” exists and is available. However, it may also be unarticulated (“displaced codebook”) in that a codified body of common knowledge (“the codebook”) exists but is not evident to the outside observer (Cowan and Foray, 2000). These are the “mysteries of the trade” that, according to Marshall (1920), can be found “in the air” of the industrial district and the economic agents unconsciously learn from them. This knowledge is transferred through a common language such as technical terms or jargon and codes among the members of the same “epistemic community” (Giuliani, 2006). The language is codified but not easily understandable to “outsiders”, as they do not have access to this virtual “codebook” that would allow them to interpret the language. Grebel (2006) has also referred to it as the “general purpose technology” of the district. It is a body of knowledge into which all agents are free to tap in order to enhance their technological capabilities.

### **3.8.3 Technological capabilities**

The technological capabilities of the individual economic agent are maximized when the agent is operating within an entrepreneurial technological regime. The technological capabilities are the result of the combination of the internal tacit knowledge and the external codified knowledge (general purpose technology) which is gathered through the agent’s functional interactions with other agents.

The *absorptive capacity* of the economic agents and the existence of a *complex network* of functional relations among the agents are important elements in the process of knowledge acquisition and its diffusion within the district in that they determine the extent to which knowledge and technological capabilities will be shared among them. The absorptive capacity of the agents can

be assessed by the extent to which knowledge and technological capabilities can freely *percolate* among them. The complexity of the system can be measured by the number of functional interactions among the agents within the system.

### **3.8.4 Enabling conditions**

Three enabling conditions are also necessary for the acquisition and diffusion of technological capabilities to take place within the district. These are: the existence of technological opportunities, appropriability conditions and cumulativeness conditions. **Technological opportunities** refer to the presence of conditions that provide incentives for innovation and enable innovative activities to take place. **Appropriability conditions** refer to the existence of conditions that protect innovations from imitation and allow entrepreneurs to reap profits from their innovative activities. Low appropriability conditions denote an economic environment characterized by the widespread existence of externalities and technological diffusion. **Cumulativeness conditions** refer to the existence of an environment that enables continuous learning. These conditions allow today's innovations to form the basis for tomorrow's innovations. High levels of cumulativeness are typical of economic environments characterized by continuities in innovative activities and increasing returns.

These three conditions determine the extent to which the industrial district can become a technological *fitness landscape* (Kauffman, 1996; Lobo, Miller and Fontana, 2004). Within the district, each economic agent must continuously try to find the best "technological fit" in order to survive. The technological efficiency of the district as a whole can then be measured by its total "fitness" as a technological landscape.

Technological opportunities, appropriability conditions and cumulativeness conditions can, however, only flourish within a certain enabling environmental setting. The district must provide the proper **territorial, functional** and **institutional** settings for entrepreneurial (innovative) activities to be carried out by the various economic agents within it.

### 3.8.5 Technological innovation (Entrepreneurship)

Innovation is interpreted to mean the acquisition and diffusion of technological capabilities or knowledge by the firm (economic agent). It is an interactive, complex, path dependent and open-ended process. The acquisition and diffusion of technological capabilities or knowledge can be evidenced by the extent to which the economic agents introduce new products or new product qualities or new production methods, the opening of new markets, the use of new raw materials or sources of semi-manufactures and the creation of a new industry organization (Schumpeter, op cit.).

The district must provide the proper *territorial setting* in terms of the *density* of economic activity resulting from the relative concentration of the economic agents (*spatial proximity*). This territorial dimension also has a socio-cultural *historical* aspect to it in that most of the economic agents operating within the district share a common socio-cultural background which makes the district *spatially differentiated* socially and culturally (Visser, 2007). The spatial proximity of the economic agents helps to reduce the costs of carrying out business. Such costs include the costs of gathering and managing information on the supply chain and the distribution chain as well as the costs of enforcing business contracts.

The industrial district must also provide the proper *functional setting* in that it brings together various economic agents that specialize in one or more steps in the transformation process and also share and sub-contract some services in the transformation process. Though the economic agents are otherwise competitors in business, functional interdependence in the form of horizontal co-operation such as joint sub-contracting, joint purchasing, or marketing of products must also occur.

Finally, the industrial district must provide the proper *institutional setting* (Ramamurthy,1998) in the form of formal and informal rules and norms that constrain the behaviour of the various economic agents. The institutional environment also consists of other agencies that provide services to the economic agents such as government, quasi-government, private and non-governmental agencies.

### **3.9 Conclusion**

Schumpeterian entrepreneurship is dynamic in that the activities carried out by individual agents result in symmetry breaking and emergence. This means that an industrial district possesses different characteristics from those of the individual firms that make up the district. In this chapter, the Entrepreneurial Industrial District Model has been presented as a way of analysing the taxonomy of industrial districts composed of small, owner-managed firms operating in spatial proximity to each other. The model therefore enables one to identify and assess the important variables that determine this dynamism.

In the next chapter, the study will deal with the methodology used, including a review of the two traditional methodological approaches to research, namely deductive (qualitative) and inductive (quantitative) as well as the methods used to gather and analyse the data.

## **Chapter 4**

### **Research Methodology**

#### **4.0 Introduction**

Research methodology can be defined in two ways. It can be defined as the model or framework that a researcher employs in a particular research project to illustrate the relationships between important variables. A more abstract or theoretical view of methodology, however, is that it consists of the theoretical underpinning or paradigm used by the researcher in a study (Lather, 1998). It relates to the nature of methodology, to a theoretical and more abstract context, and perceives it in conjunction with distinctive, unidimensional and mutually exclusive theoretical principles. From this point of view, methodology is not determined by the research model but rather by the principles of research entailed in a paradigm. The methodologies or approaches that result from the above definition are the qualitative and quantitative methodologies or approaches, which are discussed below.

#### **4.1 Qualitative approach**

The study which is under review is a qualitative or case study research. Denzin and Lincoln (1994) define qualitative research as a multi-method in focus, involving an interpretive, naturalistic approach to its subject matter. Creswell (1994) defines qualitative research as an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. Qualitative research is invariably conducted in the field and for this reason, it is sometimes referred to as field research (Dooley, 1992; Guba and Lincoln ;1992) say that qualitative research is sometimes referred to as case study research. This means that qualitative researchers study things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meaning people bring to them. Qualitative research involves the studies use and collection of a variety of empirical materials – case study, personal experience, introductive, life story, interview, observational, historical, interactional and usual texts that describe routine and problematic moments and meaning in individual's lives.

Qualitative methodology is associated with many diverse methods employed in the social sciences. For some, qualitative methodology is everything that is not quantitative. It is also perceived by some as a supplement to quantitative research and by others as its opposite or alternative.

#### **4.1.1 Central principles of the qualitative approach**

Lathar (2008) says that the main principles of qualitative research are based on and around a number of fundamental concepts such as communication verstehen, subject and everyday life. These principles are somewhat diverse, since the philosophical background of qualitative methodology is diverse. Lammeck summarises the basic principles of this methodology in the following five points:

- **Research is communication.** Qualitative research is embedded in a process of communication between researcher and respondent. There is no intention to establish independence of the researcher from the respondent or the data, researcher and respondents are working together for a common goal, and the respondents are subjects who define, explain, interpret and construct reality and as such, they are as important as, if not more important than the researcher.
- **The process-nature of the research and the object.** Reality according to this form of research, is created and explained in interaction, in this process, reality is constructed, managed, explained and presented. The purpose of social research is therefore, to identify the process of reality construction and the construction of patterns of meanings and actions. Statements collected through this research are therefore parts of this process of creation, reproduction and explanation of social reality.
- **Reflexivity of object and analysis.** In qualitative research every symbol or meaning is considered to be a reflection of the context in which they were developed. A symbol is an index of an embracing regulated context. The meaning of an object of expression is understood through a reference to its symbolic or social context. This requires a flexible method that is ready to react to change and to adjust its instruments according to changing circumstances and contexts.

- **Explication.** Qualitative research is set to explain clearly and accurately how respondents will be approached. The steps of the research process as well as the rules of its operations are expected to be made known as far as possible.
- **Flexibility.** Qualitative methods are flexible in many ways, for example with regard to the choice of research instruments and research procedures. Research is not rigidly set but rather flexible and can change during its execution. In qualitative research, a design is more likely to include guidelines than strict rules.

#### **4.1.2. Advantages and disadvantages of the qualitative approach**

Qualitative research has both strengths and weaknesses. Both relate to its nature as an approach concerned with studying people as persons and being interested in their everyday life experiences and interpretations. Of the summaries presented by many writers (e.g. Miles and Huberman, 2004, Stergios, 1991 and Vlahos, 2002) the one given below is most comprehensive. Obviously, many of the weaknesses of this type of research are related to its very nature and reflect the positivistic prejudice of assessment. We should understand that qualitative research is a unique type of academic activity and should be assessed in its own context.

##### **Advantages of the qualitative approach**

These are:-

- Researching people in their natural settings;
- Stressing of interpretation and meanings;
- Achieving a deeper understanding of the respondent's world;
- Humanising the research process by raising the interest of the researched;
- Allowing higher flexibility; and
- Presenting a more realistic view of the world.

##### **Disadvantages of the qualitative approach**

These are:-

- Problems of reliability caused by extreme subjectivity;
- Risk of collecting meaningless and useless information;

- It is very time consuming;
- Problems of representativeness and generalizability of findings;
- Problems of objectivity and detachment; and problems of ethics (entering the personal sphere of subjects).

## **4.2. Quantitative approach**

The quantitative approach is based on the positivist philosophy. For more than a century, its structure, process and theoretical background offered the basis for the development and practice of the standards for the methods of the social sciences (Westhizen and Abraham, 2002). These standards constitute the theoretical principles of the qualitative approach and can be summarised as follows:-

- Reality is objective, simple and consists of sense impressions, there is one reality in nature, one truth.
- Human beings are determined by their social world in the same manner that fixed laws govern the naturalistic world. They are subject to fixed patterns that are empirically observable (the theses of normological thinking).
- Facts should be kept from values. Social should make value judgments (the thesis of value neutrality).
- Metaphysics, philosophical reasoning and speculation are mere sophistry or illusions, they cannot offer reliable and verifiable data; and
- Explanation is restricted purely to positive phenomena. Melville Goddard and (1996) say that data can be qualitative or quantitative. Qualitative data have numerical values and can be discrete or continuous. The ideological bases of this school of thought are quantitavism, behaviourism and positive epistemology derived from the philosophy (James and Dewey, 2002). This philosophical orientation has been supplemented by modern and highly sophisticated statistical techniques and computer models and is considered to be the school of thought with the strongest influence on social research in the modern world. Most of the research articles published in leading journals employ a positivist approach and use computer-aided data analysis.

#### **4.2.1 Advantages and disadvantages of the quantitative approach**

The quantitative approach also has certain advantages and disadvantages, which are listed below:-

##### **Advantages of the qualitative approach**

- Neopositivism is set to establish a clear and objective orientation, a vigorous, disciplined and systematic procedure and a reality bound methodology, which allows scientists to arrive at a theory that will be free from vague and sloppy approaches (Stergio, 1991 and Vlahos, 1984).
- The ideological bases of this school of thought are positivism, quantitativism and behaviourism. This philosophical orientation has been supplemented by modern and highly sophisticated techniques and computer models and is considered to be the school of thought with the strongest influence on social research in the modern world.
- The majority of research articles published in leading journals employ a positivistic methodology, including advanced statistical models and the use of computer-aided data analysis.

##### **Disadvantages of the quantitative approach**

- The over-emphasis positivists place on quantitative measures is wrong and unjustifiable for it cannot capture the real meaning of social behaviour. Quantification often results in meanings that are closer to the beliefs of the researcher than to those of the respondents.
- Quantitative research restricts experience in two ways: first by directing research to what is perceived by the senses and second by employing only standardised tools based on quantifiable data to test hypotheses.
- Quantitative research fails to distinguish between appearance and essence of social events; it neglects the essence of life, studies appearance and assumes that appearance is reality.
- The methodology employs a theoretical perspective and a form of research that supports the status quo and existing power structures.

### **4.3. Comparison of quantitative and qualitative approaches in application**

According to Hardiker and Littlewood (1987), positivists employ tight, preselected and pre-structured conceptual frameworks, sampling frames, research questions, data collection instruments and methods, coding and analytical techniques. The positivists claim that quantitative data is objective and empirical, whereas that data collected through qualitative designs is accused of being “subjective”, “anecdotal” and impressionistic, thus lacking in any scientific rigour. Those who are of the humanistic persuasion which favours qualitative designs argue that the research is better conducted through qualitative designs.

Another reason why qualitative designs may be preferred to quantitative ones is that the latter fail to achieve the demands of objectivity, which depend on the control of exogenous variables, when applied to the human sciences. The qualitative designs fall short when research is set in naturalistic settings, with experimental designs being time-consuming, remote or irrelevant (Herbert, 1993).

Since paradigms are sets of basic beliefs they are not open to proof in any conventional manner and therefore there is no means to elevate one paradigm over another on the basis of any criteria. Any given paradigm represents only the most informed and sophisticated view that its proponents have devised, given the way they have chosen to respond to the ontological, epistemological and methodological questions in research (Guba and Lincoln, 2006:135).

In fact, Marvasti (2004) notes that the positivist paradigm and the interpretive paradigm have much in common in that both paradigms are empirically grounded; they both view direct contact with the social world as a prerequisite for conducting research. As social scientists, constructionists and positivists base their research on systematic, empirical observations gleaned from the social world. The two perspectives are similar in that they yield useful information, depending on the task at hand. The positivist researcher, for example, might come up with findings that support the relationship between entrepreneurship and financial management skills, thus supporting the hypothesis that training in financial management enhances entrepreneurship. On the other hand, the interpretive researcher’s findings might generate a better understanding of the nature of entrepreneurship in small firms. Because of this, the two analytical frameworks should be thought of as points of emphasis rather than diametrically opposed standpoints.

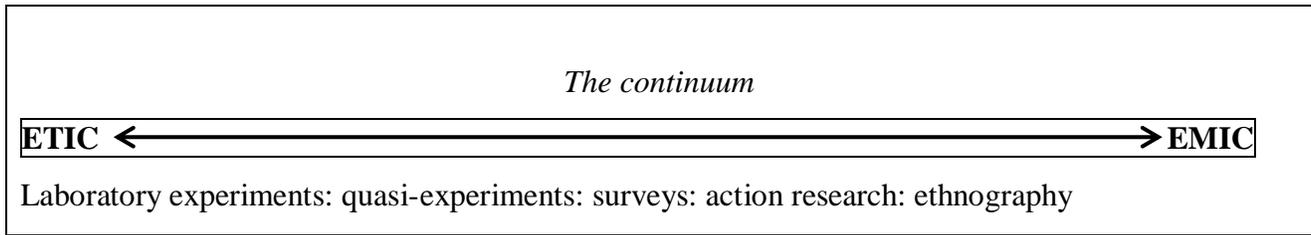
The distinction between quantitative and qualitative methods may therefore be unnecessary if one takes this utilitarian view of the debate. Instead of dwelling on the ontological and philosophical issues, one should take the more practical approach of using “what works”, rather than what is “right or wrong”. A utilitarian view allows the researcher to select the approach that may be suitable for the task at hand.

#### 4.4. Methods

It is not strictly true to say that the positivist paradigm necessarily rests on quantitative research methods and that the interpretive paradigm, on the other hand, rests on qualitative methods alone. It is in fact possible to say that research methods rest on a *continuum*. On this continuum, one can distinguish between methods in terms of their relative emphasis on induction or deduction, their degree of structure and the kinds of data they generate (Gill and Johnson, 2005:37). In this regard, Burrell and Morgan (1979) make a distinction between two extremes on the continuum: **nomothetic** and **ideographic** methods. Nomothetic methods emphasize the importance of basing research upon systematic protocol and technique, as epitomized in the natural sciences, which focus on the testing of hypotheses in accordance with the standards of scientific rigour. They take an **etic** approach. Ideographic methods, on the other hand, emphasize the analysis of subjective accounts that one generates by “getting inside” situations and involving oneself in the everyday flow of life. They take an **emic** approach.

This assertion is summarized in Figure 4.1 below, wherein it is shown that on one end of the continuum there are **laboratory experiments**, which are purely nomothetic and mainly quantitative, followed by **quasi-experiments**, which are not fully nomothetic but are more inclined to being quantitative than qualitative. At the other end of the continuum, there are **ethnographic methods**, which can be considered purely ideographic, thus mainly qualitative, followed by **action research**, which is not fully ideographic but is more inclined to being qualitative. At the centre of the continuum there are **survey research methods**, which can be regarded as both nomothetic and ideographic, thus combine both quantitative and qualitative analysis.

**Figure 4.1 The research continuum**



*Adapted from: Gill and Johnson(2005:37)*

Methods are *tools* for doing research, and one need not be committed to them anymore than is necessary to pledge one’s allegiance to a screwdriver over a hammer. It follows then that if, for example, we are interested in comparing profitability between small and large firms we should use numerical data. Alternatively, if the question is how small firms exchange technological information it might be more practical to gather descriptive data.

#### **4.5. Research design**

The study was carried out in two stages. The first stage was a survey of the small-firm furniture manufacturing industry in Zimbabwe, with particular reference to firms operating in geographical clusters. The purpose of this survey was to determine the size and significance of the industry and also to determine if there are any significant differences or similarities between firms operating from clusters in different provinces. The second part of the study was meant to provide an understanding of the nature of the clusters and the entrepreneurial activities of the firms located in these clusters so as to ascertain how they differ from other small firms that do not operate in clusters. This part of the study used the Glenview cluster in Harare as a case study. The selection of the Glenview cluster as a case was based on the fact that it is by far the largest of all the small-firm clusters in Zimbabwe.

#### **4.6. Population**

The survey covered the six major cities of Zimbabwe. The sampling frames were based on records of small firms kept at the Local Authority offices to which the firms pay monthly rentals for their business premises. There are various other small businesses within each cluster but they were not

included in the study as they are not formally registered. Of the firms that are officially recognised in each cluster, some are not involved in the main business of the cluster, which is furniture making.

The focus of the study was on furniture making firms since this is the dominant activity of the firms found in most of the clusters in Zimbabwe. These are the firms that constitute the relevant population of the study for sampling purposes. The other firms that are also located in the clusters and are involved in various ancillary activities, such as transport and the supply of production inputs like timber, cotton wool, nails and glues were not sampled. For example, at the Glenview cluster, of the more than 1 500 firms that are located in the cluster, only 1 300 are involved in the actual manufacture of furniture, mainly wood and steel furniture and are registered with the local authority. This is the population that was sampled at that cluster.

To this end, the total population for the study consisted of the 2 144 officially recognised furniture making firms located in the six major cities of Zimbabwe. The details of the population in each province and city are shown in Table 4.1 on the next page.

**Table 4.1: Study population by province, city and cluster**

<b>Province</b>	<b>City</b>	<b>Cluster location</b>	<b>Number of firms</b>
Harare	Harare	Glenview	1 300
	Chitungwiza	Zengeza	220
Matebeleland North	Bulawayo	Western Commonage	190
		Mzilikazi	108
Manicaland	Mutare	Chikanga	77
		Sakubva	87
Masvingo	Masvingo	Mucheke	88
Midlands	Gweru	Mkoba	74
<b>TOTAL</b>			<b>2 144</b>

#### **4.7. Sample selection**

Simple random samples of firms were selected from each of the clusters. In the case of the Glenview cluster, stratified random samples were used. As noted by Israel (2002), stratified random sampling is considered to be more statistically efficient than simple random sampling where the

population consists of distinct strata. The statistical efficiency of stratification arises from the fact that each stratum is internally homogeneous, consisting of more or less similar cases, but is externally heterogeneous with other strata.

The primary variable distinguishing the firms in the Glenview cluster is the type of activity: steel furniture making or wood furniture making. The firms that are engaged in wood furniture manufacturing make up about 70 per cent of the total population and the other 30 per cent consists of those involved in steel furniture making. The sample was therefore proportionally divided into two strata consisting of wood furniture making firms (70 per cent) and steel furniture making firms (30 per cent). The firms from these strata were then selected using a simple random sampling method using the register from the local authority as the sampling frame.

In order to ensure a representative sample of sufficient size, the study considered three criteria: the precision level (sampling error), the level of confidence and the degree of variability of the firms. The sample size was determined using Yamane’s (Yamane, 1967) formula which is the one that is recommended for stratified random samples (Israel, 2002; Ross, 2002):

$$n_0 = \frac{N}{1 + N(e)^2} \dots\dots\dots 4.1.$$

$$n = \frac{n_0}{1 + \left[ \frac{n_0 - 1}{N} \right]} \dots\dots\dots 4.2.$$

- Where: *e* = the sampling error,
- N* = the population size,
- n<sub>0</sub>* = the first approximation of *n*, and
- n* = the minimum required sample size

This method of determining the sample size ensures adequate sample representativeness, especially for heterogeneous populations such as small firms located in geographical clusters. However, in order to populate the equations 4.1.and 4.2 above, the researcher must assume the relevant precision

level deemed to be appropriate for the study (Kaseke, 2012). In this study, we use a precision level of 5%, considering that the records kept at the local authorities might not also be very accurate.

Using a 95 per cent confidence level and a precision level of  $\pm 5$  per cent, the size of the sample from the Glenview cluster was 248, obtained as shown below:

$$n_0 = \frac{1300}{1 + 1300(0.05)^2} = 306$$

$$n = \frac{306}{1 + \left[ \frac{306 - 1}{1300} \right]}$$

$$= 248$$

Thus, from the total population of 1,300 firms at the Glenview cluster, a total of 248 firms were sampled, of which 174 (70 per cent) were selected from the wood furniture manufacturers and 74 (30 per cent) were selected from the steel furniture manufacturers. The sample sizes for the rest of the populations were also calculated using the same method. Table 4.2 below shows all the samples that were used in the study.

**Table 4.2: Sample size by cluster location**

CITY/TOWN	Location of cluster	Number of firms	Sample size	Sample size as a percentage of the population
Harare	Glenview	1 300	248	20%
Chitungwiza Town	Zengeza	220	86	39%
Bulawayo	Mzilikazi	108	48	44%
	Western Commonage	190	77	40%
Mutare	Chikanga	77	35	46%
	Sakubva	87	39	44%
Masvingo	Mucheke	88	41	40%
Gweru	Mkoba	74	34	46%
<b>TOTAL</b>		<b>2 144</b>	<b>608</b>	<b>32%</b>

#### **4.8 Data collection instruments**

The primary data collection instrument for this study was a questionnaire. The questionnaire had two sections. The first part was designed for the purpose of carrying out the survey of firms located in clusters in the whole industry in order to find out the following:

- The number of clusters of significant size in the whole country,
- the number of people employed in the industry,
- the levels of income generated by the industry, and
- the contribution of the industry to national income and employment.

The second part of the questionnaire was designed to understand the nature of the clusters and the entrepreneurial activities of the firms located in these clusters so as to ascertain how they differ from other small firms. This part contained questions to do with the characteristics of the firms, their owners and employees and the competitive strategies that they use.

The results from the questionnaire were complemented with data collected through in-depth interviews with selected owners or managers of firms in furniture manufacturing firms as well as those in ancillary activities such as timber merchants, cotton merchants, subcontractors and transporters.

Further, the study also relied on data from secondary sources, such as official data from the Central Statistical Office, City of Harare and government ministries. The purpose of this data was to establish the institutional framework within which the firms operate.

#### **4.9 Questionnaire administration**

A pilot study was carried out through the administration of twenty questionnaires to randomly selected owner-managers at the Glenview cluster in Harare. The purpose of the pilot study was two-fold. Firstly, it was used to train ten field workers who assisted in administering the questionnaire. The result of the test indicated that for maximum response, the questionnaire had to

be interviewer-administered rather than self-administered. Secondly it was a means of ensuring the validity of the questions in the questionnaire and the reliability of the responses to them.

When analysed on SPSS, the responses to the test questionnaire resulted in a Cronbach's alpha of 0.721. Cronbach's alpha is a measure of the internal consistency of an instrument and a result of more than 0.70 is deemed to indicate that the level of consistency between the questions is acceptable. A low alpha is usually associated with an insufficient number of questions or poor interrelatedness between items in the questions. A high alpha confirms the internal validity and reliability of an instrument and enables the study to generalise the responses from the questionnaire to the population of the study with confidence (Tavakol and Dennick, 2011 and Vehkalahti, 2011).

#### **4.10 Dealing with ethical issues**

The respondents in this study, being owners of small firms who were relatively low-income earners, naturally expected some form of material benefit such as financial assistance, or at least some practical solutions to their problems, to come out of the research process. This study was, however, largely for academic purposes and therefore could not easily meet such expectations. Building rapport with the respondents and gaining access to them was therefore dependent on resolving this dilemma. As explained by Mararike (2011), the only ethical way to resolve the dilemma and gain access to the respondents is to avoid making any false promises to them and to immediately dispel any hopes of material gains resulting directly from the study. It was therefore important for the respondents to appreciate that the information collected by the study might *probably* help to bring their activities to a wider audience, such as the general public, relevant arms of government and potential donors.

Following this advice, access to the respondents was easily gained once it was made clear to them that though there would be no direct material benefit resulting from their participation in the study, the study would help in highlighting the significance and contribution of their activities to the country's economy and also report on the challenges that they might be facing. The respondents were made to agree with the suggestion that the "informality" of their industry needed to be ended and their activities formally recognised. Thus, the information gathered from the study would indirectly benefit them when it was made available to a wider audience.

#### 4.11 Questionnaire distribution

Details of the questionnaires administered to respondents in the identified clusters in each city are shown in Table 5.2 below.

*Table 4.3.: Questionnaire distribution and response rate per cluster*

Location of cluster	Number of firms	Sample size	Sample size as a percentage of the population	Completed questionnaires	Response rate
Glenview	1 300	248	20%	198	80%
Zengeza	220	86	39%	81	83%
Mzilikazi	108	48	44%	45	75%
Western Commonage	190	77	40%	69	77%
Chikanga	77	35	46%	30	83%
Sakubva	87	39	44%	32	82%
Mucheke	88	41	40%	39	95%
Mkoba	74	34	46%	28	82%
<b>TOTAL</b>	<b>2 144</b>	<b>608</b>	<b>32%</b>	<b>522</b>	<b>86%</b>

A total of 608 questionnaires were distributed to owners or managers of the firms in the identified clusters and 522 were satisfactorily completed. The questionnaires were interviewer-administered. The response rate was therefore 86 per cent of the total number of questionnaires. This was a fairly high response rate, minimising non-response bias, thus the results can safely be generalised to the total population. The close proximity of firms in the cluster was the main reason for the high response rate as it was generally easy to motivate the respondents to complete the questionnaires.

#### 4.12 Data analysis

According to Barbie and Manton (2001:490) the analysis of data gathered through qualitative research depends on the research interest. Firstly, researcher might be interested in the characteristics of the language used by the respondent. Secondly, the researcher might want to discover regularities, and finally, the researcher might want to comprehend the meaning of the language or action of the respondents. The most commonly used method of analysis for qualitative data is content analysis. Content analysis involves the examination of words in order to make inferences about the respondent. This method of analysis was however, complemented by statistical

analysis using social statistical software packages that enable the drawing of inferences from sample statistics.

#### **4.13 Conclusion**

This study was mainly qualitative and its main purpose was to discover a grounded theory on entrepreneurship within industrial districts consisting of small-business entrepreneurs. For this reason, the interest of the research was to discover regularities. The analysis of the data enabled the researcher to identify (and categorize) elements and to explore their outcomes. According to Strauss and Corbin (1990), this can be achieved through two main processes, that is coding procedures and adjunctive procedures. The study used the three coding procedures advocated by Strauss and Corbin (Ibid), that is open coding, axial coding, and selective coding.

This chapter has outlined the methods that were used in the study and the next chapter will be concerned with presenting the findings.

## Chapter 5

### Findings

#### 5.0. Introduction

This chapter presents the findings of the fieldwork. The main objective of the study was to determine the extent of small-firm agglomeration and establish a topology of small-firm agglomeration in Zimbabwe. The study also had two other related objectives, which were: to establish the conditions necessary for the development of small-firm agglomerations and the policy measures required to foster the development of such agglomerations in the Zimbabwean context.

The three questions arising from these objectives are:

- What is the extent and diversity of small-firm clustering in Zimbabwe?
- To what extent do small-firm clusters contribute to the growth of the economy?
- What factors are contingent to the growth of entrepreneurship within small-firm clusters?

In order to answer these questions, the study commenced with a survey of small-business clusters in the five major cities of Zimbabwe: Harare; Bulawayo; Gweru; Masvingo and Mutare. The survey also included Chitungwiza, a satellite town of Harare. During the survey a questionnaire was administered to randomly selected samples of the owners and managers of small furniture manufacturing firms operating in identifiable geographical clusters in the aforesaid cities. The survey of the cities was followed by in-depth interviews with managers and owners of selected firms at the Glenview cluster in Harare.

The cities that were covered in the survey are shown in the map of Zimbabwe in Figure 5.1 on the next page.

*Figure 5.1: Map of Zimbabwe: showing the five major cities*



*Source: <http://maps.google.co.zw/map> (3 March, 2012)*

Harare is the largest city, being the capital city. The furthest city from Harare is Bulawayo, which is about 600 kilometres from Harare, followed by Masvingo, which is about 400 kilometres.

### **5.1 Location and size of small-business clusters in Zimbabwe**

Eight clusters of small firms specialising in the manufacture of household furniture were identified in the five major cities as well as in Chitungwiza. All the clusters were located inside or in the immediate vicinity of low-income suburbs such as Mkoba in Gweru, Sakubva and Chikanga in Mutare and Mzilikazi and Western Commonage in Bulawayo. For example, 62 per cent of the people working in the Glenview cluster resided in Glenview and the other 38 per cent came from the other surrounding low-income suburbs such as Glen Norah, Highfield, Mufakose, Kambuzuma, Kuwadzana and Budiro. It was also found that the Glenview cluster also attracted people from various parts of the city of Harare and its hinterlands such as Norton and Epworth, which are fifty kilometres and thirty respectively away from Harare.

Table 5.1 on the next page shows the location and size of each cluster in terms of the number of firms and employees found in each cluster.

**Table 5.1: Clusters of small furniture making firms in Zimbabwe**

CITY/TOWN	Location	Furniture firms	Other firms	Total firms	Total employees
Harare	Glenview	1300	500	1 800	5 400
Chitungwiza Town	Zengeza	220	19	239	717
Bulawayo	Mzilikazi	108	11	119	357
	Western Commonage	190	32	222	666
Mutare	Chikanga	77	36	113	339
	Sakubva	87	21	108	324
Masvingo	Mucheke	88	21	109	327
Gweru	Mkoba	74	10	84	252
<b>TOTAL</b>		<b>2 144</b>	<b>652</b>	<b>2 796</b>	<b>8 382</b>

The total number of firms that were directly involved in manufacturing household furniture was 2 144. There was great variability in the size of the clusters, ranging from 1,300 firms to 74 firms per cluster. The largest cluster was located in Harare at Glenview with 1 300 firms. The clusters outside Harare were comparably small, with an average of 142 firms per cluster. There also appeared to be great similarity in the range and types of products produced in these clusters.

In addition to those firms that were directly involved in the business of the cluster, there were numerous other firms involved in other downstream and ancillary activities such as the supply of transport services, timber, cotton and other inputs such as wood glue, nails, varnish, door handles and keys. More than 500 such firms, forming a third of the total population, were identified at the Glenview cluster. It was also found that each of the firms in these ancillary activities employed at least two people and each employee had an average of six dependents including a wife and children and some members of the extended family.

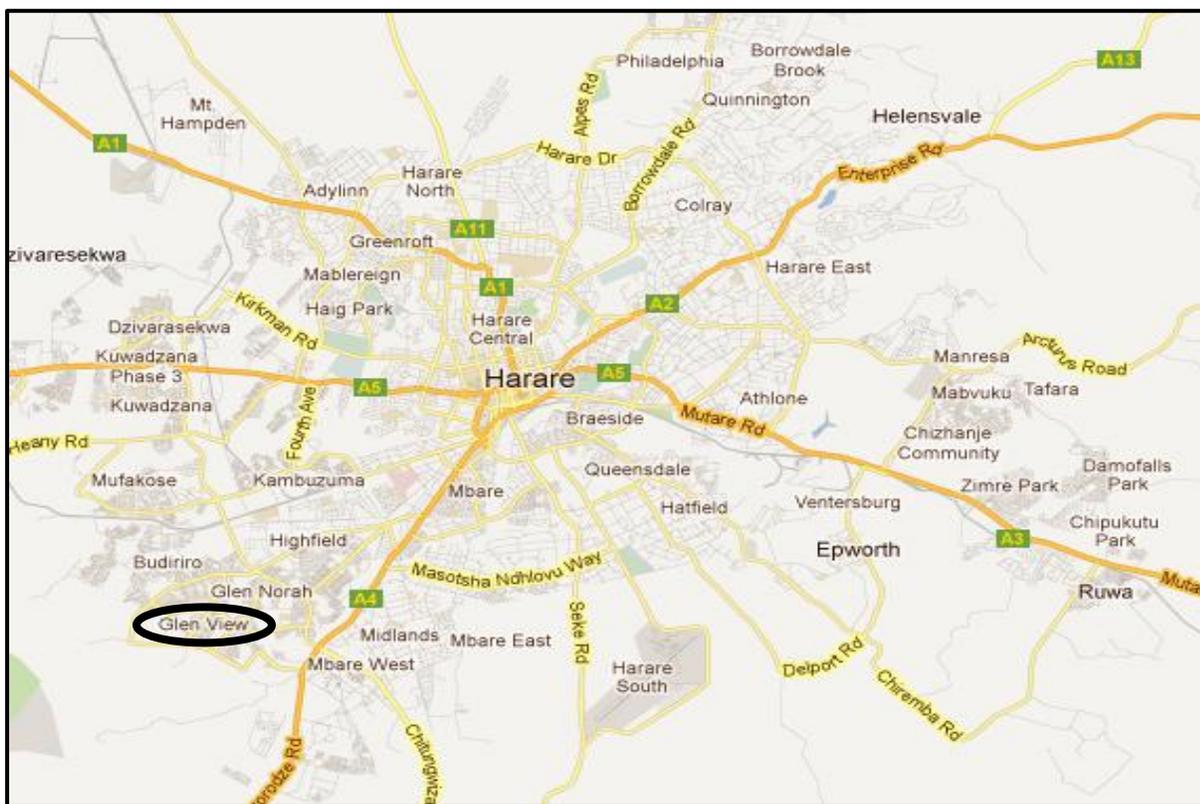
## **5.2 The Glenview cluster**

The Glenview cluster was selected because of its size and apparent dynamism compared to the other clusters as well as its unique location. Glenview is a low-income suburb which is about thirty kilometres south-west of Harare’s central business district. Within its immediate vicinity, are the other seven low-income suburbs of Glen Norah, Budiro, Highfield, Mufakose, Kambuzuma, Mbare and Kuwadzana. These suburbs are referred to as “high-density” residential areas because of

the large population of people living in relatively small geographical locations. According to records kept at the City of Harare District Housing Office, the total population residing within these eight suburbs (including Glenview) is about 800 000.

The Glenview cluster itself is located on the outskirts of Glenview suburb and covers a geographical area of about fifteen hectares. The location of Glenview in relation to Harare's central business district is shown in the map in Figure 5.2 below.

**Figure 5.2: Map of Harare, showing the location of Glenview**



Source: <http://maps.google.co.zw/map> (3 March, 2012)

The land on which the cluster is located belongs to the City of Harare and is under the jurisdiction of the Glenview District Office. The cluster was formed in November 2005 when the Ministry of Small and Medium-Scale Enterprises received a donation to assist small furniture manufacturing firms in Glenview who had been displaced by a government-sponsored clean-up operation. The firms had been operating illegally along Willowvale Road and in other parts of Glenview. The

Ministry then constructed 483 factory shells with an average size of twelve square meters each with no other fittings but connected to water and electricity.

The Ministry then handed the factory shells over to the City of Harare to be administered by the Glenview District Office. However, the allocation of the shelters to occupants was made by Ministry officials. The result of this was that many of the resultant owners of the shelters were not the intended furniture manufacturers themselves. Instead, the furniture manufactures were made to rent their premises from these landlords. The owners of the factory shells were made to sign lease agreements with the City of Harare which required them to make monthly payments of \$178.00 per unit. As it turned out, the Glenview District Office did not receive any rent and over the seven-year period up to March, 2012 that the shelters had been in existence and the arrears in unpaid rent to the City of Harare from the occupants were well over \$7 200 000. The occupants of the shelters, however, were making monthly rental payments ranging from \$30.00 to \$80.00 to the landlords who were allocated the shelters, depending on the size of the land they occupy outside the shelter.

The shelters were too small and ill-designed for the business of furniture manufacturing. The occupants therefore ended up working from outside, using the shelters as store rooms. As a result, the land outside the shelters was further subdivided into smaller pieces. The number of small firms kept growing at an exponential rate as more and more land was being cleared and occupied, albeit with the tacit “approval” of the city authorities.

The cluster is now in three separate locations: the Main Complex, which is the original site, the Caledonia Annexe and the Willowvale Annexe. The Main Complex is the largest of the three locations and covers an area of about twelve hectares. It lies to the south of Willowvale Road, the trunk road that links Glenview and other suburbs to the central business district of Harare. This part of the cluster is occupied by sixty per cent of the total population of firms in the cluster.

The Caledonia Annexe is adjacent to the Main Complex on the other side of Willowvale road. It covers an area of about two hectares and houses thirty per cent of the total population of firms in the cluster. The Willowvale Annexe is located inside the Willowvale Industrial area and is about two kilometres from the Main Complex. It covers an area of one hectare and houses about ten per

cent of the total number of firms in the cluster. These other two locations are used mainly as production sites by the firms that have no space in the Main Complex but use the Main Complex as the display area for their products. The land on which these two sites are located belongs to private landowners who also constructed shelters for the firms and are charging monthly rentals ranging between \$30.00 and \$90.00, depending on the nature of the business. Each shelter is twenty square metres in size and is occupied by an average of four production units.

Figure 5.3 below is an aerial photograph of the map of Glenview, showing the three locations of the Glenview cluster in relation to the suburb of Glenview. As can be seen from the map, the Glenview cluster as a whole is a dense network of firms located in a relatively small geographical area and operating in very close proximity to one another.

**Figure 5.3: The Glenview cluster: Main Complex (A), Caledonia Annexe (B) and Willowvale Annexe (C)**



Source: <http://maps.google.co.zw/map> (3 March, 2012)

The maximum size of the area occupied by the production unit of each firm is about four square metres. To compensate for this lack of space, each firm has to rent two spaces within the cluster. One area is occupied by the firm's production unit and the other is used as the sales area. Most

spaces in the Caledonia Annexe and the Willowvale Annexe are used mainly for production purposes and the areas within the Main Complex are used mainly for displaying and selling products.

#### 5.4. Characteristics of small-firm clusters in Zimbabwe

The study was concerned with initially establishing the *characteristics* of the clusters. To this end, the respondents were requested to provide data on the following issues:

- The characteristics of the firms;
- The characteristics of the owners or managers of the firms; and
- The characteristics of the firms’ employees.

##### 5.4.1 Characteristics of the firms

The study sought to establish the characteristics of the firms located in the cluster by asking the respondents to state: the age of the firm; the number of years that the firm had been operating within the cluster; the number of employees and whether the firm was managed by the owner or by an appointed manager. The respondents were also requested to state whether their firms were formally registered by way of a Certificate of Incorporation from the Registrar of Companies or were operating on a licence from the local authority and whether the premises they were using were being rented from the local authority or from another landlord. Table 5.3 on below contains selected descriptive data on the characteristics of the firms in the eight clusters.

**Table 5.3: Characteristics of the firms**

Cluster location	Age of firm	Number of years operating in the cluster	Number of employees	Managed by appointed manager	Premises rented from local authority	Premises rented from land lord
Glenview	14	7	6	15%	75%	25%
Zengeza	15	11	4	2%	86%	14%
Chikanga	13	9	3	0%	100%	27%
Sakubva	15	11	3	0%	87%	13%
Mucheke	15	10	3	0%	100%	0%
Mkoba	14	13	3	0%	97%	3%
Western Commonage	11	9	4	0%	100%	0%
Mzilikazi	16	15	3	0%	88%	12%
<b>TOTAL</b>	<b>14</b>	<b>11</b>	<b>4</b>	<b>1%</b>	<b>92%</b>	<b>8%</b>

The respondents said that most of the firms had been in existence for a long period, with the average age of the firms being reported to be 14 years. All the respondents reported that they were operating elsewhere before they re-located to the cluster. The most-recently formed cluster was the Glenview cluster in Harare which was said to be seven years old, whereas others such as the Mzilikazi cluster in Bulawayo had been in existence for more than 15 years. Those firms that had a longer life history were operating from other locations before they came to the cluster, due to the perceived advantages of being in the cluster.

All the respondents stated that their firms were managed by their owners, except for a few in the Glenview cluster (15 per cent) which had an appointed manager. The majority of the owner-managers of the firms (96 per cent) were found to be male. However, most of the female owners of the firms were reported to be in ancillary activities, such as tailoring and the supply of inputs such as glue, nails and varnish. It was reported that 56 per cent of all tailoring firms were female-owned. It was reported that on average, each firm employed four people, including the owner-manager. The largest firms were located in the Glenview cluster, with an average of six employees per firm.

All the respondents stated that their firms did not have Certificates of Incorporation but were operating as 'sole traders', mostly as family-owned businesses operating on a licence from the local authority. Some of them operated 'illegally' albeit with the tacit approval of the local authorities. Most firms rented their work places from landlords other than the local authority. In the Glenview cluster, for example, only 23 per cent of the firms were formally licensed with the local authority and were paying rentals directly to the District Housing Office. The others were leasing their premises from other landlords.

The respondents were also requested to provide further information with regards to the management structure of their firms. It was reported that the owner-manager was responsible for all management functions, including production, purchasing, sales and human resources management and training of apprentices.

The majority of the respondents (72 per cent) however stated that their firms also had an appointed qualified and experienced sales or marketing officer who reported directly to the owner-manager.

The respondents indicated that the appointment of sales or marketing officers had been necessitated by two factors. Firstly it was purely a logistical matter in the sense that the production unit of the firm was usually situated in a different part of the cluster from the sales unit. This was found to be the case in the Glenview cluster in which certain areas such as the Caledonia Annexe were reserved for production activities and most areas in the Main Complex were devoted to the display and sale of finished products.

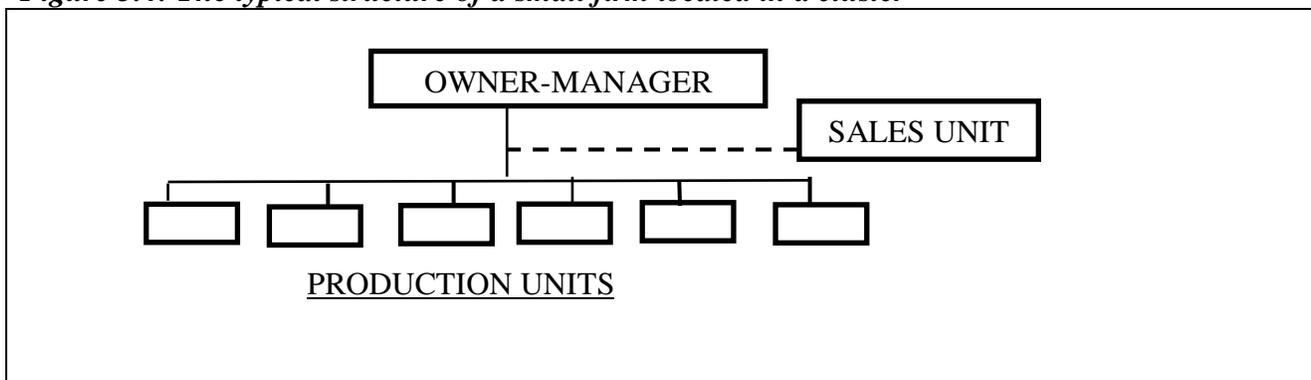
This phenomenon was also observed in the smaller clusters. For example, the production units of the firms at the Chitungwiza cluster (“PaGomba”) near Harare were located at Makoni Shopping Centre, which was five kilometres away. Also in Mutare, the firms had located their production units within the show grounds near Chikanga suburb but some of the sales units were at Sakubva, which was closer to the central business district, ten kilometres away.

The other major reason for the appointment of sales people was the competitive nature of the industry as a result of the high density of firms located in a relatively small geographical area.

The respondents described the structure of their firm as consisting of the owner-manager and the production unit consisting of several artisans as well as the sales unit consisting of one or two sales officers. The sales officers reported directly to the owner-manager. The owner-manager also directly supervised all production management functions carried out by the artisans.

Figure 5.4 below is an illustration of the typical structure of a small firm located in a cluster.

**Figure 5.4: The typical structure of a small firm located in a cluster**



#### 5.4.2 Characteristics of the owner-managers

The respondents were also asked to describe the characteristics of the owners or managers of the firms, such as their age, level of education, monthly income, experience and formal training. Their responses are summarised in Table 5.4 below.

**Table 5.4: Characteristics of owner-managers**

Cluster location	Age	Education : “O” Level and above	Monthly income	Dependents	Previous outside experience	Previous inside experience	Formal training
Glenview	46	43%	\$650	7	15	3	15%
Zengeza	45	38%	\$420	6	13	2	5%
Chikanga	43	13%	\$195	8	16	2	8%
Sakubva	37	17%	\$205	5	15	3	11%
Mucheke	42	18%	\$195	6	12	2	2%
Mkoba	38	16%	\$200	7	11	4	12%
Western Commonage	36	19%	\$400	6	14	3	6%
Mzilikazi	44	18%	\$300	8	17	2	8%
<b>TOTAL</b>	<b>41</b>	<b>23%</b>	<b>\$320</b>	<b>7</b>	<b>14</b>	<b>3</b>	<b>8%</b>

The average age of the owner-managers was reported to be forty-one years and only twenty-three per cent of the owner-managers reported that they had “Ordinary level” education. The highest level of education was reported in Harare but there was no great variability within the clusters outside Harare. Only eight per cent of the respondents also reported that they had any formal training in carpentry from the various training institutions in Zimbabwe. The rest of the respondents reported that they had received informal apprenticeship training either as former employees of large established furniture making companies from which they were retrenched or resigned before starting their own firms, or within the environment of the cluster.

Previous employment experience outside the cluster was reported to be fourteen years on average. Sixty-two per cent of the owner-managers also reported that they had had previous experience as employees of other firms within the cluster before starting their own entities. Previous employment experience within the cluster by such owner-managers was reported to be three years on average.

Thus, there was a high level of practical experience in the industry as well as informal apprenticeship training.

The average monthly income for each owner-manager was reported to be \$320. This implied that the total annual income of the owner-managers of all the 2 144 furniture making firms identified in the industry was more than \$8 232 900. The owner-managers also reported that they had an average of seven dependents, including members of the extended family, bringing the total number of dependents to more than 15 000 people.

### 5.4.3 Characteristics of the employees

The respondents were also asked to describe the characteristics of the employees in their firms, such as their ages, level of formal education, level of training in the carpentry trade, monthly income, number of dependents and their previous employment experience, both inside and outside the cluster.

The responses to these issues are summarised in Table 5.5 on the next page.

**Table 5.5: Characteristics of employees**

<b>Cluster location</b>	<b>Age</b>	<b>Education : “O” Level and above</b>	<b>Monthly income</b>	<b>Dependents</b>	<b>Previous experience outside the cluster</b>	<b>Previous experience inside the cluster</b>	<b>Formal training</b>
Glenview	33	82%	\$350	5	1	3	8%
Zengeza	28	81%	\$120	3	2	2	4%
Chikanga	24	83%	\$100	5	1	2	8%
Sakubva	28	77%	\$100	4	1	2	6%
Mucheke	32	88%	\$120	3	2	2	9%
Mkoba	28	81%	\$200	3	1	3	7%
Western Commonage	31	89%	\$150	6	1	3	6%
Mzilikazi	27	88%	\$250	4	2	2	4%
<b>TOTAL</b>	<b>28</b>	<b>84%</b>	<b>\$170</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>7%</b>

The average age of the employees was reported to be twenty-eight years and the majority of them (84 per cent) were reported to have “Ordinary level” education. There was no noticeable variability in the level of education among employees from different clusters. Most of the employees in the industry did not have any formal training in carpentry. It was reported that only seven per cent of the employees had some form of formal training in carpentry. The majority of them were reported to have received informal apprenticeship training within the environment of the cluster.

It was also reported that eighty-three per cent of the employees had had an average of two years employment experience with other firms within the cluster. Most of the employees did not also have any previous employment experience with other firms outside the cluster.

The average monthly income for each employee was reported to be \$170. With each firm employing an average of four employees, it could be deduced that the total annual income of the employees in the 2 144 furniture manufacturing firms identified in the industry was more than \$22 032 000. The employees reported that they had an average of four dependents, including members of the extended family, bringing the total number of dependents to more than 43 200 people.

### **5.5 The functioning of the cluster**

After having established the characteristics of the firms in the cluster the study also sought to determine the way in which the cluster functioned. To this end, the respondents were requested to report on the following policy matters with respect to their firms:

- Human resources management;
- Production operations management;
- Sales and marketing management; and
- Financial management

The responses to these issues are described below.

### 5.5.1 Human resources management

In order to characterise the functioning of the cluster from a human resources perspective the study sought to establish the human resources management policies of the firms located in the cluster. In order to achieve this, the respondents were requested to report on the recruitment, training and remuneration practices of their firms and the following were the answers provided.

With respect to the recruitment policies of the firms, the respondents indicated that the firms had two types of employees. The first type was that of the ‘permanent’ employees, some of whom were still under apprenticeship training and others had completed their training programmes. The second type of employees were said to be the artisans who did not have any permanent relationships with any particular production entity, but roamed within the cluster offering their services to all the entities in the cluster. These formed a distinct pool of skilled labour, with the technological capabilities and skills to make all product types and categories within the cluster.

The respondents stated that the recruitment policies of their firms were based on strong social ties, such as family, friendship, religion, or rural family backgrounds. Only employees sharing the same social ties were employed in the firm. The strongest social ties were of a religious nature, with more than 55 per cent of the respondents in steel furniture firms and 59 per cent in wood furniture firms indicating that their employees attended the same church. The social ties between employees in firms were reported to be equally strong in steel as well as furniture making firms.

Table 5.6 below contains a summary of the distribution of social ties among firms in the Glenview cluster.

**Table 5.6: Strength of social ties within firms**

Type of social ties	Steel furniture (%)	Wood furniture (%)
Religion	55	59
Family	28	33
Friendship	14	12
Rural background	11	5
Other	2	1
<b>Total</b>	<b>100%</b>	<b>100%</b>

These strong social ties were also reported across firms, with 30 per cent and 8 per cent of the respondents reporting that they had the same religious affiliation and the same rural back ground respectively with respondents from other firms. They reported that the existence of strong social ties across firms further reduced the conflict levels between firms in the cluster, even though the business environment of the cluster was very competitive.

With respect to the training policies of their firms, most of the respondents (76 per cent) stated that it was only the owner-manager who had been trained outside the firm, either as a former employee of another firm or as a college graduate. Most of the other employees received in-house apprenticeship training from the owner-manager or a designated senior employee who acted as a mentor.

The apprenticeship training was reported to be highly structured, with a new recruit being taken through all the transformation processes of the products made by the firm, through the close guidance of the owner-manager or mentor. For example, the training programme for cabinet makers was reported to take a minimum of two years to complete and that for sofa-set and base-bed makers about twelve months, depending on the aptitude of the trainee.

The apprenticeship training had two critical aspects to it and these were: quality of the finished product and cost-minimisation. Because of the intense competition for customers within the cluster, these two aspects had a bearing on the competitiveness of the firm's products on the market. The quality of the finished product was assured through the workmanship of the artisan, especially, smoothing, polishing and varnishing, in the case of cabinet makers. Costs were kept at a minimum by minimising the wastage of inputs. For example, there were particular methods of cutting timber so that there would be no pieces left unused, or even the securing of hinges to the doors had to be practised so that none would be wasted.

It was stated that there were no strict bonding requirements since an apprentice, once qualified, was free to branch off on his own or to remain within the firm. Thus, most firms in the cluster (61 per cent) were owned by former employees of other firms within the cluster. This implied that social

ties were not only strong within the firm itself but also between ‘competing’ firms due to the nature of skills training and sharing of labour within the cluster.

When requested to describe the remuneration policies of their firms, the respondents said that the employees were not paid a fixed salary but a commission-based remuneration.

The commission for sales staff was based on each item sold and the sales person received an average of ten per cent of the sales value of the item sold. The sales person was given a range of prices (maximum and minimum) within which the item could be sold. It was up to the sales person to achieve the highest sales volume on the highest sales price so as to maximise his or her commission. This policy was meant to ensure that the sales persons would polish up their sales pitch in the highly competitive environment of the cluster.

It was also reported that the commission for artisans in the production unit was calculated using two alternative methods, depending on the level of business at that time. During slack business times when the demand was low or there was a shortage of inputs, the artisans would be required to produce whole units, for example, the whole set of six sofas. In such cases the artisan would be paid a commission of about ten per cent of the value of the whole set when sold. During that time, some artisans even became independent commission workers who could hire out their labour to other ‘competing firms’. At other times, for example when the firm received a large order with a short lead time, or when demand was generally high (for example during the tobacco selling season, when tobacco farmers brought their tobacco to the auction floors), the artisans reverted to full-time employment, receiving a ‘salary’ based on the number of items sold by the firm as a whole. In this case, they would all share equally the proceeds of the sale.

### **5.5.2 Production operations management**

The study also sought to characterise the functioning of the cluster by requesting the respondents to provide information on the way in which their firms managed production operations.

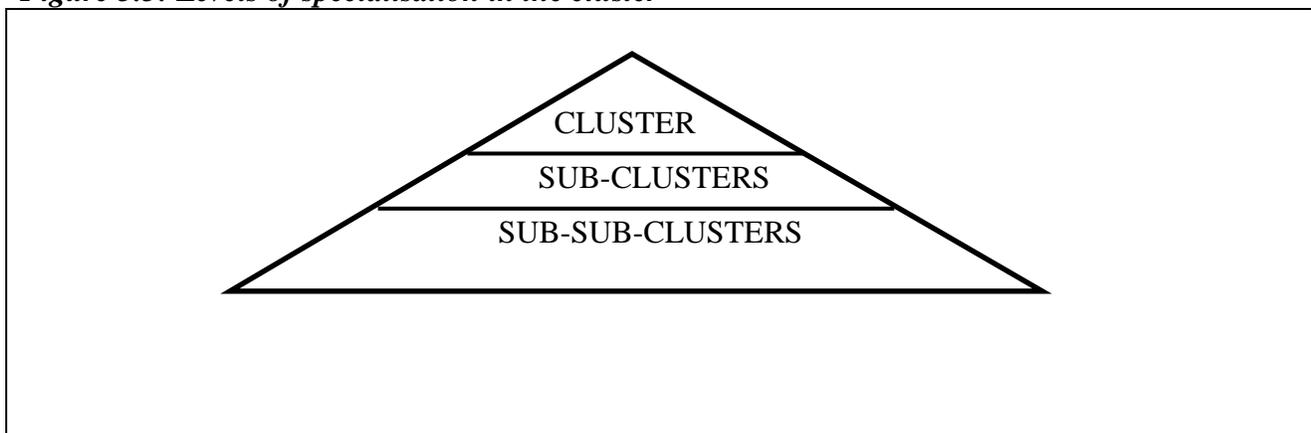
It was reported that production operations management within the cluster was anchored on specialisation and division of labour in that each firm concentrated in the production of one or more

products made in the cluster and each artisan also concentrated in a particular routine within the transformation processes of the products made by the firm.

### 5.5.2.1. Specialisation in production operations management

It was reported that production operations within the cluster were managed in a cascading spiral of specialisation. This meant that the cluster was subdivided into sub-clusters and sub-sub-clusters of firms, resulting in three levels as illustrated in Figure 5.5 below.

*Figure 5.5: Levels of specialisation in the cluster*



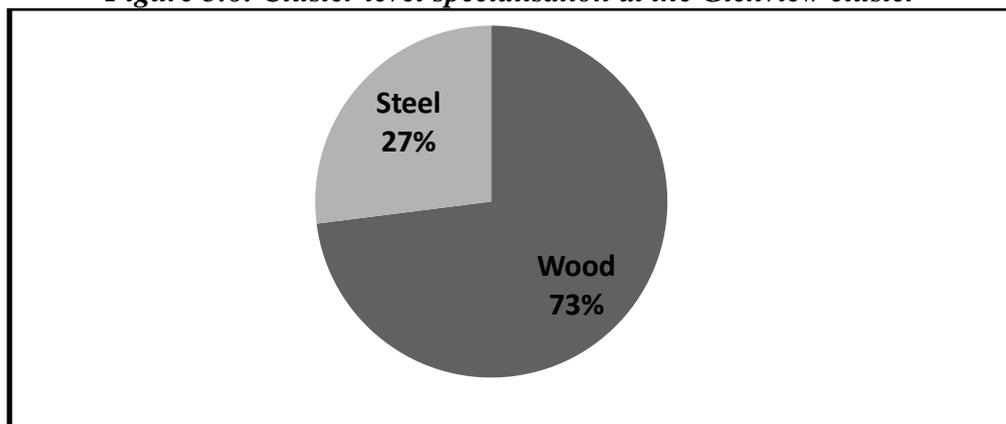
In describing specialisation at the *cluster* level, all the respondents indicated that their firms produced only household furniture. They did not produce any other type of furniture. This implied that the cluster as a whole specialised in the production and sale of household furniture only. This unique characteristic of the cluster was reported in all the eight clusters in Zimbabwe. In a few other cases, such as at the Mucheke cluster in Masvingo a few respondents indicated that they also produced other items such as coffins but this was not found in any other cluster.

The respondents who said that their firms produced wood furniture reported that they did not also produce steel furniture and the respondents who said that their firms produced steel furniture reported that they did not also produce any wood furniture. All the respondents stated that they did not have the technological capabilities to produce *both* types of furniture. Thus there were two distinct *sub-clusters* of firms within the cluster: firms producing wood furniture and firms

producing steel furniture. At the Chitungwiza cluster, for example, 83 per cent of the respondents indicated that their firms specialised in wood furniture and 17 per cent reported that their firms specialised in steel furniture. At the Glenview cluster it was reported that, 27 per cent of the firms specialised in steel and 73 per cent specialised in wood furniture.

The distribution of firms according to specialisation in the Glenview cluster is depicted in Figure 5.6 below.

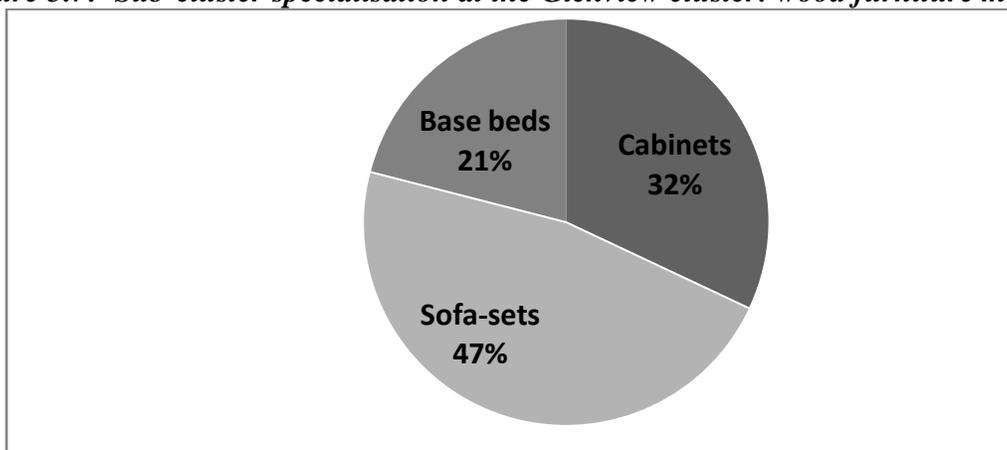
*Figure 5.6: Cluster level specialisation at the Glenview cluster*



All the respondents from the cluster of firms that produced wood furniture reported that they could produce *all* types of wood furniture: wood cabinets, sofa sets and base beds and mattresses. However, they further reported that though they could produce various types of wood furniture, they did not actually produce all of them. Each firm specialised in only one type of wood furniture, such as cabinets, or sofa sets or base beds and mattresses. There was no firm that was reported to be producing *all three types* of wood furniture at the same time (cabinets, sofa-sets, or beds and mattresses). At the Glenview cluster, for example, 32 per cent of the wood furniture makers were reported to specialise in cabinets only, 47 per cent specialised in sofa-sets only and 21 per cent specialised in base beds and mattresses only.

The distribution of firms according to these *sub-clusters* at the Glenview cluster is shown in Figure 5.7 below.

**Figure 5.7: Sub-cluster specialisation at the Glenview cluster: wood furniture makers**

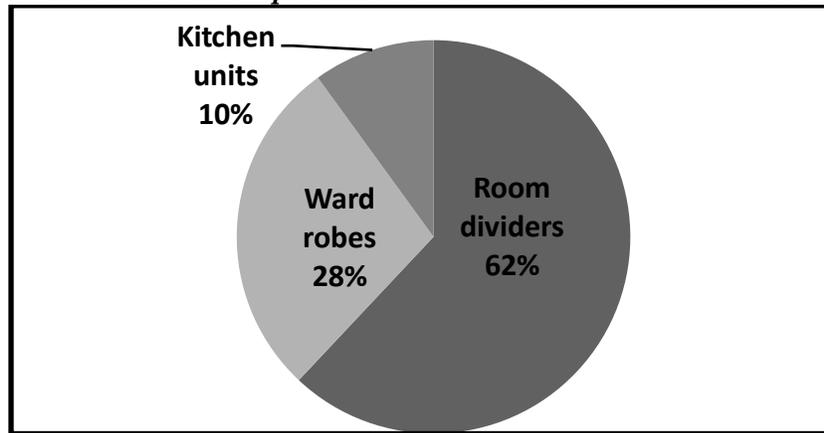


The respondents stated that there was further specialisation even within the sub-cluster of firms specialising in wood furniture cabinets, resulting in a *sub-sub-cluster* of such firms. Three distinct sub-sub-clusters were reported within this sub-cluster: firms specialising in wardrobes; firms specialising in kitchen units and firms specialising in room dividers.

The respondents from the firms that specialised in cabinet making reported that they could manufacture all types of cabinet furniture, such as room dividers, wardrobes and kitchen units. They however stated that though they had the technological capabilities to make these products, they only specialised in one type of cabinet furniture. The majority of the firms (62 per cent) were reported to specialise in room dividers. The other 28 per cent specialised in wardrobes and the balance of 10 per cent specialised in kitchen units.

The distribution of firms according to the sub-sub-clusters of cabinet-making firms is shown in Figure 5.8 below.

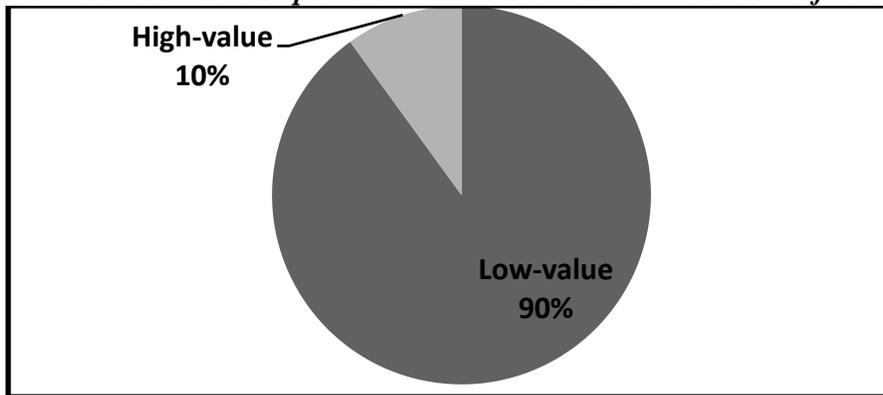
**Figure 5.8: Sub-sub-cluster specialisation at the Glenview cluster: cabinet makers**



Sub-sub-clusters of firms were also reported in the sub-cluster of firms specialising in sofa-sets: firms specialising in low-value sofa-sets and firms specialising in high-value sofa-sets. Though the respondents from these firms stated that their firms had the technological capabilities to produce all types of sofa-sets, they specialised in only one type. Some respondents stated that they only specialised in low-value sofa-sets, whereas others reported that they only specialised in high-value sofa-sets. In the Glenview cluster, the majority of the respondents (90 per cent) stated that their firms specialised in the production and sale of low-value sofa-sets only and the rest (10 per cent) stated that their firms specialised in the production and sale of high-value sofa-sets only.

The distribution of firms according to the sub-sub-clusters of sofa-set making firms is depicted in Figure 5.9 below.

**Figure 5.9: Sub-sub-cluster specialisation at the Glenview cluster: sofa-set makers**



The phenomenon of sub-sub-clusters was only reported at the Glenview cluster and not at any other clusters. Moreover, this final level of specialisation was only reported within the wood furniture sub-cluster and not in the steel furniture sub-cluster in that in the steel furniture sub-cluster there were no further sub-clusters.

### 5.5.2.2 Division of labour in production operations management

The respondents were also requested to provide information on the routines that went into the transformation of a product from the raw material stage to the finished product stage and the way in which labour was organised within the firm as a production unit.

It was reported that each product had a standard transformation process with standard routines and that each artisan specialised in a particular routine in the transformation process and passed on the item to another artisan who performed the next routine until all the routines in the process had been completed. It was reported that each artisan within the production unit was multi-skilled and was capable of performing *most* of the routines in a particular transformation process for *all* the products manufactured by the firm when required to do so. Each artisan, however, specialized in only one or two routines on each process for each product.

Table 5.7 below is an example of the reported routines in the transformation process for two products: a set of six sofas and a kitchen unit consisting of steel chairs and a table.

**Table 5.7: Routines in the transformation process for two products**

<b>Set of six sofas</b>	<b>Set of six steel chairs and a table</b>
1. Construction of the wooden frame	1. Bending and framing steel tubes
2. Cutting and designing of covers	2. Welding pieces into frames
3. Tailoring	3. Cutting and shaping boards
4. Cutting and shaping of wings and panels	4. Painting the frames
5. Staffing and covering the frame	5. Upholstering and tailoring

It was reported that the transformation process with the five routines shown in Table 5.7 above was normally shared among three or more artisans within the firm. In the transformation process for a sofa set in Table 5.7 above for example, some artisans would specialise in making the frames, whilst others would specialize in cutting, designing the fabric and staffing the frame. However, it

was reported that each artisan could perform all the routines when required to do so. It was also reported that this production method would however be used only when a large order had been received and when lead times for the delivery of a product were short. In slack periods such as when there was low demand for the product or when there was a shortage of inputs, the artisans would revert to performing all the routines in the transformation process.

Within the Glenview cluster, division of labour was also reported in the cluster of firms specialising in steel furniture making. Three distinct groups of artisans were reported in this cluster. It was reported that some artisans specialised in bending the steel tubing into chair and table frames according to the style and design whilst a second group specialised in welding the pieces together and a third group specialised in painting and upholstering the finished product.

A unique feature distinguishing the steel furniture making firms from the wood furniture making firms was that, whereas in the wood furniture firms *all* the routines were reported to be performed by the artisans within the firm, this was not the case in the steel furniture firms. The respondents from the steel furniture firms stated that the firm itself did not perform any of the different routines in the transformation processes of their products. Instead, the firm would hire the labour for each routine when required. Thus, there was a pool of artisans which was always available to carry out all the routines that might be required by the firms in the sub-cluster.

Division of labour at the artisan level was however reported only at the Glenview cluster and not at any other cluster.

### **5.5.3 Sales and marketing management**

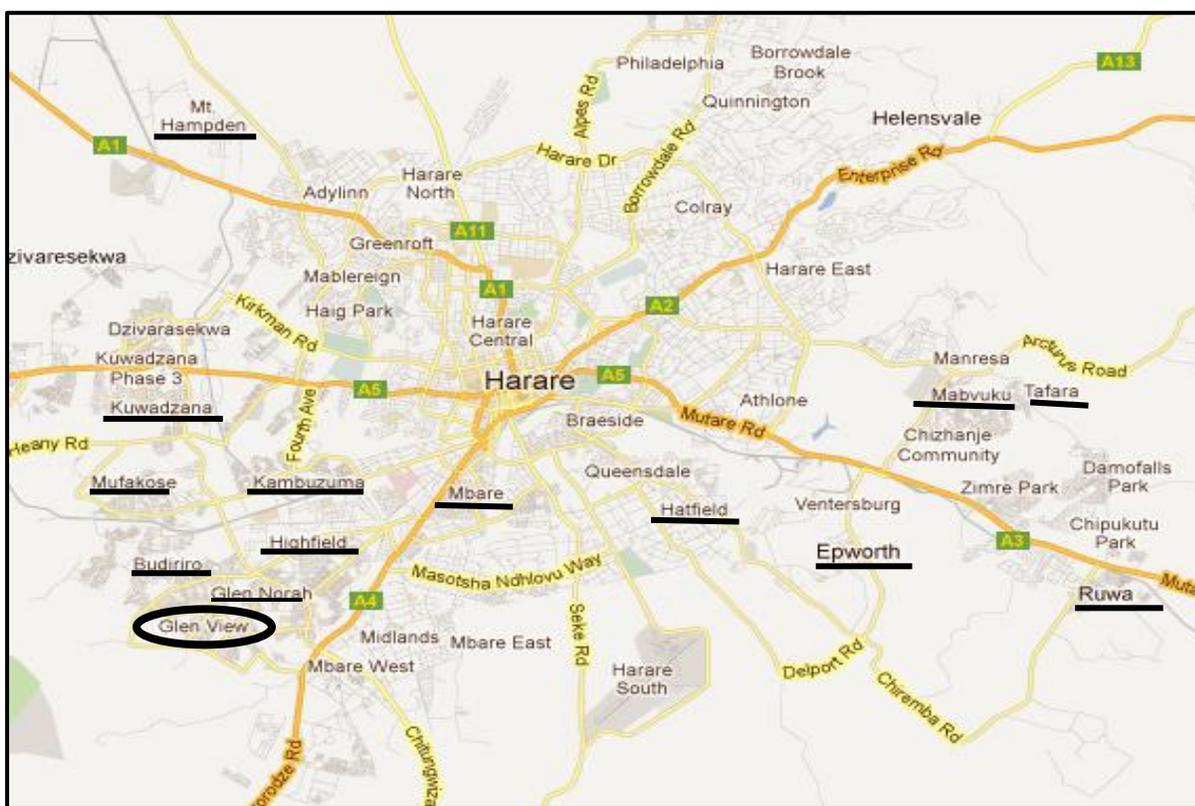
The study also sought to characterise the functioning of the cluster by establishing the manner in which the firms managed their sales and marketing functions. The respondents were asked to describe the following issues relating to their sales and marketing policies:

- The market for their products (the location of their customers);
- The marketing communication strategies used by their firms; and
- The product range.

In describing the market for their products it was stated that most of the customers (52 per cent) were coming from areas in the city in which the cluster was located and others (47 per cent) from outside. Only about one per cent of the customers were said to be from outside the country.

The location of the customers of the firms at the Glenview cluster within the Harare area, showing the names of the residential area (underlined), is shown in the map in Figure 5.10.

**Figure 5.10: Map of Harare, showing location of the customers of firms at the Glenview cluster**



Source: <http://maps.google.co.zw/map> (3 March, 2012)

At the Glenview cluster, most of the customers were reported to come from areas that were a walking distance from the location of the cluster, such as Glenview itself, Glen Norah, Budiriro, Highfield, Mbare, Kambuzuma, Mufakose and Kuwadzana. These areas were located within a ten kilometer radius of the cluster location. It was reported that the cost of transporting goods to any destination from the Glenview cluster could range from \$10,00 to \$20,00 per trip. It was, however,

also reported that the market was not limited to the immediate locality of the cluster but also spread to other low-income suburbs in the city, far from the cluster itself. Other customers were also reported to come from as far away as Epworth, Hatfield, Ruwa, Mabvuku, Tafara and Mount Hampden, more than fifty kilometres from the cluster. Some customers were also reported to come from cities and towns outside Harare, such as Marondera, Rusape, Kwekwe, Kadoma, Bindura and Norton. The customers from outside Harare were reported to be those who were buying the furniture for resale in other towns.

When asked whether they sold any of their furniture through the large retail outlets in the central business district the respondents stated that they did not do so. One of the reasons given for this was that the sales were very slow due to the fact that the large furniture retailers tended to place high mark-up percentages on their products, thereby increasing the selling prices of the products. The other problem encountered was that the firms did not receive payment for their products until they had been bought and paid for. Since the large furniture retailers sold their furniture on hire purchase by allowing their customers to pay over long periods of up to twenty-four months the firms in the cluster were reluctant to sell their products through these outlets as the long payment periods would negatively affect their cash flows.

The respondents were asked to explain if they had any marketing communication strategies or programs such as advertising or promotion. All the respondents stated that they did not have any such strategies in place except for some photographs of products or business cards which they occasionally gave to customers on request.

In describing the range of products produced by the firms, the respondents stated that though the cluster was dedicated to the production and sale of wood and steel household furniture, the product range consisted of three broad product categories of furniture: cabinets, sofa-sets and beds. Within each category many product types were also reported. For example, within the sofa-set product category, it was reported that there were four sofa-set types which were branded according to their style and design. The brand names of these products were stated as: *Madeira*; *Culture*; *Hamilcourt* and *Saint James*. It was reported that the culture and the Madeira were of higher value than the Hamilcourt and the Saint James. Within the cabinet product category, wardrobes, room dividers and

kitchen units of varying designs and sizes were also reported. Twenty different types of products were reported.

Table 5.8 below contains the full range of products, including the retail price, the wholesale price, the input cost of manufacturing each product as well as the mark-up percentage on cost as reported by the respondents in the Glenview cluster.

*Table 5.8: Range of products found in the cluster, their selling prices, input costs and mark-up*

Product	Input cost (\$)	Retail price (\$)	Mark-up on cost	Wholesale price (\$)
Culture sofa-set	\$650,00	\$1000,00	54%	\$920,00
Madeira sofa-set	\$420,00	\$650,00	55%	\$570,00
Hamilcourt sofa-set	\$250,00	\$320,00	28%	\$290,00
St. James sofa-set	\$230,00	\$280,00	22%	\$260,00
Wardrobe, 4-door	\$320,00	\$400,00	25%	\$380,00
Wardrobe, 3-door	\$280,00	\$350,00	25%	\$310,00
Wardrobe, 2-door	\$160,00	\$200,00	25%	\$190,00
Room divider, 4-piece	\$370,00	\$450,00	22%	\$400,00
Room divider, 3-piece	\$260,00	\$320,00	23%	\$300,00
Room divider, 2-piece	\$150,00	\$180,00	20%	\$175,00
Steel kitchen set, 8-piece	\$190,00	\$240,00	26%	\$210,00
Steel kitchen set, 5-piece	\$110,00	\$140,00	27%	\$130,00
Kitchen unit, 1-piece	\$140,00	\$175,00	25%	\$160,00
Kitchen unit, 2-piece	\$230,00	\$270,00	17%	\$250,00
Kitchen unit, 3-piece	\$280,00	\$340,00	21%	\$310,00
Bed, single, spring	\$60,00	\$75,00	25%	\$70,00
Bed, single, foam	\$120,00	\$160,00	33%	\$140,00
Bed, ¾, spring	\$100,00	\$120,00	20%	\$110,00
Bed, ¾, foam	\$190,00	\$240,00	26%	\$220,00
Coffee table	\$110,00	\$140,00	27%	\$130,00

#### 5. 5.4 Financial management

The functioning of the cluster was further characterised by the way in which the firms in the cluster managed their financial affairs. The study found that the main financial management policies of the firms encompassed the following issues:

- Sources of funds,
- Employment of funds,

- The structure of the balance sheet,
- Revenue generation,
- Management of production costs,
- Management of operating expenses, and
- The structure of the income statement.

#### **5.5.4.1 Sources of funds**

The respondents were requested to provide information with regards to the sources of the funds used in their businesses with specific reference to funds that had been provided by the owners (equity) and funds that had been borrowed (liabilities).

On the amount of equity contributed by the owners into the business, it was reported that the average start-up capital introduced by the owner was \$1 200. It was also reported that the firms usually ploughed back at least ten per cent of their net monthly earnings into the business after meeting all operating expenses, including salaries and commissions, for the purpose of financing their inventory requirements. The monthly net operating earnings per firm were reported to be \$600 on average, of which \$60 (ten per cent) would be ploughed back into the business, implying that the total annual profit ploughed back into the business was about \$720 per firm.

The average age of the firms in the Glenview cluster was reported to be about seven years, implying that the total profits that had been ploughed back since starting up the firms would be about \$5 000 for the average firm. The total equity of the owners of the firms, consisting of start-up capital (\$1 200) plus profits ploughed back into the business over the years (\$5 000) was therefore about \$6 200 per firm on average.

The respondents were also requested to provide information on the funds that their firms had borrowed (liabilities) either on a long-term or short-term basis from banks and other financial institutions as well as any credit facilities provided by suppliers of raw materials and production inputs.

All the respondents stated that their firms did not have any long-term or short-term loans. They also stated that their firms purchased all their raw materials and other production inputs from the merchants located within the cluster on a cash basis and were not provided with any credit facilities. The above responses implied that the firms did not have any liabilities on their balance sheets. The total amount of funds employed in each firm was \$6 200, consisting only of the equity provided by the owners on the start-up of the business and the profits that were being ploughed back into the business.

#### 5.5.4.2 Employment of funds

The respondents were also requested to provide information regarding the total amount of funds that their firms had invested in the assets of their businesses.

In order to establish the value of non-current assets held by each firm, the respondents were requested to provide a list of the equipment and machinery that they considered “essential” to the firms’ operations, the values of each of these items and the amounts that they had invested in them. The respondents then provided the list contained in Table 5.9.

**Table 5.9: List of machines required for essential production routines**

Item	Value of machine (\$)
Lathe machine	3 500
Spindle molder	3 000
Thickness (surface) plane	4 000
Circular saw	1 000
Rip saw	1 000
Industrial sewing machine	300
Euro-bending machine	1500
Welding machine	150

Though they considered these assets to be essential for the operations of their businesses, the respondents stated that their firms did not have any significant investments in such assets. They stated that their firms did not have to buy these assets in order to carry out most of the routines in their production processes. Instead, they simply bought the output of such routines from other firms within the cluster that specialised in those routines, or paid for the machine-time required to

perform the routines. The respondents, however, reported that their firms did have a small investment in small hand tools and equipment for the purposes of carrying out minor routines such as putting finishing touches to their products.

The list of such tools and their values is contained in Table 5.10 below.

**Table 5.10: Hand tools and equipment used in minor production routines**

Type of tool/equipment	Average years in use	Replacement value (\$)
Claw hammer	3	10.00
Router	5	20.00
Hand saw	3	10.00
Brace	2	35.00
Staple gun	1	10.00
Jake plane	6	15.00
<b>TOTAL</b>	<b>3</b>	<b>100.00</b>

The respondents stated that their firms had invested in at least two of each of the items listed in Table 5.10 above. These responses implied that the total value of non-current assets held by each firm, on average, was only about \$200, consisting mainly of small hand-held tools and equipment. The respondents were also requested to provide information on the value of the current assets (stock, debtors and cash) held by their firms.

In order to establish the value of stock, the respondents were requested to provide information related to the values of raw materials, work-in-progress (W-I-P) and finished goods held by their firms. All the respondents reported that they did not keep any significant stocks of raw materials. However with regards to finished goods, it was reported that most firms kept an average of four items of a particular product which were on display at the sales area. For example, the firms that reported that they specialised in sofa sets also said that they normally kept between four and five sets of each design type and an item was only replaced when sold. The highest stock levels of finished goods were reported in those firms that specialised in sofa sets because sofa sets were always sold in sets of six. The second highest level of stock was reported in the wood cabinet cluster because it was said that these items required higher-quality timber compared to other wood

products. On work-in-progress, however, it was reported that (at most) only one item was always on the production line.

Table 5.11 below contains details of the average value of inventory held by each firm as indicated by the respondents.

**Table 5.11: Average stock levels per firm**

<b>Firm cluster</b>	<b>Raw materials (\$)</b>	<b>W-I-P (\$)</b>	<b>Finished goods (\$)</b>	<b>Total (\$)</b>
Wood cabinet makers	-	1 000	4 000	5 000
Sofa-set makers	-	1 000	5 500	6 500
Base-bed makers	-	800	2 200	3 000
Kitchen unit makers (wood)	-	1 000	3 500	4 500
Kitchen unit makers (steel)	-	800	1 200	2 000
<b>Average</b>	<b>-</b>	<b>920</b>	<b>3 280</b>	<b>4 200</b>

These responses implied that the average value of stock held by each firm was \$4 200, consisting mainly of finished goods and a small amount of work-in-progress (W-I-P).

In order to establish the value of debtors carried by each firms the respondents were requested to provide the following information related to credit sales: credit terms; selection policies and collection policies.

With regards to credit selection policies, the respondents stated that their firms did not use any formal procedures to screen and select credit customers, such as proof of residence, proof of ability to pay, or the provision of collateral security. It was stated that credit customers were screened and selected on the basis of informal interviews only.

Credit collection policies were also reported to be informal in that a credit sale was concluded with the issue of an invoice, with no formal contract or agreement of sale being signed by both parties. The respondents stated that their firms did not make any further contact with the customer after the conclusion of a sale as in most cases, the customers always paid as agreed, or they would re-negotiate extended credit periods if necessary.

With regards to the credit terms, it was reported that credit customers were required to pay within 30 days. The payment method was reported to be based on a lay-by system in which the customer would be required to make a cash deposit which was equivalent to the cost of replacing the item purchased and the balance would be payable at the end of 30 days. However, it was further reported that collateral security was not required as the cash deposit was used as collateral. The customer would be allowed to collect the item purchased only after the final payment had been made.

The respondents indicated that the above credit policies usually resulted in zero default rates and most customers always paid within the agreed period of 30 days. They also indicated that the average credit sales for each firm per month were \$1 700. With an average collection period of 30 days, the average level of debtors at any time would therefore also be \$1 700. Finally, the respondents were requested to indicate the amount of cash, including the balance in the bank account (if any), that their firms held at any time. It was reported that, on average, each firm held an amount of \$100 in cash.

#### 5.5.4.3 The structure of the balance sheet

Using the information supplied by the respondents, the balance sheet of the typical small firm in the cluster was drawn up as indicated in Table 5.12 below.

**Table 5.12: Balance sheet of a small firm located in a cluster**

	\$	\$
<b>FUNDS EMPLOYED</b>		
Capital introduced	1 200	
Retained earnings	<u>5 000</u>	
<b>Owners' equity</b>		<b><u>6 200</u></b>
Non-current liabilities		-
Current liabilities		-
<b>Total equity and liabilities</b>		<b><u>6 200</u></b>
<b>EMPLOYMENT OF FUNDS</b>		
Non-current assets		200
Current assets		
Stock	4 200	
Debtors	1 700	
Cash	<u>100</u>	
<b>Total assets</b>		<b><u>6 000</u></b> <b><u>6 200</u></b>

#### 5.5.4.4 Revenue generation

The respondents were requested to provide information regarding the sources and amounts of revenue that their firms generated per month. It was reported that the average monthly sales per firm were \$4 250, of which \$2 550 were for cash and the rest were on credit.

The respondents indicated that there were two types of customers: wholesale customers who made bulk purchases and retail customers who bought single items at a time. The wholesale customers were said to contribute 60 per cent of the total revenue while the retail customers contributed the other 40 per cent. Some wholesale customers were reported to come from other towns and cities far from the location of the cluster.

The amount of revenue generated per month was reported to differ from firm to firm, depending on the sub-cluster in which the firm belonged. The average total revenue generated by each firm per month was reported to be \$4 250, with cash sales amounting to 60 per cent of the total and the balance being credit sales. As shown in Table 5.13 below, the respondents from firms making sofa sets reported the highest monthly revenues.

*Table 5.13: Average total sales of per firm*

	Cash Sales (\$)	Credit Sales (\$)	Total Sales (\$)
<b>Makers of wardrobes</b>	3 050	1 900	4 950
<b>Makers of room dividers</b>	2 400	1 600	4 000
<b>Makers of sofa-sets</b>	4 450	2 500	6 950
<b>Makers of kitchen units (wood)</b>	2 800	850	3 650
<b>Makers of kitchen units (steel)</b>	1 000	700	1 700
<b>Average monthly sales (\$)</b>			<b>4 250</b>

#### 5.5.4.5 Management of production costs

The respondents were also requested to indicate the monthly costs incurred by their firms on direct labour, raw materials and other production inputs.

With regards to the cost of direct labour, the respondents were requested to report on the average salaries paid to the owner-managers and artisans employed by the firm. The monthly income of the owner managers was reported to be \$320 on average and that of the artisans was reported to be \$170. Each firm was also reported to have an average of four artisans, implying that the total cost of direct permanent labour was \$1 000 per month. In addition, the firms were also reported to hire some non-permanent artisans from time to time, depending on the amount of business. The respondents indicated that commissions paid to such artisans amounted to \$200 per month on average.

The responses given above implied that the average total cost of direct labour was \$1 200 per month for each firm.

The respondents were also requested to provide information on the costs that they incurred in acquiring timber and cotton, which were considered to be the two main raw materials that they used. It was reported that all the materials were being acquired from merchants located within the cluster, with the exception of fabrics, which were being purchased from outside the cluster.

It was also reported that timber was being procured from the merchants in standard lengths and the cost depended on the thickness and grade of each length. For example, a set of six sofas was said to require 42 standard lengths of timber of varying thickness. The cost of each length was reported to depend on the quality of the timber and its size. Table 5.14 below contains details of the cost of one length of timber according to the grade and size.

**Table 5.14: The cost of timber according to size and grade**

<b>Timber size (length x thickness) and grade</b>	<b>Cost price per length</b>
76cm x 22cm x 2.4m – Grade A	\$0.80
76cm x 22cm x 2.4m – Grade B	\$0.50
114cm x 22cm x 2.4m	\$1.50
152cm x 22cm x 2.4m	\$2.00
Branding x 2.4m	\$1.00

The respondents indicated that they always used “Grade B” timber, which was cheaper than “Grade A” timber. “Grade A” timber was only used when required to make high-cost products following the specific request of the customer.

When requested to provide information on the costs that they incurred in procuring the cotton that they used for staffing sofa cushions and seats, the respondents stated that they procured the cotton from merchants in the cluster who had brought it from the various cotton ginneries and oil refineries in Zimbabwe. Some of the cotton was reported to come from as far as Checheche, a ginnery which was more than 500 kilometres from Harare. They also stated that they used three types of cotton material to staff the sofa seats and cushions: raw cotton (also known as cotton moths); cotton lint (refined cotton) and cotton husk (cotton mixed with seed shells, and therefore of very poor quality). The cost of the staffing was said to depend on the type of material used. Table 5.15 below contains details of the cost of the different types of cotton materials.

**Table 5.15: Cost of cotton and cotton lint by-products**

Description	Cost price to merchant	Cost price to furniture firm	Cost per sofa-set
Cotton lint	\$80 per 200 kg bale = 40c per kg	\$90 per 200 kg bale = 45c per kg	\$80
Clean cotton moth	\$30 per 200 kg bale = 15c per kg	\$40 per 200 kg bale = 20c per kg	\$40
“Trash” cotton moth	\$20 per 200 kg bale = 10c per kg	\$30 per 200 kg bale = 15c per kg	\$30
Cotton husk	\$2 per 50 kg bag = 4 c per kg	\$3 per 50 kg bag = 6c per kg	\$8

Cotton lint was reported to be of higher quality than cotton moths or cotton husk, and therefore more expensive. The respondents indicated that the least-cost material was cotton husk, which they purchased at six cents per kilogram. Cotton lint was reported to be the most expensive as it was being purchased at 45 cents per kilogram. However, the most commonly used were the cotton by-products: cleaner moths and trash moths, which were being purchased at 20 cents and 15 cents per kilogram respectively. It was reported that the amount of cotton or cotton lint required per sofa-set depended on the type of sofa-set. The low-value set (St James) was said to require a bale (200 kg) at \$80 if cotton lint was used to staff the sofa-set. However, if actual cotton was used, it would cost \$40 or \$30 to complete a set. It was also stated that when cotton husk was used to staff the sofa, the total cost of staffing would be only eight dollars per set.

In order to establish the costs that they incurred in acquiring other inputs required in the production process, the respondents were requested to provide a list of such items. It was also reported that the merchants purchased the inputs in bulk in 20-litre containers and sold them in smaller quantities of 500 milliliters to the firms in the cluster.

Table 5.16 below contains the list of the inputs and their costs to the firm.

***Table 5.16: List of essential inputs and their costs***

<b>Item</b>	<b>Cost to firm</b>
Clear vanish, 500 millilitres	\$3,50
Contact glue, 500 millilitres	\$2,50
Wood glue, 500 millilitres	\$2,00
Thinners, 500 millilitres	\$1,00
Sanding sealer, 500 millilitres	\$3,00
Nails, 1kg	\$3,50
16 mm screw, 1kg	\$3,00
Keys, per set	\$1,00
Sand paper, per piece	\$1.00
Door handles, each	\$0.50

Using these responses, it was established that the cost of making a set of six low-value sofas was about \$250 and the cost of making a set of six high-value sofas was about \$500. The details of these costs are contained in Table 5.17 on the next page.

Most respondents (90 per cent) from the firms that produced sofa sets indicated that their firms produced high-value sofa sets only on the specific request of a customer. In most cases they produced low-value sofa sets. They also stated that an average of eight sets was produced per month.

These responses implied that the cost of materials and inputs for the firms producing sofa sets was about \$2 000 per month, consisting of the items listed in Table 5.17 on the next page.

**Table 5.17: The costs of producing a set of six sofas**

Item	LOW-VALUE SET		HIGH-VALUE SET	
	Quantity	Cost	Quantity	Cost
Fabric	22m @\$3.50	\$77.00	27m @\$3.50	\$94.50
Framing Timber	42x2.7m 'Grade B' @\$0.60 per length	\$25.20	50x2.7m 'Grade A' @\$0.80 per length	\$40.00
Springs	\$5.00 per set of 12	\$60.00	\$10.00 per set of 18	\$180.00
Foam rubber – back rest	3x 1-inch @\$6.00	\$18.00	3 x 3-inch @17.00	\$51.00
Foam rubber – arm rest and side wings	3 x 1-inch @\$6.00	\$18.00	3 x 2-inch @\$12.00	\$36.00
Foam rubber – platform	1 x 1-inch @ \$6.00	\$6.00	2 x 2-inch @\$12.00	\$24.00
Foam rubber – cushions	4-inch light density	\$22.00	4-inch high density	\$35.00
Face Panels	\$15.00 per set of 16	\$15.00	\$30.00 per set of 16	\$30.00
2-inch nails	3kg @\$2.50 per kg	\$7.50	3kg @\$2.50 per kg	\$7.50
1-inch nails	1.5kg@\$3.50 per kg	\$5.25	1.5kg@\$3.50 per kg	\$5.25
<b>TOTAL COST</b>		<b>\$253.95</b>		<b>\$508.50</b>

#### **5.5.4.6 Management of operating expenses**

The respondents were also requested to provide information with respect to the operating expenses (selling, distribution and administration expenses) that their firms incurred per month.

It was reported that selling expenses such as advertising and promotion were very insignificant as the firms did not undertake such activities. However, most firms were reported to employ one sales officer who received a commission-based salary. It was reported that the average salary of a sales employee was about \$100 per month.

The respondents also reported that their firms did not incur any distribution expenses. It was reported that the transportation of products was the responsibility of the customers. Such services were provided to the customers by other firms that were located within the vicinity of the cluster.

With regards to administration expenses, the respondents stated that the only such expenses consisted of monthly lease rental payments to the landlord, amounting to \$80 on average, plus a

payment of \$10 per month to the security guards. The other administration expenses included food and beverages for employees, which were reported to be about \$50 per month. These responses implied that the total operating expenses per month were about \$240 per firm, on average.

#### 5.5.4.7 The structure of the income statement

Using the information supplied by the respondents, the monthly income statement of the typical small firm in the cluster was drawn up as indicated in Table 5.18 below.

**Table 5.18: Monthly income statement of a small firm located in a cluster**

	\$	\$
<b>Sales</b>		
Cash	2 550	
Credit	<u>1 700</u>	<b>4 250</b>
<b>Cost of sales</b>		
Direct labour cost	1 200	-
Direct material cost	<u>2 110</u>	<b><u>3 310</u></b>
<b>Gross profit</b>		<b>940</b>
<b>Operating expenses</b>		
Selling expenses	100	
Administration expenses	240	<b><u>340</u></b>
<b>Operating profit</b>		<b><u>600</u></b>

## 5.6 Conclusion

The findings presented in this chapter demonstrated that the phenomenon of small furniture manufacturing firms located in geographical clusters was quite widespread in Zimbabwe. However, the largest cluster by far was the Glenview cluster located in Harare. It was reported that the firms located in these clusters made a significant contribution to the economy in terms of employment creation and income generation, with a large proportion of the urban population being employed by them. The firms were reported to be small in terms of the number of employees, revenue generation and the size of the balance sheet.. The management of production operations resulted in a quite complex structure in which the firms were arranged in a spiral of specialised sub-clusters and division of labour producing a wide range of products.

The next chapter deals with the analysis of the findings presented in this chapter.

## **Chapter 6**

### **Analysis and discussion of findings**

#### **6.0. Introduction**

This chapter makes an analysis and discussion of the findings presented in Chapter 5. The chapter begins with a discussion of the location, size and significance of Zimbabwe's small-firm clusters. This is followed by an analysis of the characteristics of the industry, the firms, their owners and employees. The chapter then discusses the functioning of the cluster in relation to the management of human resources, production operations, sales and marketing and finance.

#### **6.1 Location, size and significance of Zimbabwe's small-firm clusters**

The survey results show that by March 2012 Zimbabwe had an extensive network of small furniture-making firms located in various clusters in its five major cities. Whilst the clusters were of variable size, with the smallest one in Mkoba (Gweru) having 84 firms and the largest in Glenview (Harare) having 1 800 firms, their significance in terms of employment creation and income generation, was quite apparent. There were more than 2 700 firms in all the clusters and they were employing over 10 700 people. These people also had their own dependents numbering more than 85 600. With an average monthly income of \$350 per head, the whole industry was generating an annual income of \$9 million. The total capital invested in the industry, consisting of start-up capital and retained earnings by that time was over \$13.29 million.

The Glenview cluster in Harare was rather unique because of its disproportionately large size compared to the rest of the clusters, with sixty-four per cent of the total population of firms located in all clusters. Born out of the clean-up operation of June 2005 which displaced the hitherto cottage-based small furniture making firms, the Glenview cluster had over its seven-year life evolved into a huge entity directly employing more than 5 400 people. Another 10 400 people in Glenview and its hinterlands, were also dependent on the cluster for their livelihood. Many more were employed in related downstream activities such as the supply of essential inputs and materials and the provision of essential services like transport, security, food and beverages. By March 2012, the Glenview cluster was a massive entity generating at least \$4.4 million per year in income.

The findings indicate that the clusters grew very rapidly in size over a short period of time. In the case of the Glenview cluster, for example, there were only 483 firms in the factory shells constructed by the Ministry of Small and Medium-Scale Enterprises in 2005 when the cluster was created. However, by March, 2012 the number of firms in the cluster had grown to more than 1 800, a growth rate of more than 270 per cent. The rapid growth of the cluster, with new firms continuously joining the existing group, implies that there was considerable heterogeneity in the knowledge endowments of the firms in the cluster as new firms with their own limited stock of knowledge about the industry would try to catch up with the incumbent firms. The existence of heterogeneity in knowledge endowments was critical to the evolution and growth of the cluster because new knowledge would be acquired and shared as the new firms strove to catch up with the incumbent firms. As indicated by Grebel (2004), heterogeneity in knowledge endowments is fertile ground for the growth of entrepreneurship and innovation as new firms try to tap into the existing stock of knowledge possessed by other firms.

The locational and historical factors identified in Chapter 5 had important advantages for the firms located in the clusters such that other firms were continuously being attracted to join them. These factors have been described by Visser (1997) as the territorial environment of the cluster. The findings of this study show that the growth and significance of Zimbabwe's small-firm clusters can be attributed to the existence of three factors concerning their territorial environment.

The first and foremost of these factors is the geographical location of the clusters. As reported in Table 5.1 of Chapter 5, all the clusters were located close to or inside the residential areas of middle and low-income people: Glenview; Zengeza; Mzilikazi; Western Commonage; Chikanga; Sakubva; Mucheke and Mkoba. This means that the main market for the products produced by the firms inside the clusters consisted of low-income consumers. The location of the clusters also provided convenience for the customers in that they were presented with a wide choice of furniture products at a walking distance from their homes, eliminating transport costs for both the firms and the customers. The significance of the location of the clusters is that the firms in the clusters were able to compete for customers with other large furniture making firms outside the cluster.

The second significant feature of the territorial environment of Zimbabwe's small-firm clusters was that the clusters were characterised by a high density of economic activity by a large number of firms operating in close spatial proximity to each other. This is especially true in the case of the Glenview cluster as illustrated in Figure 5.3, Chapter 5. It was also found that each firm was occupying an average of only four square metres of working space. An important advantage of this is that the close proximity of the firms resulted in a highly competitive environment fostering a culture of continuous innovation and allowing the firms to learn from one another.

Another advantage arising from the close proximity of the firms to one another was that various 'hidden costs' relating to information gathering that are normally incurred by large enterprises were eliminated. These costs include: the cost of searching for and procuring materials; the cost of screening, selecting and monitoring business partners; the cost of enforcing contracts entered into between the firm and other third parties in the cluster and the cost of gathering market intelligence such as changes in consumer preferences. It has also been reported by Visser (2007) that when a large group of firms is located close to one another, personal contacts are more frequent and local norms and values that are unique to the members of the group are developed, helping to stimulate the circulation of otherwise delicate information between the firms. The close proximity of the firms would allow them to build and maintain good reputations with one another through the repetition of business transactions with the same group of people. Continued face-to-face contact with the owner-managers and employees of other firms, had the effect of building trust, resulting in reducing the transaction costs related to information gathering.

The third important feature of the territorial environment of Zimbabwe's small-firm clusters was the history or evolutionary path of the clusters. All the clusters had a history and background that was shared by most firms within them. The firms in the Glenview cluster for example, originated from the clean-up operation of June 2005, which affected a former cottage industry that had been thriving along the sides of Willowvale Road. Thus by March 2012, the employees and owners of the firms had been together for a long period of time including the years that they had operated as a cottage industry plus the seven years in the cluster. This shared history acted as a unifying force bringing the firms together and allowing them to exchange knowledge and skills in their dedicated area of activity.

The firms also had a common cultural background. The majority of the owner-managers were reported to be former employees of large furniture making firms who had been retrenched or had resigned from these firms before setting up their own entities in the cluster. Thus, they also shared the same experiences gained from these firms. In all the clusters, most of the employees and owners were reported to reside in the same low-income neighbourhood in which the cluster was located, implying that the common social-cultural thread running through the cluster at the global level was the low income and poor background of the owner-managers and employees of the firms.

The findings in Chapter 5 also indicate that the characteristics of the clusters with respect to the nature of the industry, the firms, their owners and employees were also significant in explaining the growth and dynamism of Zimbabwe's small-firm clusters. These issues are explained below.

## **6.2 Characteristics of the industry, the firms, owners and employees**

### **6.2.1 The industry**

From a competitive point of view, the industry appeared to be unattractive due to the apparently intense rivalry among the firms. Three factors seemed to be responsible for the existence of such a high level of rivalry.

Firstly, the firms were of equal size. The average number of employees was reported to be only four per firm, with the largest firm size being found at the Glenview cluster where it was reported that the average number of employees was six. Within the Glenview cluster, which had the largest number of firms, the firm size ranged from four to eight. The equal size of the firms had the effect of intensifying the rivalry among them as no single firm could be said to dominate activities in the cluster. Secondly, the rapid growth of the cluster caused the supply of the products to outstrip demand, resulting in reduced sales per firm over time. Thirdly, due to the limited number of alternative opportunities outside the cluster, it would cost more for the owner-manager to get out of the business than to stay in and compete, regardless of how inhibiting the environment inside the cluster might become. The lack of alternative opportunities outside the cluster had the effect of raising exit barriers for the incumbent firms, thus intensifying the competitive rivalry among them. The second factor with a strong negative bearing on the competitiveness of the industry was the existence of substitute furniture products outside the cluster. The existence of these products tended

to put a ceiling on the prices that the firms in the cluster could charge for their products. This was reflected in the low prices of the products relative to those sold outside. The selling price of a sofa-set for example, was reported to range between \$320 and \$640 (after adding a mark-up of twenty-eight per cent on the cost), depending on the quality of input materials used, whereas outside the cluster, the lowest price for a similar set was generally \$1 500. The presence of substitute products allowed customers to make comparisons between the quality and performance of the products made within the cluster and those made outside the cluster.

Though the intense rivalry among the firms and the existence of substitute products tended to reduce the competitiveness of the industry, more firms still continued to be attracted into the cluster due to several factors discussed below.

The first and foremost of these factors was that there were low entry barriers into the industry. This is evidenced by the rapid growth of the number of firms, especially at the Glenview cluster, which grew by over 270 per cent within a period of seven years. There were several factors contributing to the existence of low entry barriers. Firstly, the economies of scale were very low as implied from the low start-up capital required. These low economies of scale allowed potential entrants to enter the industry on a small-scale basis, with very little capital investment. In the case of the Glenview cluster it was reported that an average of only \$1 200 was used as start-up capital by most firms. This start-up capital was said to be for production purposes only. Capital financing for other costs, such as marketing, distribution and purchasing were not significant within the cluster environment because customers came to the cluster to purchase their products and suppliers were located in the vicinity of the cluster.

The second factor leading to low entry barriers into the industry was that new entrants into the cluster were able to quickly gain access to the technology and specialised know-how of the industry due to the existence of a very short learning curve. Further, the achievement of low unit costs was not a function of experience in producing and marketing the product, implying that new entrants were not put at a disadvantage in competing with existing firms with longer experience in the industry. The fact that the firms were found to be producing standard products with similar brand names, implied that potential buyers would have no attachment or loyalty to any of the products

produced by particular firms in the cluster and existing customers were also free to switch to other firms. These factors also further contributed to the lowering of entry barriers into the industry.

The nature of the suppliers of inputs and the buyers of the product was also significant in enhancing the attractiveness of the industry to new firms. It was reported that there was a large number of suppliers of timber and cotton, who were located in the vicinity of the cluster. Because of their large numbers, the competitive position of the suppliers relative to the manufacturing firms would be weak as the manufacturing firms could easily switch from one supplier to another when buying essential inputs such as timber or cotton. Further, the consumers of the furniture products produced in the cluster were reported to be individuals with low incomes or small retailers who purchased in small quantities. Thus, they could not easily switch to other suppliers of furniture outside the cluster. This also resulted in their bargaining power being relatively weak vis-à-vis the bargaining power of the manufacturing firms.

### **6.2.2 The firms**

As was reported in Chapter 5, all the firms in Zimbabwe's clusters were not registered in terms of the Companies Act, Chapter 190 of Zimbabwe. Lack of legal incorporation did not, however, imply that the firms were operating illegally. It only meant that they were operating more or less informally, on the basis of an operating licence issued by the local authority. It was those entities that did not have such licences that could be said to be operating illegally. No such firms were, however, found in the cluster because officials from the local authority were reported to be collecting monthly fees regularly from all the firms.

The mushrooming of firms in the cluster could be partially explained by the fact that the type of business entity found in the cluster was such that it was simple to set up as there were no legal formalities required except for the operating licence issued by the local authority. However, there were several limitations associated with this lack of formality which came out of the findings. These limitations could be detrimental to the future growth and dynamism of the firms, and therefore the cluster as a whole.

One major growth limitation that came out was that the firms seemed to have little or no access to adequate capital investment. Lack of adequate funding in the form of both long-term loans and

equity capital had the effect of inhibiting the growth of the firms, forcing them to remain small. Because the firms were not sufficiently capitalised on a long-term basis, their ability to respond to market opportunities was therefore severely compromised. This explains why all the firms reported that they had not established any export markets for their products even though they had the potential to do so and their domestic market was limited to the vicinity of the cluster, with only a few buyers coming from outside the city in which the cluster was located.

If a firm is legally incorporated in terms of the provisions of Section 8 of the Companies Act Chapter 190, it is allowed to issue shares up to the maximum amount authorised by its Memorandum of Association. Because the firms in the cluster were not legally incorporated entities and were therefore not able to issue shares to potential investors, they found it difficult to raise meaningful amounts of equity capital from other investors outside the immediate circle of their founders. Instead, they had to rely on the start-up capital introduced by the owners and profits that were being regularly ploughed back into the business. This therefore meant that the amount of equity capital invested in the firms would always remain small. The existence of this problem is evidenced by the finding that the average start-up capital for the firms in the Glenview cluster was a mere \$1 200 and over the seven-year period from June 2005 to March 2012, the total equity capital invested per firm had only grown to \$6 200.

In order to put this problem into perspective, the amount of equity capital invested in some of Zimbabwe’s stock exchange-listed firms that was reported in their Annual Reports (2010) is presented in Table 6.1 for comparison purposes.

**Table 6.1: Capital employed by some stock exchange-listed firms in Zimbabwe**

Name	Nature of business	Capital employed (\$million)		
		Equity	Long-term loans	Total
African Distillers	Wines and spirits	4.80	-	4.80
CAFCA	Power cables	5.60	-	5.60
AICO Africa	Agro-industrial	114.60	10.00	124.60
Hippo Valley Estates	Sugar	167.46	1.67	169.13
PG Industries	Construction	16.29	-	16.29
<b>Average</b>		<b>61.75</b>	<b>2.33</b>	<b>64.08</b>

*Source: Company Annual Reports, March 2010*

The figures presented in Table 6.1 show that though there was wide variability in the amount of equity capital invested in the stock exchange-listed firms, ranging from \$4.8 million to \$167.46 million, Zimbabwe's cluster-located firms were relatively minute entities, with an average of only \$6 200 of equity per firm compared to an average of \$61.75 million for the stock exchange-listed firms.

The second major factor limiting the growth of the firms in the cluster is implied from the fact that the firms were reported to have no long-term borrowings in their balance sheets (Table 5.12, Chapter 5). The implication of the absence of long-term borrowings was that the firms were unable to take advantage of the leverage provided by borrowed funds. Generally, an important advantage of using borrowed funds is that a firm operating in an environment where sales (and therefore earnings) are increasing can *leverage* its earnings by borrowing funds at a rate which is lower than the rate of return that it can obtain from investing the borrowed funds. The leveraging of earnings translates into increases in the rate of return on the equity invested by the owner (Brigham and Gapenski, 2005).

The high growth rate in the number of firms in Zimbabwe's clusters, especially at Glenview, is a clear indication of continuously growing sales volumes at the global level, though there could be variations from firm to firm. Such an environment is conducive to leveraging because of the associated growth in earnings. However, since it was reported that the firms were not borrowing, they were not therefore able to take advantage of this opportunity. Thus, the lack of borrowing severely limited the size of the firms by inhibiting their ability to leverage their earnings.

The lack of borrowing on the part of the firms in the cluster could be attributed to the existence of high business risk in the cluster environment. This high business risk was associated with a highly competitive environment resulting from the presence of a high density of firms competing for customers in the same local area. Under such circumstances, the firms would naturally find it prudent not to borrow money on a long-term basis because borrowing would have the effect of committing the firm's future earnings to the repayment of interest. Prudence on the part of the firms was required in this case due to the fact that though the earnings might be increasing, the variability (therefore the risk) of these earnings could be very high. Since the payment of interest on

borrowed funds is a contractual obligation, its non-payment due to insufficient earnings could result in the liquidation of the firm's assets. Thus, the firms would naturally be reluctant to expose their assets to such a possibility.

The lack of borrowing on the part of small firms located in Zimbabwe's clusters cannot however be attributed solely to the existence of high business risk in the cluster operating environment. It could also be associated with the generally negative operating environment in which all other firms in Zimbabwe were operating at that time. As shown in Table 6.1 above, the large stock exchange-listed firms did not have any significant long-term borrowings on their books as well, with only four per cent of their total capital consisting of long-term loans and the bulk of it consisting of equity (funds contributed by the owners). This implies that not only did the small cluster-located firms have to deal with the 'normal risk' of the cluster environment, but they also had to manage the high risk in the general operating environment of Zimbabwe as a whole.

The operating environment of the cluster was also fraught with many other uncertainties that could further explain the dearth of long-term borrowed funds. At the Glenview cluster in particular, a major source of uncertainty for the firms was the lack of permanent tenure due to the disorganised manner in which the land had originally been allocated to the firms. As was reported in Chapter 5, the land and the factory shells were originally allocated to 483 occupants in July 2005, only to be further subdivided and re-allocated illegally to other firms by the original landlords. This resulted in the local authority subsequently failing to properly enforce the lease agreements signed by the occupants and to control the expansion of the cluster. Many other rent-seeking activities by self-imposed authorities also added to the chaos and loss of control by the local authority. This situation presented the potential risk that when order would eventually be restored, many existing firms could be displaced. This uncertainty of tenure implies that banks and other financial institutions would be unwilling to provide long-term loans to the firms in the cluster.

The third growth-inhibiting factor is implied from the finding that all the firms in the cluster were reported to be sole proprietorships. Sole proprietorship is business ownership which is associated with unlimited liability. Unlimited liability is the situation where the firm is not regarded as a separate legal entity from the owner and the owner is therefore liable for the debts of the firm. This

type of ownership implied that the personal assets of the owners of the firms in the cluster were exposed to the risk of liquidation in the event that the firms failed to pay their debts. This problem became even more poignant given the high business risk environment of the cluster and also explains why the owners were unwilling to borrow money on behalf of their firms.

There were other growth-inhibiting disadvantages that could also be associated with the sole proprietorship type of ownership, for example, lack of continuity in the event of the death of the founder. Further, the fact that the owners were also the managers of the firms meant that there could be some management limitations due to lack of all-round management skills on the part of the owners as it was reported that the owner-managers were responsible for all management functions, including production, purchasing, sales and human resources management and training of apprentices.

### **6.2.3 The owners and employees**

Despite the possible structural disadvantages discussed above, the characteristics of the owner-managers seemed to bring with them certain advantages to the firms in the cluster.

Firstly, the owner-managers were reported to have a high level of experience in the business of the cluster, having been in the industry for an average of fourteen years in other large furniture making firms outside the cluster. This implies that the owner-managers had a wealth of knowledge which they brought with them to the cluster. Secondly, all the owner-managers were reported to be still fairly young at an average age of forty-one years, implying that the long-term future of the cluster was guaranteed.

The level of formal education on the part of the owner-managers was however rather limited as it was reported that only twenty-three per cent of them had “Ordinary-level” education. It was also reported that most of them (ninety-two per cent) did not have any formal training obtained at training institutions in carpentry. These findings imply that the sources of skills within the cluster were largely informal as the skills were gained mostly from practical experience with their previous employers outside the cluster.

The characteristics of the employees also seemed to bring with them other advantages to the firms in the cluster. Firstly, the employees were also reported to be fairly young, with an average age of only twenty-eight years, implying that the long-term future of the industry was also assured as this young and dynamic group of employees would eventually take over the management of the cluster. The majority of the employees were also reported to have a high level of formal education up to “Ordinary level”, implying that the learning capabilities of the employees could be reasonably high. However, just like in the case of the owner-managers, the majority of them (93 per cent) did not have any formal training, implying further that the sources of skills within the cluster were largely informal and local. It was further reported that the majority of the employees did not have any employment experience outside the cluster environment. As shown in Table 5.5 in Chapter 5, the employees’ skills in furniture making were being acquired within the cluster through the apprenticeship that they were receiving from the owner-managers of their firms.

These findings raise the concern that the cluster could be technologically isolated, leading to the risk of “lock-in” and “entropic death” (Camagni, 1991) because no new skills were coming in from outside the cluster environment. Evidence of this is provided by the fact that not much variation was reported with regards to the designs of the products from firm to firm and also over time. All the firms were making standard designs that had been brought into the cluster by the owners who had copied them from their previous employers outside the cluster. No new designs or major changes to existing designs were being carried out. Only cosmetic changes were being made.

The reported characteristics of the employees and the owner-managers also had an implication on the *power distance* between the owner-managers and the employees. Power distance is the extent to which individuals accept the unequal distribution of power within the organisation (Hofstede, 2001). In an organization with a high power distance, communication and decision-making flow generally from the top to the bottom of the organization. This results in an autocratic management style.

The owners of the firms were also reported to be the managers. The employees and owner-managers were all reported to be artisans sharing the same skills and experiences either inside or outside the cluster environment. These findings imply that the power distance between the owner-managers and the employees was low. The management style used in the organisation would

therefore be more democratic than autocratic in that control systems were based on trust in subordinates' ability to complete their tasks rather than on the power of the owner-managers' position vis-à-vis other employees' positions in the firm.

The short power distance between the employees and the owner-managers had a further implication on the level of *uncertainty avoidance* in the firms. Uncertainty avoidance is the extent to which individuals feel threatened by ambiguous and risky situations and try to avoid or reduce them (Hofstede, 2001). The level of uncertainty avoidance in an organisation also has a direct bearing on the extent to which entrepreneurship or innovation can occur within it. Organisations which are high on uncertainty avoidance are likely to be less entrepreneurial, to rely extensively on written rules and rigid and formal structures and to emphasize employment stability. In the cluster environment, uncertainty avoidance was low because of the short power-distance between the employees and the owner-managers and also the close social ties and shared experiences between them.

### **6.3 The functioning of the cluster**

The findings in Chapter 5 indicate that the functioning of the cluster with respect to the human resources management, production operations management, sales and marketing management and financial management are also significant in explaining the growth and dynamism of Zimbabwe's small-firm clusters. These issues are explained below.

#### **6.3.1 Human resources management**

The recruitment policies followed by the firms resulted in all of the employees and managers of the firms in the cluster being members of the same family or having the same social contacts. This closeness was further amplified by the fact that all the firms (99 per cent) were reported to be managed by their owners. The closeness of the owner-managers to their employees resulted in the moulding of a tight working unit.

The most significant implication of this finding was the existence of a strong culture of unity among the firm's employees and between the firm and its employees. As members of the same family or sharing the same social background, the organization's employees and owner-managers had strong

fraternal bonds that had been developed through a long and thorough process of socialisation. The employees and the owner-managers knew each other very well on a personal level. Even for employees who might not necessarily be members of the same family with the owner-manager or current employees, a system of socialisation was in place, whereby new members were systematically brought into the culture of the organisation. Through socialization, new employees would quickly learn the ropes and were introduced to the norms of the organization. The strong culture had inbuilt mechanisms for selecting the right types of employees and, once selected, for moulding them. Moulding took place through consistent role modeling, teaching, coaching, and enforcement by team members and managers.

Strong social ties also resulted in the cultivation of a culture of loyalty to the organisation. Loyalty meant that members of the organisation would accept that their obligations to the organisation went beyond the simple exchange of labour for salary and understand that the required contributions to the organization (such as hours worked per week) might exceed any contractual agreements. This is implied from the finding that remuneration was commission-based and also dependent on the overall sales achieved by the firm. Loyalty also meant that employees would have a long-term commitment to the organisation which was exchanged for the organization's long-term commitment to the individual. This relationship was based on mutual interest and evidence of this is provided by the finding that, though employees would temporarily join other firms during slack business periods, they would still come back to their permanent work places.

Strong social ties between the members of the firm had the effect of breeding a 'clan culture' in which members would have a sense of pride in belonging to the organisation and feel pressured to conform to important norms of the clan. The 'clan culture' would breed a sense of belonging in which the members of the firm had a shared image of what the organization stood for. For example, it was reported that all members might belong to the same church and would attend church ceremonies on specific days of the week as a group. This 'clan culture' was enduring because long-term 'clan members' would serve as mentors and role models for newer members in order to maintain the values and norms of the organization.

The 'clan culture' of the firms in the cluster had the effect of further cementing the loyalty of the employees to their firms so that an employee might temporarily 'stray' to another firm but would still come back to the 'clan'. The 'clan culture' also had the effect of strengthening the bonds between otherwise competing firms in the cluster. It was reported that eighty-three per cent of the employees had had an average of two years employment experience with other firms within the cluster. Thus, some employees might also 'stray' from the 'clan' to form their own 'clan' but they would still feel loyal to their original 'clan' and maintain close ties with it.

The 'clan' culture found in the cluster is the direct opposite of the 'market culture' which might be found in other firms operating in environments that are different from the cluster environment. The 'market culture' is characterised by a purely contractual relationship between the employee and the organisation and the obligations of each party are agreed in advance. In a 'market culture', the organization does not promise (or imply) security to the employee and the employee does not promise (or imply) loyalty to the organisation outside the confines of the employment contract. An organisation with a 'market culture' is therefore prone to more conflict in the workplace compared to one with a 'clan' culture.

The other implication of the existence of close social ties within the firms located in the cluster was that production operations such as production scheduling and cost control were easier to manage because the production unit was organised as a tight family unit. With respect to cost control, the remuneration policies of the firms resulted in the relatively low average monthly earnings of \$170 per employee which were reported in Chapter 5 with total monthly employee costs of only \$680 per firm. These low employee costs were achievable due to the fact that the size of the employee's remuneration tended to be the outcome of negotiation and compromise between the firm and its employees.

In the case of production scheduling, a further implication of the close social ties within the firm was that the firms were able to use flexible production schedules. The labour force was reported to consist of 'semi-permanent' employees who were able to disengage themselves from their employment contracts from time to time and work for other firms during slack business periods. The firm could also tap into a pool of unattached labour roaming within the cluster when the need

arose. These policies enabled the firm to minimise the employee costs and also to align production schedules with the cash flows of the firm.

### **6.3.2 Production operations management**

Three key issues that stand out from the findings on the management of production operations within the cluster are: the existence of flexible specialisation; division of labour and the acquisition and diffusion of knowledge.

#### **6.3.2.1 Flexible specialisation and division of labour**

The findings in this study with respect to the nature of division of labour and flexible specialisation in small-firm clusters seem to be at variance with what has been reported in other studies on these matters.

Reports on the existence of an intricate system of sub-clusters and sub-sub-clusters of firms in Zimbabwe's clusters seem to confirm the existence of *flexible specialisation*, a phenomenon observed from previous studies carried out on small-firm clusters elsewhere both inside and outside Zimbabwe. Following studies on a cluster of small furniture making firms in Mutare (Zimbabwe) and another cluster of small garment making firms in Nairobi (Kenya), Sverrison (1994: 43) defines flexible specialisation to mean the existence of a production operations management system in which *each firm in the cluster produces various types of products, piece by piece using variable designs depending on customer needs*. This definition of flexible specialisation implies that the firm would always be producing *all* the product types that were found in the cluster, depending on market contingencies.

The findings from this study, however, seem to bring a new dimension to the phenomenon of flexible specialisation. It was reported in Chapter 5 that the firms operating within the cluster environment did not produce varied types of furniture products but each firm concentrated on producing and selling just one type. The firms were however, flexible in their ability to produce any other types of products found in the cluster when called upon to do so by market contingencies. At the Glenview cluster in particular, it was reported that the firm's production unit was not geared

permanently to the production of a particular product such as wood furniture cabinets but was also capable of producing other products, such as sofa-sets on the request of a customer or another firm within the cluster.

These findings imply that the phenomenon of flexible specialisation did exist in Zimbabwe's clusters in that the firms were capable of producing various product types. However, even though the firms possessed these capabilities, they did not in fact use them all the time. It was only on those rare occasions when market contingencies demanded that a firm would deviate from its usual product type. Thus, flexible specialisation under these circumstances would mean simply the *ability* of the firm to deviate from its 'normal' activity into other related activities.

The type of flexible specialisation as reported in this study is more efficient than previously thought because it enables the firm to hone its capabilities to the production and sale of a single product type. Just like the cluster was operating as a 'differentiated entity' (an entity producing a single product type) in relation to other small-firm clusters, the firms were also operating within 'differentiated' sub-clusters in relation to other sub-clusters in the main cluster. It was reported that all the firm's artisans and production management systems would be dedicated to the single product type produced by firms in that sub-cluster, resulting in high operating efficiencies and superior technological capabilities. Romjin (2004) described technological capabilities as skills and knowledge which accumulate over time through experience (learning-by-doing). Thus, through specialising in one product type rather than all the product types produced in the cluster, the learning threshold of the firm and its artisans would be raised over time through a process of learning-by-doing.

By questioning the conventional wisdom on the nature of flexible specialisation in the cluster, these findings show that in fact, the small firms located in Zimbabwe's clusters are using *differentiated flexible specialisation*, which entails the complete dedication to the production and sale of a single product type (regardless of the fact that the firm might possess the capabilities to produce and sell other product types made in the cluster).

The findings in this study also question the conventional wisdom with regards to the nature of division of labour in the context of small firms located in a cluster. As reported in studies by Sverrison (1994), production operations for small manufacturing firms operating in clusters are managed through a system of division of labour. It was reported in these studies that division of labour consisted of a production operations management system in which tasks were allocated to artisans in the production unit such that the product transformation process was subdivided into several routines and each routine or some routines were allocated to each artisan or several artisans. The result of such an arrangement would be that each artisan became an expert in the use of the machines that were used on his or her part of the process. According to Sverrison (1994), the artisan became a 'node' in a social network connected by several machines. His or her skills level would be relatively low and local rather than global with respect to the complete product.

Rather than challenge the existence of the division of labour within the cluster environment as defined above, the findings from this study seem to add a further perspective to the phenomenon by pointing to the existence of two dimensions to the division of labour: *flexible division of labour* and *extended division of labour*.

Flexibility in division of labour is implied from the fact that each artisan within the production unit was reported to be multi-skilled and capable of performing *most* of the routines in a particular transformation process for *all* the products manufactured by the firm when required to do so. Each artisan, however, specialized in only one or two routines on each process for each product. Market contingencies, such as when a large order had been received and when lead times for the delivery of a product were short, required that all artisans be flexible in their skills level. This flexibility in the division of labour, coupled with the demands of the market, implied that the skills level of the artisan would not actually be local with respect to the complete product, but global in that he or she could perform all the transformation routines for all the products produced by the firm, contrary to the suggestions made by previous studies.

The extended dimension to the division of labour, which is the second dimension, is implied from the findings wherein it was reported that division of labour within the cluster environment was not limited to the confines of the firm's internal production unit as described by Sverrison (1994), but

was extended further to the whole cluster. It was reported that the transformation process for each product was not completed wholly within the firm's production unit but was further shared with other firms that specialised in certain specific routines.

Two lists of machinery and equipment were produced in response to the request for a list of the machinery and equipment used by the firms in the cluster. The first list (Table 5.9, Chapter 5) consisted of machinery and equipment which was said to be "essential" to the firm's production routines. The total capital investment required for these assets was reported to be \$14 450. With an investment of only \$6 200 of equity, it is quite clear that the average firm in the cluster did not have the financial resources to buy the assets listed in Table 5.9 (Chapter 5). The second list (Table 5.10, Chapter 5) consisted of small hand tools and equipment which were reported to be valued at only \$100. It was reported that these were the assets in which the production units had invested their capital, at an average amount of \$200 per firm.

The existence of global (cluster-wide) rather than simply local (within-firm) division of labour provides the explanation for this apparent anomaly. The production units did not need to invest their capital in the assets listed in Table 5.9 (Chapter 5) because all the essential routines in their production processes were being carried out by the firms that had invested their capital in these assets. The production units would either hire the machine time required to carry out the routines or buy the output of the routine from these 'specialist firms'. In this way, division of labour was extended further to the rest of the cluster.

The previous studies on small-firm clusters in Zimbabwe and Kenya by Sverrisson (1994) referred to above had indicated that firms operating within a cluster environment tended to invest in multi-purpose machines which they would use to carry out all the routines in their production processes. The findings from this study, however, suggested that the firms in Zimbabwe's clusters did not have to invest significant amounts of capital in any machinery at all. This was because the division of labour within the cluster environment was not simply local but global.

The implication of these findings is that it is not the purported investment in multi-purpose machines that provides flexibility to the firm. Rather, it is this extended dimension to the division of

labour which allows the firm to adapt its operations to changes in the external environment by switching from product to product in line with market contingencies. For example, a fall in the demand for a certain type of sofa-set, or restrictions in the supply of inputs for that product, would not be disastrous for the firm as it could easily switch to other products by buying the output of the required routines or hiring the machine-time for those routines from the specialist firms.

### **6.3.2.2 Acquisition and diffusion of knowledge**

The findings discussed above with regards to the management of production operations through differentiated flexible specialisation methods as well as flexible and extended division of labour, have some implications on the way in which knowledge (technological capabilities) was being acquired and distributed across the cluster.

Some studies on knowledge acquisition and diffusion in small-firm clusters in other countries (Altenburg and Meyer-Stamer, 1999; Hodgkinson, 2007; Van Dijk and Rabellotti, 1997) have analysed the acquisition and diffusion of knowledge within the cluster environment on the assumption that when firms are located in spatial proximity to each other, knowledge can easily be picked up from the ‘air’ of their locality, that is by just being present long enough within the general environment of the cluster. The knowledge that can be acquired from the general environment of the cluster is *tacit knowledge*. It is knowledge that is acquired through indirect or *implicit learning* (Berry, 1997). This type of knowledge has also been referred to as the ‘general purpose technology’ of the cluster (Grebel (2004). Since it is knowledge that is freely available to any member of the cluster, it becomes the *generic knowledge base* of the cluster.

The findings presented in Chapter 5 of this study, seem to confirm that in the case of Zimbabwe’s clusters, tacit knowledge was also being created and transmitted. However, the findings also suggest that another type of knowledge, *codified knowledge* (Polanyi, 1958), was also being generated and transmitted.

Codified knowledge is ‘documented knowledge’ that has to be actively acquired from the outside to become the personal property of its owner. In the case of firms located in the cluster, codified

knowledge could not easily be transferred from one artisan to the other. Thus, the mere presence of a firm within the cluster where both codified and tacit knowledge was present, did not lead to its acquisition of *all* the knowledge that could be found in the cluster. It is only tacit knowledge that could be gained in this way.

Tacit knowledge is not *effective knowledge* for the firm in a cluster of other ‘competing’ firms. It is codified knowledge which is effective knowledge because, since it is the personal property of the owner, it creates a competitive advantage for the firm whose artisans possess it. Tacit knowledge does not provide any competitive advantage to the firm because it is knowledge that is available to all the artisans in all the firms in the cluster. Evidence provided from these findings seems to suggest that the competitive edge of a firm, vis-à-vis other firms in the cluster is dependent on the amount of codified knowledge possessed by its artisans.

With regards to tacit knowledge, the findings in this study suggest that two factors are responsible for its generation and transmission within Zimbabwe’s clusters. These are: the spatial proximity of the firms and the human resources management systems used by the firms.

Graphic evidence of the spatial proximity of the firms in the cluster is provided by the aerial photograph of some of the 1 300 firms located at the Glenview cluster presented in Figure 5.3 in Chapter 5. It was further reported that each firm at the cluster was using an area of only four square meters on average. The implication of these findings is that the proximity of the firms to each other enables the artisans in each firm to easily copy any new product designs or changes in existing designs made by other artisans in the vicinity of their firm. In this way, tacit knowledge was being transmitted from firm to firm.

The flexibility that was reported with respect to the human resources management systems within the cluster resulted in artisans frequently moving from one firm to the other. This labour mobility provided another important media for the generation and transmission of tacit knowledge within the cluster in two ways.

Firstly, it was reported that the firms from time to time engaged the services of some artisans who did not have any permanent relationships with any particular firm but roamed within the cluster offering their services to all the firms in the cluster. These workers were reported to form a distinct pool of unattached skilled labour, with the technological capabilities and skills to make all product types and categories within the cluster. Thus, when these workers moved from firm to firm they would also gather the knowledge in the possession of the firms they were engaged in at that time, passing it on to the artisans in the next firm. In this way, the unattached artisans became an important conduit for the gathering and transmission of tacit knowledge among the firms in the cluster.

Secondly, it was also reported that during slack business times when the demand for the firm's product was low or when there was a shortage of inputs, some of the firm's artisans who would otherwise be permanently employed by the firm, also became independent commission workers who offered their labour to other 'competing firms'. At other times, for example when the firm received a large order with a short lead time, or when demand was generally high (for example during the tobacco selling season, when tobacco farmers brought their tobacco to the auction floors), the artisans reverted to full-time employment in their firms. In this way, tacit knowledge was also gained and transmitted among the artisans as they moved from firm to firm.

Caution needs to be taken however, in attributing the generation and transmission of tacit knowledge among firms through the mobility of labour within Zimbabwe's clusters. The need for this caution arises from the observation by Giuliani (2002) that a distinction be made between the 'pure' and 'apparent' tacitness of knowledge. Apparent tacitness refers to the case in which an external observer perceives as tacit knowledge what in reality is codified knowledge that is being transferred through a specific group of people.

The findings from this study seem to suggest that the tacitness of the knowledge that was being transmitted through labour mobility within the cluster could only be regarded as 'apparent' as opposed to being 'pure'. This conclusion is implied from the description of a group of people sharing a common language and codes among themselves as an 'epistemic community' by Breschi and Lossoni (2001).

The artisans who were permanently employed within a firm would perfectly fit the description of an epistemic community by virtue of their sharing the same skills and knowledge about the product or products made by their firm. The tacit knowledge in possession of members of this epistemic community remained only apparent in relation to all other artisans who were not permanently employed by their firm unless they became part of them by becoming permanent employees. When an artisan moved from his permanent place of employment to another to temporarily join other artisans in another firm, he would come into contact with an epistemic community of which he was an outsider. Though the knowledge that these artisans possessed was 'tacit' in the sense that they were able to transmit it to other artisans who joined their firm temporarily during the time that they were employed on a contract basis by the firm, its tacitness was only apparent because the artisans who possessed it might not willingly transmit it to the temporary employees of other competing firms.

In the same vein, an artisan who temporarily joined another group of artisans in another firm, was coming from the epistemic community of artisans in his own firm, thus would not be willing to pass his knowledge to the artisans in the firm in which he was temporarily employed. The tacitness of his own knowledge was also therefore only apparent and not pure in relation to the artisans in the firm in which he was temporarily employed.

The tacitness of the knowledge possessed by the artisans who roamed the cluster as an unattached pool of labour however, was pure and not merely apparent because the description of these artisans does not fit that of an epistemic community. These artisans could not be described as an epistemic community because they did not belong to any particular firm in the cluster. Though they might be in possession of common knowledge and skills with respect to the products made in the cluster, they did not necessarily have to share this knowledge among themselves as a group of artisans. The knowledge and skills that they possessed was more freely available to other artisans in the firms to which they sold their labour because as independent agents, they did not have any loyalty to any particular firm in the cluster.

The labour mobility patterns reported in this study suggest that only ‘purely tacit’ knowledge was being created and transmitted among the artisans in the cluster through the conduit of the independent or ‘unattached’ artisans. The other artisans possessed ‘apparently tacit’ knowledge because they would not willingly transmit their knowledge to other artisans in ‘competing firms’ unless they were provided with adequate incentives to do so.

The remuneration systems described in the findings, however, seem to suggest that incentives for the transmission of even apparently tacit knowledge among the artisans did exist. It was reported that all workers employed on contract received a commission-based remuneration which was equal to ten per cent of the value of the product. The permanently engaged employees were also reported to be paid a ‘salary’ based on the number of items sold by the firm as a whole. Thus, it would be in the best interest of all employees to maximise the value of the firm’s sales so as to maximise their own remuneration. The need to maximise the firm’s sales would necessarily mean that all artisans had to share all the available knowledge about their products. Therefore there was a clear incentive for any artisan to pass on any new knowledge that he or she might possess to other artisans in the firm.

The reportedly strong social ties within the cluster environment could also be responsible for the generation and transmission of tacit knowledge within the cluster. According to Table 5.9 in Chapter 5, the strongest ties among the employees were reported to be of a religious nature, followed by family ties. These findings imply that belonging to the same church or religious denomination was an important vehicle for the transmission of tacit knowledge within the cluster environment. Religious ties would provide a regular and frequent platform for both employers and employees of different firms to meet informally and exchange knowledge, such as new product designs or new product functions required by their customers. Family ties were also important in that members of the same family would have a high level of trust among them, thus could comfortably share any new knowledge.

Turning to codified knowledge, the findings in Chapter 5 clearly indicate that within the cluster environment there was a large body of codified knowledge that was embodied within the owner-managers as well as the artisans as separate and distinct epistemic communities. According to

Cowan and Foray (2000), a further distinction can be made between codified knowledge that is *articulated* and for which a *code book* exists and *unarticulated codified knowledge* where ‘the codebook’ exists but is not evident and manifested to the outside observer (*displaced codebook*).

Evidence from these findings indicates that codified knowledge existing within Zimbabwe’s cluster environment was largely unarticulated because of the informal way in which it was being generated and distributed. This is implied from the fact that most of the owner-managers stated that they did not have any formal training in the carpentry trade with only eight per cent of them stating that they had had such training. The knowledge that the owner-managers possessed was codified embedded knowledge which they brought with them into the cluster from outside. This knowledge had been acquired informally through their employment experience outside the cluster. Previous employment experience outside the cluster was reported to range between eleven and sixteen years, with the average being fourteen years, implying that most of the owner-managers had had extensive experience outside the cluster environment. This knowledge was, however, unarticulated because it had been acquired informally and not through formal training structures.

The findings also suggest that unarticulated codified knowledge was also being continuously generated and passed on to the new and younger managers and other artisans within the cluster. This is implied from the reported apprenticeship training system that was said to be managed by the owner-managers. It was reported in Table 5.4 (Chapter 5) that sixty-two per cent of the owner-managers had had previous experience as employees of other firms within the cluster before starting their own entities. The average length of such experience was reported to be three years. This therefore implies that the average length of the apprenticeship period in the cluster was also three years. Thus, it was taking at least three years for the new owner-managers of firms and new employees to acquire and codify the knowledge that was in the cluster.

The structure of the firm was reported to be very simple, as shown in Figure 5.4 in Chapter 5, with the owner-manager being directly responsible for all functions such as procurement, financial management and human resources management. However, one of the critical functions of the owner-manager was reported to be the training of employees. These findings therefore imply that the generation and diffusion of codified knowledge was being taken very seriously within the cluster. The proper training of employees was critical to the survival of the firm in the cluster

environment because the stiff competition for customers meant that product quality was of paramount importance. Thus, the owner-managers had to ensure that all the knowledge in their possession was also passed on to the employees to become part of the body of codified knowledge within the firm.

The findings from this study regarding the generation and diffusion of knowledge seem to strongly dispute the claim made in previous studies on small-firm clusters that it is mere tacit knowledge (available 'in the air') which is acquired and shared by the firms in a cluster (Altenburg and Meyer-Stamer, 1999; Hodgkinson, 2007; Van Dijk and Rabellotti, 1997). The findings in this study seem to point to the existence of a body of both tacit and codified knowledge that was being constantly created and transmitted within the cluster in various ways. This then was a very strong factor towards the competitive advantage of the firms vis-à-vis other small firms not located in clusters. With respect to codified knowledge, though there was no written 'code book', there were several factors pointing to the existence of a 'displaced codebook'.

The whole cluster of 1 300 firms at the Glenview cluster can be regarded as an epistemic community in relation to the outside world because the knowledge that they possessed was codified and not freely available to any other entity outside the cluster. However, within the cluster itself, there were other epistemic communities in the form of sub-clusters and sub-sub-clusters of firms with their own knowledge which could be regarded as 'codified' in relation to the other firms in the cluster.

The Glenview cluster was made up of two main epistemic communities consisting of wood furniture-making firms and steel furniture-making firms. The larger of these two was the wood furniture-making community consisting of 910 firms or seventy per cent of the total size of the cluster. Within the community of wood furniture makers, three other epistemic communities were identified: a community of base-bed makers; a community of cabinet makers and a community of sofa-set makers. The largest of these communities was the community of sofa-set makers which consisted of 428 firms or thirty-three per cent of the total number of firms in the whole cluster. Within the community of cabinet-makers, three other epistemic communities were identified, consisting of makers of kitchen units, makers of wardrobes and makers of room dividers. The

largest of these epistemic communities was the community of room divider makers, which made up fourteen per cent of the total number of firms in the cluster. The epistemic community of sofa-set makers also had the largest distinct community consisting of firms making low-value sofa-sets (33 per cent of the total number of firms in the cluster). Details of the various epistemic communities at the Glenview cluster are presented in Table 6.2 below.

**Table 6.2: Epistemic communities of firms at the Glenview cluster**

<b>Wood Furniture</b>		<b>n = 910 (70)</b>
Base Beds		n = 191 (15)
Cabinets (1) Kitchen Units [n = 29 (2)] (2) Wardrobes [n = 81 (6)] (3) Room Dividers [n = 181(14)]		n = 291 (22)
Sofa-sets (1) High Value [n = 43 (3)] (2) Low Value [n = 385 (30)]		n = 428 (33)
<b>Steel Furniture</b>		<b>n = 390 (30)</b>
<b>TOTAL</b>		<b>N = 1 300 (100)</b>

Since each epistemic community was reported to specialise in the production and sale of a particular product, the members of each community had their own codified knowledge as a community of firms which was not freely available to other firms outside that community. This knowledge was being regularly acquired and codified in response to changing market demands in the form of new product designs and new product functions. This new knowledge would not be tacit or generic to the cluster as a whole as it was confined to the firms in that particular sub-cluster.

It was reported in Chapter 5 that all firms were flexible, in that they could make all products when required to do so. The knowledge that they possessed in relation to the products that they did not specialise in was, however, only tacit knowledge because they were not informed about the latest demands of the market in relation to those products. Thus, each epistemic community possessed only tacit (generic) knowledge in relation to the products made by other firms outside it and codified knowledge in relation to the product that its own members specialised in. For example, if a firm belonging to the sofa-set epistemic community was required to make kitchen units (a product

that it did not specialise in but had the skill to produce), it would need to consult with the firms that normally made kitchen units so as to find out the current but codified knowledge related to that product, since the knowledge that it possessed in the production of kitchen units would only be tacit knowledge.

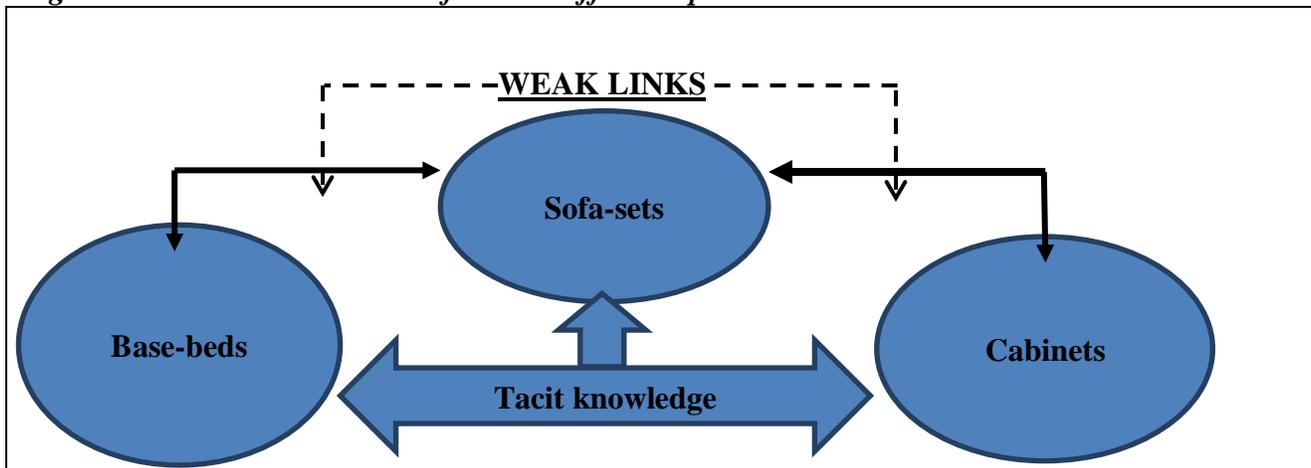
### 6.3.2.3 Strong versus weak ties among firms

Though it was reported that strong social ties existed among the employees and owner-managers of different firms in the cluster, these findings clearly show that in fact, there were both weak and strong linkages which existed between the firms.

The linkages between firms in different sub-clusters (epistemic communities) would be weak because the firms in the different sub-clusters belonged to different epistemic communities with their own stock of knowledge about the product that they specialised in. The artisans belonging to different epistemic communities could share only the tacit knowledge that would be generic to the cluster as a whole due to the weak linkages between their firms. For example, even though it was reported that the artisans in the firms that specialise in cabinet-type furniture such as room dividers, wardrobes and kitchen units, could also make sofa-sets or base beds, the knowledge that such artisans may have about the making of sofa-sets or base beds would only be tacit and generic knowledge due to the weak links between the three epistemic communities.

The existence of weak links and the knowledge that they transmitted is demonstrated in Figure 6.1 below.

*Figure 6.1: Weak links between firms in different epistemic communities*



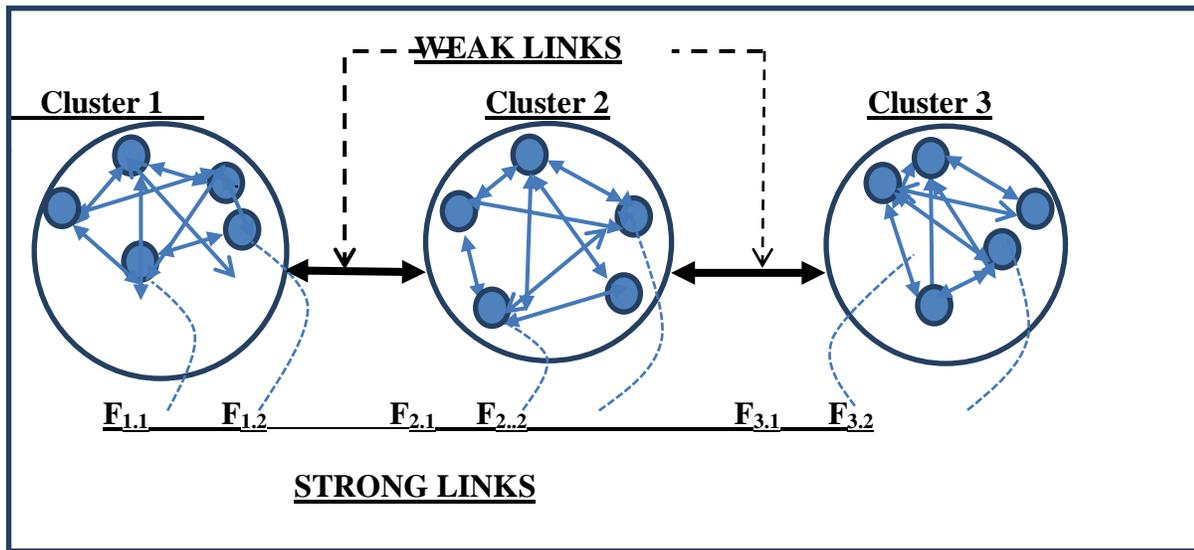
It was reported in Chapter 5 that most owner-managers (62 per cent) of the firms in the cluster were former employees of other firms within the cluster who were also trained by the managers of other firms making the same product before branching out to set up their own entities in the cluster. The employees were also reported to be closely related by way of family ties and other social relations. A former employee who branched out to set up another firm within the cluster would still maintain the existing contacts with his or her former employer and colleagues in the same line of business. These findings imply that the linkages between the firms in a particular sub-cluster or sub-sub-cluster such as cabinet makers were therefore bound to be very strong.

The linkages between firms in the same sub-cluster such as cabinet makers or sofa-set makers, or base bed makers, would be strong because the firms belonged in the same epistemic community, sharing the same stock of knowledge about their product. Due to the strong linkages between their firms, the stock of knowledge held by artisans belonging to the same epistemic community would remain codified knowledge not available to any other artisan outside that community. The knowledge held by artisans in the epistemic community of cabinet makers, for example, would be more intricate and codified because they were always in day-to-day contact with the customers of cabinet-type furniture.

A cluster consisting of strong and weak ties has been described as a 'small world' (Granovetter, 1985; Goyal et al, 2006; Jackson and Rogers, 2006; Koka, 2006; Verpagen and Duysters, 2004; Uzi and Shapiro, 2005). These studies have also shown that weak ties improve the speed with which information is transmitted in a network by shortening the distance between the nodes in the network. Thus, they bring strength to a network by improving the dissemination of information throughout the network.

The three sub-clusters (Cluster 1, Cluster 2 and Cluster 3) shown in Figure 6.2 below, for example, are epistemic communities with weak links between them. However, the firms in each cluster, such as  $F_{1,1}$  and  $F_{1,2}$  or  $F_{2,1}$  and  $F_{2,2}$  would have very strong links with each other.

**Figure 6.2: Strong and weak links between firms in different epistemic communities**



The findings from this study suggest that the small-firm cluster is also a ‘small world’ because it consists of many highly connected firms in sub-clusters and a few external links that connect each sub-cluster to other sub-clusters.

The strength of the weak ties between firms in the cluster comes from the fact that, any *new* codified knowledge must come from outside the sub-cluster through its weak ties with other sub-clusters. The weak ties between firms in the cluster are of two types. Firstly a weak tie is created when an artisan in a firm making cabinet type furniture, temporarily joins another firm making sofa-sets. This artisan will bring back new codified knowledge on sofa sets to other artisans in his own firm. Secondly a weak tie is also created when a firm contracts a specialist firm to perform a routine in the transformation process of its product. A firm making cabinets might for example contract another firm with a spindle molders to shape the panels of a cabinet. In this process, the firm might also obtain new knowledge on current shapes and styles being used by other firms in the cluster through the artisans in the specialist firm. In this way, the weak occasional links tend to shorten the average distance between the firms.

In summary, the weak occasional links between firms in the cluster resulted from the following activities of the firms:

- the occasional hiring of some artisans from the common pool in the cluster;
- the temporary employment of the firm's own artisans by other firms in the cluster;
- co-operation between otherwise competing firms in a bid to meet large and urgent orders;  
and
- the purchasing of the output of production routines or machine-time for certain production routines from the 'specialist firms' in the cluster.

These links provided competitive strength to the cluster by enabling the constant acquisition and diffusion of both tacit and codified knowledge to take place.

#### **6.4. Sales and marketing management**

The functioning of the cluster was also reported in terms of the way in which the firms were managing their sales and marketing functions. These findings provide some indications about the orientation of the firms towards the marketplace or the way in which they were approaching the market with their products. The findings also have an implication on the competitive strategy and the marketing strategy. These issues are explained below.

##### **6.4.1. The marketing approach used by the firms**

The finding that the firms did not have any programmes to actively market their products suggests that they had a 'product orientation' as opposed to a 'marketing orientation' towards the selling of their products (Kotler et al, 2009). A 'product orientation' approach is based on the belief that the firm will always be able to sell its products as long as they are reasonably priced. The assumption behind this being that customers would always be available for the firm's products and therefore finding customers for the product would be a minor function. The prevalence of this approach among the firms in the cluster is evidenced by the emphasis of the firms on cost control and efficiency in production.

It can, however, be argued that this approach would be difficult to maintain in the long run, given the very competitive nature of the cluster environment whereby the customer was faced with a wide choice of products (up to twenty different product types) among many producers. Under such

circumstances most firms would find it difficult to sell their products without making any further effort to market them. Success in the marketplace would not necessarily be assured by just offering better products. After realising this possibility, some firms had made conscious efforts to move away from this basic approach to a 'sales orientation' approach which entailed the adoption of more aggressive tactics in selling and promoting the product. Evidence of this development is provided by the fact that most firms had added the position of a sales officer to their organisation structure. Further, the remuneration of the sales officer was commission-based as a way of incentivising the sales officers to push sales to the maximum.

Though a 'sales orientation' can be said to be an improvement on 'product orientation' to the marketing of the firm's products, the firms in the cluster still had not yet adopted a 'marketing approach', an approach that would require that the firms put their consumers at the centre of all their efforts and activities by finding out what they wanted through the use of market research programmes (Kotler et al, 2009).

#### **6.4.2 The competitive strategy of the firms**

Since the consumers of the products made by the firms in the cluster were reported to be low-income consumers and small retailers, it was natural for the firms to follow a 'low-cost' competitive strategy which required the firms to strive to produce their products at the lowest possible cost so as to minimise the selling price and gain market share. This strategy was necessary because of the price competition among the firms and also because the products sold were essentially standardised from firm to firm, with very little variations. Further, because of the presence of many firms in the cluster, the buyers of the products would incur low switching costs in changing from one seller to another, implying that firms with comparatively high priced products would not be able to sell them.

Several factors can be identified as being responsible for the success of this strategy for the small firms operating in clusters. Firstly, it was a 'focused' low-cost strategy in that the firms chose to focus on a narrow portion of the market (low-income consumers) rather than going for the whole furniture market. The low-income market served by the firms had consumers with their own distinctive preferences or requirements which were less costly to satisfy compared to the rest of the

furniture market. Secondly, the market was a ‘niche’ which was unique in terms of its geographic location and also because the products produced by the firms had their own special attributes that appealed only to the niche members. Thirdly, the strategy was successful because the market segment was big enough to be profitable and had growth potential. For example, the total population of people around the Glenview cluster was reported to be 800 000. Finally, the cluster also had the skills and resources to serve the chosen segment effectively.

### 6.4.3 The marketing strategy used by the firms

The findings also provide some indications regarding the marketing strategy in terms of the nature of the products sold and pricing patterns used.

Regarding the nature of the products, it was reported that a wide range of products consisting of twenty different product types was being sold as presented in Table 5.8 in Chapter 5. However, from this wide product range, a very simple product mix (household furniture) consisting of only three product lines shown in Table 6.3 below can be deduced.

**Table 6.3: Product lines and product mix in the cluster**

PRODUCT MIX	PRODUCT LINES
	Cabinet furniture
	Sofa-sets
	Base beds and mattresses

The simplicity of the product mix was a positive factor in the management of operations within the cluster.

Considering that the decision to buy household furniture is an important family decision, especially for low-income people, it is important to assess those factors that the consumers would evaluate when deciding whether to buy the products produced by the firms in the cluster. Some factors would have a positive influence on the consumer’s purchase decision while others would have a negative influence. These factors could be considered as the *value package* of the product sold by the firm or the total impression given by the product. From the findings, it would appear that the value package of the products sold in the cluster environment consisted of the factors presented in Table 6.4 below.

**Table 6.4: Product value package**

<b>Value package item</b>	<b>Assessment</b>
Price of products	Affordable for the consumers – positive
Accessibility of products to consumers	Cluster located close to customers, though cluster area too crowded - positive
Speed of delivery of product to customer	Transport available and affordable - positive
Buying atmosphere	Highly competitive – positive
Guarantee for product workmanship	No product guarantees available – negative
Product brand name	Use of popular brand names – positive

The analysis above shows that there were several positive factors that tended to enhance the value of the product offered to the consumer. The prices of the products were generally affordable and the availability of transport, made it possible to speedily deliver products to customers. The types of products sold in the cluster could be described as ‘shopping goods’. The cluster environment could be likened to a ‘shopping centre’ in which consumers would ‘shop around’ and buy a product only after comparing value, quality and price from the variety of sellers in the cluster. Because the consumers were able to carefully compare the products before making a purchase decision, the firms were forced to emphasize price, quality or service differences in selling their products. All these factors added up to a pleasant buying atmosphere.

Other factors, however, such as the inaccessibility of the area and lack of product guarantees seemed to impact negatively on the value of the product.

Brand equity is the combination of factors, such as awareness, loyalty, perceived quality, images and emotions that people would associate with the goods sold in the cluster. The most important of

these factors is *brand loyalty*, which is the degree to which customers are committed to the brand. The loyal group of customers around the cluster area represented substantial value to the cluster. There was a certain amount of brand equity in the products sold in the cluster as was evident from the findings, especially with respect to sofa-sets. The sofa-sets had been given brand names as shown in Table 5.8 in Chapter 5. Though these names were not unique to the cluster, they tended to serve the purpose of identifying the products sold in the cluster and distinguishing them from the products sold by firms outside the cluster. These brand names were, however, generic in the sense that they did not belong to any particular firm in the cluster but to the cluster as a whole, such that each firm was free to use them.

Product pricing was another part of the marketing mix responsible for the success of the firms in the cluster though there was a noticeable amount of variability in the pricing of the products within the three product lines. The prices were generally low. The highest prices were found in the sofa set line where there were two distinct price categories. One of the categories consisted of highly priced sets which were being sold at an average price of \$825 each. In this category, the highest priced set was the 'Culture' which was being sold for \$1000 on average. The other category consisted of lowly priced sets which were being sold at an average price of \$300 each and in this category, the lowest priced set was the 'St. James', which was being sold at an average price of \$280 per set. The lowest prices were found in the base bed product line where a single bed with a spring mattress was being sold for only \$75. The average selling price for all the products in the cluster was \$300.

The average mark-up on cost was twenty-eight per cent, implying that the firms were charging a selling price of \$1.28 on a product that would have cost them \$1.00 to make. Thus, if the cost of making a sofa-set was \$284, as reported in Table 5.17 in Chapter 5, the selling price would be \$364 after adding a mark-up of twenty-eight per cent to the cost. Under the very competitive environment of the cluster, the average mark-up would tend to be low, since high mark-ups would lead to high and uncompetitive selling prices for a firm's products. The highest mark-up percentages were in the high-price sofa-set category where the average mark-up was fifty-five per cent on average. The rest of the products had relatively low mark-up percentages ranging from seventeen to thirty-three per cent.

There was also a noticeable difference between the prices charged to retail customers (direct consumers) and wholesale customers (bulk purchasers). The average selling price to retail customers was \$300 whereas the average price for wholesale customers was \$275.

The pricing structure and the mark-up percentages described above imply that the sofa set product line was targeted at two distinct market segments consisting of a market for high-priced products and a market for low-priced products. However, the bulk of the products sold in the cluster were targeted at customers seeking low-priced products. There was also a distinct market segment consisting of wholesale buyers. These were the buyers coming from areas outside the city in which the cluster was located.

The pricing structure reported by the firms seems to suggest that the firms had two objectives in pricing their products: sales maximisation and market penetration. These pricing objectives would be achieved by producing products that would attract more customers and discourage large competitors selling furniture in and around the vicinity of the cluster.

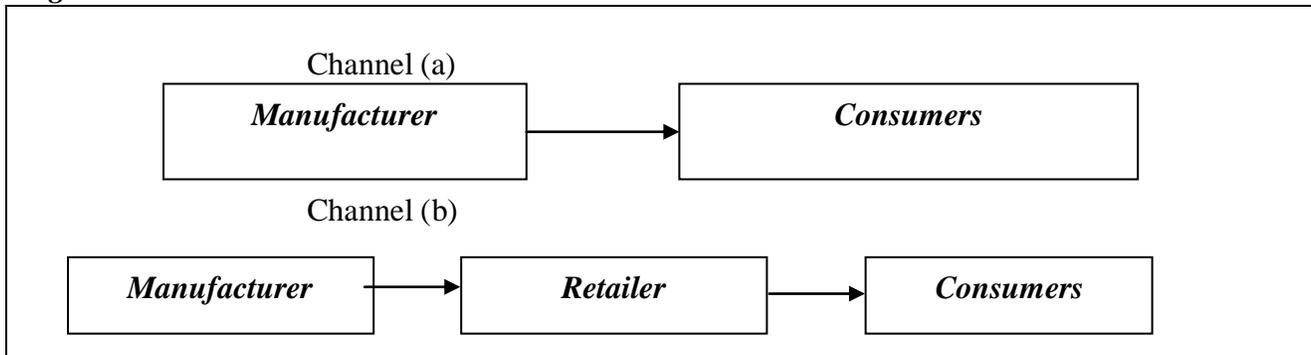
The firms were also reported to be using a *cost-based pricing* method wherein the cost was being used as the primary basis for setting the price. This could, however, be detrimental to the survival of the cluster in the long-term because the question that might arise is whether these prices would remain satisfactory to the customers as well, bearing in mind that in the long-run it is the market that determines the price of a product, not the producer. A cost-driven strategy could therefore result in a loss of market share to large producers outside the cluster. Alternatively, the firms could use *price-led costing*, a strategy that requires that they first determine what the market was willing to pay before pricing the product.

The pricing strategy reported with respect to the sofa-set product line seems to suggest that a *value pricing* strategy was being used whereby the firms were successfully providing consumers with brand-name products at fair prices by redesigning the products and cutting costs. The reported brand names, such as 'Madeira', 'Culture', 'St. James' and 'Hamilcourt' were common names in the furniture industry which had been successfully adopted by the firms in the cluster. This was evidenced by the fact that all the four names were found in all the eight clusters in different cities.

A value pricing strategy is superior to the other strategies in that it can be used to achieve both pricing objectives of maximising sales and market penetration.

With respect to the distribution of the products, the findings suggest the existence of two simple channels as illustrated in Figure 6.3 below.

**Figure 6.3: Distribution channels**



The first type of channel, Channel (a), consisted of those buyers who came directly to the cluster to buy their furniture products whereas the second channel, Channel (b), consisted of those buyers who came to the cluster to buy furniture products with the intention of reselling them to other consumers, thus acting as intermediaries between the firm and the consumer. Intermediaries perform certain marketing tasks such as transportation, storage, selling and advertising more efficiently and effectively than the manufacturer could. They also play the role of creating exchange efficiency by reducing the number of exchange relationships when they buy from several suppliers at the same time. The intermediaries in Channel (b) are attracted to the cluster because, as distant buyers they find a variety of furniture products on offer in one place.

### **6.5. Financial management**

Finally, the growth and dynamism of small-firm clusters in Zimbabwe can also be explained through an analysis of the findings on the way in which the firms were managing the capital invested in them.

The findings seem to indicate that as a collective, the firms in the cluster were managing their financial resources relatively more efficiently in creating revenues and profits than other firms,

though individually they appeared to be less efficient. The efficiency with which the firms were managing the capital invested in them, was analysed using the measures presented in Table 6.5 below (Brigham and Gapenski, 2005; van Horne, 2006 and Atrill, 2009).

**Table 6.5: Measures of efficiency in financial management**

<b>Measure</b>	<b>How calculated</b>
Return on Capital Employed (ROCE),	$\text{Operating Profit} \div \text{Total capital} \times 100$
Total Assets Turnover Rate (TAT),	$\text{Sales} \div \text{Total Assets} \times 100$
Gross Profit Margin (GPM),	$\text{Gross Profit} \div \text{Sales} \times 100$
Operating Margin (OPM)	$\text{Operating Profit} \div \text{Sales} \times 100$
Mark-up on cost (Mark-up)	$\text{Gross Profit} \div \text{Cost of Sales} \times 100$

The ROCE was used to measure the efficiency with which the firms were utilizing the capital invested in their assets to create profits. A low ROCE indicated that the firms were not generating sufficient profits from the capital invested in their assets. This could be attributed to the inefficient management of operating expenses (van Horne, 2006). The TAT was used to measure the efficiency with which the firms were utilising their assets to generate revenue. A low TAT indicated that the firms had idle capacity in that they had invested a disproportionate amount of capital in assets relative to the revenue being generated by those assets. A low TAT could therefore imply that the firms were not utilising the assets that had been financed by the available capital resources efficiently enough to generate revenues (Brigham and Gapenski, 2005; van Horne, 2006).

The GPM was used to measure the amount of profit that the firms were able to generate from a dollar of sales. Large sales volumes do not necessarily translate into high profits. Thus, a low GPM was used to indicate that the firms were failing to control their production costs (the cost of labour, materials and other production expenses). A low GPM would also indicate that the firms were not generating sufficient sales volumes and that the production costs were too high relative to the sales being generated. The OPM was used as a measure of the efficiency with which the firms were managing their operating expenses. A low OPM would imply that the operating expenses were too high relative to the level of sales being generated, resulting in low profits (Atrill, 2009).

Applying the efficiency measures in Table 6.5 above to the data contained in the balance sheet presented in Table 5.12 in Chapter 5 and the income statement presented in Table 5.18 also in Chapter 5, the following results would be obtained.

**Table 6.6: Efficiency in financial management by small firms located in the cluster**

ROCE	TAT	GPM	OPM	Mark-up
10%	69%	22%	14%	28%

### 6.5.1 Efficiency in utilizing capital to create profits (ROCE)

The ROCE of ten per cent in Table 6.6 above implies that the average firm in the cluster was generating an operating profit of \$10 on every \$100 of capital invested in the business. This amount of profit appears to be very low relative to the amount of capital invested in the assets, implying an inefficient use of capital by the firms.

The reason for the low ROCE can be revealed by a further analysis of the balance sheet in Table 5.12 in Chapter 5, which shows that the bulk of the capital in each firm (97 per cent) was invested in current assets (debtors and stocks, with a very insignificant amount of cash). Most of this capital (68 per cent) was invested in stocks, which were reported to be mainly finished goods and work-in-progress. The firms did not have any stock of raw materials since it was reported that they were using a just-in-time inventory management system of procurement. Referring to the data in Table 5.11 in Chapter 5, which shows the average stock level, held by the firm, it is clear that the bulk of the stock (78 per cent) was in the form of finished goods. This therefore implies that the bulk of the firm's capital (53 per cent) was invested in stocks of finished goods.

Why were the firms investing their capital mainly in finished goods? The answer to this question could be that the operating environment of the cluster in which a large number of firms located in close proximity to each other were competing for customers, most of whom were low-income consumers with infrequent purchasing patterns, resulted in low demand for the products of each individual firm. This explains why the bulk of their capital was invested in finished goods and is not necessarily a reflection of inefficient investment policies on the part of the firms.

### **6.5.2 Efficiency in utilizing capital to create revenues (TAT)**

The TAT of sixty-nine per cent in Table 6.6 above implies that the firms in the cluster were generating revenues of \$69 on every \$100 of assets financed by the capital available to them. This low TAT would seem to indicate that the firms had considerable amounts of idle capacity in that thirty-nine per cent of the assets were not being effectively used in revenue generation.

A further analysis of the findings, however, would suggest that the apparently low TAT reported by the individual firm was not the actual TAT for the whole cluster. This can be deduced from the structure of the balance sheet presented in Table 5.12 which shows that the bulk of each firm's capital (97 per cent) was invested in short-term assets, such as stocks, debtors and cash, with only three per cent having been invested in long-term assets such as plant and machinery.

The reason for this low investment in long-term assets by each firm was that the firms directly involved in the production and sale of furniture (the production units) stated that their firms did not have to buy long-term assets in order to carry out most of the routines in their production processes. It was reported that the production units only invested \$200 on average to buy small hand tools and equipment. Instead, they simply bought the output of such routines from other firms within the cluster or paid for the machine-time required to perform the routines from the firms that specialised in those routines. Forty-five such firms were identified in the Glenview cluster.

Table 5.9 in Chapter 5 presents the list of long-term assets and their values in which it is shown that each of these specialist firms would require capital of \$14 450 to finance these assets. This implies that a total of \$650 250 had actually been invested by the forty-five 'specialist firms' towards the financing of the assets used by the rest of the firms in the cluster. These then were the actual collective assets of the cluster.

As shown in the income statement presented in Table 5.18 (Chapter 5), the average monthly revenue generated by each firm was reported to be \$4 250, implying that the total collective sales generated by the 1 300 furniture making firms (excluding other firms carrying out ancillary activities) in the whole cluster would be \$5 525 000.

The above figures would imply that the TAT for the cluster as a collective of firms would therefore be 850 per cent, based on the total collective assets of \$650 250 and the total collective revenues of \$5 525 000 for the whole cluster. The collective TAT of 850 per cent indicates that the cluster itself was collectively generating \$850 of sales from \$100 of capital invested in assets whereas individually the firms were generating only \$69 from the same amount of capital. This collective TAT implies that the cluster as a collective of firms was much more efficient in utilising the invested capital in generating revenues compared to the individual firms in the cluster.

### **6.5.3 Efficiency in generating profits from sales (GPM)**

The figures in Table 6.6 above seem to suggest that the firms were incurring very high production costs relative to the revenue they were generating, resulting in an apparent lack of efficiency in generating profit from sales. The GPM of twenty-two per cent indicates that the average firm in the cluster was generating \$22 of gross profit from every \$100 of revenue generated, implying that an amount of \$78 per \$100 of the revenue was going towards production costs (the cost of labour, materials and other production-related expenses).

The source of these apparent inefficiencies can be traced to the structure of the income statement presented in Table 5.18 in Chapter 5. An analysis of the income statement shows that the bulk of the production costs (64 per cent) were being taken up by the cost of materials, with only fourteen per cent going towards the cost of labour. This implies that the main source of the high production costs was in the procurement and use of materials. The reason for this can be found from a further analysis of Table 5.17 (Chapter 5), which contains a breakdown of the cost of making a sofa-set. The data in this table shows that the high cost of production was being driven by the cost of fabric, foam rubber and springs.

A further analysis of the materials cost is presented in Table 6.7 below. This analysis shows that fabrics contributed the highest percentage (27 per cent) towards the cost of materials. This was followed by the cost of foam rubber, which contributed twenty-three per cent and springs, which contributed twenty-one per cent.

**Table 6.7: Breakdown of materials cost: sofa-sets**

Fabric	Foam Rubber	Springs	Cotton	Timber	Panels	Nails, etc
27%	23%	21%	11%	9%	5%	4%

These figures imply that though the firms could skimp and save on the cost of materials such as timber and cotton by using low-cost materials, this would not be possible with respect to fabric, foam rubber and springs. The reason for this was that due to the highly competitive environment of the cluster, the firms were being forced to purchase fabrics and foam rubber of high quality. The drivers of product quality in the case of sofa sets would be the quality of the fabric used to cover the product, the comfort level provided by the amount of foam rubber as well as the number of springs used on the seats, implying that the cost of these materials was largely ‘uncontrollable’ for the firm.

#### **6.5.4 Efficiency in managing operating expenses (OPM)**

The OPM of fourteen per cent in Table 6.5 above, implies that the firms were generating an average of \$14 in operating profit from every \$100 of sales, indicating that the other \$86 was being taken up by the cost of production plus operating expenses (selling, distribution and administration expenses). An analysis of these results, showing the distribution of \$100 of sales to the production and operating expenses and the profit generated there from is presented in Table 6.8.

**Table 6.8: Profit generated from a dollar of sales r**

ITEM	VALUE (\$)
Sales	100,00
Cost of sales: Labour	(14,00)
: Materials	<u>(64,00)</u>
Gross Profit	22,00
Operating expenses	<u>(8,00)</u>
<b>Operating profit</b>	<b><u>14,00</u></b>

The figures in Table 6.8 above indicate that the owners of the firms were receiving an amount of \$14 from a sale of \$100. The balance of \$86 was being taken up by the cost of labour (\$14), the

cost of materials (\$64) and selling and administration expenses (\$8). This analysis shows that materials (timber and cotton) were absorbing the bulk of the revenue generated by the firm. As shown in the income statement in Table 5.18 in Chapter 5, the firms did not incur any distribution cost as it was reported that they did not have to distribute their product. Distribution was being done by other transport operators located in the cluster. The amount of \$14 attributable to the owner of the firm appears to be very low, suggesting that generally, the firms were not operating in an efficient manner.

### 6.5.5 Efficiency of small firms versus large, stock exchange-listed firms in Zimbabwe

This analysis of the findings from the study, seem to suggest that small firms located in clusters were not very efficient in the manner in which they were utilising the capital invested in them to generate revenues and profits and were also not generating sufficient profits from a dollar of sales. To put these findings into their proper context however, it was necessary to compare the performance of the cluster of small firms with that of other firms in Zimbabwe. The financial statements of the firms listed in Table 6.9 below were used for the purpose of making this comparison.

**Table 6.9: Some companies listed on the Zimbabwe Stock Exchange**

<b>Company name</b>	<b>Brief description</b>
African Distillers Limited	Manufacturer of wines and spirits
African Sun Limited	Management of Hotels and leisure resorts
AICO Africa Limited	Manufacturer of Agro-industrial products
DAIRIBOARD Limited	Manufacturer of milk and dairy products
CAFCA Limited	Manufacturer of electrical power cables
INSCOR Zimbabwe Limited	Manufacturer of foods and meat products
PG Industries Limited	Construction and timber merchants
National Foods Limited	Processor of agricultural foods
Murray and Roberts Limited	Large construction company

A comparative analysis of the financial statements of large firms and the small firms located in clusters indicates that the return on capital employed (ROCE) and the total assets turnover (TAT) rates for the small firms were higher than those of the larger firms. This implies that the small firms located in the cluster were more efficient than the large stock exchange-listed firms in the manner in

which they were utilizing the available capital to create revenues and profits. The small firms were operating from a very small capital base compared to the larger firms, but they used it more efficiently compared to the larger firms.

The summary data for the manufacturing firms listed in Table 6.10 above that was extracted from their Annual Reports for 2010 is presented in Table 6.10below.

**Table 6.10: Efficiency in capital utilization by large, stock exchange-listed firms in Zimbabwe**

<b>Company Name</b>	<b>ROCE %</b>	<b>TAT %</b>	<b>GPM %</b>	<b>OPM %</b>	<b>Mark-up %</b>
African Distillers Limited	-26	104	24	-20	32
African Sun Limited	-9	108	64	-11	78
AICO Africa Limited	6	122	33	8	49
DAIRIBOARD Limited	9	139	32	10	47
CAFCA Limited	11	151	23	4	30
INSCOR Zimbabwe Limited	11	190	34	7	52
PG Industries Limited	-27	82	26	-18	35
National Foods Limited	2	210	24	1	31
Murray and Roberts Limited	-8	78	24	-13	41
<b>Average</b>	<b>-3</b>	<b>132</b>	<b>32</b>	<b>-4</b>	<b>44</b>

*Source: Annual Reports, 2010*

The average ROCE for the small firms was found to be ten per cent (Table 6.6), compared to the negative return of minus three percent for the larger firms presented in Table 6.10 above. These figures imply that the small firms were generating a return of \$10 on every \$100 of invested capital, whereas the large firms were losing \$3 on every \$100 of invested capital invested in them.

At sixty-nine per cent, the TAT for the small firms (Table 6.6) implies that they were generating revenues of \$69 from every \$100 of assets. The figures in Table 6.10 above, however, indicate that the large firms were generating revenues of \$132 from the same amount of assets. In this regard, they were therefore more efficient than the smaller firms.

This apparent efficiency on the part of the large firms is, however, misleading as can be revealed from a comparison of the mark-up percentages. Though the TAT for the large firms was

considerably higher, this was not being translated into profitability because the large firms were not managing their operations as efficiently as the small firms. The inefficiencies of the large manufacturing firms relative to the small firms located in the cluster are summarized in the data contained in Table 6.11 below which shows the way in which \$100 of sales was being distributed and the resultant operating profit.

**Table 6.11: Efficiency of small firms compared to large firms**

	SMALL FIRMS IN CLUSTERS	STOCK EXCHANGE-LISTED FIRMS
	Item	Value (\$)
Sales	100,00	100,00
Cost of sales	<u>(78,00)</u>	<u>(68,00)</u>
Gross Profit	22,00	32,00
Operating expenses	<u>(8,00)</u>	<u>(36,00)</u>
<b>Operating profit</b>	<b><u>14,00</u></b>	<b><u>- 4,00</u></b>

Table 6.11 above shows that the small firms generated more profit from a dollar of sales and were more efficient in managing their operating expenses compared to the larger firms. The small firms generated a profit of \$14 per every \$100 of sales whereas the large firms generated an average loss of \$4 per \$100 of sales. This was because the operating costs for the small firms were lower, at only \$8 per every \$100 of sales, compared to those for the larger firms, which were \$36.

The large firms tended to compensate for their inefficiencies by placing higher mark-up percentages on their products compared to the small firms. The mark-up for small firms (Table 6.5, page 36) shows that the small firms were charging \$1,28 for a product that would have cost them \$1,00 to make, whereas the large firms would charge \$1,44 for the same product (Table 6.9, page 41). This tended to result in higher gross profit margins for the large firms which are not reflective of the way in which the firms were managing their production costs (cost of labour, materials and production overhead expenses).

### 6.5.6 Drivers of small-firm efficiency

The analysis of the findings seemed to indicate that the capital utilisation rates and operating efficiencies of small firms located in clusters were relatively higher than those of large, stock exchange-listed firms in Zimbabwe. As a way of finding out why this was the case, an analysis of the relationship between the capital utilisation rates and operating efficiencies for both groups of firms was carried out using the ‘DuPont Return on Assets’ (Brigham and Gapenski, 2005) presented in Table 6.12.

**Table 6.12: DuPont Return on Assets**

$\text{DuPont Return on Assets} = \text{Total Assets Turnover} \times \text{Operating Margin}$
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According to Brigham and Gapenski (2005), the DuPont Return on Assets (DROA) is a measure which says that the earning power of a firm’s assets is driven by the efficiency with which the assets are being used to generate sales (TAT) and the efficiency with which the firm is managing its operating expenses (OPM). In order to maximize the earning power of the assets, the firm must maximize both the amount of sales generated from a dollar of capital invested in assets and the amount of profit generated from a dollar of sales. If the TAT is higher than the OPM, the implication is that the earning power of the firm’s assets is being driven mainly by the efficiency with which the assets are being used to generate sales. However, if the OPM is higher than the TAT, the implication is that the earning power of the firm’s assets is being driven mainly by the efficiency with which it is managing its operating expenses.

Table 6.13 below presents the relative drivers of efficiency for both large firms and small firms located in clusters using the DROA.

**Table 6.13: Drivers of efficiency for small firms and large firms**

<b>TYPE OF FIRM</b>	<b>DROA= TAT x OPM</b>
<b>Small firms in clusters</b>	0.097= 0.69 x 0.14
<b>Large, stock exchange-listed firms</b>	-0.03= 1.32 x -0.04

The analysis in Table 6.13 above shows that the main driver of efficiency for both large and small firms was the total assets turnover rate (TAT), rather than the operating margin (OPM). Due to the harsh economic environment and the general scarcity of investment capital, firms in Zimbabwe were being forced to ‘sweat’ the available assets by maximizing the amount of revenue generated per dollar of capital invested in the assets. This was reflected by the high TAT reported by both groups of firms.

As shown in Table 6.13 above, large firms were generating sales of \$1.32 from every dollar of assets whereas small firms were generating only 69 cents as shown in Table 6.5 on page 36. The positive effects of high assets utilization rates for large firms were however eroded by the effects of operating inefficiencies which resulted in negative operating margins. On the other hand, the relatively low assets utilization rates for the small firms were enhanced by superior operating efficiencies which resulted in high and positive operating margins. As a result, small firms generated a positive return on capital invested (10%) compared to the negative return of minus three per cent generated by the large firms.

This analysis clearly indicates that small firms, particularly those located in clusters, were using their invested capital relatively more efficiently than large firms, though they were operating from a relatively very low capital base. This is because they were more efficient in managing their operating expenses than large firms, though they were incurring higher production costs.

## **6.6. Conclusion**

The analysis carried out in this chapter has clearly demonstrated that Zimbabwe’s small-firm clusters were making a significant contribution towards the economic prosperity of the country through employment creation and income generation. It has also been shown that the characteristics

of the industry, the firms, their owners and employees make the clusters unique business entities that are dynamic and have the potential to grow even further. The reasons for this dynamism and growth potential lies in the manner in which essential business functions are being organized and also the nature of the operating environment which allows for the continuous acquisition and transmission of knowledge within the cluster.

The next chapter rounds off the study by drawing some conclusions regarding the nature of the entrepreneurial activities of small firms located in clusters and making some recommendations on how such entrepreneurship can be nurtured in future.

## Chapter 7

### Conclusions and recommendations

#### 7.0 Introduction

This study is set out to determine the nature and significance of small-firm agglomeration (small firms located in industrial clusters) in Zimbabwe and to recommend the policy measures that might be required to foster the growth and competitiveness of the firms. In line with these objectives, this chapter concludes the study by drawing some conclusions from the findings presented and analysed in Chapter 5 and Chapter 6 and making some recommendations from them.

#### 7.1 Conclusions

Three major conclusions can be drawn from the study. These are summarised below:

- The network of small-firm clusters in Zimbabwe is extensive, significant and growing rapidly, but the firms in the clusters are very small (micro-enterprises).
- Though they consist of micro-enterprises, Zimbabwe's small-firm clusters require policy intervention because they possess certain collective attributes that place them at an advantage over other SMEs. For these interventions to succeed however three factors that negatively impact on the competitiveness of the firms need to be addressed and these are: limited access to technology; limited access to markets and limited access to capital.
- The small-firm clusters in Zimbabwe possess the characteristics of *complex adaptive systems* (phenomena with emergent properties).

These conclusions are further explained below.

### **7.1.1 The network of small-firm clusters in Zimbabwe is extensive, significant and is growing rapidly, but the firms in the clusters are very small (micro-enterprises)**

The first and most significant conclusion is that Zimbabwe has an extensive network of small-firm industrial clusters in all its five major cities, including the large town of Chitungwiza, which is close to Harare. The distribution of the clusters in terms of size is however, skewed in that Harare's Glenview cluster is by far the largest of the eight clusters identified, with more than sixty-seven per cent of the total number of firms.

The clusters have contributed, and continue to contribute, significantly to the economy by way of employment creation and income generation. They have also contributed to the improvement of the general welfare of thousands of low-income families as the business entities in these clusters belong to otherwise low-income people and are located close to low-income residential areas. Thus, from a social welfare point of view, it is incumbent upon policy makers to consider initiatives that foster the dynamism of small-firm clusters in Zimbabwe and as such, measures could go a long way in reducing poverty and unemployment and increasing income levels in general.

The Government of Zimbabwe's Ministry of Small and Medium Enterprise Development (MSMED) acknowledges the existence of three categories of small firms in Zimbabwe: *small*, *micro*, and *medium-scale* enterprises (SMME). According to MSMED, a micro-enterprise is an entity that is not formalized through a legal structure such as registration in terms of the Zimbabwe Companies Act (Chapter 190), or a Partnership Agreement and employs less than five persons. A small-scale enterprise is one that is formally registered and employs less than fifty persons whilst a medium-scale enterprise (besides being also formally registered) employs more than fifty but less than seventy-five persons (Government of Zimbabwe, 1999).

It can be concluded from the findings in this study that, according to the MSMED definitions, the small firms found in Zimbabwe's clusters can neither be described as small nor medium-scale enterprises (SMEs) but as micro-enterprises. The firms have the following attributes which make them micro-enterprises. They are not registered in terms of the Companies Act (Chapter 190) and employ a very small number of people (five persons on average). Additionally, judging by the

amount of capital employed per firm (\$6 200), they are micro-enterprises relative to the size of other firms such as those that are listed on the Zimbabwe Stock Exchange.

### **7.1.2 Zimbabwe's small-firm clusters are worthy candidates for policy intervention because they possess certain collective attributes that place them at an advantage over other SMEs.**

The conclusion that Zimbabwe's small firms in clusters are "micro-enterprises" raises the question of whether such firms, due to their size, deserve any attention at all and if so what type of intervention would be required to improve their competitiveness. The suggestion that small firms in general (SMEs) should be singled out for special attention in development policies is still a contentious issue given that despite the existence of a wide variety of programmes intended to assist such enterprises in many countries, the success rate of such policies has been rather disappointing (Hallberg, 2003). On this basis, it might therefore be argued that public intervention directed at Zimbabwe's micro-enterprises located in industrial clusters may not be justified.

Though the firms in clusters are by definition "micro-enterprises" and thus appear to be comparatively insignificant individually in terms of size, they have two distinct advantages over the other categories of small firms (SMEs) which make them well-placed to take up a significant role in the future growth of the economy. These are:

- a. The locational and historical factors.** The location and history of the firms in the clusters result in the following advantages:
  - The territorial specificity (firms in one geographical location specialising in one activity) of the clusters which makes the firms economically and geographically 'visible' entities compared to other small firms that are otherwise scattered all over the economic and geographic landscape;
  - A shared history and shared experiences among the firms which make the cluster a cohesive social unit; and

- the geographical proximity of the firms to their markets, which reduces costs and provides convenience to the customers.

**b. The characteristics of the firms and the clusters.** The clusters in Zimbabwe have the following important characteristics:

- the existence of a common pool of skilled labour from which all the firms can tape their labour requirements;
- the constant acquisition and diffusion of knowledge among the firms which results in a short learning curve for new entrants into the industry;
- a relatively high level of experience among the owner-managers and the relatively high level of formal education among the employees which means that there is a certain level of skills and knowledge which was brought into the cluster and can easily be passed on to other cluster members;
- a well-developed human resources management system based on close social ties among the employees and owner-managers which results in harmonious labour relations, flexible recruitment systems and the minimisation of employee costs;
- a well-developed production operations management system which is based on horizontal and vertical cooperation, flexible specialisation and division of labour that enables the constant acquisition of knowledge and its diffusion throughout the cluster;
- a well-developed sales and marketing management system based on a low-cost, niche marketing and value-pricing strategy which enables the firms to serve a distinct market of loyal customers; and
- a well-developed financial management system which enables the firms to collectively employ the capital invested in them efficiently and profitably.

The policy framework for upgrading the competitiveness of SMEs in Zimbabwe is already in place and their role in the future of the country's economy is well acknowledged. For example, in the monetary statement of March, 2012, the Reserve Bank of Zimbabwe (RBZ) noted that as the economy was forecast to continue on a growth trajectory from a negative rate of fourteen per cent per year in 2009 to a positive growth rate of nine per cent per year in 2012, SMEs had the potential to contribute up to seventy-five per cent of the Gross Domestic Product (GDP). The Government of Zimbabwe Medium Term Plan (MTP) for 2011 to 2015 (GoZ, 2011) and the Industrial Development and National Trade Policy of 2012-16 prepared by the Ministry of Industry and Commerce (GoZ, 2012), also acknowledge the importance of small firms in Zimbabwe's future. The Small Enterprises Development Corporation Amendment Act (Chapter 24:12) which was promulgated in March 2012, also paved the way for the establishment of a Small and Medium Enterprise Advisory Council whose role is to advise Government on matters relating to SMEs. This also led to the establishment of a Small and Medium Enterprises Fund with the mandate of promoting and facilitating the access of SMEs to capital and increasing bilateral and regional investment prospects for SMEs in Zimbabwe.

Lessons could also be drawn from the examples of initiatives that have been made to improve the competitiveness of small firms in clusters in other countries. In some Asian countries, for example, such initiatives were directed to those clusters that specialise in the "local treasure" or natural resource of a community. The purpose of these initiatives was to improve the quality of the product that was being produced by the firms in the cluster (the local "treasure"), using a management practice known as *kaizen* (incremental efforts to improve quality). It was envisioned that quality improvements would also enable the small firms to participate on the global value chain through exporting their products to other countries. Examples of such initiatives include the One Village One Product model in Japan, the One Village One Treasure model in China and the One Town One Product model in the Philippines. A similar initiative, known as the Saligna Value Chain Group, was successfully carried out in South Africa, whose local "treasure" is furniture and timber products produced using saligna (a species of eucalyptus hardwood). The firms in the cluster were able to obtain international status through producing Forestry Stewardship Certified (FSC) hard wood furniture (Morris and Barnes, 2003).

Other examples of initiatives with a special focus on small firms in clusters have also been documented in studies by Ffowcs-Williams (2000) and by Das (2008). The common theme of these initiatives was the need to foster linkages between firms in the clusters and other firms and institutions outside the cluster. In Denmark, Norway, Australia, Canada and New Zealand, for example, Ffowcs-Williams (2000) noted the use of trained “brokers” as a means of connecting the firms in the cluster with other firms and institutions outside the cluster. These brokers were then remunerated on a commission basis.

The conclusions from this study, together with the various policy statements reviewed above and the examples of some initiatives that have been carried out in other countries in support of small firms in clusters, lend a lot of credence to the suggestion that Zimbabwe’s small firms in clusters are worthy candidates for more attention and developmental intervention.

The following specific areas need to be addressed for these initiatives to succeed in Zimbabwe.

**a. Limited market size.** The market for the firms’ products is limited in various ways:

- It is limited geographically to the immediate vicinity of the cluster as well as to some outlying areas in the city in which the cluster is located and a few towns and cities in Zimbabwe.
- It is limited to the low-income segment of the population and the firms have no access to the other market segments that may be available in Zimbabwe.
- It is limited to the local value chain in that the firms do not have access to other national distribution channels in which other large furniture making firms participate as well as other regional and global markets.

Initiatives are therefore required to enable the firms to penetrate other market segments nationally, to expand the size of their market and help them to gain access to the regional and global value chain for furniture products.

**b. Lack of access to new technology.** The firms are “isolated” technologically because all the knowledge that is being shared among the firms is knowledge that was acquired by the owner-managers from their previous employment experiences outside the cluster. The close linkages among the firms in the cluster are only local but not national, regional or global. No new knowledge is coming in from outside because of the limited contact with other firms or institutions outside the cluster. This could lead to the “entropic death” of the cluster.

Initiatives are therefore required to link the firms in the cluster with other firms and institutions outside so that the “small world effect” (the strength of weak links) is expanded from the confines of the cluster and the firms gain new knowledge from outside the cluster environment.

**c. Lack of capital.** The firms are small because they have no access to the financial markets for both long-term loans and equity capital. The lack of access to capital markets is the result of the limitations and risks associated with the type of business entity that the firms are employing, which is too informal (sole proprietorship, rather than limited liability) and also the risk associated with the operating environment of the cluster.

Initiatives are therefore required to eliminate the informality of the business ownership within the cluster and the riskiness of the cluster operating environment so that the firms have access to both debt and equity capital markets.

### **7.1.3 The clusters in Zimbabwe are “complex adaptive systems” with emergent properties.**

The third major conclusion that can be arrived at from the findings is the clusters in Zimbabwe largely fit the general description of *complex adaptive systems with emergent properties* (Corning, 2002). As explained in the model in Chapter 3, a complex system is a system whose properties are different from the individual properties of its constituent parts. This is the property of *emergence*. In the case of a cluster of firms, the constituent parts (the firms) have heterogeneous characteristics, such as the number of employees, the amount of capital employed, the level of sales generated and the product type.

Two findings in particular point to the existence of emergent properties in Zimbabwe's small-firm clusters. Firstly, it was found that the efficiency with which the firms were utilising their assets *collectively as a cluster* was higher than the efficiency reported by the firms *individually*. Secondly, it was found that each firm did not have a clearly defined or articulated competitive strategy vis-à-vis other firms in the cluster. However, the cluster *as a collective* had a clearly defined competitive strategy (low-cost, niche marketing) vis-à-vis other firms outside the cluster.

As explained in the model in Chapter 3, a complex system also has the further characteristic of being *adaptive* to changes in the environment through a pattern of *symmetry breaking* (Grebel, 2004). Symmetry breaking refers to a situation where decision making at the micro level of the system (the firms) is quasi-random and yet the system itself at the macro level has deterministic, path-dependent properties. In the case of a cluster of firms, the decisions made by the firms are based on uncertain outcomes due to the highly competitive nature of the cluster environment. For example, it was reported that a firm might find it necessary to use low-cost materials using a cost pricing strategy in the hope of retaining its customer base. This decision is dictated by market contingencies and its outcome is unpredictable. If the decision fails to work, the firm will adjust its future decisions using the wisdom of hindsight. However, on the aggregate, the whole cluster would end up using low-cost materials as well as a cost pricing strategy. Predictable behaviour at the macro level (the cluster) came out of quasi-random behaviour at the micro level (the firm).

The conclusion that the cluster in Zimbabwe has emergent properties implies that any initiatives that are meant to improve the competencies of the firms in the cluster should not be directed at individual firms because their behaviours are quasi-random and unpredictable. Any interventions or clustering initiatives will be more effective if they are directed at the cluster as a whole, or at the very least, at groups of firms in the cluster. For example, training initiatives should not be directed at artisans in a particular firm, but at groups of artisans representing the whole cluster, such as the epistemic community of independent workers who roam the cluster and are not attached to any particular firm in the cluster. If capital is to be mobilized, it should be mobilized on behalf of identifiable groups of firms or epistemic communities, rather than individual firms.

## 7.2 Recommendations

The conclusions arrived at above lead to the following specific recommendations.

### 7.2.1. Policy Framework for cluster development in Zimbabwe

It is recommended that the policy framework outlined below be adopted for the further development of the Zimbabwe's small firms in clusters:

- a. The role of the state.** Because the cluster is a “social entity” in which the members have close social relations, the role of the state should change from the “direct intervention” approach that is normally applied when assisting SMEs to “indirect animation”. This means that the state should not provide “hands-on” support to the cluster members but should merely create mechanisms and incentives that indirectly facilitate the further development of the cluster in the form of appropriate policy directives. In other words, the state must stay in a “neutral corner” as a facilitator and catalyst in enhancing the “social capital” of the cluster by improving the social cohesion of the cluster and the linkages between the cluster and outside institutions.
- b. The role of the local authority.** The local authority should be in control of the cluster administratively and should provide guidance for the local community to take ownership of the developmental initiatives in the cluster.
- c. The role of the private sector.** Since the firms in the cluster are private business entities, the private sector should take the leading role but in partnership with the local authority and the state. There should be a strong private/public partnership in the developmental process of the cluster. However, this partnership must operate within a broad policy framework for SMEs provided by the responsible government ministry, which is the Ministry of Small and Medium Enterprise Development (MSMED).
- d. Cluster Management Committee (CMC).** A Cluster Management Committee, representing the interests of all the stakeholders should be set up. The activities of the CMC will be financed by contributions from the cluster members (firms), thus it will be mandated

to collect an annual or monthly membership fee from the firms in the cluster. The CMC members should include the following officials:

- **Officials from the MSMED.** The role of these officials will be to set up the Cluster Management Committee and also to ensure that the activities of the Committee are in line with government policy on SMEs;
- **Officials from the local authority.** In the case of the Glenview cluster, these will be from the City of Harare being represented by the Glenview District Officers. These officials will be responsible for the general administration of the cluster including the collection of monthly lease rental fees from firms in the cluster;
- **Representatives of the owner-managers of the firms in the cluster.** The role of these representatives will be to protect the interests of cluster members, advise Cluster Committee Members on matters affecting the cluster and assist the local authority (City of Harare) in the general administration of the cluster;
- **Officials from the Small and Medium Enterprise Advisory Council (SMEAC).** (This Council was established in terms of the Small Enterprises Development Corporation Amendment Act, Chapter 24 in March, 2012 to advise Government on matters relating to SMEs and increase bilateral and regional investment prospects for SMEs in Zimbabwe). The officials from the SMEAC who will be seconded to the Cluster Management Committee, will have the role of assisting cluster members to have direct access to the Small and Medium Enterprises Fund (SMEF) which is managed by the SMEAC;
- **Officials from private sector organisations.** These will be officials from the Confederation of Zimbabwe Industries (CZI). The role of these officials will be to assist the firms in the cluster to develop links with other firms in the private-sector and other private sector institutions such as the Zimbabwe Association of Microfinance Institutions and the Bankers' Association of Zimbabwe. The officials will be responsible for identifying a prominent member of CZI who is passionate about the development of SMEs to chair the Cluster Management Committee.

### **7.2.2 Administrative issues that need immediate attention**

The policy framework suggested above should be supported by a process of restoring order to the cluster, especially at the Glenview cluster, as suggested in the following steps:

- a. The proper demarcation of all stands and the drawing up of physical boundaries for each stand and for the cluster as a whole;
- b. Stopping all unauthorized expansions of the cluster and eliminating other ‘illegal activities’ such as rent-seeking and parasitic activities by self-imposed authorities and the sub-letting and sub-division of stands;
- c. The registration of all the tenants and the issuing of long-term lease agreements to them to enable the collection of monthly lease rental fees from all tenants by the District Officer; and
- d. The immediate provision of proper physical infrastructure at the cluster site, such as: access roads; proper shelters; storage facilities; parking facilities; sanitation; amenities; water and electricity.

### **7.2.3 Attracting capital into the cluster**

In the recommendations that follow, it is envisaged that the Cluster Management Committee referred to above, will play a pivotal role in mobilizing capital on behalf of the firms in the cluster. The purpose of these recommendations is to address those market failures that create disadvantages for small firms in clusters when accessing the financial markets, such as the cost of the funds and the restricted access to the funds due to the perceived high risks of doing business with small firms in clusters.

Traditionally, the government of Zimbabwe has assisted SMEs by providing subsidized credit facilities through the Small Enterprises Development Corporation (SEDCO) and the Ministry of Small and Medium Enterprise Development (MSMED). The government has also assisted by

providing funds to commercial banks for on-lending to SMEs as well as credit guarantee schemes to enable the firms to borrow. The findings from this study suggest that this approach has not been successful for the small firms located in clusters because they have not had access to these facilities. The findings from this study are also supported by experiences in other countries. For example, the government of Chile, through its *Fondo de Garantia para Pequennos Empresarios* (FOGAPE) programme, provided partial credit guarantee schemes to enable small firms to access loans from banks but the firms failed to access them (de laTorre, Gozzi and Scmukler, 2006; Hallberg, 2008).

Based on the above observations, the recommendations made in this study are premised on the suggestion that the government of Zimbabwe should desist from those programmes and policies which rely heavily on the direct and subsidized provision of funds to the firms. Instead, an enabling environment should be created to correct the existing market failures so that the private sector will be persuaded to deliver the funds to the firms.

The recommended steps are:

**a. Formal registration of all the firms in the cluster.**

The process of attracting private investor capital into the cluster should begin with the formal registration of the firms in the cluster so that they become limited liability companies that can issue shares to investors. The firms are not able to access equity capital by any other means such as through the issuance of shares because they are not registered formerly in terms of the Companies Act, Chapter 190. Limited liability attracts capital into the firms because of the limited exposure of the investors to the risks in their companies. The registration process can be carried out using the following two alternative approaches:

- **Register each firm as an individual entity.** Using this approach, the potential number of limited liability companies in the cluster could be large. At the Glenview cluster, for example, a total of 1 300 companies would be created. The advantage with this approach is that the structure of the cluster would be left more or less intact. However, the exercise itself might be turn out to be long and impracticable due to the large number of companies that would need to be created.

- **Register groups of firms.** The second alternative to the registration process is to identify groups of firms according to the epistemic community to which they belong as described in Table 6.1 in Chapter 6 and then registering each epistemic community as a single limited liability company. The advantage of this approach is that it will drastically reduce the number of companies that would need to be registered, thus simplifying the whole exercise. The other advantage is that it is easier to register a few large entities rather than a large number of small ones. A potential problem with this approach however, is that the social cohesion among the firms in the cluster might be disrupted, thus it is imperative to carefully identify the epistemic community to which each firm in the cluster belongs before the registration process begins.

Using the second method, the 1 300 small firms at the Glenview cluster, for example, would be transformed into the five limited liability companies shown in Table 7.1 below.

**Table 7.1: The Glenview cluster transformed to five limited liability companies**

NATURE OF COMPANY	SIZE OF EPISTEMIC COMMUNITY
A company making base beds and mattresses	Formerly 191 firms
A company making cabinet-type furniture (Kitchen units, wardrobes and room dividers)	Formerly 291 firms
A company making all types of sofa-sets	Formerly 428 firms
A company making steel furniture	Formerly 390 firms

A sixth limited liability company should also be created from the epistemic community of firms that were reported earlier to be specialising in the investment of capital assets on behalf of all the other firms in the cluster. The asset turnover rate for the individual firms was lower than the rate for the cluster as a whole due to the extended form of division of labour which enabled these ‘investment firms’ to specialise in the investment of their capital in assets on behalf of all the other firms in the cluster. The reason for creating this company is that the injection of more capital into the cluster for the purpose of strengthening capital utilization would be more effectively done if the initiatives in this direction are aimed at this epistemic community of ‘investment firms’ rather than

at all the individual firms in the cluster. By so doing, the profitability of the cluster as a whole would be lifted.

**b. Identification of suitable equity investors and sources of loan capital.**

A framework already exists in Zimbabwe for the purpose of attracting capital into small enterprises, including micro-enterprises located in clusters, as described below:

- **The Zimbabwe Association of Microfinance Institutions (ZAMFI)** has a total of 157 micro-financing institutions under its umbrella. ZAMFI has established a “micro-finance wholesale fund” for the purpose of providing a source of affordable wholesale funding targeted at micro-enterprises.
- **The Small and Medium Enterprises Fund** was created in terms of the Small Enterprises Development Corporation Amendment Act (Chapter 24:12) and is managed by the Small and Medium Enterprise Advisory Council.

Though there appears to be adequate avenues for small firms to access funding in Zimbabwe, a study carried out by Nyoni (2012) has shown that the micro-finance institutions in Zimbabwe are primarily geared for the provision of loans in the form of *trade finance* rather than *long-term capital*. The findings from this study, however, clearly show that it is long-term capital (both debt and equity) that is required by the firms in the clusters. The firms in the clusters have demonstrated that they can use equity capital more efficiently than other firms and the findings also show that the introduction of long-term debt into the cluster could have positive leveraging effects on the firms’ earnings. Thus, it is imperative that both equity and long-term debt capital be availed to these firms, rather than simply short-term trade finance.

There are three possible methods that can be used to attract private equity capital into the clusters and these are:

- using business angels;
- using venture capital investors; and
- the private placement of shares.

**Business angles** are individual investors who may be persuaded to invest in small firms, but are not normally involved in the actual management of the firms in which they would have invested (Brigham and Gapenski, 2005). To this end, ZAMFI could be approached to persuade its members to become “business angels” and provide long-term funding to the firms in the clusters through buying shares in the companies. ZAMFI should then be tasked with ensuring that the investors earn an adequate return on their investment through regular dividend payments from the firms in the cluster.

The advantage of this proposal is that the firms’ cash flows will not be under pressure, as would be the case with interest payments on loans, because dividend payments can be varied in size, depending on the cash flows generated by the firm. The disadvantage of this approach, however, would be the risk that the cash flows may not be sufficient to support adequate dividend payments and since dividend payments are not contractual, it would be difficult for the investors to enforce payment. As a result, it may be difficult to attract the required number of investors into the cluster. In order to minimise this risk, ZAMFI would need the assistance of the Cluster Management Committee in identifying suitable candidate firms from which the shares will be bought. Business angels in the United Kingdom are persuaded to invest in small firms through tax incentives from government known as Enterprise Investment Schemes (Cruickshank, 2000). This is also an avenue that could be explored in Zimbabwe.

**Venture capital investors** are investors who buy a majority shareholding in small companies and then actively manage the company by appointing a board of directors. Using this method, after the completion of the registration process, the Management Committee could identify investors who may already have interests in the furniture manufacturing industry and then persuade them to invest in the companies located in the cluster.

The advantage of venture capital is that the investor is not normally interested in dividend payments in the short term but is looking at making a capital gain after selling the shares in the future. The venture capital investor usually has a long-term investment horizon which is typically five years, after which the investment is sold by disposing the shares on the market. Thus, the investor would be very keen to ensure the success of the company in the interim. A related advantage of this

approach is that the venture capital investor will appoint a board of experienced managers to the firm, who will then bring new knowledge and skills into the cluster as well as introducing the firms to new distribution channels and sources of materials. The disadvantage of venture capital to the firms in the cluster would be that in the long-term, they may lose control of their firms when the shares are sold by the venture capital investor to other investors. It is for this reason that the current owners of the firms may resist this proposal.

**Selling shares by private placement** is a method that would require the Cluster Management Committee to approach large individual investors, such as the pension fund managers of large institutions and companies in Zimbabwe and ask them to buy the shares of the companies in the cluster. The advantage of this approach is that these institutional investors have a long-term perspective on their investments and therefore do not normally exert pressure on the firms in which they have invested. However, they are very risk-averse, which means that a lot of effort would be required to persuade them to invest in firms in the cluster.

From the above analysis, it would appear that the best alternative would be to use the venture capital route because of the further advantage that such an approach would not only bring equity capital into the cluster but also new skills, knowledge and business contacts. It is important, however, to warn the owner-managers at the outset of the need to prepare to buy out the equity investor at the end of the investment period.

### **c. Identifying sources of debt capital**

There are two possible sources of loans for the firms in the cluster: bank loans and the issuing of bonds.

**Bank loans.** With respect to **bank loans**, small firms in Zimbabwe may have very little access to them for three reasons and these are the general shortage of funds for lending purposes, the ownership pattern of the banks and bank risk management requirements.

The general shortage funds for lending purposes in Zimbabwe is the result of the pattern of deposits going into the banking sector. A large percentage of the deposits are short-term demand deposits

which cannot be used to create loans. For example, in its monthly economic review of July, 2012, the Reserve Bank of Zimbabwe stated that banking sector deposits in Zimbabwe for that month were as shown in Table 7.2 below.

**Table 7.2 Distribution of bank deposits in Zimbabwe, July, 2012**

<b>TYPE OF DEPOSIT</b>	<b>PERCENTAGE OF TOTAL (%)</b>
Demand Deposits	57.40
Savings and short-term deposits	33.00
Long-term deposits	9.60
<b>TOTAL</b>	<b>100.00</b>

*Source: Reserve Bank of Zimbabwe Monthly Review, July, 2012, p 4*

The figures in Table 7.2 above show that banks in Zimbabwe do not have funds for the purpose of providing loans to companies as almost ninety per cent of their deposits are in the form of demand deposits and short-term deposits. Only less than ten per cent of the deposits are available for providing long-term loans.

The lack of funds for on-lending to small firms is exacerbated by the ownership pattern in the banking sector in Zimbabwe, which is skewed towards international banks. This is shown in Table 7.3 below.

**Table 7.3 Market shares of weak and troubled banks in Zimbabwe, July, 2012**

<b>TYPE OF BANK</b>	<b>MARKET SHARE OF ASSETS (%)</b>	<b>MARKET SHARE OF DEPOSITS (%)</b>	<b>MARKET SHARE OF LOANS (%)</b>
Strong Banks	95.96	97.33	96.16
Weak Banks	4.14	2.67	3.84
<b>TOTAL</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

*Source: Reserve Bank of Zimbabwe Monthly Review, July, 2012, p 24*

The “strong banks” are the international banks which hold the larger market share of assets, deposits and loans and the “weak banks” are the locally-owned banks which own the smaller

market shares. However, the international banks are traditionally not inclined to provide loans to small firms due to the perceived high-risk profile of such firms. Thus, the small micro-enterprises located in the highly competitive environment of the cluster cannot expect to obtain any funding from them. The locally-owned banks are however too weak to provide such assistance due to the low amount of deposits that they attract. Finally, like all other banks the world over, banks in Zimbabwe are required to comply with the risk management standards referred to as “Basel II”. Studies in other countries have shown that these requirements are too restrictive and do not permit banks to provide lending to small firms (Beck, 2007).

**Bond issues.** The organisation of the cluster into a small number of large limited liability companies could enable the firms to access loan capital from other sources besides banks. In order to achieve this, it is recommended that a borrowing instrument be structured which combines the features of both debt and equity. This instrument has the advantage that it will enable the firm to borrow at a lower interest rate than the average market rate. The instrument is known as a “convertible bond” (Atril, 2004; Brigham and Gapenski, 2005). It is a loan that gives the lender the option to convert it into a specified number of the borrowing company’s shares after an agreed period of time. The advantage of this arrangement to a small company with the potential to grow is that if the lender exercises this option and becomes a shareholder, the company no longer has the obligation to make interest payments on the loan but begins to make dividend payments to the investor.

The Cluster Management Committee could therefore structure and issue a convertible bond on behalf of the companies in the cluster. The bond will be a loan with a long-term maturity period (such as ten years) but will be convertible in a relatively short period of time (say three years). The Management Committee will have the task of identifying suitable investors for this purpose from the members of organisations such as ZAMFI and CZI. Since the firms in the cluster cannot offer sufficient collateral security for the loans, the government ministry responsible for SMEs will arrange government guarantees on behalf of the companies in the cluster.

#### **7.2.4 Eliminating “cluster isolation” (access to markets and new technology) and increasing the technological capabilities of the firms in the cluster.**

The following recommendations may be considered for the purpose of reducing the “isolation” of the firms in the cluster.

- a. Developing linkages between the cluster and other institutions (for example, ZAMFI and CZI) and lobbying for support from government through the responsible Ministry (MSMED);
- b. Assisting the firms to participate in the local, regional and global value chain through introducing them to distribution channels in these markets;
- c. Developing linkages with other local production sub-contractors, regional traders and export agents;
- d. Familiarizing the firms with global trade norms such as International Standards Organisation (ISO) quality certification and the Forestry Stewardship Certification (FSC); and
- e. Promoting an effective association between the cluster, state and research organisations in order to upgrade the quality of products and reduce transaction costs. This type of intervention has been referred to as the Industry-Academia-Government linkage or “Triple Helix approach” (Das, 2008).

In order to enable the firms in the cluster to gain new technological capabilities from sources outside the cluster, it is recommended that **technical cooperation agreements** between large furniture manufacturing firms outside the cluster and the firms inside the cluster be negotiated. The technical cooperation agreements should provide for the development of the following relationships between the small firms in the cluster and other firms outside the cluster:

- the small firms in the cluster will make furniture on behalf of the large firms, who in turn will sell it using their own distribution channels;

- the small firm in the cluster will make furniture on its own account as well as on behalf of the large firm and the furniture will be sold within the cluster and also using the distribution channels of the large firm;

This arrangement results in advantages to both sides. The large firms can benefit from the low labour costs found in the cluster and the technical skills possessed by the pool of labour in the cluster. The small firms can also benefit directly from the following contributions made by the large firm:

- finance for working capital;
- training for the small firm's artisans;
- information on product markets and sources of material;
- logistical support such as freight, transport, procurement and storage;
- access to distribution channels and markets;
- consulting services; and
- representation on industrial boards for manufacturing organisations such as the Confederation of Zimbabwe Industries (CZI).

The technical cooperation agreements would assist in improving the technological environment and the technological capabilities of the firms in the cluster. This will be achieved in three ways:

- increasing the **technological opportunities** in the cluster as new and innovative products will be introduced into the cluster from outside;
- improving the **appropriability conditions** in the cluster since the new technology will be more proprietary in that it will be protected by patents under the terms of the agreement; and
- improving the **technological capabilities** of the firms in the cluster.

There are two alternative ways in which the technical cooperation agreements can be structured in order to effectively transfer technology into the cluster.

The first approach is that the firms in the cluster would be provided with detailed drawings and technical specifications on the furniture products required by the large firm (protected by patent agreements). This approach would be suitable in the case where the large firm is using a different competitive strategy from that employed by the small firms in the cluster. For example, the large firm may be using a *product differentiation strategy*, which requires the production of high quality products for a high-income market, whereas the firms in the cluster would be using a *low-cost strategy* which is targeted at the low-income market. Through this process, the artisans in the small firm will gradually absorb the technology behind the products made by the large firm, resulting in its transfer into the cluster. In this way, the firms in the cluster would also eventually penetrate the high-income market.

The second approach is that the large firm gives the small firm in the cluster the freedom to design and manufacture the product. The long-term advantage of this arrangement is that there is a transfer of knowledge in both directions, with both parties learning from each other. In this arrangement, the large firm would be more willing to delegate a wider range of activities (production and marketing) to the small local firm and or even learn from it.

If both parties under this arrangement are using the same competitive strategy and serving the same market, it means that they also share the same knowledge about the needs of the market even though they may be controlling different segments of it. Thus, the technical agreement between the two parties could also be extended to include the sharing of distribution channels. In this case the small firm in the cluster could then be able to place its own product on the distribution channels used by the large firm.

If the firms are using different strategies to serve the market, however, elaborate communication structures between the two parties would be necessary so that the small firm becomes familiar with the requirements of the market being served by the large firm. However, the small firm cannot participate in the distribution channels of the large firm but can only make products on behalf of the large firm.

### **7.2.5 Establishing regional and global linkages**

With regards to the establishment of regional and global linkages, it can be recommended that “mother-daughter” relationships be established between local clusters and other clusters outside Zimbabwe. An example of a successful relationship of this nature in Italy has been studied by Das (2008) who found that some firms in the clusters in North Eastern Italy transferred some of their production processes from their home clusters to clusters in the Timisoara region of Romania.

Whether the same arrangements can also be made with respect to Zimbabwe’s small-firm clusters depends on several factors that were also identified by Das (2008). Firstly, the clusters in Zimbabwe must compete with clusters in other countries for the attention of other clusters outside Zimbabwe by providing advantages that go beyond the cost of labour. Secondly, there should be support for such initiatives at the policy level, with strong private/public partnerships. This support can only be gained if the long-term survival of the firms in the local clusters can be assured through the existence of the potential for the transfer of knowledge from the “mother” cluster to the “daughter”. Thirdly, the “host” country must provide an environment which is attractive to the firms in the “mother” cluster like good and reliable infrastructure (roads, electricity, and communications) and a market which is large enough to justify the relocation of the firms.

### **7.3 Conclusion**

This study has shown that the clusters of small firms in Zimbabwe have great potential provided that initiatives are put in place to leverage the many positive attributes that they possess and to eliminate the problem of “isolation” of the firms from other distribution channels, outside sources of technology and the capital markets. If these initiatives are successfully implemented, Zimbabwe’s small-firm clusters can become true Entrepreneurial Industrial Districts.

### **7.4 Areas for further study on small-firm agglomeration**

During the study, it was noted that many of the firms in the cluster were not actually buying the machinery that they were using (such as lathe machines, rip saws and spindle molders) but were designing it using a process of “reverse engineering”. Thus, one area concerning small-firm clusters that calls for further study is the mapping of the social relations among the cluster members

using statistical methods with a view to understanding how knowledge (technology) is acquired and shared among the cluster members and to quantify the extent and significance of such “recapitalization” processes throughout the whole economy.

## REFERENCES

- Abraham, M and Westhuizen, G. (2002) Research paradigms. Vista University
- Alila, P. and Pedersen, P. (2001) Negotiating social space : East African micro enterprises. Asmara: Africa World Press Inc.
- Altenburg, T. and Meyer-Stamer, J. (2009) How to promote clusters : policy experiences in Latin America. World Development. Vol. 27- 9. July.
- Amin, M. and Barnajee, S.(2007) Constraints and contingencies of the small business: a comparative perspective. The International Business and Economics Research Journal. Vol. 6 -9, September.
- Amoros, J. (2009) Entrepreneurship and quality of institutions: a developing-country approach. World Institute for Development Economics Research: Research Paper Number 2009/07 /United Nations University. Barcelona : UNU-WIDER.
- Atril, P. (2009)Financial management for decision makers. 5<sup>th</sup> ed. London: Prentice-Hall.
- Babbie , E. (2005) The practice of social research. 8<sup>th</sup> Ed. London: Wadsworth Publishing.
- Bagachwa, M.S.D.(2001) Impact of adjustment policies on the small-scale enterprises sector in Tanzania. In: Helmsing, H. and Kolstee, T. (eds) Small enterprises and changing policies: structural adjustment, financial policy and assistance programmes in Africa. pp. 91-113.
- Belussi, F. (2009). Business networks and clusters in industrial districts: the governance of the global value chain. Taylor and Francis.
- Bell, M.(1999) Knowledge systems and technological dynamism in industrial clusters in developing countries. World Development. March 1999. - 9 : Vol. 27. - pp. 22-55.
- Berg, B.(2002) Qualitative research methods for the social sciences. New York: Pearson Education Company.
- Berry, A.(2002) The role of the small and medium enterprise sector in Latin America and similar developing economies. Seton Hall Journal of Diplomacy and International Relations. Winter/Spring, Vol. 22, pp. 104-119.
- Bhalla,A.(1998) . Innovations and small producers in developing countries. London: Greenwood Press.

Bhalla, A. (1996) Small and medium enterprises : technology polices and options. London: Greenwood Press.

Bisso, R. (2003) Clusters and development strategies: reflections for a developing country's SME policy. Bologna: Prncite-Hall.

Bojar, E., Bojar, M. and Zminda, T. (2008) The cluster as a factor attracting foreign direct investment in less developed regions. The Journal of the Romanian Science Association. Summer: Vol. 2, pp. 55-67.

Breschi, S. and Malerba, F. and Orsenigo, L. (2000) Technological regimes and Schumpeterian patterns of innovation. The Economic Journal. April, Vol. 110, pp. 388-410.

Breschi, S. and Lissoni, F. (2001) Knowledge spillovers and local innovation systems : a critical survey. Serie Economica e Impresa. Vol. 84 - 3, pp. 21-42.

Brigham, E. and Gapenski, L. Financial management: theory and practice. 9<sup>th</sup> ed. Toronto: Dryden Press.

Brinkhoff, T. (2011) City populations. Available from: <http://www.citypopulation.de>. [Accessed March 11, 2011]

Burrell, R. (1979) Sociological paradigms and organizational analysis. London: Heinmann.

Bruun, C. (2004) Agent-based computational economics: an introduction. Aalborg University, Denmark: Dept of Economics, Politics and Public Administration.

Camagni, R. (2009) Innovation networks: spacial perspectives. London: Belhaven Press.

Cassidy, D. (1992) Heisenberg, uncertainty and the quantum revolution. Scientific American. May, pp. 106-112.

Chirisa, I. (2009) The geography of informal sector operations: a perspective of urban Zimbabwe Journal of Geography and Regional Planning. Vol. 2, pp. 066-079.

Conlisk, J. (2009) Why bounded rationality? Journal of Economic Literature. June, Vol. XXXIV, pp. 669-700.

Corning, P. (2002) The re-emergence of "Emergence" : a venerable concept in search of a theory. Complexity. Vol. 7- 6, pp. 18-30.

Cowan, R. and Foray, D. (2000) The explicit economics of knowledge codification and tacitness. Industrial and Corporate Change. March Vol. 9, pp. 22-75.

Creswell, J.(2008)Qualitative inquiry and research design : choosing among five traditions.4<sup>th</sup>ed. New Dheli: Sage Publications.

Cuervo-Garcia, A., Montoro-Sanchez, A. and Romero-Martinez, A.(2009) Clusters and business innovation. In: Galindo, M., Guzman, J. and Ribeiro, D.Entrepreneurship and Business: A Regional Perspective. Madrid: Springer-Verlag.

Dahlgren, J.(2007)Developing a framework for exploring clustering coefficient to evaluate system coupling. Humpton, UK : The MITRE Corporation.

Davidsson, P.(2002) An economic-psychological approach to continued entrepreneurship in small firms.Stockholm: Umea School of Business and Economics.

Dawson, C. (2002)Practical research methods. Oxford: How To Books Ltd.

Deeks, J.(2003) The small-firm owner-manager: entrepreneurial behaviour and management practice. New York: Praeger.

DeMatteo,D.,Festinger,D. and Marczyk, G. (2005)Essentials of research design and methodology. New Jersey: John Wiley and Sons, Inc.

Dennick, C., Tavakol, M. and Reg, F. (2011) Making sense of Cronbach's Alpha.International Journal of Medical Education. March, Vol. 2, pp. 53-55.

Dessing, M.(2009) Support for micro-enterprises : lessons for Sub-Saharan Africa.World Bank. Technical Paper Number 122.

Dopfer, K. (2006) The origins of meso economics : Schumpeter's legacy. In: Max Planck Institute of Economics. Papers on Economics and Evolution. Jena, Germany: Praeger.

Dooley, D. (2002). Social research methods. London: Prentice-Hall.

Ebeling, R.(2007) Austrian economics and the political economy of freedom. New Perspectives on Political Economy. Vol. 3-1, pp. 87-104.

Evans, D.(2007) Test of alternative theories of firm growth. Journal of Political Economy.Vol. 95, pp. 657-674.

Fashoyin, T. (2008) .Employment, unemployment and informality in Zimbabwe. International Labour Organisation (ILO) : Geneva. Policy Integration and Statistics Department, Issues Paper No. 32.

Ffowcs-Williams,I. (2000) Policy for interfirm networking and clustering: a practitioner's perspective. In: Ffowcs-Williams, I. and Wise,G.Enhancing the Competitiveness of SMEs in the Global Economy: Strategies and Policies. Bologna : OECD/Italian Mimistry of Industry Bologna Conference for Ministers Responsible for SMEs and INdustry Ministries., 2000.

Figueiredo, P. (2002) Does technological learning pay off? Inter-firm differences in technological capability-accumulation paths and operational performance improvement. Research Policy. Vol. 31, pp. 22- 34.

Foray, D. (2004) The economics of knowledge.The MT Press.

Foster, J. and Wild, P. (1999) Econometric modelling in the presence of evolutionary change Cambridge Journal of Economics. January, Vol. 23. pp. 749-770.

Frenken, K. (2005) Applied evolutionary economics and the knowledge-based economy. Artificial Societies and Social Simulation. Vol 10(3): pp. 102-143.

Gill, J. and Johnson, P.(2005) Research methods for managers.5<sup>th</sup>ed. New York: Chapman Publishing.

Giuliani, E. (2002) Cluster absorptive capability : an evolutionary approach for industrial clusters in developing countries. In: Giuliani, E. Industrial Dynamics of the New and Old Economy - who is embracing whom?. Copenhagen : University of Sussex, Brighton, UK, 2002. - pp. 1-29.

Goldstein, J. (2008) Complexity science applied to innovation: theory meets practice. Public Sector innovation Journal. Vol. 1. pp. 1-16.

Government of Zimbabwe National Consultative Forum (2004). Report on the Policy Implementation Workshop for SMEs.Harare, Zimbabwe.

Government of Zimbabwe Ministry Small, Micro and Medium Enterprises (1999). The Engine for Growth. Harare: Government Printers.

Grebel, T. (2004) Entrepreneurship: a new perspective. London: Routledge.

Guba, E. and Lincoln, Y.(2002)Competing paradigms in qualitative research. 4<sup>th</sup>ed. New Dehli: Sage Publications.

Gummesson, E. (2000) Qualitative methods in management research. 2<sup>nd</sup>ed. New dehli : Sage Publications.

Guzman, J. and Santos, F.(2009) Entrepreneurial structure from a regional perspective. In:Galindo, M., Guzman, J. and Ribeiro, D.Entrepreneurship and Business : A Regional Perspective. Berlin : Springer.

Hagedoorn , J. (2009) Innovation and entrepreneurship: Schumpeter revisited. Industrial and Corporate Change. Vol. 5 -3, 883-896.

Helmsing, A.and Kolstee,T.(2000) Small enterprises and changing policies: structural adjustment, financial policy and assistance programmes in Africa.Sydney : IT Publications.

Hodgkinson, A. (2007) Small business clustering across disciplines. Wollongong: Idea Group Inc, 2007.

Humphrey, J. and Schmitz, H. Principles for promoting clusters and networks of SMEs [Report] /

Kanji, N. (2005) Gender, poverty and economic adjustment in Harare, Zimbabwe.Environment and Urbanization. 37 : Vol. 7, pp. 45-67.

Kapoor, K. (1997) Empowering small enterprises in Zimbabwe. World bank Discussion Paper Numbver 379 . Washington DC : World Bank.

Kaseke, N (2012) Cost of electricity outages in Zimbabwe. Pretoria: Nelson Mandela Metropolitan University

Katona, G.(1994) Psychology and consumer economics. Journal of Consumer Research. Vol. 1, pp. 1-8.

Kauffman, S., Lobo, J. and Macready, W. (2000) Optimal search on a technology landscape Journal of Economic Behavior and Organization. Vol. 43,pp. 141-166.

Kelley, D., Bosma, A. and Amoros, J.(2010) Global Entrepreneurship Monitor Madrid: Universiadad del Desarrollo.

Kharbanda, V.(2001) Facilitating innovation in Indian small and medium enterprises : the role of clusters. Current Science. February,Vol. 80-3, pp. 11-36.

Kirzner, I. (1999) Creativity and/or alertness: a reconsideration of the Schumpeterian entrepreneur. Review of Austrian Economics. March, Vol. 11. pp. 5-17.

Kothari, C.(2004)Research methodology:methods and techniques.New Delhi: New Age International.

Kotler, P., Keller, K., Koshy, A. and Jha, M.(2009)Marketing management. a South Asian Perspective.13th ed. New Delhi: Prentice Hall.

Lather, P. (2008) Getting smart: feminist research and pedagogy. New York: Routledge

Lancaster,J. (2005) Research methods in management: a concise introduction to research in management and business consultancy.London: Elsevier Butterworth-Heinemann.

Leach, J. and Melicher, R. (2009) Finance for entrepreneurs.Mason, USA: South-Western Cengage Learning.

Philippen,L.and Riccaboni,S. (2007)Radical Innovation and network evolution.  
[www.tinbergen.nl/discussionpapers/07039.pdf](http://www.tinbergen.nl/discussionpapers/07039.pdf). [accessed May 2, 2011].

Mararike, C. (2011) Survival strategies in rural Zimbabwe: the role of assets, indigenous knowledge and organisations. Harare: Best Practices Books.

Marshall, A. (1986) Principles of Economics. London: MacMillan.

Mason, J.(2004) Qualitative searching. 5<sup>th</sup> ed. New Delhi: Sage Publications.

Matare, K. (2010)CZI-Business Intelligence Report (New Tax Collection Plan), January-March, 2010. Harare : Confederation of Zimbabwe Industries.

McClelland, D.(1978)The achieving society. 11<sup>th</sup> ed Princeton, New jersey: Princeton.

McCormick, D. (1998) Enterprise clusters in Africa: on the way to industrialisation? : Discussion Paper Number 366.Nairobi : University of Nairobi, Institute of Development Studies.

McCormick, D. (1997) Industrial District or Garment Ghetto?: Nairobi's mini-manufacturers. In: Van Dijk, P. and Rabellotti, R.Enterprise clusters and networks in developing countries. London: Frank Cass.

McMullen, J. and Shephered, D. (2006) Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur. Academy of Management Review. January, Vol. 31-6, pp. 132-152.

McNeill, P. and Chapman, S. (2005) Research methods.New ork: Routledge.

Mhone, G. (2002) The impact of structural adjustment on the urban informal sector in Zimbabwe Harare : Africa Regionla Policy Studies (SAPES).

Miles, W and Harbamas, D. (2004). Towards a theory of qualitative inquiry. Competence Inquiry. Vol. 13. p 372

Miles, G. and Goddard, W. (1996) Research methodology. Juta and Company.

Mises, L (1993). Epistemological problems of economics. New York: New York University Press.

Mises, L. (1996) Human action: atreatise on economics. New York : Irving-on-Hudson Foundation for Economic Education.

Mpemba, G. (2010) Retrenchment procedures handbook and reports on court cases on retrenchment in Zimbabwe. Harare: NCS Labour Relations and Training Consultants.

Morris, M. and Barnes, J.(2003) Policy lessons in organizing vertical and horizontal cooperation in value chains and industrial clusters. In: Industrial Districs and Firms : The Challenge of Globalization. Conference in honour of Professor Sebastino Brusco. Modena, Italy : 17<sup>th</sup> May, 2003.

Nadvi, K.(2001) Collective efficiency and collective failure : the response of the Sialkot Surgical Instruments cluster to global quality pressures. *World Development*. Vol. 27-9, pp 55-76.

Osei, B., Baah-Nuakoh, A., Tutu, K. and Sowa, N. (2003) Impact of structural adjustment on small-scale enterprises in Ghana. In: Cornia, G., Helleiner, G. From adjustment to development in Africa : conflict, covergence and consensus. London: MacMillan Press.

Oyelaran-Oyeyinka, B. and McCormick, D. (2003) Industrial clusters and innovation systems in Africa: institutions, markets and policy. Washington DC: United Nations University Press.

Pearson, P.and Hungwe, R. (1997) UNDP Microfinance Assessment Report for Zimbabwe. Harare : United Nations Development Program, July 1997.

Pedersern, P., Sverrisson, A. and van Dijk, M.(2004) Flexible specialization: the dynamics of small-scale industries in the South. London : Intermediate Technology Publications.

Piotr, D. and Marek, R. (2009) The relationship between entrepreneurship and economic growth: areview of recent research achievements.In:Galindo, M., Guzman, J. and Ribeiro, D. Entrepreneurship and business: aregional perspective.Berlin: Springer.

Porter, M. (1990) The competitive advantage of nations. New York: The Free Press.

Rabellotti, R. and Van Dijk, P. (2002) Clusters and networks as sources of co-operation and technology diffusion for small enterprises in developing countries. In: Enterprise clusters and networks in developing countries. London: Frank Cass.

Ramamurthy, B. (2008) Small industries and institutional framework : a transaction costs approach. In: Ronnas P, Sjoberg O and Hemlin M. Institutional adjustment for economic growth: small-scale industries and economic transition in Asia and Africa. Geneva: Asgate Publishing Ltd.

Ross, A. and Israel, D. Quantitative and qualitative research methods. London: Dudley-Hall Inc.

Reserve Bank of Zimbabwe(2004) Monetary Policy Statement. Harare : Government of Zimbabwe..

Ritchie, J. and Lewis, J. (2005) Qualitative research practice : a guide for social science students and researchers. New Delhi: Sage Publications.

Romjin, H. (2000)Acquisition of technological capability in small firms in developing countries. New York: MacMillan Press Ltd.

Rosenhead, J. Science as culture [Online] // The Human Nature Daily Review. - March 4, 1998. - September 12, 2009. - <http://www.human-nature.com/science-as-culture/rosenhead.html>.

Rubinstein, A. (2006) Dilemmas of an economic theorist. *Econometrica*. July, Vol. 74-4, pp.112-134.

Sakurai, T., Furuya, J. and Futakuchi, K. (2006) Rice miller cluster in Ghana and its effects on efficiency and quality improvement International Association of Agricultural Economics. Gold Coast, Australia.

Sarantakos, S.(2008) *Social research* 4<sup>th</sup> ed. Hongkong: MacMillan Press Ltd.

Schank, T. and Wagner, D. (2004).Approximating clustering coefficient and transitivity Karlsruhe: : University of Karlsruhe, Germany.

Schmitz, H. (2001) Collective efficiency: growth path for small-scale industry. *Journal of Development Studies*. April, Vol. 5, pp. 222-243.

Schmitz, H.(2001) Collective efficiency and increasing returns. *Cambridge Journal of Economics*. March, Vol. 23. pp. 122-178.

Schmitz, H.(1992) On the clustering of small firms University of Nairobi, Institute of Development Studies Bulletin Number 23 (3). July 1992.pp. 64-68.

Schumpeter, J. (1986) *History of economic analysis*. 5<sup>th</sup> ed. London: Routledge.

Small Enterprise Development Corporation of Zimbabwe (SEDCO). (2003) Annual Report. Harare

Skala, L. and Kapsa, V. (2008) Heisenberg uncertainty relations can be replaced by stronger ones. *International Journal of Quantum Chemistry*. December, Vol. 23, pp. 1624-1630.

Small Enterprises Development Corporation (SEEDCO) Annual Report for 2003 [Report]. - Harare : SEEDCO, 2003.

Smith, H. (2005) *Strategies of social research : the methodological imagination*. London: Prentice-Hall.

Snodgrass, D. and Biggs, T. (1996) *Industrialisation and the small firm : patterns and policies*. New York: Havard Institute for International Development.

Spilling, O. (2008) Entrepreneurship and heterogeneity. In: Carayannis, E., Kaloudis, A. and Mariusse, A. *Diversity in the knowledge economy and society*. Massachusetts: Edward Elgar Publishing.

Storey, W. (2004) *Understanding the small business sector*. 4<sup>th</sup> ed. London: Routledge.

Sverrisson, A. (2006) Gradual diffusion of flexible techniques in small and medium-size enterprise networks. In: Pedersen, P., Sverrisson, A. and van Dijk, M. *Flexible Specialization : the dynamics of small-scale industries in the South*. London: Intermediate Technology Publications.

Thurik, R. and Carree, M. (2005) *The handbook of entrepreneurship and economic growth* Maastricht: Edward Elgar Publishing Ltd.

Tibaijuka, A. (2005) Report on the Fact Finding MIission to Zimbabwe to assess the scope and impact of Operation Murambatsvina by the UN Special Envoy on Human Settlement Issues in Zimbabwe : United Nations Special Report Number 2/2005.

UNIDO(2001) Development of Clusters and Networks of SMES : UNIDO Doc 331101..

Uzor, O. (2004) Small and medium scale enterprises cluster development in South-Eastern Region of Nigeria. Bremen Institute for World Economics and International Management Discussion Paper Number 86. University of Bremen.

Van Horne, J. (2005) *Financial management and policy*. 8<sup>th</sup> ed. London: Prntice-Hall

- Vehkalahti, K. (2011) *Reliability of measurement scales*. Helsinki: Finish Statistical Society.
- Vlahas. G (2002) Research paradigms in cognitive education. Vista University
- Visser, E.(2004) The significance of spacial clustering : external economies in the Peruvian small-scale clothing industry. In: van Dijik Van, P and Rabellotti, R. *Entreprise clusters in developing countries*. New Delhi: Sage Publications.
- Watkins, D.(2003) Technical entrepreneurship: a CIS-Atlantic View. *R&D Management*.Vol. 3. pp. 65-70.
- Winter, S. (2004) Schumpeterian competition in alternative technological regimes. *Journal of Economic Behaviour and Organization*.. Vol. 5, pp. 287-320.
- Wulleman, J. <http://www.xmission.com/mkeeman/essay01.pdf> [Online]. - September 2010. - September 29 , 2010.
- Xiao, W., Chen, W., Qin, Y. and Parhami, B. (2007) Extended clustering coefficients in Small-World Networks. *Journal of Systems Science and Systems Engineering*. Vol. 77, pp. 371-382.
- Peng , Y. and Yang, Z. Analysis of the cluster knowledge innovation based on clustering coefficient [Conference] // Conference on Innovative Computing and Communication. - Nanjing : Government of Jiangsu, China, 2010. - pp. 12-33.
- Zimbabwe Stock Exchange (2011) Company Annual Reports. Harare: ZSE (Pvt) Ltd.

**Questionnaire to establish the characteristics of small furniture-making firms operating in clusters**

**DEAR SIR / MADAM**

My name is GODFREY MUPONDA. I am a Doctoral Student at the University of Zimbabwe, Department of Business Studies. I am conducting a study to find out the technological innovations that are being carried out by furniture manufacturing firms at the Glenview Complex so that I can write a thesis on the operations of small firms and recommend ways in which they can be assisted to improve their operations.

I am kindly requesting you to participate in this study by completing the attached questionnaire (form). Please note that the information you provide will be treated as confidential and will be used for academic purposes only and your name will not be required. Please feel free to complete the questionnaire as your participation in the study is purely voluntary.

**MANY THANKS**

**G. MUPONDA.....**

**DATE ADMINISTERED** :.....  
.....

**DATE COLLECTED** :  
.....

**TIME TAKEN TO COMPLETE**  
:.....

**A. DESCRIPTION OF THE OWNER/MANAGER**

1. Are you the manager or owner of this firm?

1. The owner.....  ..... 2. An appointed manger....

2. What is your year of birth:.....

3. Sex of owner/manager:

1. Male.....  ..... 2. Female .....

4. Level of education

1. "O" Level...  ..... 2."A"Level...  .....3.Other.....  ..... If  
"other", explain.....  
.....

5. What is your Religious affiliation (Name of church, if any).....

6. Are you a resident of Glenview?

1. YES.....  .....NO.....

7. If you stay outside Glenview, where do you stay.....

8. What is your average monthly income as the owner/manager of the firm?.....

9. Married ..... YES.....  .....NO.....

10. Number of children and dependents.....

11. Were where you employed before coming to the Complex or starting this firm:.....

12. From (year)..... TO (year).....

13. Where you employed elsewhere within this Complex before joining or forming this firm:

1. YES.....  ..... 2. NO.....

14. How many years were you employed there?.....

15. Were you employed as a carpenter?

1. YES.....  .....2.NO.....

16. Why did you leave that firm.....  
.....

17. How did you become a carpenter?

1. Trained by others in my former company outside the Complex...

2. Trained by others in this firm.....

3. Trained at College or Training Institution..  .....Name of College and Certificate  
.....  
.....

**B. DESCRIPTION OF THE FIRM**

18. Name of your firm .....

19. When did you start this firm.....

20. Where were you operating from before you came to the Complex?.....  
.....

21. When did you come to the Complex?.....

22. Nature of your business:

1. Wood furniture...  .....2 Steel furniture...  .3. Both.....

23. Is your firm a formally registered company (Certificate of Incorporation)?

1. YES.....  ..... 2. NO.....

24. Who do you rent these premises from?

1. City of Harare.  ... 2..Other landlord.....

25. What is your monthly rental? \$.....

**C. PRODUCTS MADE IN THIS FIRM**

**26. List of products made by the firm (put an X on the space provided):**

**WOOD FURNITURE**

1. Saint James Lounge Suite (sofa).....
2. Madeira Lounge Suite (sofa).....
3. Culture (Couch) Lounge Suite (sofa).....
4. Winchester Lounge Suite (sofa).....
5. Bubble B Lounge Suite (sofa).....
6. Hamilcourt Lounge Suite (sofa).....
7. Rolex Lounge Suite (sofa).....
8. Crown Lounge Suite (sofa).....
9. Vanessa Lounge Suite (sofa).....
10. Kitchen Unit : 3- door .....4-door ..... other.....
11. Wardrobe: 3-door.....4-door.....Other .....
12. Base bed: single.....double.....queen.....Other.....
13. Room divider: 4-piece ...3-piece.....2-piece.....Other.....
14. Dinning Suite: 7-piece....6-piece.....5-piece.....Other.....
15. Coffee Table: 5-piece.....4-piece.....Other.....
16. Bar Stool: (i) .....(ii).....
17. Bedroom Suite: 5-piece.....4-piece.....Other.....
18. Other products not listed above.....
- .....
- .....
- .....

- 27. List of products made by the firm (STEEL):**
- STEEL FURNITURE**
1. Kitchen Unit: 7-piece.....5-piece.....Other.....

- 2. Bar Stools: ..... Description.....
  - 3. Nook Chairs..... Description.....
  - 4. Office Chairs..... Description.....
  - 5. Office Chairs..... Description.....
  - 6. Saloon Chairs..... Description.....
  - 7. Room Dividers..... Description.....
  - 8. Room Dividers..... Description.....
  - 9. Other products not listed above.....
- .....
- .....
- .....

**28. Material used on sofa covers and cushions**

- 1. Fabric...
- 2. Leather.....

**29. Type of fabric used**

- 1. Suede...
  - ..2. Poodle....
  - ..3. Java.....
  - ..4. Other.....
- .....

**30. Type of leather used**

- 1. 100 per cent leather..
- ..2. 80 per cent leatherette. ...
- ..3. Rexene....

**31. Timber used on sofa frame**

- 1. Pine.....
- 2. Mukwa...
- 3. Teak.....

**32. Timber used on sofa outside panels (arms, wings, legs)**

- 1. Pine.....
- 2. Mukwa...
- 3. Teak.....

**33. Timber used on other products frames and panels, etc**

- 1. Pine.....
- 2. Mukwa...
- 3. Teak.....

**34. Material used inside cushions, headrest and arms**

- 1. Cotton.....
- 2. Foam rubber...
- 3. Other .....  Explain.....

.....  
.....  
.....

**35 Type of finish on sofa outside panels and other products**

1. Vanish.....  . 2. Foil paper.....  3. Other .....  . Explain.....
- .....  
.....

**36. List of suppliers outside the Complex**

1. Suppliers of Fabric (i).....  
(ii).....  
2. Suppliers of Timber (i).....  
(ii).....  
3. Suppliers of Steel (i).....  
(ii).....  
3. Other suppliers and what they supply.....
- .....  
.....

**38. List of suppliers inside the Complex and what they supply**

- 1.....  
2.....  
3.....

**39. Describe the most important qualities or features that make your product different from other products made in this Complex (eg material used, shape size, how it works)**

1. Lounge suit (sofa).....  
.....  
2. Kitchen Unit.....  
3. Wardrobe.....  
4. Base bed.....  
5. Room divider.....  
6. Other products.....
- .....  
.....  
.....

**40. List the firms which do some of the work on your products (eg shaping of panels)**

	NAME OF FIRM	WHAT THEY DO
1		
2		
3		
4		

**41. How often do they do this work for you?**

1. Every day.....  . 2. Once per week...  .3. Once per month.....

42. Explain how they charge for the work.....  
 .....

**43. List the name of people whom you hire on contract to work for your firm**

	NAME	WHAT THEY DO
1		
2		
3		
4		

44. Explain how they charge for the work.....  
 .....

**45. How often do you hire them?**

1. Every day.....  . 2. Once per week...  .3. Once per month.....

**D. THE FIRM'S CUSTOMERS AND MARKETS**

**46. Where does your firm sell most of its products?**

1. To customers outside Harare.....  . 2. To customers in Harare....

47. The total value of the goods sold by your firm every month is about: \$.....

48. Do you sell some of your products through large shops like Pelhams, OK, Mashonaland Furnishers, etc

1. YES.....  2. NO.....

49. If YES, name them and the amounts sold per month:

1. NAME OF SHOP.....AMOUNT \$.....

2. NAME OF SHOP.....AMOUNT \$.....

50. Does your firm also sell some of its products to **customers outside Zimbabwe?**

1. YES.....  2. NO.....

51. The value of the products sold outside Zimbabwe during the past 12 months was:\$.....

52. List the countries to which you sell some of your products and the value of the goods sold over the past 12 months.

	COUNTRY	APROX. VALUE OF GOODS SOLD
1		
2		
3		
4		

53. Does your firm also actively search for **new markets** for its products outside the Complex?

1. YES.....  2. NO.....

54. To search for new markets, the firm uses the following method(s):

1. Advertising.....  2. Merchandising (personal selling).....

3. Other...  (Explain).....

55. Has your firm **recently captured new markets** outside the Complex:

1. YES...  2. NO....

56 If your firm receives a large order to supply a product, do you sometimes share the order with another firm within the Complex?

1. YES.....  2.. NO.....

57. Name the firms that you share most of your orders with.

1. ....
2. ....
3. ....

58. Does your firm some times buy materials and other inputs **jointly together** with other firms in the Complex:

1. YES.....  .....2. NO.....

59. List the firms with which you **jointly together** buy most of your supplies or inputs.

	NAME OF FIRM	GOODS PURCHASED
1		
2		
3		

**60. Materials held in stock and their value (eg timber, steel, etc)**

1. ITEM..... VALUE: \$.....
2. ITEM..... VALUE: \$.....
3. ITEM..... VALUE: \$.....

**61. Goods held in stock and their value (eg sofa sets, kitchen uint, etc)**

1. ITEM..... VALUE: \$.....
2. ITEM..... VALUE: \$.....
3. ITEM..... VALUE: \$.....

62. What percentage of your sales is for cash?

1. Less than half (50 per cent).....  2. More than half (50 per cent).....

**63. Credit terms:**

1. Amount of deposit (per cent).....
2. Payment period (months).....

**F. THE FIRM'S EMPLOYEES**

64. Number of employees in your firm (including the owner or manager) .....

65. What is the average monthly income of each employee in this firm?\$......

66. Number of employees who have worked in **other firms within the Complex** before joining this firm:.....

67. Number of employees who have worked in **other firms outside the Complex** before joining this firm:.....

68. Number of employees who were also trained by others within this firm.....

69. How long does it take to train someone within the firm?.....

70. Number of employees with formal training and certificates from Colleges.....

**G. MACHINERY AND EQUIPMENT USED BY THE FIRM**

**70. List the machines / equipment currently used in your firm..**

<u>MACHINE NAME</u>	(TICK)	<u>YEAR OF PURCHASE</u>	<u>VALUE (\$)</u>
1. Sawing Machine.....	<input type="checkbox"/>	.....	.....
2. Jig Saw.....	<input type="checkbox"/>	.....	.....
3. Spindle Moulder.....	<input type="checkbox"/>	.....	.....
4. Rip Saw (Circular Saw)...	<input type="checkbox"/>	.....	.....
5. Router.....	<input type="checkbox"/>	.....	.....
6. Surface plane.....	<input type="checkbox"/>	.....	.....
7. Bender.....	<input type="checkbox"/>	.....	.....
8. Compressor.....	<input type="checkbox"/>	.....	.....

<u>MACHINE NAME</u>	(TICK)	<u>YEAR OF PURCHASE</u>	<u>VALUE (\$)</u>
9. Grinder.....	<input type="checkbox"/>	.....	.....

10. Thickness Plane.....  .....
11. Lathe .....  .....

**71. List of other small tools (hend-held)**

1. ITEM..... VALUE.....
2. ITEM..... VALUE.....
3. ITEM..... VALUE.....
4. ITEM..... VALUE.....
5. ITEM..... VALUE.....

72. Of the machines listed above, which machine was manufactured or made by your firm and not purchased?.....

73. What modifications or changes did you make to other machines in order to make them work for you?.....

74. If a machine / equipment / tool breaks down, do you repair it yourselves  
 1. YES.....  NO.....

75. If the machine / equipment / tool is sent out for repairs by another firm, it is repaired by:

1. By a firm within the Complex.....  (NAME).....
2. By a firm outside the Complex.....  (NAME).....
3. By someone hired in the Complex.....  (NAME).....

**H. THE INSTITUTIONAL ENVIRONMENT**

76. Have you received any material or financial support or assistance from any institution or bank?  
 1. YES.....  .....2.NO.....

77. If YES, What type of assistance did you receive?

1. Loan.....

2. Grant.....

3. Training..... ..Briefly Explain.....

.....

4. Other ..... ..Briefly Explain.....

.....

78. If you received a loan, what was the amount?.....

79. What was the interest rate?.....

80. What was the period of the loan?.....Years

81. If you received a Grant, what was the amount?.....

82. What did you use the loan or grant for?.....

.....

.....